

Pharmacy, Curtin Medical School

**The Management and Status of Minor Ailments in Community
Pharmacies in Central Indonesia: A Mixed Methods Study**

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**This thesis is presented for the Degree of
Doctor of Philosophy
of
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Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made.

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

Human Ethics The research presented and reported in this thesis was conducted in accordance with the National Health and Medical Research Council National Statement on Ethical Conduct in Human Research (2007) – updated March 2014. The proposed research study received human research ethics approval from the Curtin University Human Research Ethics Committee (EC00262), Approval Number HRE2019-0803, HRE2019-0803-08, HRE2019-0803-12. Human research ethics approval from the IAI Central Java Regional Board, Indonesia with approval number B1-064/PD-IAI/Jawa-Tengah/IX/2019; and PAFI Central Java Regional Board, Indonesia, with approval number 268/PAFI-JTG/XI/2019.

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Abbreviations

APDFI	<i>Asosiasi Pendidikan Diploma Farmasi Indonesia</i> (The Association of Indonesian Pharmacy Diploma Education)
APTFI	<i>Asosiasi Perguruan Tinggi Farmasi Indonesia</i> (The Association of Indonesian Pharmacy Higher Education Universities)
BAN-PT	<i>Badan Akreditasi Nasional Perguruan Tinggi</i> (The Higher Education National Accreditation Bureau)
BPharm	Bachelor of Pharmacy
BPJS	<i>Badan Penyelenggara Jaminan Sosial</i> (Health Social Security Agency)
BPOM	<i>Badan Pengawas Obat dan Makanan</i> (National Food and Drug Agency)
BPS	<i>Badan Pusat Statistik</i> (Indonesia Central Bureau of Statistics)
CBT	Computer-based test
COREQ	CONSolidated Criteria for REporting Qualitative Research
COVID-19	The Coronavirus Disease 2019
CPD	Continuing Professional Development
DHO	The District Health Office
Dip.Pharm	Pharmacy Diploma
ED	Emergency Department
FDA	The Food and Drug Administration
FIP	The International Pharmaceutical Federation
GORD	Gastro-oesophageal Reflux Disease
GP	General practitioner
IAI	<i>Ikatan Apoteker Indonesia</i> (The Indonesian Pharmacists Association)
IPS	Indonesian Pharmacy Service
ISI	Insomnia Severity Index for sleeping disorders
JKN	<i>Jaminan Kesehatan Nasional</i> (National Health Insurance)
KFN	<i>Komite Farmasi Nasional</i> (National Board of Pharmacy)
KPI	Key Performance Indicator
LAM-PTKes	<i>Lembaga Akreditasi Mandiri Perguruan Tinggi Kesehatan</i> (The Indonesian Higher Health Education Independent Accreditation Institute)
MC	Master of Ceremony
MIDAS	Migraine Disability Assessment

MMA	Management of minor ailments
MOH	Ministry of Health
NIHRD	Indonesia National Institute of Health Research
NSAID	Non-steroidal anti-inflammatory drugs
OBT	<i>Obat Bebas Terbatas</i> (cautionary-labelling required medicines/limited non-prescription medicines)
OSCE	Observed Structured Clinical Examination
OTC	Over-the-counter
OWA	<i>Obat Wajib Apotek</i> (pharmacist-only medicines)
PAFI	<i>Persatuan Ahli Farmasi Indonesia</i> (The Indonesian Pharmacy Technicians Association)
PBF	<i>Pedagang Besar Farmasi</i> (pharmaceutical wholesalers)
PCR	Percentage of Common Responses
PDDikti	<i>Pangkalan Data Pendidikan Tinggi</i> (Higher Education Database)
PHO	Provincial Health Office
POCT	Point-of-care testing
Polindes	<i>Pondok Bersalin Desa</i> (maternal child health clinic)
Posyandu	<i>Pos Pelayanan Terpadu</i> (community health clinic)
PPE	Personal Protective Equipment
PSA	Pharmaceutical Society of Australia
Puskesmas	<i>Pusat Kesehatan Masyarakat Keliling</i> (mobile health clinic)
Puskesmas	<i>Pusat Kesehatan Masyarakat</i> (community health centre)
Riskesdas	<i>Riset Kesehatan Dasar</i> (National Basic Research)
SD	Standard Deviation
SIPA	<i>Surat Izin Praktik Apoteker</i> (license to practice)
Sirkesnas	<i>Survei Indikator Kesehatan Nasional</i> (National Health Indicator)
SKP	<i>Satuan Kredit Partisipasi</i> (number of credits)
SOP	Standard Operating Procedures
STRA	<i>Surat Tanda Registrasi Apoteker</i> (Registration letter)
TTK	<i>Tenaga Teknis Kefarmasian</i> (Pharmacy Technician)
UK	United Kingdom
URTI	Upper Respiratory Tract Infections
USA	The United States of America
WHO	World Health Organization

Abstract

Background

Minor ailments are defined as conditions that are often self-limiting, with symptoms easily recognised and described by the patient, which fall within the scope of pharmacist's knowledge and training to treat. These conditions can usually be managed with the appropriate use of non-prescription medications and selfcare. Pharmacists play an important role in assessing and managing minor ailments; for example, management of cold sores, non-infectious diarrhoea, uncomplicated urinary tract infections, gastro-esophageal reflux disease or other minor gastrointestinal disorders and skin conditions. Indonesian community pharmacy staff (pharmacists and pharmacy technicians) are recognised to have an important role in providing minor ailments services in primary care. Challenges in the provision of the management of minor ailments services in Indonesian community pharmacies includes the differential roles, responsibilities, and scopes of practice of pharmacists and pharmacy technicians. Studies in Indonesia have shown that pharmacists have adequate knowledge and skills to manage minor ailments, however, no research has evaluated how pharmacy services are provided for the management of minor ailments in in community pharmacies in Indonesia. Facilitators and barriers that influence the provision of such services should be considered when implementing practice change.

Aims

This study aimed to: (1) identify current community pharmacy practice in the management of minor ailments, (2) evaluate pharmacists' and pharmacy technicians' understanding of their scopes of practice, and factors influencing the delivery of minor ailments services, (3) investigate academic perspectives on educational objectives and their preparation of pharmacy and pharmacy technician students to manage minor ailments, and (4) explore the perceptions of community pharmacy staff (i.e. pharmacists and pharmacy technicians) regarding their current professional roles in delivering minor ailment services in community pharmacies in Central Java, Indonesia.

Methods

This study was carried out in three related phases. Questionnaire surveys (paper and online based) and in-depth interviews (a qualitative approach) were used to obtain data from community pharmacists and pharmacy technicians, and pharmacy academics. This research project involved a mixed-methods approach (employing quantitative and qualitative methods to provide in-depth contexts and triangulation to the topics investigated).

Phase One - Pharmacist and pharmacy technician surveys to study the management of minor ailments

Pharmacists and pharmacy technicians were surveyed by paper-based validated questionnaires at the Indonesian Pharmacists Association (IAI) and Indonesian Pharmacy Technicians Associations (PAFI) continuing professional development seminars which are attended to gain credits (*Satuan Kredit Partisipasi/SKP*) towards their competency certificates which are mandatory to practise in a community pharmacy. Simple statistics were used to summarise data and the Percentage of Common Responses for evaluating similarity of respondents' perceived scopes of practice classifications for pharmacists and pharmacy technicians. Responses for the management of minor ailments standard procedures were rated using Likert scales. Univariate and multivariate analyses identified associations of scopes of practice with pharmacy characteristics. Data analysis was performed using SPSS version 25.0 software.

Phase Two - Pharmacy academics survey to study the management of minor ailments

A census survey of one appropriate academic respondent, from each of 30 tertiary institutions teaching pharmacy or pharmacy technician students, or both in Central Java was used. Online administration (Qualtrics®) of a validated survey was used owing to the COVID-19 pandemic in Indonesia. Descriptive statistics were used to summarise data and the Percentage of Common Responses evaluated the similarity of respondents' perceived scopes of practice for academics teaching pharmacy, pharmacy technician, and both student cohorts. Responses to the elements included within academic courses related to the management of minor ailments were rated using Likert scales. Chi-square tests were used to evaluate univariate associations between the relevance of each topic being taught and the academics' characteristics. Univariate analyses identified factors influencing the academics' perceived scopes of practice of pharmacists and pharmacy technicians in the management of minor ailments. Data analysis was performed using SPSS version 25.0 software.

Phase Three - The qualitative study of community pharmacists and pharmacy technicians in the management of minor ailments

A one-on-one online video interview was performed owing to the COVID-19 travel restrictions in Western Australia and pandemic in Indonesia. All interviews were conducted using the Indonesian language with a semi-structured interview guide. The interviews were transcribed verbatim in Indonesian Bahasa with a summary of the transcription also back-translated to English. The data were analysed initially in Indonesian Bahasa using inductive thematic analysis through initial coding, sub-themes, and the development of a coding framework. The semi-structured interview guides consisted of a series of open-ended questions and were developed based on three key themes of interest: (1) pharmacy staff's perspectives of the management of minor ailments, (2) factors influencing the current practice in the management of minor ailments, including scopes of practice, and (3) the impact of COVID-19 on community pharmacies. Data analysis was performed using NVivo (QSR NVivo version 20, QSR International). Data appeared to have reached saturation after the ninth pharmacist and pharmacy technician interviews. Three further pharmacist and pharmacy technician respondents were recruited to participate in the study to confirm saturation and no further new themes emerged.

Results

Phase One - Pharmacist and pharmacy technician surveys to study the management of minor ailments

The study surveyed 185 pharmacists (response rate 81.5%) and 142 pharmacy technicians (response rate 67.3%) practising in community pharmacies. Most pharmacist (161/185; 87%) and pharmacy technician (122/142; 85.9%) respondents were female and aged between 21 and 40 years (pharmacists 165/185; 89.2% and pharmacy technicians 128/142; 90.2%). Independently owned pharmacies were the highest proportion of community pharmacies where pharmacist (110/185, 59.5%) and pharmacy technician (91/142, 64.1%) respondents worked. Almost two-fifths of the pharmacist (72/185, 38.9%) and pharmacy technician (51/142, 35.9%) respondents worked in pharmacies with a pharmacist owner, while the remainder had non-pharmacist owners. Discordant perceptions were identified between pharmacists' and pharmacy technicians' responses to scopes of practice questions for 34 minor ailments identified as relevant to be managed by Indonesian practitioners. Pharmacy technicians'

perceptions of their scopes of practice were wider than community pharmacists' views, regarding which professional group should manage each minor ailment. Vaginal thrush, bacterial conjunctivitis, gastro-oesophageal reflux diseases, and acute pain were minor ailments more commonly perceived as limited to a pharmacist's scope of practice. On the other hand, toothache, oral thrush, and constipation were perceived to be within pharmacy technician's scope of practice. Of 34 minor ailments, 11 showed Percentage of Common Responses values between 40-60% indicating overlapping pharmacists and pharmacy technicians perceived scopes of practice (allergy/rash, back pain, cold sores, dermatitis, diarrhoea, eczema, hayfever, haemorrhoids, rheumatism, sore throat, and superficial wounds). In those pharmacies that were co-located (with direct access for the public to the pharmacy) within a medical centre, the odds of the management of particular minor ailments were associated with the scope of practice of a pharmacist being significantly narrower. Pharmacists were often not available during all pharmacy opening hours, however, many pharmacies continued to operate without pharmacists' supervision. The study highlighted conflicting perspectives towards a range of minor ailments that suggested one professional group was not fully cognizant of the other group's perceived scope of practice.

Phase Two - Pharmacy academics survey to study the management of minor ailments

A response rate of 90% (27/30) was achieved for the academic survey. The survey evaluated the preparedness of pharmacy and pharmacy technician students to manage minor ailments and academics perceptions of their students' respective scopes of practice. There were discordant perceptions of the scopes of practice of the same 34 minor ailments included in the survey between academics teaching pharmacy, pharmacy technicians, and both student groups. Academics only teaching pharmacy technicians prepared their students to manage a broader scope of minor ailments, nearly equivalent to that of a pharmacist's capabilities. The perceptions of academics teaching pharmacy students were more limited in regard to perceived pharmacy technician scopes of practice compared to the perceptions of academics teaching only pharmacy technician students. Academics teaching both pharmacy and pharmacy technician students were more limited in that they perceived some minor ailments were beyond a pharmacy technician's scope of practice (e.g. migraine, allergy/rash, dermatitis). Academics teaching pharmacy, pharmacy technicians, and both students responded similarly that the following ailments were limited to pharmacist's management: indigestion/heartburn, sore throat, migraine, dermatitis, gastro-oesophageal reflux disease, diarrhoea, hayfever, and allergy/rash. There was no consistent evidence from the respondents on what minor ailments a pharmacy

technician can capably manage. The topics relevant to the management of minor ailments were not taught in a specific unit (not a stand-alone). Rather, they were integrated into various units in most pharmacy curricula in Central Java, Indonesia, which indicated that students were prepared to deliver minor ailments services across several units of study rather than as a formally identified curriculum.

Phase Three - The qualitative study of community pharmacists and pharmacy technicians in the management of minor ailments

The study explored in-depth community pharmacists' (n=12) and pharmacy technicians' (n=12) perceptions of scopes of practice and factors influencing the delivery of minor ailments services, including the impact of COVID-19 by employing individual interviews. The findings showed inconsistencies in the management of minor ailment practice in community pharmacies, indicating blurred professional boundaries of the scopes of practice between pharmacists and pharmacy technicians. This occurred owing to a lack of pharmacist availability during all pharmacy opening hours, lack of regulatory oversight, lack of professional guidelines, and the easy access to prescription-only medicines by consumers from other outlets (drug stores, markets, nurses and midwives) and community pharmacies. Inconsistent management of minor ailments practice by specific pharmacy staff was predicated based on the absence of pharmacists during all opening hours, the lack of standard procedures for the management of minor ailments in community pharmacies, inconsistencies in pharmacy education, and the ready supply of prescription-only medicines, including antibiotics without a prescription. From the interview themes, a model adopted from the Agency Theory provided additional insight for the management of minor ailments provision in community pharmacies. A significant impact of the COVID-19 pandemic on the management of minor ailments in community pharmacies was evident. Both respondent groups reported changes in their practice, including introducing hygiene protocols, increased workload and medicines shortages, which affected how minor ailments were managed in the community suffering a major pandemic.

Overall, this study found a lack of defined scopes of practice for practising pharmacists and pharmacy technicians, predicated by a lack of academic preparedness. This was partially owing to a lack of a separate defined minor ailments component in the curriculum in pharmacy education in Indonesia. A lack of standardised guidelines and standards to support the management of minor ailments practice also caused confusion. A lack of legislation enforcement was also evident, including pharmacies operating without a pharmacist for some opening hours and the provision of prescription-only medicines without a valid prescription,

including antibiotics. The easy illegal availability of prescription medicines from a range of outlets in Indonesia to the general public, also contributes to this situation. Therefore, there is a need for reform of Indonesian pharmacy practice, and for the professional bodies to develop practice guidelines for the management of minor ailments and achieve consensus on the scopes of practice of pharmacists and pharmacy technicians that will impact future practice. It is anticipated that such measures would ultimately improve patient safety through improvement in minor ailments courses in pharmacy teaching institutions in Central Java, Indonesia and standardisation of practice aligned with what pharmacists and pharmacy technicians are trained and competent to do.

Conclusions

A lack of scope of practice clarity and professional responsibility exists between pharmacists and pharmacy technicians which have impacted on the provision of minor ailments services in Indonesian community pharmacies. Pharmacist absenteeism during opening hours could contribute to these findings. Inconsistency in pharmacy education and training for the management of minor ailments was evident in this study. Discrepancy in the Indonesian pharmacy schools' curricula was identified in the current education, of pharmacists and pharmacy technicians, regarding the management of minor ailments. A lack of professional guidelines in managing minor ailments could have contributed to unstandardised practices by community pharmacists and pharmacy technicians. Many outlets and vendors, including community pharmacies in Indonesia, supply prescription-only medicines, including antibiotics without prescription because regulations are not strictly enforced. This needs consideration by regulatory authorities. The COVID-19 pandemic has expanded community pharmacy staff roles to manage a broader range of minor ailments, including symptoms related to COVID-19. Many pharmacy staff were impacted by COVID-19 in the workplace, experiencing such things as burnout, prolonged anxiety, and increased workload.

Chapter 1

Literature Review of the Management of Minor Ailments

Chapter 1. Literature Review of the Management of Minor Ailments (MMA)

1.1 Community pharmacy in developing countries

Community pharmacy is described as a pharmacy that provides access to medicines and their provision for a particular community (also identified as retail premises).^{1, 2} Published literature describing community pharmacy demonstrates a notable practice shift over the past two decades.³⁻⁵ The traditional model of community pharmacy focused on dispensing medicines to patients based on a doctor's prescription. Additionally, the screening of valid prescriptions and providing interventions and information on the safe and effective use of both prescribed and non-prescribed (over-the-counter/OTC) was standard practice.⁴

Community pharmacy practice in developing countries has become more patient centred by including a wide range of professional services and public health initiatives.⁶⁻¹¹ Many services have become increasingly diversified ranging from advice on lifestyle, pharmacological and non-pharmacological treatments, advice on symptoms and product sales for managing minor ailments.¹¹⁻¹³ These extension and a diversification of community pharmacy services are beneficial to consumers who frequently visit a community pharmacy as their first destination for their health problems.^{13, 14} Pharmacy services in developing countries have increasingly expanded with professional services extended beyond their traditional roles such as the provision of medicines information, diagnostic testing, medication reviews, chronic disease management services, more formalised management of minor ailments, public health promotion, clinical interventions, medication management services, and providing therapeutic decisions (e.g. smoking cessation, weight loss program, asthma programs, blood glucose and blood pressure measurements).^{13, 15-20} Through these expanded services, community pharmacy makes a major contribution to patient care, health promotion and relief of symptoms for patients who seek advice for their health-related problems.^{14, 15}

In many developing countries, community pharmacies are often the first point of contact for minor health problems because the staff are trusted, options to buy medicines in small quantities and provide easy access to essential medicines (often without prescription), pharmacies are conveniently located and provide longer duration of opening hours into the evenings.^{7, 21, 22} People can visit a pharmacy without prior appointment and receive professional advice immediately from a pharmacist. In contrast to a doctor's practice where people need to make

an appointment in advance for a consultation, pay for a consultation fee, and are often required to wait. There is no doubt that community pharmacy offers more convenient encounters within the healthcare system.^{15, 23, 24}

To support the expansion of community pharmacy services, many studies have considered the barriers to implementing a wider range of pharmacy services in developing countries. Understanding the barriers is the key to developing strategies and mitigating plans to ensure community pharmacy services are successfully integrated into primary care. A number of studies have examined factors that hinder the implementation of pharmacy services in developing countries, such as (1) inadequate pharmacy staff training, (2) profit and business orientation, (3) lack of pharmacists' presence, (4) non-pharmacist ownership, (5) lack of contact with the patient, (6) low level of quality services, (7) lack of regulation or surveillance, (8) lack of pharmacist's recognition, (9) lack of consensus in procedures, (10) obscure scopes of practice, and (11) low wages.^{7, 15, 21, 22, 25-29}

Another factor identified as a barrier to pharmacy practice in developing countries is no separation of dispensing practices.³⁰ Ideally, doctors should prescribe the medicines, while pharmacists dispense the medicines. However, in developing countries evidence has shown that doctors have dispensed their prescribed medicines limiting the role of community pharmacies and making them secondary providers for medicines supply.¹⁴ Not only doctors but other healthcare practitioners (e.g. nurses and midwives) also dispense medicines as part of their professional practice.^{14, 30, 31} Although regulations have been enacted, some healthcare practitioners object to the separation of dispensing practices. Some reported reasons for the objection are the mutual benefits from dispensing medicines and marketing pressure to prescribe certain medicines.³² It clearly demonstrates a conflict of interest where prescribers can profiteer by prescribing and dispensing certain medicines and may dispense more and expensive medicines to increase profit.⁷

A systematic literature review showed that dispensing doctors have prescribed more pharmaceutical products compared to non-dispensing doctors.³³ This situation has rendered community pharmacies sustainability increasingly challenging as doctor dispensing limits their fundamental role in dispensing medicines.³⁴ This also occurs in addition to competition with other pharmacy businesses, or non-pharmacy drug stores particularly if they are located in a densely populated environment (e.g. urban areas).^{7, 22}

Pharmacies as a retail business are currently experiencing competition due to market pressure. Several studies have described an increasing number of retail pharmacies have opened over decades in developing countries as a result of economic liberalisation.^{7, 22, 35} The increasing number of pharmacies has made community pharmacy intensely competitive and thus an increasing motive to increase profit to survive in the marketplace. From a number of studies, pharmacy staff have developed strategies to maximise profit, which show inappropriate pharmacy practices such as increasing the number of consumers, by complying with consumers' demands which contradicts clinical advice, selling all classes of medicines, and mimicking doctor's practices.³⁶⁻⁴⁰ This places pharmacy practice in conflict with legal, ethical and moral principles that are more difficult to uphold within an increasing competitive environment.

Studies in developing countries have reported the number of community pharmacies have increased compared to the number of available pharmacists; thus, the circumstances of supervision were varied following the availability of pharmacy staff and pharmacy workforce competence.^{41, 42} The absence of a pharmacist and unequally distributed trained pharmacists have caused some developing countries to utilise other pharmacy staff (e.g. pharmacy technicians) as the workforce in community pharmacies.^{41, 43, 44} In extreme cases, some pharmacy services were delivered by the only staff available in the pharmacy (e.g. non-qualified staff), who would dispense medication directly to the consumers unsupervised, despite legislation clearly requiring a pharmacist to be on duty.⁴⁵ This has been reported in community pharmacy and can be expected in developing countries, experiencing workforce shortages and no specific legislation (or weak enforcement of regulation) that regulates pharmacy professional practice.^{46, 47}

Although many community pharmacies are overburdened with the demand and supply of medicines, the pharmacist role within a community pharmacy is often limited to administrative functions.^{48, 49} Pharmacists in developing countries are described as finding it more comfortable managing dispensing activities than providing professional pharmacy services and engaging in other professional activities.⁴⁹⁻⁵⁴ Studies in Iran, Pakistan, and Zimbabwe have identified that community pharmacists activities were often overtaken by non-clinical tasks and concluded that pharmacists had performed less consultative tasks than administrative roles.^{14, 54} These situations have often led to non-pharmacist staff having direct contact with consumers in community pharmacies.

Pharmacy technicians and other pharmacy staff have often delivered community pharmacy services in the absence of pharmacist supervision, particularly in rural areas and remote environments in developing countries.^{41, 46, 48, 55} This may be the case in some countries (e.g. Papua New Guinea, Vanuatu, and South Africa) where there is no enforced legislation or specific policies to support pharmacy practice; thus their practice depends on the health needs and availability of pharmacy staff.^{41, 45, 56, 57} In developing countries, due to the pharmacist's absence from duty during pharmacy trading hours and shortages of pharmacists in rural areas, pharmacy technicians often work without direct pharmacist supervision that may require inappropriate responsibilities beyond their level of training.⁵⁸ Although several studies have shown that pharmacy technicians, under the supervision of a pharmacist, may offer extended services in pharmaceutical care as part of their roles, however, in some cases, pharmacy technicians with their level of training may not have the authority to perform certain tasks (in some cases pharmacy technicians providing services beyond their authority without pharmacist's supervision).⁵⁹

Based on the community pharmacy performance in developing countries, a large number of studies have concluded that little has changed over time in pharmacy practice.^{7, 22, 35, 60} A systematic review of pharmacy services in developing countries showed that the quality of professional pharmacy services from a total of 30 studies was limited, particularly in the provision of medicines advice.⁶¹ Additionally, the low socio-economic status of developing countries has rendered healthcare services deficient. Population growth may contribute to healthcare problems leading to inadequate healthcare facilities and services, including hospitals and inadequate numbers of pharmacy staff.^{7, 62}

1.2 Background on Indonesia

Indonesia consists of 17,504 islands which primarily formed from volcanos with the five largest and populous islands being Java (approximately 147 million), Kalimantan/Borneo (approximately 17 million), Sulawesi (approximately 16 million), Sumatera (approximately 58 million), and Papua (approximately 4 million).⁶³ As the world's largest archipelagic country, Indonesia's total population was estimated at 270 million in 2020 and the fourth largest in the world.⁶³ Indonesia is the home of numerous cultures and traditions, with at least 300 major ethnic groups and 724 local dialects and languages.^{64, 65} Javanese (who mostly reside on Java Island) is currently the largest ethnic group, accounting for over 40% of the total population in Indonesia.⁶⁴ The majority of Indonesians speak Bahasa Indonesia as the official language of

Indonesia.⁶⁴ Although Bahasa Indonesia is the formal language in the cities and towns, it is also used commonly by the people in rural areas of Indonesia. English, as a second language, is used by many healthcare professionals and the younger population in many metropolitan cities.

While poverty remains in Indonesia, Indonesia is classified as a middle-income country with rapid economic development and political stability where the political landscape evolves through the transition of authoritarianism to democracy reformation.⁶⁵ In terms of technologies and infrastructure, many parts of Indonesia are currently well developed. Several metropolitan cities in Indonesia are facilitated with supermalls, hotels, and other modern facilities, while other cities may experience no to little development of infrastructure. In terms of education, the government of Indonesia requires all school-age children to attend at least nine years of schooling.

The Indonesian health system has a mixture of both public (state) and private providers where the people have the freedom to choose. The public system is administered in accordance with Indonesia's decentralised government system, with responsibilities divided among the central, provincial, and district/municipal governments. The Indonesian central ministry of health has responsibilities for the provision of standard and strategic directions, regulation, and assuring financial and human resources availability. The provincial government has responsibilities of managing provincial-level healthcare facilities and monitoring district health services. District/municipal government manages the operation of district community health centres (*Pusat Kesehatan Masyarakat/Puskesmas*) and associated subdistrict health services facilities.

As the economic and health-related needs continue to grow, the government of Indonesia has opened up investment in the health sector, resulting in an increasing number of private profit-driven providers. Private health providers are mostly self-funded and range from private hospitals, private practices, individual general practitioners (GP), midwifery clinics, community pharmacies and clinical laboratories. The government of Indonesia (central and local) controls private sector health services through accreditation, registration, and licensing.⁶⁵ Access to the private health sector is only limited by people's ability and willingness to pay. Indonesians are free to select any private insurance policy they choose based on their personal needs and ability to pay.

Central Java Province, which is the setting for this PhD study, is one of the provinces in Indonesia located between two large provinces on Java Island, West Java Province in the west part and East Java province in the eastern part. In 2020, the total population in Central Java

province reached 34,718,204. The largest population is in the city of Semarang with 2,067,110 people and the smallest is Magelang City with 122,111 people. The most densely populated area is Surakarta City, with about 11,293 people per km². There is unequal population growth in the cities and districts of Central Java Province due to the unequal distribution of public healthcare facilities (lack of infrastructure and equipment). As of 2019, there were 4,176 pharmaceutical distribution facilities and medical devices suppliers, which included 3,488 community pharmacies, 501 drugstores, 106 pharmaceutical wholesalers, and 81 medical devices suppliers in Central Java province.⁶⁶

1.3 Medicines supply and distribution in Indonesia

Since decentralisation occurred in 2000, medicine supply in the public sector has been regulated and managed by the local district government.⁶⁷ The District Health Office (DHO) purchases and distributes supplies and medicines to the following primary healthcare facilities: community health centres (Puskesmas), maternal child health clinics (*Pondok Bersalin Desa/Polindes*), community health clinics (*Pos Pelayanan Terpadu/Posyandu*), and mobile health clinics (*Pusat Kesehatan Masyarakat Keliling/Puskesmasling*). A budget is provided from the central government to the DHO to manage medicines supply. District hospitals manage their procurement using the local government budget and either by charging for medicines directly to non-insured patients or the government or private insurance providers.⁶⁷

All medicines are provided free of charge to patients who visit community health centres. Patients pay a registration fee, of approximately Rp 15,000 (AUD 1.5) at the community health centres. Community health centres should report their medicines stock balance to the district health office every month.⁶⁷ Usually, a pharmacist is assigned to a community health centre pharmacy to manage the supply and dispense medicines. However, it is common in many districts that there are no pharmacists in community health centres. Therefore, the supervision of community health centre pharmacies is generally done by pharmacy technicians or other staff in the DHO.⁶⁷

Community pharmacies and drugstores (explanation about drugstores is described in the Indonesian community pharmacy structure and conditions section below) are licensed by the local government through the Ministry of Health (MoH) office and the Indonesian National Food and Drug Agency (locally known as *Badan Pengawasan Obat dan Makanan/BPOM*) will monitor their compliance with the regulations. The licence must be issued and forwarded to the

MoH, Provincial Health Office (PHO) and the provincial level BPOM. The BPOM also supervises foods and medicines in Indonesia.⁶⁸ Any breach of the regulations will be reported to the local government and MoH as appropriate and revoking retailers' licenses can occur as the sanction. The MoH holds responsibility for medicines scheduling and the BPOM monitors for compliance with the regulations. Despite there being over 2,500 BPOM staff working in branch offices in all provinces in Indonesia, the BPOM has claimed that insufficient staff was one of the challenges to undertake regular inspections of community pharmacies and drugstores.⁶⁵

Although there are more than 24,000 community pharmacies in Indonesia in addition to 5,000 drugstores, half of the medicines available in the market (including prescription-only medicines) were sold through general stores, private practices, supermarkets, and street vendors.⁶⁵ The private providers (including community pharmacies) dominate, with around 75% of the market supplying over 16,000 types of medicines, of which only 10% are generic medicines.⁶⁹ In fact, the proportion of medicines supplied through community pharmacies and drugstores is larger than supplied through hospitals. Presumably community pharmacies and drugstores would be the major source of fake and counterfeit medicines.⁷⁰⁻⁷²

One of the biggest problems in Indonesia is the high prevalence rate of illegal sales of prescription-only medicines from many sources (unlicensed drugstores, informal outlets, markets, etc.) and even by doctors and other healthcare workers.⁶⁵ In Indonesia, it is common for a group of doctors to run a private practice clinic next to a private pharmacy or in the same building owned by one of the doctors. It is also common that pharmaceutical companies provide informal payments or incentives to doctors as gratitude for having prescribed their pharmacy products or medicines to patients.⁷³ Despite the fact that BPOM is the primary regulating authority, monitoring and enforcement of the regulations require support from the local governments to provide sanctions against unlicensed drugstores, hawkers, doctors, and healthcare workers who offer unregistered and substandard medicines. More importantly, these "grey market" sources of medicines need to be regulated as most Indonesians prefer self-medication by purchasing over-the-counter (OTC) medicines.⁷⁴ Unlicensed grocery stores (kedai or warung) and small kiosks are other examples of "grey market" sources that sell OTC medicines such as cough and common cold, anti-diarrhoea, analgesics, and antipyretics.⁷⁴ These grey market stalls are easily accessed being usually located near residents' housing.^{65, 74} Private patients prefer to obtain their medicines through a community pharmacy since they have the

option of going back-and-forth from pharmacy to pharmacy in an open market for the best or lowest price.⁷⁵

Regulation of the sale of certain classes of medicines outside community pharmacies is in the Indonesia Minister of Health's Decree (No.1331/Menkes/SK/X/2002) on Medicine Retail Merchant.⁷⁶ All retail merchants and licensed drugstores are only permitted to sell OTC medicines and cautionary labelled medicines (limited OTC medicines - the explanation of medicine classifications are described in the Indonesian community pharmacy structure and conditions below), while community pharmacies, hospital pharmacies, and pharmaceutical wholesalers (*Pedagang Besar Farmasi/PBFs*) are allowed to sell all classification of medicines such as OTC and OTC limited free medicines, pharmacist-only medicines, prescription-only medicines, and narcotics and psychotropics.⁷⁷

The rational use of medicine is regulated in the National Medicines Policy⁷⁸, however, there is a paucity of evidence that it is being implemented among healthcare providers. The status of rational medicines use varies greatly amongst health-care providers. In fact, many reports have indicated widespread irrational use of medicines, including irrational antibiotic use.^{79, 80}

1.4 Indonesian community pharmacy structure and conditions

Community pharmacies in Indonesia range from small pharmacies to large chain pharmacies. The Indonesian Ministry of Health stated that in 2019, Indonesia had 26,658 community pharmacies, of which approximately 60% were located on Java Island.^{81, 82} Standalone, independent pharmacies are owned individually, chain pharmacies can be owned by individual or a group of owners who use the same retail branding in various locations, and state-owned enterprise community pharmacies are owned by the government. Most community pharmacies in Indonesia open for long hours (13 to 24 hours) for seven days per week and can be found in many main streets, malls, and supermarkets. The typical community pharmacy size is 60 m² with a small dispensing and compounding area and a private space for consultation. Similar to other community pharmacies, Indonesian community pharmacies provide dispensing services, chronic disease management and treatment, minor ailments services, public health information, home care services, and commercial sales of medicines. Community pharmacy ownership is not restricted to pharmacists. However, by legislation, non-pharmacist owners must employ a pharmacist as a requirement for opening a pharmacy, and that legally a pharmacist must be on duty at all times during the opening hours.^{77, 83}

Similar to many community pharmacies in developing countries, pharmacists in Indonesia are in charge of the operation of a community pharmacy and their presence at the premises is legally required at all times. However, this legislation appears to be poorly enforced as pharmacists' absence remains a common issue in Indonesia. Many studies of pharmacy services in Indonesia have indicated that at best only 22% of pharmacists are at the premises on a full-time basis and most pharmacy services were being delivered by pharmacy technicians or non-qualified staff.⁸⁴⁻⁸⁷

Studies have shown that patients' satisfaction with pharmacist interactions is higher than their satisfaction when interacting with pharmacy technicians or other pharmacy staff.^{14, 27, 88} However, limited interactions between pharmacists and patients have been reported in several studies in Indonesia.^{16, 84, 87, 89-91} Studies have indicated that pharmacist absence from the premises made it difficult to establish a rapport with patients.^{7, 22, 35}

It has also been found that pharmacists in Indonesia lack adequate time and confidence in providing professional pharmacy services.^{23, 24, 29, 84, 89} In some instances, it has been reported that pharmacists may be "too busy" with administrative responsibilities in the pharmacy, such as managing inventory and sales, as well as finance and accountancy, which leads to inadequate time to improve their clinical knowledge and skills.^{29, 84} However, some authors have argued that a pharmacist presence does not necessarily mean improved care.^{24, 29, 91} In addition, some patients are still unaware of what professional services are available within community pharmacies, are not interested in the professional pharmacy services, or prefer other healthcare professionals to help them.^{38, 92-94} Thus, the role of the pharmacy staff in delivering healthcare may require a change in patients' perceptions of the services they do or should provide.⁷ These reports were done prior to the COVID-19 outbreak and that since the COVID-19 outbreak, there has been a shift in how patients like to seek healthcare, and that this is covered later in section 1.8 the management of minor ailments in community pharmacy during the COVID-19.

Community pharmacies in Indonesia generate their income from general sales of medicines and other pharmaceutical products.⁹⁵ Medicines in Indonesia can be classified as follows:

1. OTC medicines (a green circle logo) can be sold freely to the public in the community pharmacies, drugstores, and easily found in markets, kiosks, peddlers or hawkers without prescription (e.g, paracetamol, antacids, vitamins, etc.).

2. Cautionary labelled medicines (a dark blue circle logo) are limited OTC medicines that can be sold to the public in the community pharmacies and drugstores using a warning label (e.g. antihistamines, chloroquine, etc.).
3. Pharmacist-only medicines are known as *Obat Wajib Apotek/OWA* (a term similar to “pharmacy medicines” in the United Kingdom (UK)⁹⁶ and pharmacist-only medicines in Australia⁹⁷). Pharmacist-only medicines in Indonesia are available to the public without prescription and must be supplied by a pharmacist on the premises or under the supervision of a pharmacist. Some antibiotics are listed as pharmacist-only medicines or OWA in Indonesia, such as tetracycline skin salve, chloramphenicol eye drops, and anti-tuberculosis medicines (can be sold with pharmacist’s recommendations for repeat medicines after being used as initial therapy with an initial prescription).
4. Prescription-only medicines (a red circle logo and must be supplied with a valid prescription).
5. Narcotics and psychotropic substances (must be supplied with a valid prescription from a licensed prescriber by law).

By law, community pharmacies are allowed to supply all classifications of medicines. Drugstores are only allowed to supply OTC and limited OTC medicines when qualified pharmacy technicians in charge on the premises. Kiosks, hawkers, and markets can be owned by anyone and are only allowed to supply OTC medicines.

1.5 Indonesian community pharmacy regulations

The Indonesian Ministry of Health has established the Indonesian Pharmacy Service (IPS) standard practice guidelines, which incorporates a set of standard operating procedures (SOPs) that requires implementation in all community pharmacies in Indonesia.⁹⁸ The services covered in the IPS include: 1) Prescription medication services which are comprised of the following: prescription screening, dispensing, labelling, packaging, providing the medication to the patient with information and counselling, and medications monitoring; 2) Health promotion and education include the following: selecting the appropriate medication and providing education for patients with minor ailments, and health promotion through campaigns, brochures, leaflets, and posters; and, 3) Home care services, which is comprised of patient home visits, especially for those with chronic diseases and the elderly. However, the guideline alone is insufficient to

use as an indicator to measure community pharmacy services.^{98, 99} For example, the SOP for self-medication does not state when to refer the patient, the terms 'clinical aspects' and 'pharmaceutical aspects' were not clearly defined and also overlap, and an SOP for monitoring medication use in treating chronic diseases was not provided. Despite these limitations, the IPS standard indicates that pharmacists' responsibilities include a significant emphasis on patient care.⁹⁸

In recent years, the government of Indonesia has enacted regulations in the community sector. The Pharmacy Practice Act 2009 and Community Pharmacy Decree 2017 are the main regulations supporting Indonesian community pharmacy services.^{100, 101} The Pharmacy Practice Act 2009 regulates the scope of pharmacy practice by authorising pharmacists as the main provider of pharmacy services. The Community Pharmacy Decree 2017 regulates community pharmacy operations, including ownership and the range of services required to be provided (e.g. medication counselling, self-medication, pharmacy home care services, and medication monitoring services). While the government of Indonesia requires all community pharmacies to provide such services, no remuneration was allocated for pharmacists and pharmacy services in these acts. The summary of community pharmacy regulations in Indonesia is provided in Table 1.1 below.

The SOP for self-medication consultations is described in the Community Pharmacy Decree 2004 standard practice guideline.⁹⁸ This practice guideline was then replaced by a new Community Pharmacy Decree in late 2014.¹⁰² However, the new standard does not provide a detailed procedure for self-medication consultations, although it does require pharmacists to provide education to patient with self-medication requests.¹⁰² Currently, there is no SOP within the practice guidelines for MMAs in Indonesia.

Table 1.1. Indonesian Regulations and Law in community pharmacy practice and MMA.

Regulation	Objective
Reimbursement for pharmacy services (MoH 2016) ¹⁰³	Community pharmacies participating in the Scheme <i>Jaminan Kesehatan Nasional</i> /JKN (this scheme separates prescribing and supply of medicines) are compensated for dispensing prescription-only medicines and incentives for providing pharmacy services. The reimbursement may vary depending on the classification of pharmacy (e.g. pharmacy

Regulation	Objective
	contracted by BPJS (<i>Badan Penyelenggara Jaminan Sosial</i> /Health Social Security Agency) or affiliated with primary care provider). Incentives are funded through the healthcare coverage program.
Certification, registration and licenses of pharmacists (MoH 2016) ¹⁰⁴	<p>To practise, community pharmacists are required to obtain a certificate of competence, a recommendation letter from IAI, a registration letter (<i>Surat Tanda Registrasi Apoteker/STRA</i>) from the National Board of Pharmacy (<i>Komite Farmasi Nasional/KFN</i>), and a licence to practise (<i>Surat Izin Praktik Apoteker/SIPA</i>) from the MoH.</p> <p>To receive a certificate of competence, new pharmacy graduates must pass a competency exam. Registered pharmacists are required to collect a specified number of credits (<i>Satuan Kredit Partisipasi/SKP</i>) every five years. The certificate is required in order to receive STRA. Following the issuance of the STRA, pharmacists must apply for a letter of recommendation. The letter of recommendation and STRA are required for the SIPA application.</p> <p>The licence is valid for five years and allows pharmacists to work concurrently in three different pharmacies and the license must be renewed every five years.</p>
The Pharmacy Practice Act 2009 (MoH 2009) ¹⁰¹	The highest order of legislation governing pharmacy practice in Indonesia. Community pharmacists have the main authority and hold responsibility for the operation of a community pharmacy. The Act classified the pharmacy workforce into two main groups: pharmacists and pharmacy technicians, each profession with its own responsibilities. The Act

Regulation	Objective
	<p>stated that pharmacy practice must be carried out under the supervision and responsibility of pharmacists. It also governs pharmacy practice in different settings from manufacture and distribution to service provision.</p>
<p>Community pharmacy standard services (MoH, updated in 2016)¹⁰⁵</p>	<p>The standard defines two major roles performed by community pharmacists: (1) provision of clinical pharmacy services (prescription evaluation, medicine, information, dispensing, medicine monitoring counselling, home care services, and adverse drug reaction surveillance) and (2) the management of pharmaceuticals and healthcare devices, which includes planning, procurement, disposal, documenting, and reporting of pharmacy items).</p>
<p>Community Pharmacy Decree 2017 (MoH, updated in 2017)¹⁰⁰</p>	<p>The decree regulates the primary framework for the opening, licensing, and operation of community pharmacies. Pharmacists can open a community pharmacy with or without the participation of third parties (individuals, groups, or organisations). Approval from the MoH (can be delegated to the local/district government) is needed before opening a pharmacy. The district government has the authority to manage the pharmacy location and distribution. The pharmacy's premises, facilities, and equipment must meet the required standard prior to operation. Pharmacy practice must comply with the regulations as outlined in the Pharmacy Practice Act and the Standard of Pharmacy Services in Community Pharmacy. Each pharmacy must have a pharmacy manager who is in charge of the operation and can be</p>

Regulation	Objective
	assisted by additional employee pharmacists, pharmacy technicians, and/or administrative staff.
Healthcare workers act (MoH 2014) ¹⁰⁶	The act defined personnel in the healthcare sector comprise of healthcare workers and healthcare assistants. Pharmacy workforce comprised of pharmacists and pharmacy technicians with a minimum qualification of Pharmacy Diploma for pharmacy technicians. A pharmacy technician (as a pharmacist assistant) must work under the supervision of a pharmacist as a health care worker. Those with the qualification of pharmacy high schools were only recognised as pharmacy technician’s assistants working under the supervision of a pharmacist or a pharmacy technician.
Reclassification of medicines (MoH 2021) ¹⁰⁷	Reclassification of some prescription-only medicines and pharmacist-only medicines to limited OTC medicines.

1.6 Indonesian pharmacy workforce trends

During the past decades, the numbers of healthcare practitioners have grown significantly, following the increasing population in Indonesia. The pharmacy workforce in Indonesia comprises of pharmacists and non-pharmacists (pharmacy technicians, pharmacy technician assistants). Table 1.2 shows the increase in public sector healthcare professionals with the ratio of the healthcare workforce to population steadily increasing (data do not relate directly to community pharmacists). However, the ratio between pharmacists and the population in Indonesia remains below the ideal ratio recommended by World Health Organization/WHO (1:2000). As of December 2019, the total public sector pharmacy workforce in the 34 provinces in Indonesia was 63,177, comprised of pharmacists = 20,426, Bachelor of Pharmacy graduates = 2,666, pharmacy technicians = 24,042, pharmacy analysts = 2,115, the pharmacy technician assistants = 13,928.¹⁰⁸

Table 1.2. Healthcare workforce trends working in the public sector in Indonesia per 1000 population from 1990 to the most recent year available*.

Indicators	1992	2002	2010	2011	2012	2013	2014
Pharmacists	0.01	0.03	0.03	0.04	0.13	0.16	0.17
GPs	0.15	0.17	0.37	0.39	0.41	0.43	0.46
Nurses	0.52	0.50	0.67	0.91	0.99	1.16	0.70
Midwives	0.12	0.26	0.41	0.51	0.53	0.55	0.54
Dentists	0.02	0.03	0.04	0.04	0.05	0.05	0.02

Source: Indonesian Health Profile, MoH database of government employees (<http://www.bppsdmk.depkes.go.id/sdmk/>)¹⁰⁸

* Data do not relate directly to community pharmacists (may relate to state-owned enterprise community pharmacies)

As reported by the Indonesia Central Bureau of Statistics (*Badan Pusat Statistik/BPS*) in 2018, there was an unequal distribution of the pharmacy workforce in Indonesia indicating a large disparity between the need and availability of pharmacy staff in rural areas and less developed regions.¹⁰⁹ Pharmacists were reluctant to work in remote or rural areas due to lack of infrastructure, lack of opportunities for continuing education, and poor transportation.^{65, 109} Based on the size of the population, the distribution of pharmacists in the eastern part of Indonesia was low and the distribution of pharmacists across Indonesian provinces is below the ratio recommended by WHO. Further, there is a significant geographical disparity, with pharmacists in the Eastern part of Indonesia having to serve larger territories or areas due to the low number of pharmacists.⁶⁵ The majority of pharmacists choose to work on Java Islands and major developed cities rather than working in remote areas.^{109, 110}

1.7 Indonesian pharmacy education

In Indonesia, pharmacy staff providing community pharmacy services are qualified pharmacists and pharmacy technicians who have received a formal pharmacy education. Qualified pharmacy staff are registered pharmacists and pharmacy technicians who have fulfilled certain training and educational qualifications. The following sections describe the pharmacy education and pharmacy history in Indonesia.

The history of pharmacy in Indonesia begins with the education of pharmacist assistants during the Dutch East Indies government, who were the pioneers of pharmacy technicians. The first

pharmacist assistant school was established in Surabaya, East Java, in 1918 with the school's name "leergang voor de opleiding van apotheker-bedienden onder den naam van apothekers-assistantschool" and had 15 pharmacist assistant graduates who had trained continuously for 20 months under the supervision of pharmacists in the Netherlands or Jakarta.¹¹¹ Before the establishment of pharmacist assistant schools, pharmacist assistants in Indonesia were only trained in a community pharmacy without formal pharmacy education. In 1946, the first pharmacy organisation in Indonesia was established and was known as the Indonesian Pharmacy Technicians Association (*Persatuan Ahli Farmasi Indonesia/PAFI*). The pharmacy technician profession is one of the oldest pharmacy health professions in Indonesia based on their existence since the Dutch colonial period.¹¹¹

During the Dutch colonial period, pharmacists in Indonesia generally came from Denmark, Austria, Germany, and the Netherlands. In 1946, the first Apothecary/pharmacy institution in Indonesia (Gadjah Mada University) was established in Klaten, Central Java. It produced two Apothecary graduates from its first intake. This was followed by the establishment of a second pharmacy institution in Bandung, West Java, in 1947 (Bandung Institute of Technology). The Indonesian Pharmacists Association (*Ikatan Apoteker Indonesia/IAI*) was established in 1965.¹¹¹ The IAI is the professional body responsible for advocacy, professional and policy development, which guide pharmacy workforce development and professional competency development for pharmacists in Indonesia.

Pharmacy education in Indonesia ranges from pharmacy in high school programs, Pharmacy Diploma programs (Dip.Pharm), Bachelor of Pharmacy (BPharm) programs, pharmacist degree (Apothecary degree), Master programs, specialists' programs, and doctorate programs. Pharmacy institutions in Indonesia hold various accreditation levels determined by the Indonesian Higher Health Education Independent Accreditation Institute (*Lembaga Akreditasi Mandiri Perguruan Tinggi Kesehatan/LAM-PTKes*) and the Higher Education National Accreditation Bureau (*Badan Akreditasi Nasional Perguruan Tinggi/BAN-PT*). The highest level of accreditation is grade A, while the lowest is grade C. Accreditation grade is only valid for five years and all institutions are required to apply for re-accreditation. New pharmacy schools will hold a minimum level of accreditation (grade C) and are required to apply for re-accreditation within six months since they opened.¹¹²

According to the Association of Indonesian Pharmacy Higher Education Universities (*Asosiasi Perguruan Tinggi Farmasi Indonesia/APTFI*) and the Association of Indonesian Pharmacy Diploma Education (*Asosiasi Pendidikan Diploma Farmasi Indonesia/APDFI*), the number of

pharmacy institutions in Indonesia had increased 80% since 2004, owing mostly to an increase in the number of private pharmacy schools (there are 139 private pharmacy schools).¹¹³ However, the quality based on accreditation is a concern, with only a few schools of pharmacy holding the level of accreditation A or B.

There was an increased number of pharmacy graduates between 2015 and 2020 as a result of an increased number of pharmacy schools, particularly in the private sector. Currently, there are 163 schools of pharmacy in Indonesia.¹¹³ However, only 31 schools hold the accreditation grades A or B, rendering them eligible to offer both the B.Pharm and pharmacist degree (Apothecary Degree).¹¹³ Others, due to their Level C grades, can only offer a B.Pharm program. Pharmacy students who have graduated from a school with an accreditation grade of C must enrol in another pharmacy institution for the pharmacist degree program, which meets the appropriate accreditation standard. As of 2019, Indonesia had 107 pharmacy institutions offering BPharm programs, 123 institutions offering Dip.Pharm programs, and 31 institutions offering Apothecary Degree programs as shown in Table 1.3, generating an average of 5,500 pharmacy graduates per year (some institutions may be overlapped as they may offer more than one pharmacy program).¹¹³

Table 1.3. Institutions offering pharmacy program and their accreditation level in 2019.¹¹³

Pharmacy program*	Accreditation level		
	Level A	Level B	Level C
Bachelor of Pharmacy	15	47	45
Apothecary Degree	14	15	2**
Pharmacy Diploma	1	67	55

*There may be some overlapped as some institutions may offer more than one pharmacy program

** Newly open Apothecary Degree program

To become a pharmacist in Indonesia, pharmacy students must undertake a minimum of five years of pharmacy education. This five-year program is divided into two parts: a four-year B.Pharm and a one-year pharmacist degree (Apothecary degree).⁹⁵ Indonesian pharmacy curriculum consists of (1) the core curriculum that must be delivered by all pharmacy schools and (2) the institutional curriculum that is set to meet the needs of each pharmacy school and stakeholders. The core curriculum of a four-year BPharm currently consists of basic

pharmaceutical sciences, which is more theoretical, whereas the Apothecary Degree curriculum is more weighted towards pharmacy practice.

Although pharmacists' scope of practice and competence includes knowledge and skills in delivering minor ailments services in community pharmacy,^{114, 115} however, there is no stand-alone or MMA specific units/courses included within the BPharm core curriculum (Table 1.4). Instead, they are taught as part of the institutional curriculum.^{116, 117} The MMA topics are integrated in various courses in both BPharm and Apothecary Degree curricula. Consequently, this has influenced the competence level and expertise that pharmacy graduates gain during their BPharm dependent on the institution they attended. Therefore, variation in the expertise and knowledge of those graduates is expected. Further, many pharmacy courses in Indonesia are more weighted to pharmaceutical sciences rather than clinical knowledge, thus, affecting graduates competency to deliver patient-centred care in clinical practice.^{116, 117}

The Apothecary Degree program requires students to attend lectures and clinical placements in community pharmacies, hospitals, pharmaceutical industry, and community health centres that have been arranged by their institutions, as shown in Table 1.4. Many have argued that this arrangement would provide a breadth of experience and wider knowledge of pharmacy practice areas. However, many also consider that this arrangement is insufficient to gain experience due to the short period of time for students attending clinical placements (\pm 1 month in community pharmacy, \pm 1 month in community healthcare centres, \pm 2 months in hospital pharmacy). The clinical placements timing and duration is defined by each university.

Table 1.4. Units which have topics relevant to the MMA in the Bachelor of Pharmacy core curriculum.¹¹⁷

Units (contain both lectures and practical sessions):	
• Pharmaceutics	• Microbiology
• Pharmacokinetics	• Virology
• Human anatomy and physiology	• Pharmacotherapy
• Pathophysiology	• Health law and pharmacy ethics
• Pharmacology	• Entrepreneurship
• Toxicology	
• Immunology	
*There were no clinical placements offered within the current Bachelor of Pharmacy curriculum	

Clinical placements in the Apothecary Degree curriculum provides the greatest opportunity for pharmacy students to gain clinical experience in services provision. Clinical placement activities allow students to build confident demonstration of skills in pharmacy services provision (Table 1.5). Variations in institutional curriculum, accreditation levels, and clinical placements will produce variations in pharmacy graduates. For example, students who are attending a busy community pharmacy in their clinical placement may gain more experience compared to students who did not. Students trainee may work with only one community pharmacist who undertake the role as a tutor, however, if the pharmacist has no clinical role orientation (more focussed on the administration role), students may have limited experience in clinical services provision.

Table 1.5. Units which have topics relevant to the MMA in the Apothecary Degree core curriculum.¹¹⁶

<p>Units:</p> <ul style="list-style-type: none"> • Compounding and dispensing* • Counselling and communication skills • Leadership • Pharmacy Ethics and Law • Clinical Pharmacokinetics* • Pharmacy Management <p>Clinical placements:</p> <ul style="list-style-type: none"> • Community pharmacy (\pm 1 month) • Community healthcare centres (\pm 1 month) • Hospital pharmacy (\pm 2 months) • Pharmaceutical industry (\pm 1 month)

*Contain both lectures and practical sessions

Prior to 2014, pharmacy technicians in Indonesia were defined as those who had undertaken a pharmacy high school program, or a three-year diploma course in pharmacy, or Dip.Pharm in pharmaceutical and food analysis (pharmacy analyst). Pharmacy analyst education is similar to Dip.Pharm with a-three years of course majoring in quality control and analysis of

pharmaceutical products and foods. The different qualifications of pharmacy technicians and education levels had resulted in different knowledge bases, skills, abilities and competencies, particularly in workplace clinical settings.¹⁰⁶ From 2020, the President of the Republic of Indonesia issued a law that stipulated that pharmacy technicians as those who had completed either a three-year Diploma course in pharmacy or a Dip.Pharm in pharmaceutical and food analysis (pharmacy analyst) or BPharm without the one-year pre-registration pharmacist program. Those who had graduated from pharmacy high schools are now only recognised as pharmacy technician's assistants working under the supervision of a pharmacist or a pharmacy technician.¹⁰⁶

Pharmacy Diploma qualifications aim to provide practical and work-oriented skills-based employment. Similar to the BPharm curriculum, there is no stand-alone or MMA specific units/courses in the core curricula (Table 1.6). The MMA topics are spread in various courses in pharmacy technician curricula. Thus, variation of expertise and knowledge of pharmacy diploma graduates in delivering minor ailments services is a likely outcome.

Table 1.6. Units which have topics relevant to the MMA in the Pharmacy Diploma core curriculum.¹¹⁸

<p>Units (contain both lectures and practical sessions):</p> <ul style="list-style-type: none">• Human anatomy and physiology• Medical terminology• Microbiology and parasitology• Pharmacology• Pharmacotherapy• Health population• Hospital pharmacy• Pharmaceutics• Communication skills• Pharmacy regulations and ethics• Pharmacy management and marketing• Occupational health and safety <p>*Some institutions offer clinical placements for Pharmacy Diploma students</p>
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1.8 Indonesian pharmacists' and pharmacy technicians' process of registration

Pharmacists and pharmacy technicians practising in clinical settings must be registered by the National Pharmacist Board (KFN), the IAI for pharmacists, and the PAFI for pharmacy technicians.¹⁰⁴ All pharmacy students have to pass a test before being registered.

Since 2017, pharmacy graduates have been required to take a competency test prior to obtaining their license to practice.³⁸ The test has been standardised to ensure that all pharmacy graduates meet the minimum standards of practice. However, a number of problems have been identified, such as lack of practical experience, the focus of the pharmacy curriculum on pharmaceutical sciences rather than pharmacy practice, and the limited facilities and resources available to educate pharmacy students.³⁹⁻⁴¹

1.9 The management of minor ailments in community pharmacies

The WHO and the International Pharmaceutical Federation (FIP) have described self-medication as the selection and use of medicines to treat symptoms or minor health problems, which can be recognised as part of self-care.^{119, 120} Self-care is defined as what a person does to maintain their health and deal with the disease.¹²⁰ Much self-care can be resolved with no intervention from healthcare professionals.¹²¹

The concept of self-care can be incorporated into the MMA and also for the prevention of long term and complex ailments.¹²² The level of management, however, will increase with the complexity of the ailment. Minor ailments can be defined as self-limiting conditions that require little or no medical attention.¹²³ When a pharmacist assists with the process of self-medication, then it is considered that a minor ailment has been identified.¹²⁴ Minor ailments where pharmacists can provide assistance in the assessment and treatment include conditions such as urinary tract infections, non-infectious diarrhoea, respiratory infections, gastro-oesophageal reflux disease or heartburn, and cold sores.^{13, 125-127} Successful minor ailments management includes the appropriate selection of non-prescription medicines, appropriate dosage and duration, appropriate advice and recommendations.¹²⁸

Published literature from the UK, Canada, and Australia have shown that the use of frameworks for the MMA by community pharmacists have achieved positive outcomes for patients.^{121, 122,}

^{129, 130} The positive impact of the community pharmacy involvement in the MMA includes high rates of symptom resolution compared to repeat consultation rates in GP, earlier detection of more complex illnesses, which determines when referral to a doctor is needed, and higher patient satisfaction.¹³¹

Factors influencing the successful delivery of MMA services in community pharmacies have been described in many studies.^{26, 132-135} Factors considered important for the establishment and successful delivery of minor ailments can be related to the existence of facilitators and domains which impacted each other, as shown in Table 1.7. Understanding and identifying complex relationships between such factors represents a key process in the provision of MMA.

Many studies in developed countries have reported the factors that influence people's choice to use a community pharmacy for minor ailments include previous experience with a community pharmacy, nature of symptoms, trained pharmacy staff, convenient access, and reduced appointment and waiting times compared with the GP.^{121, 136, 137} In developing countries, public choice of the community pharmacy includes ease of access to OTC and prescription-only medicines, patient's perceptions of the role of pharmacists in managing minor ailments, patient's lack of money, quick service, and pharmacy staff knowledge about minor ailments.^{51, 55, 138, 139} Encouraging members of the public to better utilise community pharmacies for MMA services that meet their needs and preferences are required.¹²¹

Table 1.7. Facilitators of successful establishment and delivery of minor ailments services reproduced from Cardenas et.al.¹³²

Domain	Elements
Professional service	<ul style="list-style-type: none"> • The complexity of the services • Patient recruitment • Service methodology
Pharmacy staff	<ul style="list-style-type: none"> • The motivation of pharmacy staff • Pharmacy staff self-efficacy • Pharmacy staff knowledge and experience
Pharmacy	<ul style="list-style-type: none"> • Pharmacy workplace • Setting culture • Pharmacy teamwork • Workflow

Domain	Elements
Local environment	<ul style="list-style-type: none"> • Patient demographics • Interprofessional collaboration with the other healthcare professions
System	<ul style="list-style-type: none"> • Regulations and legislation • Policies • Economic factors

1.9.1 The management of minor ailments in community pharmacies in developing countries

Studies in developing countries have reported it is the community pharmacist's role to provide assistance in the assessment and treatment of minor ailments such as non-infectious diarrhoea, gastro-oesophageal reflux disease or heartburn, and cold sores.¹⁴⁰⁻¹⁴⁶ In the case of MMA, many studies in developing countries have reported that pharmacists managing minor ailments with various medicines (including prescription-only medicines and antibiotics) occurs for at least 40% of the population, and forms a pivotal part of their daily self-care behaviour.^{94, 147-152}

One of the challenges in the provision of MMA services in community pharmacy in developing countries includes the differential roles and responsibilities of pharmacists and pharmacy staff (pharmacy technicians, drug dispensers, etc).^{140-146, 153} The knowledge and skills to provide appropriate advice in minor ailments may be complex. The more common and straightforward ailments (e.g. simple headache) can be adequately managed by a pharmacy technician, while other ailments require pharmacist's interventions and advice, or referral to other healthcare professionals.^{7, 13} However, a study conducted in several Asian countries revealed that pharmacy technicians were usurping the pharmacist's role in providing advice and recommending treatment making the roles between these two pharmacy professions ambiguous.^{7, 13, 154}

In most developing countries, inappropriate use of medicines and lack of enforcement of regulations of prescription-only medicines sales are major issues in the MMA.^{7, 155} Findings from a survey conducted in Southeast Asian countries shows a range of barriers to the provision of MMA including: inadequate pharmacy training in MMA; poor awareness of the community

of pharmacist role in managing minor ailments; consumers easy access to obtain prescription-only medicines without a valid prescription; misinformation about medicines; lack of specific regulations; and, lack of recognition from other healthcare providers.^{7, 155-157}

1.9.2 The management of minor ailments in Indonesia

In Indonesia, approximately 31.0% of the Indonesian population have complained about their minor ailments.¹⁵⁸ Most used self-medication (68.4%), while others sought medical treatment or used traditional medicines.¹⁰⁸ In Central Java, 63.1% of people who reported having a minor ailment chose to visit community pharmacies.^{65, 108} The proportions have been relatively unchanged from year to year.¹⁵⁸ Apparently, consumers in Indonesia are more likely to consider community pharmacies as their first destination for their minor ailment's problems in preference to other healthcare facilities. In 2018, the percentage of the Indonesian population who used Western OTC medicines for minor ailments reached 70.5% compared to traditional medicines (21.0%).¹⁵⁹ A total of 31.7% of patients who visited community health centres in eight districts in Indonesia chose to visit community pharmacies for minor ailments before seeking medical advice.¹⁶⁰

In accordance with the IAI competency framework, pharmacists practising in Indonesian community pharmacies must be competent to provide quality pharmacy practice, including the management of pharmaceutical products and medical devices; provision of medication therapy management; provision of patient counselling, education, and information; monitoring safety and efficacy of medication therapy; acting as a leader in the community pharmacy; and active participation in the promotion of health programs.^{114, 161} In addition, most pharmacists understand the standards of pharmacy practice, although there are obstacles that remain in practice.²³

Several studies in Indonesia have reported that interactions between pharmacists and patients in community pharmacies were limited.^{29, 91, 92, 162} The general public was more likely to portray community pharmacists as 'drug sellers' rather than professional healthcare providers.²⁹ They perceived that community pharmacies were akin to grocery stores where only pharmaceutical products and other health-related products could be purchased.²⁹ In addition, the general public seemed to have less concerns about the qualifications of the person who provided pharmacy services or if the person was a trained staff member. A study showed that patients felt confident interacting with pharmacy staff when seeking medication advice regardless of their

qualifications.¹⁶³ However, the majority of patients chose to seek advice from a pharmacist when they were seeking treatment for minor ailment symptoms, such as cough, constipation, acne, skin conditions, colds and flu, and diarrhoea.^{139, 164}

It has been reported that less than 35% of pharmacists in Jakarta and Medan, Indonesia provided professional services such as counselling and giving advice, with more than 65% of such services delivered by non-pharmacists (e.g. pharmacy technician, pharmacist assistant).^{92, 165, 166} Interactions between pharmacists and patients in the community was mostly in the hands of the pharmacy technician, so as to allow the pharmacists to fulfil their administrative roles. Some studies reported that the provision of MMA can be done in conjunction with developing a pharmacy business which involves pharmacy service provision, and this will be beneficial in recognising the community pharmacist's role.^{29, 167}

Research activities focused on improving pharmacy services in MMA have been reported.^{139, 168, 169} However, there is inadequate information on how this improvement changes current pharmacy practice.¹³⁹ Several studies on the management of diseases, such as gastro-oesophageal reflux disease, urinary tract infections, and cold sores, found that such management increased patient compliance and improved clinical outcomes.^{146, 170-172} Although studies have shown that pharmacists have adequate knowledge and skills to manage minor ailments, no studies have been reported in Indonesia confirming that providing pharmacy services in the provision of the MMA has been sustainably adopted in community pharmacies.

Another problem hindering the realisation of the MMA in Indonesia is the lack of standardised guidelines on managing these services.^{24, 29, 86} Understanding factors that influence the provision of services for the MMA is a bold step for implementing practice change. A pharmacist involved in treating minor ailments can appear like an easy task; however, well-trained pharmacists need to be able to provide professional services that meet patient expectations and be available in the community pharmacy.²⁴

Further, counselling activities and information gathering of community pharmacists and non-pharmacist staff during MMA services have been reported.^{87, 156, 173} A qualitative study of pharmacy staff conducted in a remote area in Papua, Indonesia, has revealed that most information gathering was inadequate and limited.⁸⁷ This study only used a relatively small sample size and was conducted in the least developed area with inadequate infrastructure in the eastern part of Indonesia, which may not be generalised to the more developed parts of

Indonesia or many other countries. The author concluded that strategies were needed to improve practices.¹⁶⁷

More than 60% of consumers in Indonesia have reported that their primary reason for seeking advice in the community pharmacy is the perception that their condition is not serious enough to visit the doctor.¹⁶⁴ Surprisingly, almost 70% of consumers were unsure whether the pharmacist's responsibilities could be extended to other services, such as monitoring patients' health progress.¹⁷⁴ To embrace the philosophy of pharmaceutical care, pharmacists should have adequate therapeutic experience, and be capable of addressing patients' concerns and needs.¹⁷⁵ There is a need to ascertain the pharmacist's role as a care provider in diagnosing and treating minor ailments, while it must also be ensured that the community is aware of these services.

1.9.3 Triage and protocol for the management of minor ailments

In managing minor ailments, pharmacy staff must be capable of ensuring that appropriate triage services have been delivered. Triage is defined as an assessment of the order and priorities of patients' treatment based on the severity of their condition, particularly in disaster situations.¹⁷⁶ The definition has been extended to "The assessment of patients on arrival to identify how urgent their illness or injury is and how soon treatment is required".^{177,178} Community pharmacy is recognised as the first point of contact for patients for the provision of minor ailments advice, and when necessary, referral to an appropriate healthcare professional.¹⁷⁹

It is important to differentiate triage services provided in the emergency department (ED) from the community pharmacy. In the ED, triage services involve urgent decisions on how soon treatment is needed.¹⁷⁸ Hence, triage in the ED encompasses the management of minor to life-threatening conditions.¹⁷⁸ However, in community pharmacy, there needs to be an acknowledgement that there are many conditions which pharmacists are not able to treat (e.g. due to the need for a clinical diagnosis or the inability of pharmacists to provide certain medicines without a prescription), despite the fact that some of these conditions may be considered minor and not urgent. Some patients seeking advice from community pharmacists may require urgent medical or hospital attention.

Managing minor ailments requires pharmacists to appropriately triage patients. Triage in community pharmacy encompasses asking appropriate questions, understanding the rationale of the questions, and for pharmacy technicians, when appropriate making a decision to refer patients to a pharmacist. Triage also allows a pharmacist to decide if the patient management

and treatment are within their scope of practice or require referral to other healthcare professional or ED. Acquiring information as part of triage service in the MMA is very useful to understand the problem that the patient was experiencing and identify the causes of the problems to find the appropriate interventions. To illustrate, many studies regarding MMA demonstrate that the most common types of minor ailments were diarrhoea, pain, common cold, migraines, and allergies. Those studies reported the use of prescription-only medicines (or pharmacist-only medicines in some countries), including antibiotics for the management of ailments (e.g. cotrimoxazole, loperamide, amoxicillin, metronidazole, ergotamine, diclofenac, ketamine) provided without appropriate advice given by pharmacy staff.^{156, 180-182} These studies raise the issue about the appropriate provision of medicines because such ailments can mostly be managed using OTC medicines. Further, studies examining the factors influencing medicine selection for specific minor ailments is still required to develop guidelines to reduce the misuse of medicines.^{183, 184}

Understanding the type of minor ailments, the provision of medicines and advice is an important element of pharmacy service. A protocol for pharmacy assessment of minor ailment services involving medicines selection sales involves using the mnemonic WWHAMA (**W**ho is the patient?; **W**hat are the symptoms?; **H**ow long have the symptoms been present?; **A**ny other medication being used at present?; **W**hat **M**edication has been tried already?; and **D**oes the patient have any **A**llergies). This mnemonic is helpful to assist pharmacy staff in gathering information of consumers and facilitating appropriate medicines provision and advice delivering pharmacy services.^{135, 185} However, studies have revealed that most pharmacy staff perform inadequate history taking and did not ask if the patient has had other conditions or allergies or have tried any medicines previously.^{40, 53, 91} In an extreme case, some pharmacists did not perform adequate patient history taking, which can delay appropriate treatment if the symptoms indicates a more serious condition and requires referral to other healthcare professionals.¹⁸⁶

While statements have been made that show that pharmacists provide appropriate diagnostic decisions in managing minor ailments, it has also been argued that pharmacists and pharmacy staff do not ask sufficient questions to allow them to gain enough information to assess a patient's condition.^{11, 13, 87} During the process of consultation, it is crucial to decide whether to treat patients or to refer them, and this can only be achieved through adequate investigation using appropriate questioning.¹⁸⁷ Referral to another healthcare professional is part of the standard protocol regulated by the Indonesian Ministry of Health (Minister of Health

Regulations No.35/2014 regarding pharmacy services in Indonesian community pharmacies).¹⁰² It is also taught to pharmacy students in Indonesia. To optimise this role, pharmacy staff must be equipped with adequate training and education.¹³ Thus, the appropriateness of treatment provided by pharmacists and pharmacy staff in regard to triage-like services in managing minor ailments conditions is still questionable.

1.9.4 Medicines used for the management of minor ailments

According to the Food and Drug Administration (FDA) of the United States of America (USA), OTC medicines are defined as¹⁸⁸:

“Medicines marketed that are safe and effective for use by the consumer without the intervention by a healthcare professional to obtain the product.”

The terms safe and effective refer to medicines that are commonly used for minor ailments without healthcare professional supervision (without doctor’s care) and for use without a prescription.¹⁸⁸ OTC medicines mostly consist of vitamins, minerals, herbs, supplements, and some safe and effective medicines when they are used following the instructions on the label or package or those provided by their healthcare provider. However, there is no pharmacy/pharmacists range of OTC medicines in the USA, hence the range available that can be provided by healthcare provider is narrower compared to some other countries.

Prescription-only medicines by the FDA are defined as¹⁸⁹:

“Medicines approved for marketing that requires authorisation (a valid prescription) by a licensed practitioner by law before the product can be administered to a patient.”

The appropriate licensed practitioners who are allowed to have the authorisation to prescribe such medicines varies among different countries. As stated by the FDA, the use of prescription-only medicines is safe and effective under an appropriate healthcare practitioner (e.g. doctors) due to its toxicity and potentially harmful effect.¹⁸⁹

Pharmacist-only medicines are defined by the Pharmacy Guild of Australia as¹⁹⁰:

“Medicines which requires healthcare professional advice that is safe to use and available to the public from a pharmacist without a prescription.”

Pharmacist-only medicines can only be obtained through a community pharmacy, under the supervision of a pharmacist and must be stored behind the pharmacy counter or area that is not

accessible to the public. Pharmacists need to ensure that the medicines are safe, not being misused before being administered to the public or they may refuse to sell the medicines and refer the patient to another healthcare professional or healthcare centre.¹⁹⁰

There are different medicines schedules in many countries. In Australia, medicines are classified into Schedules, a system that categorises how the medicines are restricted for public access. Medicines in Australia are generally classified into two categories: OTC medicines and prescription-only medicines. The OTC medicines consist of general sale, pharmacy-only and pharmacist-only medicines.^{190, 191} The terms pharmacy and pharmacist-only medicines are also known in Canada and New Zealand.^{192, 193} In the USA, medicines are simply categorised as prescription-only and general sales medicines. France and the UK medicines scheduling are classified as pharmacy-only, prescription-only medicines and general sales or OTC medicines which is similar to medicines classification in Indonesia.¹⁹⁴⁻¹⁹⁶ Similar to Indonesia, in Malaysia and the Philippines, medicines are classified as prescription-only, pharmacist-only, and general sales medicines.¹⁹⁷

A number of medicines have been reclassified from prescription-only medicines to pharmacist-only medicines or over-the-counter (OTC) medicines; examples include trimethoprim for the treatment of urinary tract infections in New Zealand, and chloramphenicol, for bacterial eye infections in New Zealand and Australia.¹⁹⁸⁻²⁰⁰ This reclassification presents opportunities for community pharmacists to manage patients and decide when to refer the patients to other healthcare professionals, and thus it includes an element of triage. Triage improved public access to an effective medicine for a specific ailment such bacterial conjunctivitis reducing the requirement for a medical referral. However, it must be borne in mind that regulations differ worldwide regarding which medicines can be legally supplied and by whom.

The distribution of medicines also varies in many developing countries. OTC medicines are generally sold through community pharmacies, while other items listed as general lists products can be sold through either community pharmacies or any retailers (e.g. supermarkets).^{190, 191} In general, prescription-only medicines can only be supplied through licensed community pharmacies. However, in many developing countries, this class of medicines is accessible through many providers.^{7, 13, 14, 27, 157} For example, in South Africa, all classification of medicines is accessible through doctors or healthcare workers, medicine sellers, and peddlers.²²

Similar studies also found in Jordan¹⁵¹, Ethiopia¹³⁹, Nigeria¹⁴⁶ and Indonesia^{40, 93, 167} that indicates the availability to access all classifications of medicines were triggered by pharmacy

staff who provide sales of prescription-only medicines easily without a valid prescription and the general population may not be aware of the classification of medicines. They viewed that all medicines can be purchased easily without a prescription, and therefore, they tend to neglect the legality and safety issues.²⁰¹

In developing countries, labelling of OTC medicines information on the use and its side-effects are provided in the product's package or label, while the information about the prescription-only medicines or products will be inserted inside the product's package. OTC medicines are easily found in many vendors, advertised easily through mass media and often sold in its loose strips (no label).^{53, 90} On the other hand, prescription-only medicines should only be used by healthcare professional advice and the use without professional advice will be considered inappropriate.¹⁸⁹

Medicines that are classified under prescription-only are different in many countries. For example, in Thailand, medicines for diabetes, hypertension, dyslipidemia, and antibiotics were classified as behind-the-counter (pharmacist-only), while in other countries (e.g. Malaysia, Indonesia, the Philippines, Singapore, the UK and USA), these medicines are classified into prescription-only medicines.¹⁹⁷ On the contrary, medicines such as loratadine and cetirizine are classified as general sales (OTC) medicines in developed countries (e.g. Australia, Japan, Singapore, Canada, the US and UK); however, in developing countries (e.g. Indonesia, Malaysia, Thailand, and the Philippines), those medicines are classified as behind-the-counter (pharmacist-only).^{38, 197, 202, 203}

In Indonesia, a range of pharmacist-only medicines is available to the public through the recommendation of a pharmacist or under the direct supervision of a pharmacist. These medicines are known as "OWA" (previously described in the Indonesian medicines classification section above). In practice, however, pharmacist-only medicines, including antibiotics, can be purchased easily without pharmacist recommendation or appropriate triage from the pharmacy staff. These medicines even can be easily found in some kiosks, vendors, peddlers, hawkers, although community pharmacies are the only official providers to supply these medicines.⁹⁰

Several studies reported that lack of patient time, low cost, prior experience and familiarity with the conditions, and mildness of the symptoms were cited as the major reasons consumers chose to seek advice from community pharmacies for their minor ailments.⁵²⁻⁵⁴ Further, the purchase of prescription-only medicines, prior experience with easiness access to obtain the medicines

in the community pharmacy, and easiness to request medicines account for the predominant reasons for consumers visiting community pharmacies in Qatar and Bosnia.^{138, 174}

1.9.5 Inappropriate use of medicines in the management of minor ailments

According to the WHO, the appropriate use of medicines is defined as²⁰⁴:

“Medicines appropriately used according to patient’s clinical needs, with the appropriate dosage that meet individual requirements, for an acceptable duration of time, and at the lowest cost for the patient and the community.”

Thus, it can be stated that the use of medicines in all classes, if it suits the patient’s needs and clinical condition, meet the required dosage and duration of use, follow the clinical guidelines, is affordable for the patients, and the patient is aware of its potential side-effects that may occur is considered appropriate.⁷⁹ Appropriate use of medicines is usually defined in terms of conformity with guidelines. As there are no guidelines for MMA in Indonesia either other developing countries or other sources of guidelines should be used (e.g. textbook guidelines).^{79, 204}

There are some algorithm tools to assess the appropriateness of treatment, for example, using Migraine Disability Assessment (MIDAS), a tool recommended by the American Headache Society Consensus Statement²⁰⁵, Insomnia Severity Index for sleeping disorders (ISI)²⁰⁶, and pain assessment and management.²⁰⁷ Those tools are used not only to screen patients who have a higher risk of developing symptoms that require referral, but they also indicate the medicines used, the instruction and cost-effectiveness. However, careful considerations are needed when applying these tools in community pharmacies in developing countries as they have different characteristics of population and clinical settings. For example, the history of medicines used by patients with minor ailments was rarely written in the medical records in community pharmacies. Even if they were written in the patient’s medical records, it has rarely been updated. Thus, records on the medicines adverse effects that the patients may experience may be overlooked.²⁰⁸ Further, a study in an urban population in Indonesia on the appropriate use of medicines for minor ailments have suggested four classifications: (1) appropriate use only, (2) appropriate use but unnecessary, 3) unnecessary use only, and (4) potentially harmful, which according to the author, the prescription-only medicines that were used for managing minor ailments were classified as potentially harmful to the patients.^{209, 210}

There were several studies on the use of medicines for managing minor ailments in developing countries, revealing the majority of them had supplied inappropriate medicines.^{208, 211, 212} The inappropriate use of medicines includes the use of prescription-only medicines for the symptoms of common cold and cough, upper respiratory tract infections or diarrhoea, either inappropriate use, inappropriate dosage, or unnecessary medicines used.²¹⁰

According to World Drug Report 2017, the misuse of prescription-only medicines is a growing problem in developing countries.²¹³ Several studies in developing countries documented the sales of prescription-only medicines without prescription for communicable and non-communicable diseases by pharmacists and non-pharmacists staff.^{87, 156} A study conducted in Nigeria revealed that most medicines used for acute diarrhoea ranged from analgesics, antibiotics, and anti-motility.¹⁸⁰ A study conducted in community pharmacies in Ethiopia revealed that patients were using diclofenac as an analgesic and ciprofloxacin as an antibiotic to treat back pain and respiratory tract infection.¹³⁹

Antibiotics, are commonly used in many developing countries, not only for minor ailments but also other infectious diseases, are often sold with or without a prescription.^{127, 139, 173, 198, 214, 215} It was interesting to note that non-prescribed sale of antibiotics to consumers is a common practice in developing countries which makes them vulnerable to side-effects.^{13, 90, 197, 214} Other medicines that are commonly used in the MMA varies from analgesics, antihistamines, antibiotics, antipyretics, non-steroidal anti-inflammatory drugs (NSAIDs) and complementary medicines.^{11, 13, 174}

A motive for profit and competition based in community pharmacy to retain consumers have been the major reasons for the non-prescribed sale of prescription-only medicines, including antibiotics.^{13, 91, 93, 203, 216} Some studies described that complying with consumers request to supply antibiotics was one of the strategies to maximise profit and preventing the consumers from going to other pharmacies to obtain the same antibiotic without a valid prescription.²¹⁷ Conflict with ethical and regulatory standards often occurs due to the illegal supply of prescription-only medicines and leads to inconsistencies in practice; however, fear of losing consumers and impact on the pharmacy profit has made this practice run for a long time.^{37, 217-}
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The misuse and overuse of medicines for MMA have been reported in community pharmacies in developing countries, which indicated improper clinical conditions, inadequate dosage and duration, lack of advice from the pharmacist, and unqualified pharmacy staff attending

supplying the patients have occurred in many Asian countries.^{7, 22, 61, 62, 156, 183, 184, 221} These problems have become more complicated in addition to other issues, such as quality of healthcare providers, poverty, and lack of education. Poor people in rural areas may be forced to purchase medicines without appropriate advice from pharmacy staff at a low price from small kiosks, peddlers, or markets (usually they provide medicines in a poor quality/counterfeit and in a small quantity without the package/label).

In the Indonesian context, many studies have been published about the inappropriate use of medicines and the lack of advice given by pharmacy staff in community pharmacies for minor ailments.^{24, 90, 92, 167, 222} Inappropriate use of medicines remains a major issue in Indonesia. Many factors influence the supply of inappropriate medicines, such as patient's demand for the medicines, consumers misconceptions about certain medicines and ailments, consumers low level of economic status, consumers' low health literacy, inadequate pharmacy staff knowledge and skills to educate consumers, the healthcare and medicines supply system, the low quality of pharmacist prescribing, the implementation of pharmacist-only medicines policies, and lack of enforced regulations are some relevant factors influencing the MMA in the Indonesian community pharmacies.^{29, 84, 86, 91, 166, 167, 222}

Multi-layered factors (international, micro, meso, and macro levels) have existed and influenced the MMA in community pharmacy practices.^{7, 24} A study revealed that in macro level of healthcare, the health system may hinder the development of community pharmacy practice, while at the meso level, the pharmacist role as a facilitator or a barrier to provide services can influence pharmacy services. At the micro level, the pharmacists training and views may have direct relevance to their practice. The author stated that for community pharmacists to contribute effectively to pharmacy services (e.g. reduce the inappropriate use of medicines), the barriers to such practice must be investigated.²⁷

1.9.6 Non-pharmacy sources of medicines for managing minor ailments

Other than community pharmacies, prescription-only medicines in many developing and low-income countries can be obtained through other vendors such as (1) shopkeepers who sell general medicines, (2) market sellers who sell medicines with other goods in a traditional market, (3) peddlers or hawkers who sell medicines from village to village, (4) vendors who specialise in selling medicines.^{14, 22, 62, 157, 223} These vendors have been identified in reports in many studies in Indonesia.^{29, 65, 90, 167, 210, 218, 224}

In South African countries, doctors, nurses or other healthcare providers, roadside medicine dealers, local hawkers, kiosks, native healers, market vendors, and mobile medicine vendors are identified as non-pharmacy sources of medicines.^{201, 225} Medicine hawkers in Cameroon and Nigeria travelled from village to village during harvest season when the villagers had some extra money at disposal and provided various articles in addition to medicines.^{201, 226} Mobile medicine vendors or traders also give medicine and medical advice when asked and provided injections.²⁰¹ Some studies described the reason why these unlicensed medicine vendors responded better to the community need, were their availability, affordability, and attainability. These vendors are easily found within a radius of few kilometres from where one lived, in contrast to a community pharmacy where it may be located kilometres away.^{201, 225, 226}

In Ghana, the first sources approached for medicines were chemical sellers and medicine peddlers (who sell medicines illegally).²²⁷ Some studies stated that delays in receiving medical treatment in the hospital were the main reason people chose to seek medicine from peddlers rather than community pharmacy or community healthcare centres.^{225, 227} This was also the common reason in Vietnam where non-pharmacy sources of medicines were more popular as there is a high density of private suppliers, while in Bangladesh, the community considered that public health services of low standard, therefore, they chose nearby medicine sellers (perceived as doctors by local people) for their minor ailments.²²⁵

In addition to the non-pharmacy sources of medicines, advice about managing minor ailments to choose the most appropriate medicine may come from a layperson or non-health person. Many studies in developing countries have shown that family members, relatives, neighbours, friends, traditional healers in the village are popular advisors for their diseases, particularly minor ailments.^{7, 22, 27, 210} The advice provided by a lay person is generally based on their experience with the disease and the medicines they used to treat the ailments, either using prescription-only or OTC medicines. In an extreme case, they may use the information and advice provided by the pharmacy staff regarding their ailments and medicines for their future reference for the same symptoms.^{150, 197}

1.9.7 Roles and scopes of practice of pharmacists and pharmacy technicians in the management of minor ailments

According to the National Competency Standards Framework for Pharmacists in Australia 2016, the scope of practice is defined as the boundaries of professional pharmacy practice, a time-sensitive, dynamic feature of practice to perform professional activities that indicate a

pharmacist is trained, competent, and authorised, and for which they are accountable.²²⁸ Competency, encompasses the required knowledge, skills, attributes to prescribe, and administer and review medicines and is achieved through the completion of a study program.¹²⁴ Maintaining competency can be achieved through ongoing education and continuing professional development.²²⁸

An individual pharmacist working within their scope of practice may depend on their training, experience, expertise, workplace, and competency, which matures in response to healthcare needs.²²⁸ Full scope of practice may be updated regularly to meet the evolving services and community needs. Currently, pharmacists scope of practice varies from managing the preparation and supply of medicines to performing interprofessional practice with doctors, nurses and patients.²²⁹ For example, community pharmacists in Canada, manage ambulatory conditions, including the management of back pain and urinary tract infections, within common practice.^{127, 230, 231} The UK pharmacists can practise to their full scope, including prescription renewal and repeat prescription provision for stable, chronic conditions without the need to return to the prescriber.²³² Further, Australian pharmacists may perform medicines supply and dispensing, prescribing, disease management, review medicines, and medicine administration, which pharmacists in developing countries may not have the authorised scope of practice to perform.²²⁸

Over the past decade, there has been an increasing interest in utilising pharmacy technicians to deliver pharmacy services, mainly to provide the opportunity for the pharmacist to perform their clinical roles in developed countries.²³³ Canada has been used as an example to show a defined scope of practice between pharmacists and pharmacy technicians, where pharmacists focus on the management and patient health outcomes and pharmacy technicians focus on medicine distribution.²³⁴ That study concluded that while pharmacists concentrated on providing patient care, pharmacy technicians played the role as managers of medicine distribution, where they were capable and willing to provide in that country.²³⁴

The scope of practice and responsibilities for pharmacy technicians varies greatly between countries, regarding the tasks they are authorised to perform.^{46, 223} A defined scope of practice for pharmacy technicians may exist in some countries but not in every country.^{223, 235} For example, specially trained pharmacy technicians in the USA may practise dispensing without the supervision of a pharmacist compared to other countries.²³⁶

Research documenting practice models for patient safety and patient care performed by pharmacists and pharmacy technicians has been reported in many studies.^{59, 233, 237} Most findings have been derived from developed countries such as Canada, Denmark, the United Kingdom (UK) and USA, where pharmacists and pharmacy technicians have been integrated successfully into their well-regulated healthcare systems.^{233, 238, 239} These countries have established SOP, regulations, and legislation which support the pharmacy workforce delivering pharmacy services and extended pharmacy services.

A survey study of 67 countries and territories showed a global picture of pharmacy technician scopes of practice, roles, competency, and responsibilities in community pharmacy, which included: preparation or compounding of medications, checking prescriptions, reconstituting of medicines, medication therapy management, vaccine advocacy, home medication therapy, and community pharmacy-based adherence programs.²²³ The study found that 58% of pharmacy technicians and other pharmacy staff worked independently most of the time and 23% indicated that pharmacist supervision was required in urban compared to rural areas. Further, supervision was mainly required by pharmacy technicians for patient consultation and diagnosis, and the least required supervision was medicines stock ordering.²²³

Although pharmacy technicians' scope of practice is clearly defined in some countries, there were concerns for unwanted outcomes when pharmacy technicians performed certain practices.²²³ One of the concerns was that pharmacy technicians working without pharmacist supervision might replace the clinical role of pharmacists.^{240, 241} Some studies acknowledged pharmacy technicians' role in increasing public awareness of pharmacy services.²⁴²⁻²⁴⁶ However, they also suggested that pharmacy technicians performing pharmacy services without pharmacist supervision might mistakenly be concluded by stakeholders (e.g. patients) as representing the catalogue of full pharmaceutical services.^{241, 247} Interestingly, the cases in developing countries are different where many pharmacy services were often delivered by non-pharmacist and non-qualified staff due to lack of available pharmacists and pharmacist absence, particularly in rural areas.^{7, 46, 48, 61, 235, 248}

In a study of the scopes of practice, concerns were raised on how pharmacists and pharmacy technicians should practise to their full scope.²⁴⁹ Some pharmacists raised concerns about the increasing loss of professional authority, while some pharmacy technicians complained about their scope being blocked by pharmacists who may feel threatened by their roles and evolving scope of practice. A critical issue in conflict management may influence collaboration among members of the community pharmacy staff. Role ambiguity and interprofessional tension may

trigger conflict in practice.¹⁵³ Moreover, no clear understanding of each other's responsibilities between both professionals is most likely to arise when tasks are interdependent. Lack of clarity around responsibilities often leads to role ambiguity. Professional and health regulatory bodies can improve role clarity and scope of practice between each group professional, and the issue around the scope of practice should be 'fixed' by appropriate procedures and policies.²⁵⁰

1.9.8 Summary of studies of the management of minor ailments in developing countries

A search of the literature on the management of minor ailments in developing countries is provided in Table 1.8 below. The grouping of developing countries (low- and middle-income countries) is based on the World Bank data. The search was undertaken on MEDLINE (using Ovid), EMBASE, CINAHL Plus, and Web of Science databases. The database search was carried out from inception to November 2021. A search strategy (Appendix B) using the combination of Medical Subject Headings (MesH) terms and included the terms of "minor ailments", "minor illness", "self-medication", "self-treatment", "self-care", "non-prescription medic*", "non-prescription drug*", "practice*", "pharmacy service*", "community pharmacy", "community pharmacist*", "pharmacy staff", and "developing countries". Only peer-reviewed articles published in English and studies conducted on humans were included. No restrictions were made on study design and year of publication. All articles identified in the search were exported to EndNote X9 Bibliographic database and duplication was removed using EndNote.

The majority of the studies presented in Table 1.8 were conducted using a quantitative approach with a simulated patient (also known as pseudo-patient, pseudo customer, or mystery shopper). Yusuff et al. recommended future research to include a mixed-methods approach.¹³ Simulated patient methodology has been extensively used in pharmacy practice research in developing countries. Although it has been extensively used, a study reported that using simulated patients was considered as deception of human subjects without obtaining their informed agreement.²⁵¹ That author raised the issue of how the simulated patient method can provide comfort with ethical principles and framework that involves human subjects in their research, and the issue has not been answered by many studies.²⁵¹ In addition, a study described simulated patient methods using scenario vignettes is a method that can be used to evaluate competence that is considered a standard test, ethically and academically.²⁵² On the other hand, a systematic review of using a simulated patient method in pharmacy research stated that the method provided a

rigorous, robust result and enhanced generalisability, particularly in developing countries with heterogeneous nature.²⁵³ The author stated that the only disadvantage of using a simulated patient was the various quality of trials to train simulated patients and outcome measures.²⁵³

The majority of the studies summarised in Table 1.8 reported common minor ailments managed in community pharmacy: cough and cold symptoms, diarrhoea, gastro-oesophageal reflux diseases, constipation, acute pain, fever, allergy, and skin problems. Some studies have described community pharmacists' roles in managing contraception, hence, contraception is included in the summary of studies of MMA in developing countries.^{51, 254} Commonly recommended medicines for managing the ailments were OTC medicines and prescription-only medicines, including antibiotics.^{139-146, 151, 168-172, 255-262} Although many studies reported the common use of prescription-only medicines for managing minor ailments, pharmacists were less likely to provide adequate triage and inadequate counselling on the appropriate use of medicines (30%-89%).

Some authors in the studies described the use of pharmacy and pharmacist terms for community pharmacies or drug stores where none of the employees providing MMA services was pharmacists.^{139, 151, 171, 258} Other studies only stated pharmacy assistants without having a qualification in pharmacy.^{140, 141}

No standard procedures for MMA were reported in all studies. Triage, as part of the MMA procedure, was inadequately performed by the majority of the community pharmacists and pharmacy staff. A protocol for patient assessment of minor ailment (taking patient history of medicine and medical, questioning and information gathering) was poorly performed which resulted in misdiagnosis of the ailments.^{141, 142, 144, 146, 151, 255, 261} Only one study conducted in Iraq reported a satisfactory process of triaging patients and patient assessment in diarrhoea, although counselling was poorly performed by the pharmacists.²⁵⁸

The lack of training in the MMA was reported in several studies, with variations in pharmacy education and curricula.^{144, 145, 169, 170, 256, 260} One study conducted in Qatar reported that variation in pharmacy education and training of the pharmacists was common because all pharmacists in Qatar were expatriates from other developing countries with various pharmacy education backgrounds. Thus, variation in practice is likely to be expected.¹⁷¹

The type of minor ailments managed and medicines recommended by pharmacists were similar to many studies in developed countries.^{121, 263-265} Findings of these studies also indicate inappropriate use of prescription-only medicines, including antibiotics to manage minor

ailments. This shows that community pharmacies managing minor ailments continue to evolve in developed and developing countries. However, the lack of standard procedures or guidelines in MMA is a critical issue in community pharmacies in developing countries. The studies reported that the majority of the pharmacists performed inadequate MMA services due to the lack of procedures in MMA. Thus, services were provided according to their current knowledge and skills. Lack of procedures and standard guidelines also leads to inadequate triage with lack of questioning regarding underlying symptoms and reasons for ailments performed by pharmacists. Hence, establishing standard procedures in MMA will result in the uniformity of minor ailments services and ensure appropriate treatment. More research in the delivery of MMA services is required, particularly focusing on the outcome assessment of the services.

Table 1.8. Summary of studies of the management of minor ailments and triage of ailments in community pharmacies in developing countries.

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
Study 1: Wazaify et al ²⁶² , (2019) Jordan “Assessing insomnia management in community pharmacy setting in Jordan: A simulated patient approach”	To evaluate community pharmacists' management of patients seeking advice for insomnia in Jordan's community pharmacy.	A cross-sectional observational study using simulated patients	The counselling process for insomnia was audio-recorded and the evaluation criteria were assessed using a dichotomous scale (yes/no)	67 community pharmacies	Insomnia	<ul style="list-style-type: none"> • 44.8% provided combination of paracetamol and diphenhydramine. • 86.6% pharmacists recommended pharmaceutical products. • 4.5% dispensed prescription-only medicines (flupentixol and melitracen). • 49.3% of pharmacist provided information on dose and duration of medicines. 	<ul style="list-style-type: none"> • 89.5% of pharmacists did not perform adequate triage. • Pharmacist poorly performed MMA protocol for patient assessment, lack of questioning and counselling, particularly to find the cause of insomnia. • No standard procedures for insomnia were reported in the study. • Inconsistencies and lack of pharmacists and pharmacy staff training in the MMA. • Prescription-only medicines without a valid prescription were recommended in two cases. • Strengths and limitations: the study sample was small and only recruited one simulated patient in three cities in Jordan,

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							which limited the generalisability to the other regions/areas. However, using a single simulated patient per pharmacy, could minimise the detection of the simulated patient when visiting the pharmacy.
Study 2: Suaidi et al. ²⁶¹ , (2020) Malaysia “Community Pharmacists’ Knowledge, Attitude, and Practice in Providing Self-Care Recommendations for the Management of	To assess the knowledge and attitudes about the management of premenstrual syndrome (PMS) among community pharmacists in Malaysia	A cross-sectional survey using a self-administered questionnaire	Respondents’ knowledge was assessed using Bloom’s cut-offs and respondents’ attitudes towards their role in PMS management were assessed on a five-point Likert scale	181 community pharmacists	Premenstrual syndrome	<ul style="list-style-type: none"> Medicines provided were ibuprofen (79%), mefenamic acid (74.5%), and naproxen (66.9%), evening primrose oil (62.9%). 75% of pharmacists provided non-pharmacological advice, including a healthy lifestyle and more rests. 30.9% of pharmacists advised their patients to self-manage PMS 	<ul style="list-style-type: none"> >60% of pharmacists did not perform adequate triage. 68.5% of pharmacists have limited knowledge to distinguish premenstrual syndrome (PMS) and premenstrual dysphoric disorder causes. >60% of pharmacists were unsure about the use of Sertraline in PMS management. Training in the MMA are required to enhance pharmacists’ knowledge.

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
Premenstrual Syndrome”						symptoms due to its trivial nature.	<ul style="list-style-type: none"> • Pharmacists were rated as the “least sought” healthcare providers by the consumers to seek advice on managing PMS symptoms, although it was described as a trivial ailment. • Strengths and limitations: self-administered questionnaires used in the study could cause information bias due to their reliance on participants' perceptions and self-reports. The study was conducted in one city, limiting its generalisability. However, as it was conducted in the capital city with relatively more advanced pharmacy practice, the impact of the results is unknown.

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
Study 3: Showande et al. ¹⁴⁶ (2019) Nigeria “Management of uncomplicated gastric ulcer in community pharmacy: a pseudo-patient study”.	To evaluate community pharmacists’ skills and appropriateness of medicines recommendations for uncomplicated gastric ulcer	A cross-sectional study using pseudo-patient	The pharmacists’ questioning skill was evaluated using WWHAM mnemonics and other robust questions derived from the Expert Panels’ Relevant Questions (EPRQs)	131 community pharmacists	Uncomplicated gastric ulcer	<ul style="list-style-type: none"> • 35.7% of pharmacists recommended the use of antacids. • 17.8% of pharmacists recommended the use of combination antacids and proton pump inhibitors. 	<ul style="list-style-type: none"> • 60.5% of pharmacists had experience working in a hospital setting. • 54.2% of pharmacists had performed poor triage. • Inadequate patient assessment (questioning skills regarding underlying symptoms and reasons for ailments) using WWHAM mnemonic skills was performed by pharmacists and therefore did not make correct diagnoses and possible causes of the patient’s ulcer. • >30% of pharmacists provided the wrong diagnosis for gastric ulcer (muscle spasm, worm infestations, and pelvic inflammatory disease). • The majority of pharmacists performed poor medication history taking, which leads to

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							<p>the misdiagnosis and wrong recommendation of medicines.</p> <ul style="list-style-type: none"> • Only 2% of pharmacists were able to identify uncomplicated gastric ulcer due to the patient's history of use of ibuprofen. • Training in the MMA are needed to improve triage skills for pharmacists. • Strengths and limitations: the methodology involved only one pseudo-patient, one scenario, and was only conducted once in each pharmacy (the study recruited 131 community pharmacist participants). This could impact the result as the performance of one-pseudo patient may influence the consultation process. Simulated patient may not elicit the same

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							response as an actual ill patient as their physical presentation may differ. No practice guidelines were available.
Study 4: Mesquita et al. ¹⁴³ (2013) Brazil “Assessment of pharmacist's recommendation of non-prescription medicines in Brazil: A simulated patient study”	To assess community pharmacists' practice behaviour when interacting with consumers of non-prescription medicines	A cross-sectional study using a simulated patient	Simulated patients were audio recorded and analysed using the “Assessment of counselling process” developed by Berger et al. Pharmacist performance was rated on a 5-point Likert scale	25 community pharmacists	<ul style="list-style-type: none"> • Headache • Child diarrhoea 	<ul style="list-style-type: none"> • 70.8% of pharmacists dispensed sodium dipyron for headache. • 12.5% of pharmacists recommended paracetamol and 8.33% for ergotamine. • Two pharmacists dispensed prescription-only medicines (ergotamine and scopolamine). 	<ul style="list-style-type: none"> • No standard guidelines for headache and diarrhoea described in the study. • More than 60% of pharmacists performed poor triage and only <50% assessed patients' symptoms to provide a diagnosis. • The majority of pharmacists performed poor non-verbal communication and communication skills. • No pharmacists provide advice about the medicine's adverse reactions and interactions. • Pharmacists failed to verify information given to the patients.

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							<ul style="list-style-type: none"> Lack of training and curricula of MMA in pharmacy education. Strengths and limitations: convenience sample was used, and the result may not be generalised. The method may affect patient believability.
<p>Study 5: Lebanova et al.²⁵⁹ (2020) Bulgaria</p> <p>“What does self-medication counselling in Bulgarian community pharmacies look like-a field study”.</p>	To identify the self-medication counselling and pharmacists’ role and behaviour in the process	An anonymous, questionnaire-based, descriptive study	Survey questions with multiple-choice answers and open-ended responses	280 community pharmacists	Pain and fever, cough, diarrhoea, constipation, insomnia	Analgesics, antipyretics, anti-diarrhoea, laxatives, cough and cold medicines	<ul style="list-style-type: none"> No standard procedure for MMA was used in the study. 53% of pharmacists performed adequate triage and OTC medicine consultations were provided for 5 to 10 minutes. 49.3% of pharmacists perceived that using OTC medicines for MMA had a higher potential for abuse and adverse effects. 25% of pharmacists perceived that OTC medicines are less effective for managing minor ailments.

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							<ul style="list-style-type: none"> 73.5% of pharmacists perceived that consumers do not rationally use OTC medicines. Pharmacist's working for longer years emphasise the safe use of OTC medicines when providing counselling in the MMA. Strengths and limitations of the study: No pharmacy specific selection criteria underpinned the study.
Study 6: Bhuvan et al. ¹⁷² (2019) Malaysia "Travel health-related activities and services provided by	To explore the perception, nature, and type of travel-health-related services offered by Malaysian community pharmacists	A cross-sectional survey using a self-administered questionnaire	A survey question comprises of general demographic data (pharmacy location, number of pharmacists and 15 open-ended questions about travel-health related	131 community pharmacies	Fever, allergy, cold and flu	<ul style="list-style-type: none"> 85% of pharmacies reported had administered ORS, wound dressings, insect repellent (79.2%), flu medicines (68%), antihistamines (33%) and motion sickness medicines (25%). 	<ul style="list-style-type: none"> Various forms of pharmacy services, including minor ailments services, were conducted by pharmacists. Counselling was provided to female pilgrimage and travellers with chronic diseases. Pharmacists mostly deal with travel pilgrimage and

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
community pharmacies in Selangor, Malaysia: A cross-sectional analysis”.			services and activities in community pharmacy (analysed using content analysis method)				<p>administer hormonal pills to postpone menstruation, which is considered prescription-only medicines in some countries.</p> <ul style="list-style-type: none"> • Knowledge of the global epidemiology or travel-related minor ailments are required by pharmacists in Malaysia. • Further training in MMA for managing travel-related conditions are required. • Strengths and limitations: The participants in the study were recruited using a self-selected simple random sampling without further screening or exclusion on their pre-requisite knowledge of travel health and years of practice. However, using the method, the study achieved a high response rate (90.2%). %. The study did not address the legality of the

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							supply of prescription-only medicines for chronic diseases (i.e. travellers with diabetes, hypertension, and heart disease) for OTC use or without a prescription.
Study 7: Ibrahim et al. ²⁵⁸ (2018) Baghdad, Iraq “Assessment of diarrhea treatment and counselling in community pharmacies in Baghdad, Iraq: A simulated patient study”.	To evaluate practices of Iraqi community pharmacists in the management of acute diarrhoea in adults	A cross-sectional study using a simulated patient	An eight-item survey with questions about taking patient histories (“yes” or “no) and five open-ended questions about advice and instructions in management of acute diarrhoea given by a pharmacist	75 community pharmacies	Diarrhoea	<ul style="list-style-type: none"> Commonly dispensed medicines were antimicrobial, antispasmodic, antidiarrheal, antimotility, antipyretic, antiemetic, and mineral supplement. 	<ul style="list-style-type: none"> Satisfactory triage was performed by the pharmacists; however, counselling as part of the MMA protocol was poorly performed by the majority of the pharmacists. 20% of pharmacists dispensed antibiotics without a prescription. Training in the management of diarrhoea is required. Strengths and limitations: The study used a small sample size and was conducted in only one city, which may limit the generalisability of the results. Although participants'

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							<p>feedback can be given directly, the use of mystery shoppers may result in bias as they may lack training and experience. The study did not address the legality of the supply of prescription-only medicines (i.e. antibiotics) for diarrhoea for OTC use or without a prescription.</p>
<p>Study 8: Hammad et al.¹⁵¹ (2018) Jordan</p> <p>“A simulated patient study assessing over the counter supply and counselling in Jordan:</p>	To explore community pharmacist management with headache complaints	A cross-sectional study using a simulated patient	The simulated patient was assessed on their visit using a pre-designed evaluation form, and pharmacists were evaluated against content (WWHAM counselling frameworks) and communication skills criteria	38 community pharmacies	Headache complaint	<ul style="list-style-type: none"> • 50% of pharmacists recommended paracetamol combined with caffeine • 15.8% of pharmacists had administered diclofenac, mefenamic acid, tizanidine (prescription-only medicines) without a valid prescription. 	<ul style="list-style-type: none"> • No appropriate triage was performed by the pharmacist and pharmacy staff for headaches. • Poorly performed protocol using WWHAM for patient assessment including not asking the patients for their underlying symptoms, reasons for ailments and medical history. • The majority of community pharmacists did not provide

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
responding to headache complaints”.							<p>adequate counselling and advice for patients who were presenting with headaches.</p> <ul style="list-style-type: none"> • There was difficulty distinguishing between pharmacists or pharmacy assistants who provided minor ailments services, as none of the respondents introduced themselves or had name tags with them. • Prescription-only medicines were dispensed without a valid prescription either by a pharmacist or a pharmacy assistant. • Strengths and limitations: the study sample was limited to three big cities only, which limited the generalisability. Further, it was not feasible to distinguish between a pharmacist or a pharmacy

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							assistant during the visit (no identifying name tag). The method, however, overcomes the disadvantages of a self-reported questionnaire. The study addressed the legality of the supply of prescription-only medicines (i.e. diclofenac, mefenamic acid and tizanidine) without a prescription that conveys risks to patient safety. However, the survey questions were not designed to address the patient safety issue and its impact.
Study 9: Gogazeh ²⁵⁷ (2020) Jordan “Dispensing errors and self-medication	To identify factors associated with dispensing errors and patients’ reasons for self-medications and over-the-counter use of medicines	A cross-sectional survey of a stratified random sample	A survey consisted of three parts with questions about demographic data, self-medication, dispensing errors and was measured	300 community pharmacists	All types of minor ailments	<ul style="list-style-type: none"> Commonly dispensed prescription-only medicines without a valid prescription were analgesics, antipyretics, anti-cough, anti-acid, and anti-allergy. 	<ul style="list-style-type: none"> Dispensing errors was a common practice among community pharmacists in Jordan. Self-care and self-medication were perceived by the pharmacists as not acceptable and delayed treatment.

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
practice observed by community pharmacists in Jordan”.			using a five-point Likert scale				<ul style="list-style-type: none"> Strengths and limitations: using a self-administered questionnaire may result in a recall bias. There seemed to be negative perceptions regarding OTC management of patients.
Study 10: Dooling et al. ¹⁴¹ (2014) Egypt “Understanding Antibiotic Use in Minya District, Egypt: Physician and Pharmacist Prescribing and the Factors Influencing Their Practices”	To assess pharmacists' and physicians' knowledge, attitudes and practices in managing outpatient acute respiratory infections (ARIs)	A cross-sectional study using a self-administered questionnaire and qualitative study	In-person multiple choice questionnaires to pharmacists and physicians on how to treat ARIs and in-depth interviews using an open-ended questions guide (analyse using thematic analysis)	345 pharmacy staff for the self-administered questionnaire and 20 interviews with community pharmacists.	Common cold and acute respiratory tract infections	<ul style="list-style-type: none"> Beta-lactam, Tetracycline Quinolone Macrolide 	<ul style="list-style-type: none"> No appropriate triage was conducted by pharmacists and pharmacy assistants for a patient presenting with common cold or other respiratory infections, which may require referral. 81% of pharmacists prescribed antibiotics for cold symptoms for 3-5 days, although 78% agreed that overuse of antibiotics increases resistance to antibiotics. 70 % of pharmacists provided the incorrect duration of treatment and 52% delivered

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							<p>incorrect choice of antibiotics for the common cold.</p> <ul style="list-style-type: none"> • 34% of pharmacists agreed that antibiotics were helpful for cold symptoms. • The profit motive was the major issue for pharmacists dispensing unnecessary antibiotics for minor ailments. • Strengths and limitations: the in-depth interviews and in-person surveys relied on self-reporting, which resulted in bias. The study reported a high response rate (>80% for both respondents' groups), which may be generalisable in a particular area. The lack of guidelines was a factor.

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<p>Study 11: da Rocha et al.²⁵⁵ (2015) Brazil</p> <p>“Assessment of Community Pharmacists’ Counselling Practices with Simulated Patients Who Have Minor Illness.”</p>	To assess community pharmacists’ performance in the management of minor illness using non-prescription medicines	A cross-sectional study using simulated patient	A survey questionnaire with 35 questions using a 10-point Likert-type scale, divided into four categories about pharmacists’ performance (introduction to assessing patient needs, the content of the information provided, communication techniques process, and completion	36 community pharmacists	Dry cough and sinusitis	<ul style="list-style-type: none"> • One community pharmacist dispensed prescription-only medicines for sinusitis. • A combination of anti-inflammatory medicines with a muscle relaxant was used to treat the rib pain for a simulated pregnant patient. 	<ul style="list-style-type: none"> • No protocols and standard guidelines for minor ailments influenced the pharmacist’s performance. • Community pharmacists lack of clinical and communication skills in the MMA. • No appropriate triage and poor questioning were performed by the pharmacists, and therefore leading to poor selection of therapies (only focused on pharmacotherapy characteristics rather than clinical assessment). • Strengths and limitations: the use of convenience sampling and small sample size may limit the generalisability of the results to other states. The participants may suspect the use of a simulated patient

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							which may not appear to have an illness.
Study 12: Ayele et al. ¹³⁹ (2018) Ethiopia “Management of minor ailments in a community pharmacy setting: Findings from simulated visits and qualitative study in Gondar town, Ethiopia.”	To document the community pharmacists; involvement in the management of minor ailments	A cross-sectional and qualitative study using simulated patient and semi-structured interviews	A checklist of items to assess pharmacists' overall practice was used in the study. Three different scenarios were used by simulated patients. Face-to-face interviews were conducted using an in-depth interview guide, which includes open-ended questions (thematic analysis was used for the qualitative study)	22 community pharmacies	Acute diarrhoea, back pain, upper respiratory tract infection	Analgesics, antibiotics, NSAIDs, oral rehydration solution (ORS)+Zinc	<ul style="list-style-type: none"> • No standard procedures were for MMA reported in the study. • Inconsistencies and lack of pharmacists and pharmacy staff training in the MMA. • Inadequate triage for minor ailments was reported in the study. • MMA protocol for patient assessment was poorly performed (insignificant queries about medical and medicine history, allergies, and side-effects). • The pharmacists reported high-rate dispensing prescription-only medicines. • Inappropriate dispensing of analgesics and antibiotics was performed by the majority of the pharmacists.

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							<ul style="list-style-type: none"> Strength and limitations: the study sample was small, which limited the generalisability to the other regions/areas. However, using simulated patient may be limited as they may not appear ill.
<p>Study 13: Elhoseeny et.al.¹⁴² (2013) Egypt</p> <p>“Opinion of community pharmacists on use of nonprescription medications in Alexandria, Egypt”.</p>	To evaluate current community pharmacy practice and information provided for acute gastroenteritis by community pharmacists	A cross-sectional descriptive study	Eight items survey questions using a five responses scale were used to rate the inappropriate use of non-prescription medicines	335 community pharmacists	Cough, cold, sore throat, heartburn, indigestion, skin problems, allergy, constipation, diarrhoea, pain	Pain relief medicines, anti-diarrhoea, anti-allergy, antacids, cough and cold medicines, antihistamines, skin ointment	<ul style="list-style-type: none"> No standard procedures for MMA were reported in the study. Inadequate triage for a patient presenting with minor ailments was reported in the study. No previous MMA training background for pharmacists reported in the study. The majority of pharmacists reported high rate of inappropriate use of non-prescription medicines. Inconsistencies requests of MMA for chronic conditions (which are not minor ailments)

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							<p>but managed similarly with minor ailments using prescription-only medicines.</p> <ul style="list-style-type: none"> Strength and limitations: the method used in the study relies on participants' self-reports and perceptions, which may need some caution in generalising the findings. The high response rate in the study minimised bias.
<p>Study 14: Ibrahim et al.¹⁷¹ (2016) Qatar</p> <p>“Evaluating community pharmacy practice in</p>	<p>To evaluate current community pharmacy practice and information provided for acute gastroenteritis by community pharmacists</p>	<p>A cross-sectional and qualitative study using a simulated patient</p>	<p>Two mystery shoppers (final year BSc Pharm students) collected the data using scenarios, questions, and dialogue (face-to-face interactions). Outcomes measures included: community</p>	<p>30 Community pharmacies</p>	<p>Acute gastroenteritis</p>	<ul style="list-style-type: none"> Antibiotics Anti-diarrhoea Anti-motility (Loperamide) Antipyretics 	<ul style="list-style-type: none"> No standard procedures for MMA were reported in the study. Inadequate triage was reported in the study. No pharmacist was reported to assess patient medical history. Inadequate counselling was performed by the majority of pharmacists (>60%).

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
Qatar using simulated patient method: acute gastroenteritis management.”			pharmacy background, pharmacy name, information and advice provided, patient diseases, quality of medicines, and cost of medicines				<ul style="list-style-type: none"> • Variations in pharmacy education and training as pharmacists were expatriates produced from other developing countries with different pharmacy practices education. • Inappropriate prescription-only medicines, including a high-rate of antibiotics followed by improper labelling. • The majority of pharmacists performed poor professional practice and lack of ethical standards. • Strength and limitations: The sample size used in the study is small (the study was conducted in a small country), which limits the generalisability to other countries. Further, the

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							simulated patient used in the study was not a feasible method to study behaviour in actual practice, as they do not appear ill.
Study 15: Ogbo et al. ¹⁴⁴ (2014) Nigeria “Management of acute diarrhea in children by community pharmacists in Lagos, Nigeria.”	To compare the knowledge and attitudes of community pharmacists in the management of acute diarrhoea in children with their observed practice	A cross-sectional using a questionnaire and simulated patient	Structured self-administered questionnaire to collect pharmacists-knowledge and simulated patients (eight young mothers and caregivers) to assess the appropriateness of the recommended treatment of acute diarrhoea	206 community pharmacists	Acute diarrhoea in children	<ul style="list-style-type: none"> • ORS • Antibiotics • Anti-diarrhoea • Anti-spasmodics • Adsorbents 	<ul style="list-style-type: none"> • No standard procedures for MMA were reported in the study. • Pharmacists performed inadequate triage. • Pharmacist poorly performed MMA protocol for patient assessment (lack of questioning regarding underlying symptoms and reasons for diarrhoea) that led to a different diagnosis of acute watery diarrhea in children. • Inadequate counselling was performed by 35% of pharmacists.

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							<ul style="list-style-type: none"> No pharmacy training in the MMA was reported in the study. Strengths and limitations: using the self-administered questionnaire may not be reliable due to its reliance on participants' perceptions. As with other studies using simulated patient, the participant may suspect the use of a simulated patient, as they had no ill child attending with them and that their physical presentation may differ.
Study 16: Mohamed et al. ²⁶⁰ (2013) Sudan	To describe the roles and identify potential barriers of community pharmacists in patients' self-care	A cross-sectional study using a self-administered, piloted questionnaire	A six-section self-administered questionnaire was used, including 18 statements using a 5-point Likert scale to investigate	183 community pharmacists	Cough and cold, diarrhoea	Cough medicines, anti-diarrhoea, antihistamines, antispasmodics	<ul style="list-style-type: none"> No standard procedures for MMA were reported in the study. No professional bodies monitor the rational use of medicines in the MMA.

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
“The role of Sudanese community pharmacists in patients’ self-care.”			current activities in self-care. Four close-ended questions (yes/no) were used to assess pharmacists' views on responding to symptoms (RTS). Questions about pharmacists' attitudes and potential barriers were assessed on a 5-point Likert scale				<ul style="list-style-type: none"> • Pharmacists were considered performing adequate triage when involved in response to symptoms activities. • Inconsistencies requests of MMA for chronic conditions but managed similarly with minor ailments using prescription-only medicines. • Lack of training in MMA and chronic diseases for pharmacists. • Strengths and limitations: the self-administered questionnaire used in the study may increase bias due to its reliance on participants’ perceptions. The study was conducted in one region. Therefore, some caution should be placed when generalising the results.

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
Study 17: Santos et al. ¹⁴⁵ (2013) Brazil “Assessment of community pharmacists’ counselling skills on headache management by using the simulated patient approach: a pilot study”.	To evaluate community pharmacists’ counselling skills on headache management using the simulated patient approach	A cross-sectional study using simulated patient	A simulated patient played the role of a patient with a headache (audio-visually recorded). The interactions were analysed using an instrument developed by Berger et al. and validated using an instrument developed by Mesquita et al. The questionnaire in the study contains questions related to self-diagnosis, medicine selection, and recommendations provided by the pharmacist	24 community pharmacists	Headache	<ul style="list-style-type: none"> Analgesics (sodium dipyrone alone or in combination with other medicines) 	<ul style="list-style-type: none"> Inadequate triage was reported in the study. Inadequate counselling was performed by pharmacists. Inconsistencies in pharmacy education and training in the MMA as most pharmacy schools have yet to implement counselling and communication skills curricula. Prescription-only medicines were dispensed by two pharmacists. Strengths and limitations: the study used convenience sampling, which is efficient and cost-effective, however, it lacks clear generalisability.

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
Study 18: da Rocha et al. ¹⁶⁹ (2014) Brazil “What do Brazilian community pharmacists know about self-medication for minor illnesses? A pilot study in the northeast of Brazil”.	To describe community pharmacists’ knowledge about minor ailments and self-medication	A cross-sectional using a questionnaire and structured interview	Ten open and closed questions in the questionnaire were administered, which consisted of demographic data, gender, education, years of work in the pharmacy, and perceptions about minor ailments and self-medication	35 community pharmacists	Aches and pains, cough and colds, diarrhoea, stomachache, fever, inflammation	Cough and cold medicines, analgesics, antipyretics, antihistamines, antispasmodics, anti-diarrhoea	<ul style="list-style-type: none"> • No standard procedures for MMA were reported in the study. • Inconsistencies triage was performed by pharmacists. • Inadequate counselling was performed by the majority of pharmacists. • Inconsistencies in pharmacy education, curricula and training in the MMA between pharmacists who graduated from private and public universities have resulted in deficiencies in MMA training. • Pharmacists had no exposure to the subject of MMA in their education. • Strengths and limitations: the recruitment of a self-selected professional group (community pharmacists) may not be a representative sample of their

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							<p>professional colleagues.</p> <p>However, the sample size was based on the number of network pharmacies in the study.</p>
<p>Study 19: Diwan et al.¹⁴⁰ (2014) India</p> <p>“Treatment of pediatric diarrhea: a simulated client study at private pharmacies of Ujjain, Madhya Pradesh, India”.</p>	To assess childhood diarrhoea in private pharmacies	A cross-sectional study using simulated patient	A questionnaire to elicit information regarding medicines dispensed, questions asked and advice offered were administered to the pharmacist	164 community pharmacists	Acute diarrhoea in paediatric	Antibiotics, antimotility, ORS, probiotics, lactulose	<ul style="list-style-type: none"> • No standard procedure for diarrhoea was reported in the study. • Insufficient triage for children diarrhoea was reported in the study • Pharmacists performed insufficient MMA services (time of counselling and questions asked were inadequately performed). • 84% of pharmacy staff administered prescription-only medicines without a valid prescription and 76% of qualified pharmacy staff dispensed a combination of

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							<p>antibiotics without a valid prescription.</p> <ul style="list-style-type: none"> • The profit motive was one of the issues pharmacy staff dispenses more medicines than necessary. • Strengths and limitations: the simulated clients in the study visited the pharmacy once only, which may result in bias (pharmacy staff may act differently at different times). No patient was seen by the pharmacist or staff member.
<p>Study 20: Foroughinia et al.¹⁷⁰ (2016) Iran “Evaluation of knowledge,</p>	<p>To assess community pharmacists’ knowledge, attitudes, and performance toward the administration of over-the-counter antidiarrhoeal medicines</p>	<p>A cross-sectional using a questionnaire and simulated patient</p>	<p>Simulated client was used to evaluate pharmacists’ practice using a standardised questionnaire and a clinical scenario. 13 questions were</p>	<p>90 community pharmacists</p>	<p>Children diarrhoea</p>	<p>ORS, antibiotics</p>	<ul style="list-style-type: none"> • No standard procedures for children diarrhoea were reported in the study. • Pharmacists’ attendance in pharmacies was low (25%). • 61% of pharmacists had poor knowledge in the management of diarrhoea but increased to

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
attitude, and practice of community pharmacists toward administration of over-the-counter drugs for the treatment of diarrhea in children: A pretest–posttest survey.”			administered to assess the pharmacist’s knowledge and 10 questions to assess their attitudes. After one month, the knowledge, attitudes, and performance were re-assessed by a different client using the same tool.				<p>79.2% after the educational intervention.</p> <ul style="list-style-type: none"> • The majority of pharmacists performed inadequate triage before educational interventions. • Lack of training in the management of diarrhoea leads to inappropriate practice by pharmacists. • Strengths and limitations: preintervention and postintervention survey methods were used in the study, which may be more generalisable, however, it limits the study’s ability to conclude a causal between an intervention and an outcome. No child was available to the pharmacist or staff member.

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
Study 21: Dabaghzadeh et al. ²⁵⁶ (2018) Iran “Practice of community pharmacists related to multivitamin supplements: a simulated patient study in Iran”.	To evaluate community pharmacists’ counselling practices related to the use, interactions, contraindications and side effects of multivitamin supplements	A cross-sectional study using simulated patient	The simulated patient played the scenario for two three-hour sessions. The FIP/WHO guidelines and the American Society of Health-System Pharmacists (ASHP) of dietary supplements were used to determine the standard practice	97 community pharmacists	Acne	Multivitamin and supplement (isotretinoin-Vitamin A)	<ul style="list-style-type: none"> • No standard procedures for managing acne were reported in the study. • 13.3% of the pharmacists were absent from the premises at the time of the product’s purchase. • Insufficient triage was reported in the study. • MMA protocol for patient assessment was insufficiently performed by pharmacists (insufficient information gathering, inadequate patient counselling, and lack of communication skills). • Inconsistencies pharmacy education in the MMA courses (particularly on dietary supplements) and communication skills. • Lack of training in the MMA, particularly as a medicine’s consultant.

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
							<ul style="list-style-type: none"> Strengths and limitations: The study was conducted in one city only, which limits its generalisability due to cultural and socio-economic factors. Using students as simulated patients may limit the treatment as they would appear healthy.
<p>Study 22: Apikoglu-Rabus et al.¹⁶⁸ (2012) Turkey</p> <p>“Turkish pharmacists’ counselling practices and attitudes regarding emergency</p>	To assess pharmacists’ attitudes and counselling practices on the emergency contraception pill	A cross-sectional using a questionnaire	A modification of the questionnaire by Aneblom et al. was used consisting of three parts: demographic and professional experience, providing or selling emergency contraception pills, and attitudes; attitudes were measured by 18	667 community pharmacists	Emergency contraception	Emergency contraception pills	<ul style="list-style-type: none"> Sufficient triage was performed by the majority of female pharmacists than male pharmacists. The majority of pharmacists deliver adequate time of counselling. 68% of pharmacists showed a positive attitude to non-prescription availability of emergency contraception pills. Strengths and limitations: the study’s high response rate (81%) was achieved using a

Authors, country, and title	Aims / objectives	Method	Measurement tool(s)	Participants	Type of minor ailments	Provision of medicines	Findings (including strengths and limitations)
contraceptive pills”.			items under four domains: reproductive health, risk behaviour, regulatory restrictions, and availability				web-based survey. The sample size was large. Does not manage a minor ailment.

*ORS: Oral rehydration salt

1.9.9 The management of minor ailments in community pharmacy during the COVID-19 pandemic

The Coronavirus Disease 2019 (COVID-19) is a novel coronavirus strain first detected in Wuhan, province of Hubei, China, in December 2019.²⁶⁶ Following the outbreak, more than one million people were infected and 60,000 people died due to the virus within three months of the outbreak.²⁶⁷ Due to its infectious transmission and virulence, the WHO declared a global emergency for COVID-19 in February 2020, followed by a statement that the COVID-19 was a pandemic disease in March 2020.²⁶⁸ To support the prevention of infection and control, many countries have implemented isolation, quarantine measures, promoted personal protective equipment (PPE) and environmental hygiene.²⁶⁹⁻²⁷¹

Patients infected with COVID-19 may experience symptoms such as difficulty breathing, fever, and lung infiltration.²⁷² The symptoms may be mild in some cases, including cough, malaise, fever, runny nose, and sore throat, which is challenging for early detection of COVID-19. In extreme cases, the infection can cause severe acute respiratory syndrome, pneumonia, kidney failure, and death. The acute respiratory infection has 2-14 days of incubation period before showing any symptoms. Evidence has shown that respiratory droplets can transmit from person to person in close contact, and an asymptomatic patient can also be the source of infection.²⁷² At the time this thesis was written, 9.53 billion doses of the COVID-19 vaccines had been administered across 184 countries, with 59.4% of the population having received at least one dose and 9.5% of low-income countries population have received at least one dose of a COVID-19 vaccine.²⁷³ However, to date, no specific medicine for the treatment of COVID-19 has been introduced. As of January 10, 2022, 288.4 million doses of the COVID-19 vaccines had been administered in Indonesia; where 42.5% of Indonesian population have been fully vaccinated and 19.4% were partly vaccinated against COVID-19.

Community pharmacists play an important role to prevent transmission of infection and contributed to the overall management. In February 2020, the International Pharmaceutical Federation (FIP) issued the “Coronavirus 2019-nCoV outbreak: Information and interim guidelines for pharmacists and the pharmacy workforce”, guidelines for pharmacists and pharmacy workforce during coronavirus outbreaks which was then implemented in many countries.²⁷⁴ Being the most common first point of contact for people to seek advice about their health problems, the role of community pharmacy during the COVID-19 pandemic encompassed infection prevention, ensuring a stable pharmaceutical supply chain, becoming

the source of information about the COVID-19 infection, and early detection of the COVID-19 which required appropriate referral.²⁷⁴

To meet unprecedented demand, guidance and best practice in community pharmacy have been followed to ensure pharmacy staff and patient safety during the COVID-19 pandemic.²⁷⁴⁻²⁷⁶ Implementation of infection control was critical to ensure pharmacy staff and personal safety and reduce the risk of virus transmitting. Many studies in community pharmacies have shown regular practice of hand hygiene among pharmacy staff members, installed hand sanitisers that were ready for use, regular cleaning of pharmacy items and surfaces, encourage consumers for their PPE, limiting the entry of consumers at the same time, maintaining a safe distance and enforcing social distancing.^{269, 271, 275, 277-279}

The COVID-19 pandemic has had a considerable impact on the pharmacy services in most community pharmacies. Although the main focus during the pandemic will undoubtedly be to respond to the COVID-19, community pharmacies continue to manage people who develop minor ailments that require attention and patient with COVID-19 related-symptoms. Depending on the severity of the ailments, research has shown minor ailments can be clinically assessed and managed by community pharmacies during the COVID-19 pandemic.²⁸⁰ Minor ailments such as coughs and colds, allergies and skin rashes, gastro-intestinal complaints were commonly managed in the community pharmacy during the COVID-19.²⁷⁰

In addition to managing minor ailments during the COVID-19 pandemic, studies have reported community pharmacists and pharmacy staff training on COVID-19 prevention and management.^{269-271, 275, 277} Guidance and emergency plan were also implemented in those studies. Further, clinical training on the diagnosis and treatment of COVID-19 was provided for community pharmacists in China.²⁷⁵ Other training included counselling of medicines related to COVID-19 symptoms. Given the similarities between cough, cold, flu, seasonal allergies, and COVID-19 related symptoms, the pharmacist was trained to distinguish those symptoms and ensure self-protection and patient PPE when performing counselling. Community pharmacists can perform triage and ensure appropriate referral to a higher level of care or for testing if further treatment is needed.^{275, 281}

As suggested by the FIP, community pharmacies shall maintain appropriate stocks of pharmaceutical products to meet the demand.²⁷⁴ Currently, medicines for managing minor ailments and chronic diseases were the most frequently reported medicines in short supply. A study reported that medicine demand increased 30-40% due to COVID-19 related symptoms

because of high consumption of medicines and panic buying, which led to stockpiling of medicines for future use due to fear of shortage.²⁸² Many would stock up on OTC medicines such as paracetamol and ibuprofen²⁸³, while in the UK and Australia, there was a mass purchase of hand sanitisers, masks, and antimicrobial wipes.^{284, 285} Many studies reported that the COVID-19 had affected the supply chain and caused shortage of pharmaceutical products such as alcohol-based sanitiser and personal protective equipment (e.g. masks, face shields, gloves, etc.).²⁸³⁻²⁸⁵ Face masks and gloves were the most common shortage products. High demand and consumption of these products were related to the effort to prevent the spread of the infection. Consequently, this led to the increasing price of pharmaceutical products in many countries.²⁸⁵

The emergence of COVID-19 has also caused a change in consumers' health seeking behaviour. An increasing number of consumers have been visiting community pharmacies during the outbreak.²⁸³ Many consumers are unable to visit a doctor's practice because many have turned to telehealth consultation or operating a closed-door policy.^{269, 276} The accessibility of community pharmacists lends themselves to being considered as frontline primary care providers. Further, many consumers present to community pharmacies for consultations for either minor ailments or more serious conditions, which are usually managed by the doctors. To cope with the situation, many community pharmacies have additional working time and increased their opening hours.

Studies have reported that COVID-19 had impacted the pharmacy staff general well-being.^{270, 286} Pharmacy staff feel overburdened, burned out, anxious, and worried in their workplace due to increased workload demand and fear of getting infected by the virus. Some studies reported that more than 50% of community pharmacists experienced burnout because of long hours working, increased administrative tasks, excessive workloads, increased consumers, and inadequate support.^{270, 286, 287} The COVID-19 pandemic has caused a workforce capacity issue (e.g. not enough pharmacists or pharmacy technicians when they fall ill and have to isolate). As the pandemic continues, community pharmacies will still be at the frontline of healthcare providers. The increasing challenges in the workplace for pharmacy staff will need to be mitigated.²⁸⁶

This chapter has highlighted that aspects of the management of minor ailments in community pharmacies have been reported extensively in many countries, including developing countries. It has been a constant finding that community pharmacies should engage in professional practices which contribute clinical and economic benefits. While there has been an expressed urgency for practice change in the management of minor ailments, the current literature

indicated that managing minor ailments is often inconsistent. Reported studies frequently examine a single minor ailment rather than the system within which the service exists. No information is evident on clear scopes of practice between pharmacy professionals where they co-exist such as the system observed in Indonesia. The impacts of a lack of guidelines, lack of regulatory enforcement, lack of support from professional bodies and government, or pharmacists' absence from the premises have not been adequately researched. Although the provision of pharmacist-only and prescription-only medicines has been reported its underlying substance has not been examined. Across the range of studies conducted in the review, the overarching limitation was a focus on specific minor ailments using small sample sizes, and often using a simulated patient methodology. Consequently, the results cannot be generalised to larger community pharmacy settings, even within the same country. In addition, the majority of studies reported low-quality primary health services provided in community pharmacies, which may be an indication of barriers to a professional basis for the provision of minor ailments. The review in this Chapter also strengthened the findings from previous reviews by Laing et.al.⁶², Smith⁶¹, Yusuff et.al.¹³ that reported private community pharmacy services in developing countries (Vietnam, Thailand, Indonesia, Africa, and South America) had contributed to public health services, however, the reviews emphasised that the quality of the services provided were far from ideal.

On the other hand, a number of factors have been identified as barriers and facilitators for practice change, however, it is not clear whether these factors – in some instances only perceived factors, supported pharmacists' practices in the management of minor ailments. Given that the management of minor ailments is evolving, a starting point for understanding the status of current practice and if appropriate encouraging practice change would be to investigate and identify the underlying situation within Indonesian community pharmacy practice rather than just outcomes.

Chapter 2

Aims, Significance, and Thesis Structure

Chapter 2. Aims, Significance, and Thesis Structure

2.1 Aims

The overall aim of this thesis was to investigate and evaluate the management of minor ailments in community pharmacies in Central Java, Indonesia. This included the evaluation of current practice in delivering minor ailments services, the role of pharmacy staff in providing the services, and academics' perspectives on how well they prepare their graduates to manage minor ailments.

The specific objectives were to:

- a. Identify current community pharmacy practice in the management of minor ailments in Central Java, Indonesia.
- b. Evaluate pharmacists' and pharmacy technicians' understanding of their scopes of practice, and factors influencing the delivery of minor ailments services in Indonesian community pharmacies.
- c. Investigate academic perspectives on educational objectives and their preparation of pharmacy and pharmacy technician students to manage minor ailments.
- d. Explore the perceptions of community pharmacy staff (i.e. pharmacists and pharmacy technicians) regarding their current professional roles in delivering minor ailment services.

2.2 Significance

This research is significant in two main areas. First, this study is intended to assist the development of community pharmacy practice and in future primary health care planning and implementation in Indonesia. Second, the information in this study will present pathways on how to enable advancements in community pharmacy in the Indonesian setting. Improving utilisation of pharmacy staff in the management of minor ailments is one strategy to advance the practice of community pharmacy as advocated by the Indonesian government and IAI.²⁸⁸
²⁸⁹ More importantly, this thesis provides evidence to facilitate practice change, including the inadequacy of current education and training in preparing community pharmacy staff, to ensure appropriate scopes of practice, consistency in standards of the management of minor ailment

services in pharmacies, improve patient care and safety, and to optimise community pharmacies' role in the management of minor ailments, specifically in the Indonesian setting.

The intended audience for this thesis is academics, practitioners, researchers, and policy makers who are specifically interested in the management of minor ailments, pharmacy practice and the development of community pharmacy roles, particularly in developing countries.

2.3 Thesis structure

This thesis presents the three related phases of study on the current practice of the management of minor ailments in the Indonesian setting:

- Chapter 3 presents surveys of community pharmacists and pharmacy technicians. This provides data on current pharmacy services in the management of minor ailments, pharmacy staff demographics, characteristics, and scopes of practice of pharmacists and pharmacy technicians in managing minor ailments. This study also investigated factors associated with perceived scopes of practice in the management of minor ailments.
- Chapter 4 presents an on-line survey of academics who teach pharmacy and pharmacy technician students in the management of minor ailments. This chapter investigates academics' perceptions of the knowledge and skills required to prepare pharmacy and pharmacy technician students. Also considered is an evaluation of academics' perspectives of educational objectives and their contribution to the achievement of pharmacy and pharmacy technician students' preparedness to provide minor ailments services and scopes of practice.
- Chapter 5 presents interviews (a qualitative study) with community pharmacists and pharmacy technicians delivering minor ailment services. This study provides comprehensive data regarding provision of minor ailments services, scopes of practice, practice routine, and educational and practical experience influencing their preparedness to deliver minor ailments services in community pharmacies.

Each chapter comprises of specific objectives and methodology of the particular phase, results, discussion, limitations, and conclusions.

- Chapter 6 presents a general discussion of the overall thesis that integrates the findings of the three phases of the study to address the main objectives and proposes strategies to improve minor ailments services in community pharmacy.
- Chapter 7 presents conclusions of the study and proposes recommendations and future research in the provision of minor ailments services in community pharmacy.

Chapter 3

Pharmacist and Pharmacy Technician Surveys

Chapter 3. Pharmacist and Pharmacy Technician Surveys

3.1 Introduction

This study is designed to address gaps evident in the literature surveyed in Chapter 1 and is the first phase of the overall project.

Previous related studies of MMA in Indonesia have found that a lack of pharmacy staff knowledge was evident and due to inadequate training, competence, and lack of professional development had occurred.^{29, 86, 164, 222, 290} Other factors that have hindered pharmacy staff's contribution to expanding professional pharmacy services were lack of time, no practice standards, and no guidelines.^{23, 29} This study was conducted to address these deficiencies, especially in pharmacist and pharmacy technician perceived scopes of practice, and provide contemporary data from Indonesian community pharmacists and pharmacy technicians regarding their current practices in the MMA in Central Java, Indonesia.

3.2 Objectives

The main objectives of this study were to:

- a. Evaluate pharmacists' and pharmacy technicians' understanding of their scopes of practice, perceived competency and factors influencing the delivery of minor ailments services in Indonesian community pharmacies.
- b. Identify current community pharmacy practice (triaging, routine assessment and advice given) in the provision of MMA.
- c. Examine functions performed by community pharmacists and pharmacy technicians regarding their current professional roles in delivering these services to consumers.
- d. Perform a comparative analysis of pharmacist and pharmacy technician practices with respect to MMA.

3.3 Methods

A questionnaire survey instrument was developed and distributed at three Indonesian Pharmacists Association (IAI) seminars and three Indonesian Pharmacy Technicians Association (PAFI) seminars in Central Java, Indonesia. A questionnaire enables specific responses to a range of questions that would best define the scope of practice involving the process of the management of minor ailments. As no specific sampling frame was available, seminars provided the best opportunity to reach a wide range of suitable respondents.

The study obtained approval from Curtin University, Human Research Ethics Committee, Australia, with approval number: HRE2019-0803; the IAI Central Java Regional Board, Indonesia with approval number B1-064/PD-IAI/Jawa-Tengah/IX/2019; and PAFI Central Java Regional Board, Indonesia, with approval number 268/PAFI-JTG/XI/2019. Permission was obtained from the IAI and PAFI to approach participants when they attended the seminars to participate in the study.

Registered pharmacists and pharmacy technicians were surveyed at IAI and PAFI seminars which they attended to gain credits (SKP) towards their competency certificates. These are mandatory for continuing professional development to practise in a community pharmacy and require renewal every five years. Credits (SKP) are essential for license renewal and can be obtained through mandatory professional development such as seminars, continuing education programs, community services programs or knowledge development activities.

Inclusion criteria were pharmacists and pharmacy technicians attending IAI and PAFI seminars from Central Java currently working in a community pharmacy. Exclusion criteria were pharmacists and pharmacy technicians who practised in a dispensing-only pharmacy or practised within a doctor's clinic where the patients consulted the doctor prior to entering the pharmacy (no direct access to a pharmacy); working in the same pharmacy; and from pharmacies not located in Central Java.

3.3.1 The IAI seminars

The first seminar was conducted in Pekalongan region on 5 January 2020, the second seminar in Surakarta city on 12 January 2020, and the third seminar in Semarang city on 19 January 2020.

3.3.2 The PAFI seminars

The first seminar was conducted in Brebes, a regional city on 29 December 2019, the second seminar in Semarang city on 26 January 2020, and the third seminar in Surakarta city on 2 February 2020.

3.3.3 Setting and sample size

Central Java is one of 34 provinces located in the central part of Java Island in Indonesia, with a population of approximately 39 million people. Central Java Province consists of 29 regions and six major cities. It has an area of approximately 32,548 km² and Semarang is the capital city. Surakarta city is located in the eastern Central Java with a population density approximately 13,636/km². Health care facilities in Surakarta city include 10 public hospital and three specialty hospitals. Pekalongan region is located on the north coast of Central Java with a population of approximately 889,562 people, which has three public hospitals. Brebes regional city is located in the northwestern part of Central Java with a population density approximately 920/km². A sample size of approximately 120 community pharmacists and 120 pharmacy technicians provided adequate precision and enabled statistical analyses to be performed (with $\alpha=0.05$, this sample size had 80% power to identify differences in responses between pharmacists and pharmacy technicians; prevalence estimates accurate to within $\pm 7\%$).

3.3.4 Questionnaire

3.3.4.1 Questionnaire development

The community pharmacist's and pharmacy technician's questionnaires were developed based on the current practice in the community pharmacy setting in Indonesia,^{23, 24, 29, 86} the Indonesian Ministry of Health technical guidelines in pharmacy services,⁹⁹ Pharmaceutical Society of Australia (PSA) Professional Practice Standards for MMA,¹²⁴ the UK pharmacy scheme for minor ailments studies and guidelines,^{122, 136} Canadian minor ailments scheme guidelines,^{175, 263} and previous studies which have addressed community pharmacy triage services.^{177, 263, 291} The questionnaires were translated and validated prior to being administered.

The questionnaires were developed taking into consideration the Indonesian Pharmacy Service (IPS) standards,^{99, 102} which describe minimum standards for pharmacy services in Indonesian

community pharmacies. The types of minor ailments were developed based on the same sources.^{99, 114, 124, 136, 175} The questionnaire consisted of four parts: (1) The list of minor ailments developed for this study requiring perceived scope of practice responses by pharmacists and pharmacy technicians (one question), (2) Community pharmacist/pharmacy technician characteristics (10 questions), (3) Pharmacy demographics (eight questions), and (4) MMA standard procedures (four questions). Pharmacy demographics included the type of pharmacy (independent/supermarket/co-located with a medical centre), pharmacy ownership, number of pharmacists, presence of consultation area, number of consumers seeking advice on MMA; and pharmacist and pharmacy technician characteristics including gender, age, years of practice and MMA training. If there were duplicate responses from the same pharmacy (identified from the questionnaire), the respondent with responsibility to manage or was senior in the pharmacy was chosen.

Part one of the questionnaire listed a number of minor ailments that were generated from the literature with which a patient may present to a pharmacy.^{99, 124, 136} There could be an overlap between these conditions, and indigestion and heartburn could be part of GORD, however, these ailments were grouped based on the classification from the UK pharmacy scheme for minor ailments.^{122, 136} Part four of the questionnaire used a 5-point Likert scale to measure the level of frequency for the provision of current practice requirements for MMA services (never, rarely, sometimes, frequently, always). A 5-point Likert scale was used to measure community pharmacist's procedures when referring to other healthcare professionals (definitely not, possibly not, neutral, possibly yes, definitely yes).

Parts one and four of the pharmacist and pharmacy technician's questionnaire was developed based on the Indonesian Ministry of Health technical guidelines in pharmacy services,⁹⁹ IAI scope of practice,¹¹⁴ existing literatures,^{2, 292-294} PSA Professional Practice Standards for MMA,¹²⁴ the UK pharmacy-based minor ailment schemes,¹³⁶ and Canadian minor ailment programs.¹⁷⁵ The pharmacy technician questionnaire did not include a question about referral to other healthcare professionals as it is not their competency to refer patient directly to other healthcare professional, rather than referred the patient to the pharmacist. Participant information sheet and a cover page were included in the questionnaire.

The questions asked in the questionnaire were mapped to the following study aims/objectives:

1. Part One of the survey (a list of minor ailments which may be treated in community pharmacies and the scope of pharmacist/pharmacy technicians), consisted of one question,

which comprised 34 multiple questions (list of minor ailments) with multiple answers. Respondents must select one of three responses for each answer/ailment (whether the ailment was within the pharmacy technician's scope of practice, or only within the scope of a pharmacist, or it is beyond the scope of a pharmacist). An option was provided for additional minor ailments to be included by respondents.

This part was mapped to answer Objective 1: to evaluate pharmacists' and pharmacy technicians' understanding of their scopes of practice, perceived competency and factors influencing the delivery of minor ailments services in Indonesian community pharmacies.

2. Part Two of the survey was the pharmacist or pharmacy technician details and consisted of 10 questions about the respondents' demographics (e.g. age, gender, years of practising, etc).

This part was mapped to identify the characteristics of the respondents.

3. Part Three of the survey was the pharmacy details, which consisted of eight questions about the characteristics and demographics of the main/usual community pharmacy that the respondents work in.

This part was mapped to identify the characteristics of the pharmacy where the respondents were currently working.

4. Part Four of the survey was the MMAs standard procedures with four questions.

- The first question consisted of seven activities performed in the community pharmacy by a pharmacist and a pharmacy technician.

This part was mapped to answer Objective 3: to examine functions performed by community pharmacists and pharmacy technicians regarding their current professional roles in delivering these services to consumers.

- The second question consisted of two statements related to a consultation fee.

This part was mapped to answer Objective 3: to examine functions performed by community pharmacists and pharmacy technicians regarding their current professional roles in delivering these services to consumers.

- The third question consisted of five activities using Likert scale responses: minor ailment assessment (eight statements), treatment proposal (seven statements), patient

management (seven statements), labelling and packaging (four statements), and patient follow-up (three statements).

This part was mapped to answer Objectives 2 and 4: to identify current community pharmacy practice (triaging, routine assessment and advice given) in the provision of MMA; and to perform a comparative analysis of pharmacist and pharmacy technician practices with respect to MMA.

- The fourth question consisted of three clinical scenarios of when to refer a patient to another healthcare professional.

This part was mapped to answer Objective 3: to examine functions performed by community pharmacists regarding their current professional roles in delivering these services to consumers.

In total, there were 76 questions covered in Part One (type of minor ailments) and Part Four (MMAs standard procedures) of the survey, whilst there were 18 questions in Part Two (demographics) and Part Three (characteristics) of the surveys.

3.3.4.2 Questionnaire validation and translation

The community pharmacists' and pharmacy technicians' questionnaires were reviewed by three members of the pharmacy research team, five academic pharmacists with community pharmacy experience from Curtin University, eight community pharmacists (pharmacist questionnaire), and eight community pharmacy technicians (pharmacy technician questionnaire) who were practising in pharmacies with varying business and practice models in Central Java, Indonesia, for face and content validity. Their feedback was reviewed by the research team and the questionnaires were amended accordingly. Amendments were made accordingly to improve flow and clarity of questions. No additional questions or concepts were suggested from the validation process.

The questionnaires were prepared in English, then translated to Bahasa Indonesia by the investigator whose first language is Indonesian (forward translation); then back-translated to English by a sworn translator (back translation), which was then compared to the original version by three of the researchers whose first language was English. The Indonesian versions were pre-tested by community pharmacists or pharmacy technicians for appropriateness, and issues regarding clarity of the questions and the time to complete the survey.²⁹⁵ The pre-testing

resulted in minor changes in the questionnaires. Both questionnaires were administered twice with a 10-day interval to the same community pharmacists and pharmacy technicians to assess test-retest reliability. Kappa scores measured the agreement between raters, where the MMA services were grouped for Likert scale ratings of 1-3 and 4-5 for test-retest reliability. The Kappa scores ranged between 0.41 to 1.00 (i.e., moderate to excellent agreement) which was acceptable for health research studies.²⁹⁶ The questionnaires are provided in Appendix C and Appendix D.

3.3.4.3 Questionnaire distribution

The first, second, and the third IAI and PAFI seminars processes were as follows: the investigator requested a list of all attendees by contacting the chief committee two weeks before the seminars. The lists were marked to find attendees who were working as a community pharmacist or a community pharmacy technician and those who were not (e.g. apothecary students). The lists of community pharmacists and pharmacy technicians were used as a basis to invite attendees to participate in the study at the seminar. The investigator attended the seminar and distributed the questionnaires at the registration desk prior to the seminar. Attending pharmacists or pharmacy technicians were encouraged to participate. The purpose and benefits of the study were explained by the investigator when the participant registered. Any community pharmacist or pharmacy technician participants who were not registered, but attended the seminar were added in the list. A request to participate in the study was announced by the Master of Ceremony (MC) of the seminar at the beginning, every session break, and prior to the end of the seminar. The investigator was available during the seminar if participants had any queries regarding the questionnaire. However, completed questionnaires were submitted at the registration desk, not directly to the researcher to protect anonymity of respondents.

The participation in the survey was completely voluntary and completion of the questionnaire was regarded as consent to participate. The participants may withdraw from the study at any time for any reason. Participants could provide their name and contact details on a separate form when submitting their completed questionnaire for entry into a draw to win a cash prize. These contact details were collected only for the draw, and were separate to the survey responses and kept confidential, as approved by the Human Research Ethics Committee.

As the provision of oral contraception was not considered a minor ailment based on the responses as suggested by a number of the respondents it was not included in the data analyses.

3.3.5 Data analysis

Data analysis was performed using SPSS version 25.0 software. Ordinal variables such as age group, and years of practice were dichotomised based on the distribution of responses, and analysed using non-parametric tests. Descriptive statistics summarised demographics and characteristics. Respondents' age were categorised based on the median values.

Kruskal Wallis-test was used to analyse differences between demographic/characteristics and MMA standard procedures responses between the three seminars dataset. The data from three seminars were collapsed and aggregated if there were no statistically differences in factors ($p>0.05$). Missing values were replaced by the mean of the responses.

Percentage of Common Responses (PCR) described similarity of perceived scopes of practice for pharmacists and pharmacy technicians. PCR was determined as the mean sum of percentages of combined pharmacists' and pharmacy technicians' responses data.²⁹⁷ Binary logistic regression compared perceptions of scope of practice competence of MMA between pharmacists and pharmacy technicians. For the purpose of this analysis, the scope of minor ailment management was coded into: within scope of pharmacy technician and only within scope of pharmacist. Responses where the ailment was considered beyond the scope of a pharmacist (or a pharmacy technician) were described graphically (Figure 3.1), but excluded from the logistic regression analysis. Multivariate logistic regression evaluated characteristics independently associated with the scope of practice competence of MMA. Demographic, pharmacy, and practice variables were initially included in the logistic regression, and the least significant variables were dropped sequentially until only factors with a p-value <0.05 remained in the model. Variables included are listed in Table 3.1. The Kruskal Wallis-test analysed differences between demographic/characteristics and MMA standard procedures responses between the three seminars datasets for IAI and PAFI. The data from the three seminars were to be collapsed and aggregated if no statistically significant differences in factors occurred ($p>0.05$). A p-value of <0.05 was considered statistically significant.

Responses for the MMA standard procedures were grouped into binary variables which indicated 'less frequent activities' (Likert scale ratings 1-3) and 'regular activities' (Likert scale 4-5). A mean rating of each variable in the MMA standard procedures was calculated and

converted into a binary variable as above. Chi-square analysis was used to evaluate univariate associations of the provision of MMA with different pharmacist or pharmacy technician demographics and pharmacy characteristics. Multivariate logistic regression was used to identify any factors, including demographic characteristics of participants independently associated with the MMA standard procedures. Only factors identified with $p \leq 0.1$ values in the univariate analyses were included in the multivariate logistic regression analysis. A backward elimination process was used to reach the final model, where multiple demographic variables were initially included in the logistic regression, and then the least significant variables were dropped until factors with a p-value <0.05 remained in the model. Variables were considered statistically significant if the p-value was <0.05 .

The comparative results or percentage (%) values were presented as **P** = data from community pharmacist survey; **T** = data from pharmacy technician survey.

3.4 Results

The demographic characteristics (age, gender, and level of education) of the respondent pharmacists and pharmacy technicians were not significantly different between the first, second, and third seminars (P values >0.05). These data were aggregated for subsequent analyses (Appendix E).

3.4.1 Response rate

3.4.1.1 Pharmacist respondents

In total, 234 pharmacists attended three separate IAI seminars (59 pharmacists the first, 37 the second, and 138 the third seminar). Seven declined to participate, leaving 227 questionnaires distributed. Nine pharmacists had registered to attend but were absent. Of those distributed, 196 were returned. This included: 45 responses to the 57 questionnaires distributed in the first seminar (response rate of 78.9%); 30 responses to the 34 questionnaires distributed in the second seminar (response rate of 88.2%); lastly 121 responses to the 136 questionnaires distributed in the third seminar (response rate of 88.9%). Eleven were excluded: two pharmacies located within a doctor's clinic, two located in a medical skincare clinic, one pharmacist from a different province, two duplicates, and four incompletes. The response rate was 81.5% (185/227) of useable questionnaires.

3.4.1.2 Pharmacy technician respondents

In total, 216 pharmacy technicians attended the three PAFI seminars (54 pharmacy technicians the first, 99 the second, and 63 the third seminar). Five declined to participate, leaving 211 questionnaires distributed, of which 151 were returned. This included: 37 responses to the 53 questionnaires distributed in the first seminar (response rate of 69.8%), 71 responses to the 97 questionnaires distributed in the second seminar (response rate of 73.2%), lastly 43 responses to the 61 questionnaires distributed in the third seminar (response rate of 70.5%). Nine questionnaires were excluded: two pharmacies were within a doctor's clinic and seven were incomplete. The response rate was 67.3% (142/211) of useable questionnaires.

3.4.2 Demographic characteristics

The demographic profiles of 185 pharmacist and 142 pharmacy technician respondents are summarised in Tables 3.1 and 3.2. Most pharmacist and pharmacy technician respondents were female (P=161/185, 87.0%; T=122/142, 85.9%), under the age of 40 years for pharmacists (165/185, 89.2%), and under the age of 30 years for pharmacy technicians (125/142, 88.1%), and reported they attended the MMA training/workshops in the last three months (P=113/185, 61.1%; T=69/142, 48.6%) for 1-5 hours in total (P=56/185, 49.6%; T=52/69, 75.4%). The majority of the pharmacist and pharmacy technician respondents who had attended the MMA workshops felt more prepared and confident in managing minor ailments (P=109/113, 96.5%; T=69/69, 100%).

Most pharmacist respondents held an Apothecary/Pharmacist degree (168/185, 91%) and more than half of the pharmacy technician respondents held a diploma degree (89/142, 63%). Approximately one-third of the pharmacist respondents had been registered for six to 10 years (52/185, 28.1%), and nearly three quarters had practised as a community pharmacist for 10 years or less (138/185, 74.6%). Almost half of the pharmacist respondents worked on average more than 30 hours per week (90/185, 48.6%).

More than three-quarters of the pharmacist respondents received additional remuneration other than their standard monthly salary (140/185, 75.7%) which was similar to the pharmacy technician respondents (127/142, 89.4%). Most pharmacist (n=140) and pharmacy technician respondents received religious holiday allowances (P=120/140, 85.7%; T=113/142, 79.6%), but a quarter or less dispensing fees (P=35/140, 25.0%; T=23/142, 16.2%), incentives when selling pharmacist-only medicines (P=31/140, 22.1%; T=15/142, 10.6%). One-third of the pharmacist

and pharmacy technician respondents received remuneration from sales incentives (P=7/19, 36.8%; T=8/25, 32%) as shown in Table 3.1 and Table 3.2.

Table 3.1. Demographic profile of the pharmacist respondents (n=185) in Central Java, Indonesia.

Characteristics	n (%)
Gender	
Male	24 (13.0)
Female	161 (87.0)
Age (years)	
21-30	89 (48.1)
31-40	76 (41.1)
41-50	13 (7.0)
>50	7 (3.8)
Years of registration	
<2 years	37 (20.0)
2-5 years	46 (24.9)
6-10 years	52 (28.1)
11-15 years	35 (18.9)
>15 years	15 (8.1)
Years of practice	
<2 years	44 (23.8)
2-5 years	47 (25.4)
6-10 years	47 (25.4)
11-15 years	38 (20.5)
>15 years	9 (4.9)

Characteristics	n (%)
Level of education	
Apothecary Degree	168 (90.8)
Master Degree	17 (9.2)
Position in the pharmacy	
Pharmacy Manager and Owner	53 (28.7)
Pharmacy Manager	102 (55.1)
Additional Pharmacist	30 (16.2)
Ever attended MMA training in the last three months	
Yes	113 (61.1)
No	72 (38.9)
Time spent in total on MMA training (hours) (n=113)	
1-5	56 (49.6)
6-10	43 (38.0)
11-15	2 (1.8)
>15	12 (10.6)
Feel more confident after the MMA training (n=113)	
Yes	109 (96.5)
No	4 (3.5)
Received additional remuneration	
Yes	140 (75.7)
No	45 (24.3)
Type of additional remuneration	
Dispensing fees	35 (25.0)
Consultations fees	19 (13.6)
Incentives (pharmacy-only medicines)	31 (22.1)

Characteristics	n (%)
Gross turnover profit	33 (23.6)
Religious holiday allowance	120 (85.7)
Other	19 (13.6)
Reported other remuneration (n=19)	
Sales incentives	7 (36.8)
Overtime allowance	3 (15.7)
Meal allowance	3 (15.7)
Holiday allowance	2 (10.5)
Transportation allowance	1 (5.2)
Christmas holiday allowance	1 (5.2)
Fasting allowance	1 (5.2)
Remuneration from a medical representative	1 (5.2)
Workshops funding	1 (5.2)

MMA: Management of minor ailments

Table 3.2. Demographic profile of the pharmacy technician respondents (n=142) in Central Java, Indonesia.

Characteristics	n (%)
Gender	
Male	20 (14.1)
Female	122 (85.9)
Age (years)	
16-20	12 (8.5)
21-30	113 (79.6)
31-40	15 (10.6)

Characteristics	n (%)
41-50	2 (1.4)
Years of registered	
<2 years	24 (16.9)
2-5 years	76 (53.5)
6-10 years	32 (22.5)
11-15 years	9 (6.3)
>15 years	1 (0.7)
Years of practised	
<2 years	23 (16.2)
2-5 years	79 (55.6)
6-10 years	28 (19.7)
11-15 years	11 (7.7)
>15 years	1 (0.7)
Level of education	
Pharmacist assistant school	36 (25.4)
Diploma	89 (62.7)
Bachelor of Pharmacy	13 (9.2)
Apothecary degree	4 (2.7)
Ever attended MMA training in the last three months	
Yes	69 (48.6)
No	73 (51.4)
Time spent in total on MMA training (hours) (n=69)	
1-5	52 (75.4)
6-10	17 (24.6)

Characteristics	n (%)
Feel more confident after the MMA training (n=69)	
Yes	69 (100.0)
No	0 (0.0)
Received additional remuneration	
Yes	127 (89.4)
No	15 (10.6)
Type of additional remuneration	
Dispensing fees	23 (16.2)
Incentives (pharmacy-only medicines)	15 (10.6)
Religious holiday allowance	113 (79.6)
Other	25 (17.6)
Of those who received other remuneration (n=25)	
Sales incentives	8 (32.0)
Professional services	7 (28.0)
Transportation allowance	1 (4.0)
Christmas holiday allowance	1 (4.0)
Did not state	8 (32.0)

MMA: Management of minor ailments

3.4.3 Pharmacy characteristics

Table 3.3 and Table 3.4 showed that independently owned pharmacies (P=110/185, 59.5%; T=91/142, 64.1%) made up the highest proportions of community pharmacies where pharmacist and pharmacy technician respondents worked. Almost two-fifths of the pharmacist (72/185, 38.9%) and pharmacy technician (51/142, 35.9%) respondents worked in pharmacies with a pharmacist owner, while the remainder had non-pharmacist owners. More than half of the pharmacies operated for seven days per week with an average working day of 15 hours (median 13.5 hours).

Table 3.3. Pharmacy characteristics reported by the pharmacist respondents (n=185).

Characteristics	n (%)
Type of pharmacy	
Independent	110 (59.5)
Franchise	25 (13.5)
Supermarket	3 (1.6)
Co-located with medical practice	40 (21.6)
Other	7 (3.8)
Pharmacy owner	
Pharmacist	72 (38.9)
Non-pharmacist	68 (36.8)
Non-pharmacy company	8 (4.3)
Regional owned	5 (2.7)
State-owned	17 (9.2)
Other	14 (7.6)
Missing	1 (0.5)
Private room for consultation	
Yes	149 (80.5)
No	35 (18.9)
Missing	1 (0.5)
Pharmacy trading hours (mean \pm SD)	
Monday-Sunday (n=116)	14.8 \pm 4.1
Public holiday (n=101)	13.6 \pm 5.4
24 hours pharmacy	15 (8.1)
Average consumers per week	
<100	23 (12.4)

Characteristics	n (%)
100-150	28 (15.1)
151-250	32 (17.3)
251-350	24 (13.0)
351-450	14 (7.6)
451-550	15 (8.1)
551-700	20 (10.8)
>700	28 (15.1)
Missing	1 (0.5)
Average MMA patients per week	
<10	7 (3.8)
10-20	20 (10.8)
21-30	27 (14.6)
31-40	10 (5.4)
41-50	24 (13.0)
51-60	13 (7.0)
61-70	16 (8.6)
>70	67 (36.2)
Missing	1 (0.5)
Pharmacy manager	
Yes	185 (100.0)
No	0 (0.0)
Additional pharmacist	
0	98 (53.0)
1	67 (36.2)
2	19 (10.3)

Characteristics	n (%)
>2	1 (0.5)
Pharmacy technician	
0	11 (5.9)
1-2	137 (74.1)
3-4	30 (16.2)
5-6	3 (1.6)
>6	4 (2.2)
Non-qualified assistant	
0	63 (34.1)
1-2	101 (54.6)
3-4	15 (8.1)
5-6	5 (2.7)
>6	1 (0.5)
Total working hours per week (mean ± SD)	
Pharmacy manager	38.7 ± 13.5
Additional pharmacist (n=87)	38.3 ± 9.6
Pharmacy technician	40.1 ± 13.6
Non-qualified assistant (n=123)	43.2 ± 11.9

MMA: Management of minor ailments

Table 3.4. Pharmacy characteristics reported by the pharmacy technician respondents (n=142).

Characteristics	n (%)
Type of pharmacy	
Independent	91 (64.1)
Franchise	19 (13.4)

Characteristics	n (%)
Co-located with medical practice	27 (19.0)
Other	5 (3.5)
Pharmacy owner	
Pharmacist	51 (35.9)
Non-pharmacist	67 (47.2)
Regional owned	2 (1.4)
State-owned	21 (14.8)
Other	1 (0.7)
Private room for consultation	
Yes	108 (76.1)
No	34 (23.9)
Pharmacy trading hours (mean \pm SD)	
Monday-Sunday	14.8 \pm 4.5
Public holiday	9.6 \pm 11.7
24 hours pharmacy	22 (15.5)
Average consumers per week	
<100	5 (3.5)
100-150	29 (20.4)
151-250	18 (12.7)
251-350	16 (11.3)
351-450	15 (10.6)
451-550	21 (14.8)
551-700	16 (11.3)
>700	22 (15.5)

Characteristics	n (%)
Average MMA patients per week	
<10	3 (2.1)
10-20	10 (7.0)
21-30	9 (6.3)
31-40	12 (8.5)
41-50	17 (12.0)
51-60	18 (12.7)
61-70	19 (13.4)
>70	54 (38.0)
Pharmacy manager	
Yes	141 (99.3)
No	1 (0.7)
Additional pharmacist	
0	41 (28.9)
1	86 (60.6)
2	15 (10.6)
Pharmacy technician	
1-2	59 (41.6)
3-4	66 (46.5)
5-6	13 (9.1)
>6	4 (2.8)
Non-qualified assistant	
0	65 (45.8)
1-2	52 (36.6)
3-4	19 (13.4)

Characteristics	n (%)
5-6	5 (3.5)
>6	1 (0.7)
Total working hours/week (mean ± SD)	
Pharmacy manager	38.5 ± 16.1
Additional pharmacist (n=101)	39.7 ± 10.4
Pharmacy technician	47.5 ± 17.4
Non-qualified assistant (n=78)	45.5 ± 10.9

MMA: Management of minor ailments

All pharmacies reported in the pharmacist and pharmacy technician surveys had a pharmacy manager who was legally responsible for the operation of the pharmacy. Only one pharmacy (1/142, 0.7%) did not have a pharmacy manager as reported in the pharmacy technician survey. According to the Indonesian Pharmacy Practice Law No.51-year 2009, when establishing a pharmacy, it is required that a registered pharmacist, who is licensed to practise as a pharmacist in Indonesia, is legally assigned to manage the pharmacy. One-third of the pharmacist respondents' pharmacies (67/185, 36.2%) had only one employed pharmacist on the staff, in contrast to the pharmacy technician respondents, where more than half had one additional pharmacist (86/142, 60.6%). Only one pharmacy (1/185, 0.5%) reported having three additional pharmacists on the staff in the pharmacist survey.

The pharmacist survey results showed that most of the pharmacies employed one to two pharmacy technicians (137/185, 74.1%) and one to two non-qualified assistants (101/185, 54.6%). Seven respondents (7/185, 3.8%) reported more than five pharmacy technicians in their pharmacies (up to a maximum of ten pharmacy technicians) and six respondents (6/185, 3.2%) reported more than five non-qualified assistants in their pharmacies (up to a maximum of seven assistants). The results were similar to the pharmacy technician survey, however, less than half reported one to two pharmacy technicians (59/142, 41.6%), three to four pharmacy technicians (66/142, 46.5%), and one or two non-qualified assistants (52/142, 36.6%) as staff in their pharmacy. Overall, these findings indicate that most pharmacies included more than one pharmacy technician on the staff.

Consumers who came to the pharmacy in an average week ranged from 100 to 700 consumers, with more than half of pharmacists (96/185, 51.8%) reporting more than 50 consumers per week sought management of a minor ailment (Table 3.3). On the other hand, Table 3.4 shows that more than half of the pharmacy technician respondents reported they worked in pharmacies visited by more than 350 consumers per week (74/142, 52.2%), of which, more than 50 consumers were patients who sought advice for minor ailments.

As reported by 185 pharmacist and 142 pharmacy technician respondents, pharmacy technicians working hours per week ($P = 40.1 \pm 13.6$; $T = 47.5 \pm 17.4$) were higher compared to the pharmacist working hours per week ($P = 38.7 \pm 13.5$; $T = 38.5 \pm 6.1$) as shown in Tables 3.3 and 3.4. Both respondent groups reported that the pharmacy technicians worked longer hours per week than the pharmacists ($P = 40.1 \pm 13.6$, $T = 47.5 \pm 17.4$). It is possible that there was more than one pharmacist covering the duration of the opening hours in the pharmacy. There is a period of time when there is overlap between pharmacists and pharmacy technicians. However, the data clearly shows that pharmacists did not attend the pharmacy for the entire period when the pharmacy was open.

3.4.4 Pharmacy staff attendance

Figure 3.1 and Figure 3.2 show the percentages of pharmacist and pharmacy technician attendance with respect to total trading hours. The data presented may include multiple pharmacists and multiple pharmacy technicians making up those hours.

From Monday to Friday, pharmacist percentage attendance (median % (Interquartile range (IQR))) was 50.0% (30.7-79.2) of total working hours, which compared to total pharmacy technician attendance 44.4% (28.6-53.9), as reported by the pharmacist respondents (Figure 3.1). On Saturdays, according to the pharmacist respondents, the percentages of pharmacist and pharmacy technician attendances were 47.6% (27.0-79.8) and 44.4% (28.4-54.3), respectively and on Sundays, these percentages were 0.0% (0.0-51.9) and 23.1% (23.1-46.2), respectively. The data clearly shows that usually pharmacists did not attend the pharmacy during all opening hours.

Figure 3.2 shows pharmacy staff attendance from the pharmacy technicians' responses to the same questions (median % (IQR)). The results were similar to the pharmacist respondents where the total percentage of pharmacists' attendance 60.6% (45.4-85.7) was higher than pharmacy technicians' attendance 50.0% (37.5-58.3) from Monday to Friday. On Saturdays,

according to the pharmacy technician respondents, the percentages of pharmacist and pharmacy technician attendance were 57.1% (37.8-85.7) and 47.2% (33.3-57.4)) and on Sundays, 0.0% (0.0-54.3) and 36.4% (0.0-51.5), respectively. Notably, both pharmacist and pharmacy technician respondents reported low results regarding pharmacist and pharmacy technician attendances on Sundays and on public holidays, as shown on Figure 3.1 and Figure 3.2.

It is evident from Figure 3.1 and Figure 3.2 that pharmacists and pharmacy technicians were often not available during all pharmacy trading hours, particularly on Sundays and public holidays. It is evident that many pharmacies continued to operate during parts of their trading hours without pharmacists' supervision. On weekdays the median total percentage time of both groups was in excess of 90 % but the level of overlap is unknown. There possibly were times where pharmacies were not supervised by either pharmacists or pharmacy technicians.

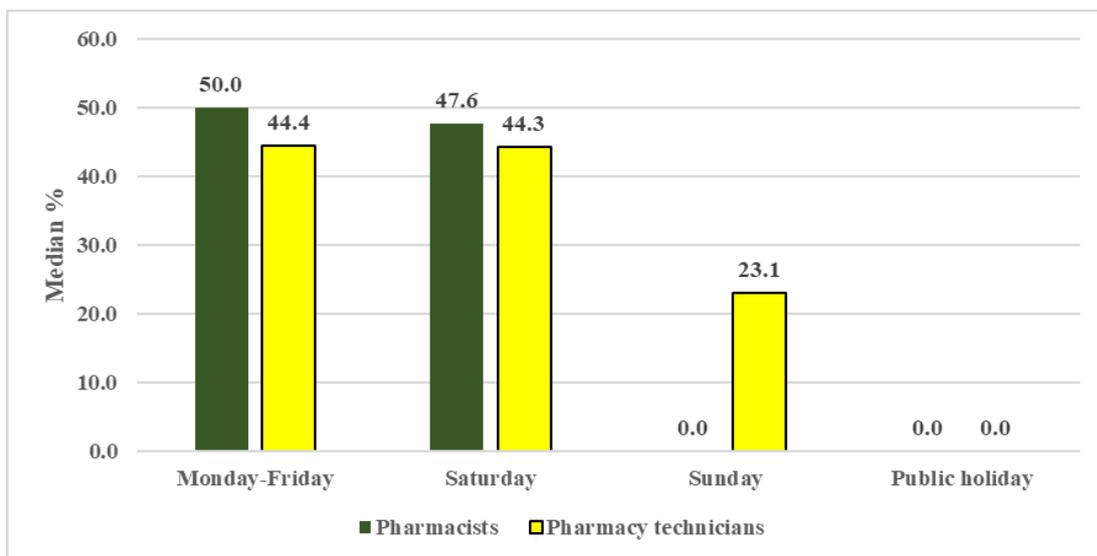


Figure 3.1. Median (%) of pharmacist and pharmacy technician attendance with respect to total pharmacy trading hours, as reported by the pharmacist respondents (n=185).

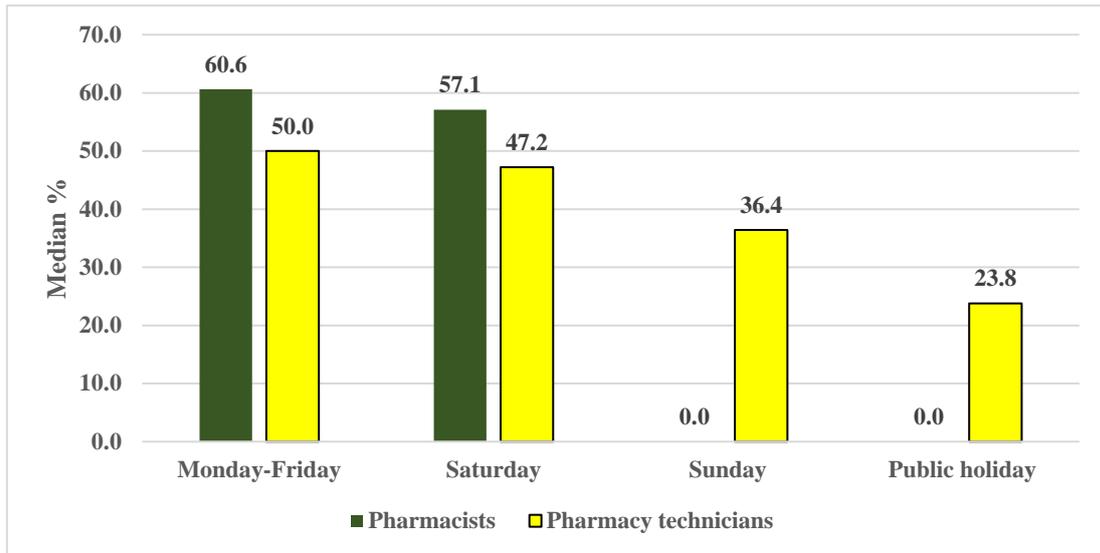


Figure 3.2. Median (%) of pharmacist and pharmacy technician attendance with respect to pharmacy trading hours, as reported by the pharmacy technician respondents (n=142).

3.4.5 Scope of minor ailment management

The responses of pharmacist and pharmacy technician respondents to 34 proffered minor ailments asking their perceptions of scopes of practice for pharmacy technicians (and therefore pharmacists), pharmacists or beyond the scope of pharmacists (and therefore beyond both) is reported in Figure 3.3. PCR values for combined pharmacist and pharmacy technician responses to manage each of the ailments or if it reported beyond the scope of both are also provided. Notably, pharmacists and pharmacy technicians responded similarly that the following ailments were generally managed by pharmacists: vaginal thrush, bacterial conjunctivitis, gastro-oesophageal reflux disease (GORD), and acute pain. Overall, there is a discordance in the perceived scopes of practice where the responses of pharmacists indicate a narrower scope of practice for technicians than those of pharmacy technicians as shown in Figure 3.3.

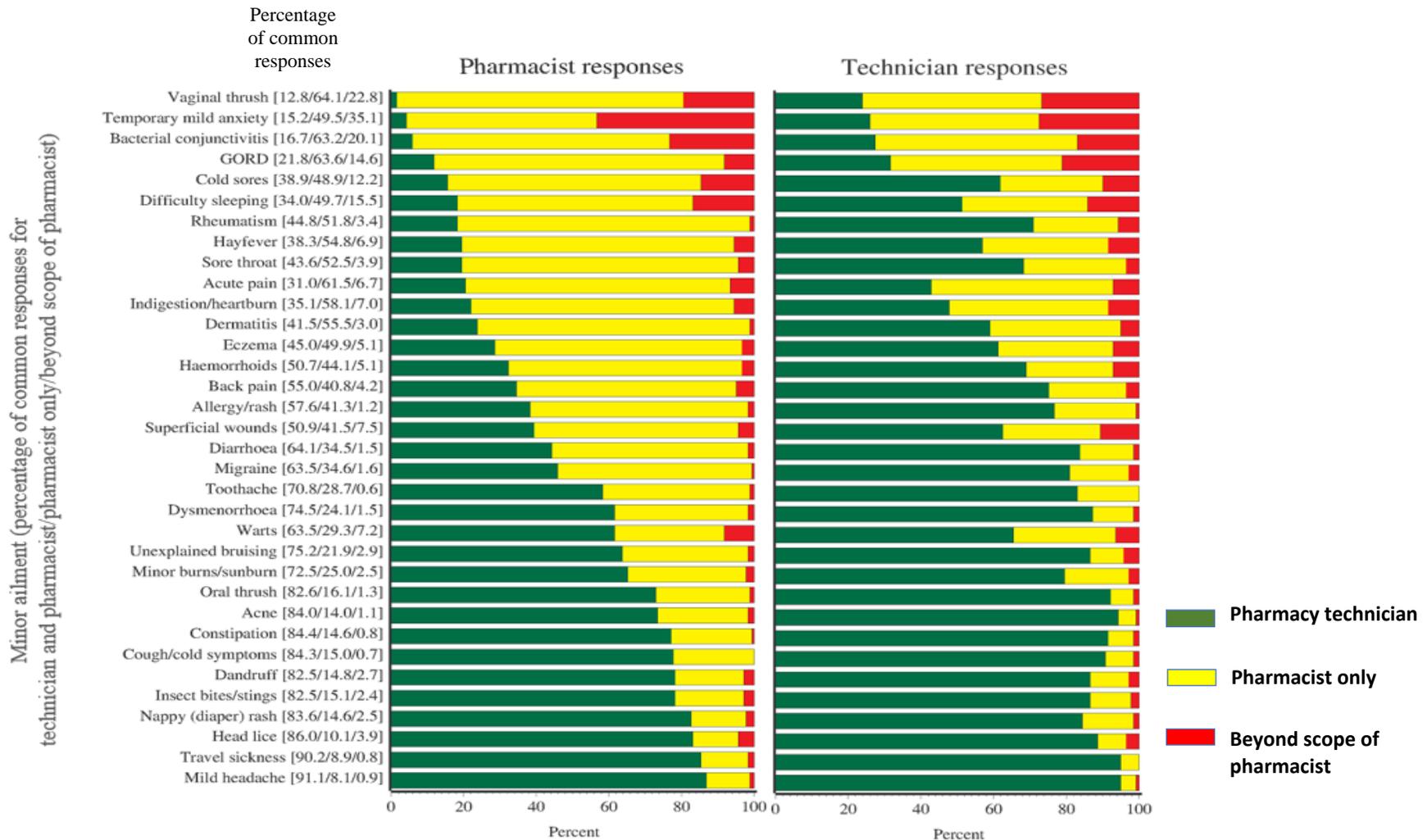


Figure 3.3. The responses of pharmacists and pharmacy technicians to 34 proffered minor ailments asking their perceptions of scope of practice for pharmacy technicians (and therefore pharmacists), pharmacists or beyond the scope of pharmacists and therefore both.

3.4.6 Pharmacy activities

Respondent pharmacists and pharmacy technicians were asked to report the times spent on particular activities in their pharmacy, as summarised in Table 3.5. The majority of the pharmacist respondents reported responding to non-prescription medicines requests as the main activity in their pharmacy (mean% \pm SD, 26.5 \pm 17.2), this was followed by MMA (18.2% \pm 10.6), dispensing of prescriptions medicines (16.5% \pm 17.4), and dealing with requests for recommendations of complementary medicines (13.0% \pm 8.8). A small proportion of pharmacist respondents reported provision of health information/education within their usual activities (8.9% \pm 8.9), together with screening or point-of-care testing (7.4% \pm 7.1), non-therapeutic requests (7.3% \pm 8.4), and home care services (2.2% \pm 4.5).

On the other hand, the largest percentage of activities that were reported by the pharmacy technician respondents were similar to the pharmacist respondents: responding to non-prescription medicines requests (mean \pm SD, 24.6% \pm 11.7) and the MMA (21.0% \pm 11.4). Non-therapeutic services and home care services were only reported by a small proportion of the pharmacy technician respondents (5.2% \pm 4.7 and 1.9% \pm 2.8) compared to requests for recommendations of complementary medicines (13.5% \pm 8.8). Some respondents did not complete this question.

Further, the delivery of services related to MMA may require the procurement of pharmacy-only medicines. This notion was supported by the data in Table 3.6, which shows that nearly three-quarter of the pharmacist respondents indicated that it was the pharmacist who performed the recommendation of Western OTC and pharmacy-only medicines (138/185, 74.6%), in contrast to the pharmacy technician respondents where more than half indicated that it was the pharmacy technician who performed the recommendation of Western OTC and pharmacy-only medicines (80/142, 56.3%). The majority of the pharmacy technicians reported to be the main provider for the MMA in the pharmacy such as performed screening or point-of-care-testing (POCT) recommendations (78/142, 54.9%).

Table 3.5. Mean (%) of the staff's total time per week spent on the following activities at pharmacy as reported by the pharmacist and pharmacy technician respondents*.

Activities	Weekly time allocation (Mean (%) ± SD)		P-value#
	Reported by pharmacist (n=155)	Reported by pharmacy technician (n=98)	
Dispensing of prescription medicines	16.5 ± 17.4	17.6 ± 16.7	0.075
Responding to OTC medicines requests	26.5 ± 17.2	24.6 ± 11.7	0.799
Complementary medicines requests	13.0 ± 8.8	13.6 ± 8.8	0.934
Management of minor ailments	18.2 ± 10.6	21.0 ± 11.4	0.089
Screening or point-of-care testing	7.4 ± 7.1	8.0 ± 5.3	0.449
Provision of health information/education	8.9 ± 8.9	8.2 ± 7.0	0.351
Home care services	2.2 ± 4.5	1.9 ± 2.8	0.189
Non-therapeutic requests	7.3 ± 8.4	5.2 ± 4.7	0.587

#P-value <0.05 indicated there were significant difference between pharmacist and pharmacy technician reports

*Independent-samples t-test

Central limit theorem was used to approach normal distribution

OTC= over-the-counter

Table 3.6. Pharmacists' (n=185) and pharmacy technicians' (n=142) responses regarding who normally performs the MMA activities in a pharmacy.

MMA activities	Pharmacist respondents	Pharmacy technician respondents	P-value
	n (%)		
Evaluating patient-specific information to assess medication therapy			<0.001
By a pharmacist	171 (92.4)	93 (65.5)	
By a pharmacy technician	14 (7.6)	49 (34.5)	

MMA activities	Pharmacist	Pharmacy	P-value
	respondents	technician	
	n (%)	respondents	
Reviewing medication allergies			<0.001
By a pharmacist	175 (94.6)	89 (62.7)	
By a pharmacy technician	10 (5.4)	53 (37.3)	
Providing minor ailments counselling			<0.001
By a pharmacist	132 (71.4)	47 (33.1)	
By a pharmacy technician	53 (28.6)	95 (66.9)	
Recommending Western over-the-counter and pharmacy-only medicines			<0.001
By a pharmacist	138 (74.6)	62 (43.7)	
By a pharmacy technician	47 (25.4)	80 (56.3)	
Screening or point-of-care testing recommendations			<0.001
By a pharmacist	141 (76.2)	64 (45.1)	
By a technician	44 (23.8)	78 (54.9)	
Providing advice to refer the patient to the doctor			<0.001
By a pharmacist	175 (94.6)	107 (75.4)	
By a pharmacy technician	10 (5.4)	35 (24.6)	
Providing written and/or verbal communication to the doctor			<0.001
By a pharmacist	178 (96.2)	120 (84.5)	
By a pharmacy technician	7 (3.8)	22 (15.5)	

P-value <0.05 indicates that pharmacists and pharmacy technicians differed in their responses

The majority of pharmacy technicians reported performing minor ailments consultations (Table 3.6). However, where they considered the minor ailment was not within their scope of practice, they referred the patient to the pharmacist (T=120/142, 84.5%).

3.4.7 Consultation fee

In contrast, although MMA are one of the primary activities that the pharmacist and pharmacy technician respondents reported in this study, more than half of the respondents (P=108/185, 58.4%; T=134/142, 94.4%) did not think that a consultation fee should be charged for minor ailments management in addition to the cost of medication (Table 3.7).

Table 3.7. Pharmacist and pharmacy technician responses to standard procedure for minor ailments at pharmacy.

	Reported by the pharmacist	Reported by the pharmacy technician
	n (%)	
Do you think a consultation fee should be charged?	(n=185)	(n=142)
Yes	77 (41.6)	8 (5.6)
No	108 (58.4)	134 (94.4)
The most appropriate fee?	(n=77)	(n=8)
<5000 (< AUD 50c)	25 (32.5)	2 (25.0)
5000-10000 (AUD 50c - \$1)	34 (44.1)	3 (37.5)
11000-15000 (AUD \$1 – 1.5)	11 (4.3)	2 (25.0)
16000-20000 (AUD \$1.6 - 2)	2 (2.6)	0 (0.0)
>20000 (> AUD \$2)	5 (6.5)	1 (12.5)
Who should pay?	(n=75)	(n=8)
Patient	48 (64.0)	6 (75.0)
Government	8 (10.6)	2 (25.0)
Health insurance	14 (18.7)	0 (0.0)

Pharmacy company	3 (4.0)	0 (0.0)
Other	2 (2.7)	(0.0)

3.4.8 Current pharmacy minor ailments management services at the pharmacy as reported by the pharmacist and pharmacy technician respondents

The pharmacist and pharmacy technician respondents were provided a list of activities that were performed as standard procedures for patients presenting with minor ailments and asked to rate how frequently the activities were provided in their pharmacy using a 5-point Likert scale (never, rarely, sometimes, frequently, always). Responses describing the current practice in the management of minor ailments were summarised in Table 3.8 and Table 3.9. In general, with the exception of ‘Advise patient on the use of non-medical interventions’, a majority of pharmacists and pharmacy technicians were addressing MMA according to standard procedure.

Table 3.8. Questioning and activities provided as part of the MMA according to pharmacist respondents* (n=185).

Activities	Frequency**					Median (IQR)
	1	2	3	4	5	
A. Minor ailment assessment						
Who has the condition or ailment?	1 (0.5)	3 (1.6)	9 (4.9)	41 (22.2)	131 (70.8)	5 (1)
What are the symptoms?	1 (0.5)	0 (0.0)	12 (6.5)	42 (22.7)	130 (70.3)	5 (1)
How long have the symptoms occurred?	1 (0.5)	0 (0.0)	22 (11.9)	59 (31.9)	103 (55.7)	5 (1)
Has the patient tried any medications for this ailment?	1 (0.5)	2 (1.1)	33 (17.8)	61 (33.0)	88 (47.6)	4 (1)
Does the patient take any regular medications?	1 (0.5)	5 (2.7)	49 (26.5)	54 (29.2)	76 (41.1)	4 (2)
Does the patient have any medical conditions?	1 (0.5)	11 (5.9)	53 (28.6)	48 (25.9)	72 (38.9)	4 (2)
Does the patient have any allergies?	1 (0.5)	11 (5.9)	39 (21.1)	48 (25.9)	86 (46.5)	4 (2)
Is the patient pregnant or breastfeeding?	1 (0.5)	12 (6.5)	39 (21.1)	57 (30.8)	75 (40.5)	4 (2)
B. Treatment proposal						
Supply of an appropriate medicine or product to treat an ailment	1 (0.5)	0 (0.0)	7 (3.8)	69 (37.3)	106 (57.3)	5 (1)
Advise the patient to use a medicine from home	10 (5.4)	29 (15.7)	82 (44.3)	46 (24.9)	17 (9.2)	3 (1)
Advise the patient to use Western over-the-counter medicines	1 (0.5)	7 (3.8)	59 (31.9)	95 (51.4)	23 (12.4)	4 (1)

Activities	Frequency**					Median (IQR)
	1	2	3	4	5	
Advise the patient to use complementary medicines (including herbal, vitamins, nutritional supplements)	2 (1.1)	11 (5.9)	74 (40.0)	76 (41.1)	22 (11.9)	4 (1)
Recommend the patient for POCT	1 (0.5)	14 (7.6)	88 (47.6)	63 (34.1)	19 (10.3)	3 (1)
Advise the patient to continue or stop using current treatment(s)	2 (1.1)	10 (5.4)	85 (45.9)	66 (35.7)	22 (11.9)	3 (1)
Advise the patient to use non-medical interventions	34 (18.4)	63 (34.1)	56 (30.3)	23 (12.4)	9 (4.9)	2 (1)
C. Patient management						
Indication and presenting ailment	4 (2.2)	4 (2.2)	34 (18.4)	80 (43.2)	63 (34.1)	4 (1)
Dosage and directions for use	1 (0.5)	3 (1.6)	3 (1.6)	51 (27.6)	130 (70.3)	5 (1)
Treatment plan	1 (0.5)	0 (0.0)	10 (5.4)	80 (43.2)	93 (50.3)	5 (1)
Medication recommended	1 (0.5)	1 (0.5)	8 (4.3)	88 (47.6)	87 (47.0)	4 (1)
Side-effects	2 (1.1)	5 (2.7)	65 (35.1)	63 (34.1)	50 (27.0)	4 (2)
Lifestyle advice	1 (0.5)	4 (2.2)	33 (17.8)	82 (44.3)	65 (35.1)	4 (1)
Price	1 (0.5)	1 (0.5)	22 (11.9)	61 (33.0)	100 (54.1)	5 (1)
D. Labelling and packaging						
Dosage schedule on the label or package	1 (0.5)	0 (0.0)	12 (6.5)	64 (34.6)	108 (58.4)	5 (1)

Activities	Frequency**					Median (IQR)
	1	2	3	4	5	
Medication storage and expiry date on label/package	1 (0.5)	5 (2.7)	32 (17.3)	74 (40.0)	73 (39.5)	4 (1)
Written drug information provided	2 (1.1)	17 (9.2)	48 (25.9)	69 (37.3)	49 (26.5)	4 (2)
Pharmaceutical ingredients on label	2 (1.1)	35 (18.9)	72 (38.9)	42 (22.7)	34 (18.4)	3 (1)
E. Patient follow-up						
Patient follow-up after an appropriate period	3 (1.6)	29 (15.7)	67 (36.2)	58 (31.4)	27 (14.6)	3 (1)
Review and updated patient medication record	32 (17.3)	38 (20.5)	50 (27.0)	36 (19.5)	28 (15.1)	3 (2)
Asking if further information is needed	3 (1.6)	21 (11.4)	56 (30.3)	58 (31.4)	47 (25.4)	4 (2)

Bold text represents regular consultation requirements of the Ministry of Health Indonesia and the IAI (Indonesian Pharmacists Association)

Normal print represents additional requirements to reflect recommended consultation process developed from Australia, Canada, and the UK minor ailments counselling guidelines

*Please indicate your response regarding how frequently the following activities are performed by you at your pharmacy for patients presenting with minor ailments.

**Frequency (1=never, 2=rarely, 3=sometimes, 4=frequently, 5=always)

Table 3.9. Questioning and activities provided as part of the MMA according to pharmacy technician respondents * (n=142).

Activities	Frequency**					Median (IQR)
	1	2	3	4	5	
A. Minor ailment assessment						
Who has the condition or ailment?	0 (0.0)	2 (1.4)	8 (5.6)	35 (24.6)	97 (68.3)	5 (1)
What are the symptoms?	1 (0.7)	0 (0.0)	3 (2.1)	43 (30.3)	95 (66.9)	5 (1)
How long have the symptoms occurred?	1 (0.7)	1 (0.7)	8 (5.6)	54 (38.0)	78 (54.9)	5 (1)
Has the patient tried any medications for this ailment?	1 (0.7)	4 (2.8)	20 (14.1)	56 (39.4)	61 (43.0)	4 (1)
Does the patient take any regular medications?	3 (2.1)	5 (3.5)	28 (19.7)	45 (31.7)	61 (43.0)	4 (2)
Does the patient have any medical conditions?	3 (2.1)	8 (5.6)	34 (23.9)	40 (28.2)	57 (40.1)	4 (2)
Does the patient have any allergies?	3 (2.1)	8 (5.6)	21 (14.8)	52 (36.6)	58 (40.8)	4 (1)
Is the patient pregnant or breastfeeding?	1 (0.7)	6 (4.2)	39 (27.5)	38 (26.8)	58 (40.8)	4 (2)
B. Treatment proposal						
Supply of an appropriate medicine or product to treat an ailment	2 (1.4)	0 (0.0)	2 (1.4)	51 (35.9)	87 (61.3)	5 (1)
Advise the patient to use a medicine from home	5 (3.5)	16 (11.3)	50 (35.2)	41 (28.9)	30 (21.1)	3.5 (1)
Advise the patient to use Western over-the-counter medicines	6 (4.2)	3 (2.1)	45 (31.7)	60 (42.3)	28 (19.7)	4 (1)

Activities	Frequency**					Median
	n (%)	1	2	3	4	5
Advise the patient to use complementary medicines (including herbal, vitamins, nutritional supplements)	2 (1.4)	8 (5.6)	38 (26.8)	65 (45.8)	29 (20.4)	4 (1)
Recommend the patient for POCT	4 (2.8)	9 (6.3)	42 (29.6)	51 (35.9)	36 (25.4)	4 (2)
Advise the patient to consult with the pharmacist	4 (2.8)	7 (4.9)	39 (27.5)	57 (40.1)	35 (24.6)	4 (1)
Advise the patient to continue or stop using current treatment(s)	8 (5.6)	18 (12.7)	48 (33.8)	48 (33.8)	20 (14.1)	3 (1)
Advise the patient to use non-medical interventions	26 (18.3)	36 (25.4)	45 (31.7)	18 (12.7)	17 (12.0)	3 (1)
C. Patient management						
Indication and presenting ailment	1 (0.7)	5 (3.5)	17 (12.0)	58 (40.8)	61 (43.0)	4 (1)
Dosage and directions for use	0 (0.0)	0 (0.0)	2 (1.4)	43 (30.3)	97 (68.3)	5 (1)
Treatment plan	1 (0.7)	0 (0.0)	11 (7.7)	62 (43.7)	68 (47.9)	4 (1)
Medication recommended	1 (0.7)	2 (1.4)	9 (6.3)	60 (42.3)	70 (49.3)	4 (1)
Side-effects	0 (0.0)	5 (3.5)	38 (26.8)	50 (35.2)	49 (34.5)	4 (2)
Lifestyle advice	0 (0.0)	10 (7.0)	21 (14.8)	61 (43.0)	50 (35.2)	4 (1)
Price	1 (0.7)	1 (0.7)	15 (10.6)	38 (26.8)	87 (61.3)	5 (1)

Activities	Frequency**					Median (IQR)
	1	2	3	4	5	
D. Labelling and packaging						
Dosage schedule on the label or package	0 (0.0)	0 (0.0)	5 (3.5)	44 (31.0)	93 (65.5)	5 (1)
Medication storage and expiry date on label/package	0 (0.0)	1 (0.7)	16 (11.3)	58 (40.8)	67 (47.2)	4 (1)
Written drug information provided	1 (0.7)	5 (3.5)	34 (23.9)	53 (37.3)	49 (34.5)	4 (2)
Pharmaceutical ingredients on label	0 (0.0)	8 (5.6)	54 (38.0)	47 (33.1)	33 (23.2)	4 (1)
E. Patient follow-up						
Patient follow-up after an appropriate period	8 (5.6)	13 (9.2)	53 (37.3)	46 (32.4)	22 (15.5)	3 (1)
Review and updated patient medication record	24 (16.9)	22 (15.5)	47 (33.1)	30 (21.1)	19 (13.4)	3 (2)
Asking if further information is needed	12 (8.5)	13 (9.2)	41 (28.9)	44 (31.0)	32 (22.5)	4 (1)

Bold text represents regular consultation requirements of the Ministry of Health Indonesia and the PAFI (Indonesian Pharmacy Technicians Association)

Normal print represents additional requirements to reflect recommended consultation process developed from Australia, Canada, and the UK minor ailments counselling guidelines

*Please indicate your response regarding how frequently the following activities are performed by you at your pharmacy for patients presenting with minor ailments.

**Frequency (1=never, 2=rarely, 3=sometimes, 4=frequently, 5=always)

3.4.8.1 Minor Ailment Assessment

When patients with minor ailments visited pharmacies, an initial assessment occurred to evaluate the patient's conditions. This study, as shown in Table 3.8 and Table 3.9, found that the following questions were included in the initial assessment by a large proportion of pharmacists and pharmacy technicians: 'Who has the condition or ailment?' (P=131/185, 70.8%; T=97/142, 68.3%), 'What are the symptoms?' (P=130/185, 70.3%; T=95/142, 66.9%), 'How long have the symptoms occurred?' (P=103/185, 55.7%; T=78/142, 54.9%), 'Has the patient tried any medications for this ailment?' (P=88/185, 47.6%; T=61/142, 43.0%); 'Does the patient have any allergies?' (P=86/185, 46.5%; T=58/142, 40.8%); and 'Does the patient take any regular medications?' (P=76/185, 41.1%; T=61/142, 43.0%). Another reported question, 'Is the patient pregnant or breastfeeding?', was frequently performed by P=132/185, 71.3% vs. T=96/142, 67.6% of respondents. While this question should be asked when it is applicable, the questionnaire was not designed to investigate the demographics of people looking for advice on MMA, thus it is not possible to accurately identify the proportion of women who seek advice for MMA.

3.4.8.2 Treatment proposal

This study found (Table 3.8 and Table 3.9) that more than half of the pharmacist and pharmacy technician respondents indicated that they always supplied an appropriate medicine or product to treat a minor ailment (P=106/185, 57.3%; T=87/142, 61.3%). Other respondents, however, reported less frequently providing the following activities: 'Use Western over-the-counter medicines (OTC)' (P=59/185, 31.9%; T=45/142, 31.7%), 'Use a medicine from home' (P=82/185, 44.3% vs. T=50/142, 35.2%), 'Recommend the patient for point-of-care testing - POCT' (P=88/185, 47.6% vs. T=42/142, 29.6%), or 'Continue or stop using current treatment(s)' (P=85/185, 45.9%; T=48/142, 33.8%).

3.4.8.3 Patient Management

In order to provide patient-centred care in the MMA, both pharmacists and pharmacy technicians should provide treatment management for the patient. Information on dosage and directions for medication use was always provided by over two-thirds of the respondent pharmacists (P=130/142, 70.3%) and a treatment plan by over half of the pharmacist

respondents (P=93/185, 50.3%) with similar findings reported by pharmacy technician respondents (T=97/142, 68.3% and T=68/142, 47.9%, respectively).

A larger proportion (87.1%, P=161/185 and 79.4%, P=147/185) of pharmacists, always provided information about the price of the medicines and advice about lifestyle, respectively. This result is similar to the pharmacy technicians' response (T=125/142, 88.1% vs. T=11/142, 78.2%). A larger proportion, P=175/185, 94.6% of pharmacists and T=130/142, 91.6% of pharmacy technicians, frequently provided regular services about what medication was recommended, while P=113/185, 61.1% of pharmacist and T=99/142, 69.7% pharmacy technician respondents provided information about medication side-effects as shown in Table 3.8 and Table 3.9.

Interestingly, about one-quarter of the pharmacist respondents (P=42/185, 22.8%) provided information about indication and presenting ailments less frequently, given that minor ailments presentations should be examined in detail by a pharmacist, and it is part of the procedure to confirm the diagnosis of a minor ailment as shown in Table 3.8.²⁹⁸

3.4.8.4 Labelling and Packaging

Labelling and packaging of medications for the MMA was reported as common practice as shown in Table 3.8. Collectively, P=172/185, 93.0% of the pharmacists frequently or always provided information regarding the 'Dosage schedule on the label or package', while fewer provided written drug information on the label (P=118/185, 63.8%). Further, collectively, 79.5% (P=147/185) of the pharmacists frequently or always provided information about medication storage and expiry dates on labels, while just 41.1% (P=76/185) provided pharmaceutical ingredients on the label.

On the other hand, collectively, 96.5% (T=137/142) of the pharmacy technicians frequently or always provided information on the 'Dosage schedule on the label or package', written drug information on the label T=(102/142, 71.8%), medication storage and expiry dates on labels (T=125/142, 88.0%), while 56.3% (T=80/142) provided pharmaceutical ingredients on the label as shown in Table 3.9.

3.4.8.5 Patient follow-up

When minor ailments were assessed during a consultation, only 46 per cent (P=85/185) of the pharmacists regularly followed-up the patient after an appropriate time as shown in Table 3.8. The majority of the pharmacists, collectively 64.8% (P=120/185), never or sometimes updated patient medication records.

On the other hand, ‘Review and updated patient medication records’ (T=93/142, 65.5%), and ‘Patient follow-up after an appropriate period’ (T=74/142, 52.1%) were less frequently performed by the pharmacy technicians as shown in Table 3.9. This indicates that there is poor documentation on the current practice of the MMA because new medication information will not be transferred to the patient record. The data also suggest that in some pharmacies, medication records were never created for patients presenting with minor ailments.

3.4.8.6 Pharmacists’ views when referring patients to another healthcare professional

Figure 3.4 shows clinical scenarios where the respondent pharmacists were asked to rate the extent of the likelihood for referring a patient who sought advice about minor ailments to another health care professional (e.g. doctor, nurse, physiotherapist, etc.).

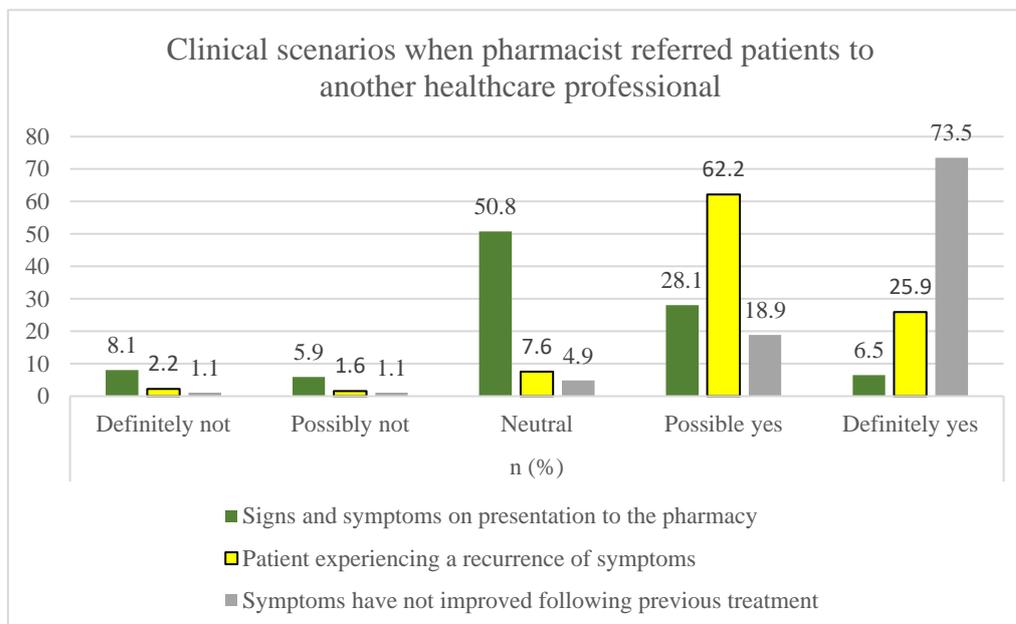


Figure 3.4. Frequency distribution (%) of the clinical scenarios when pharmacist referred patients to another healthcare professional as reported by the pharmacist respondents (n=185).

Approximately 50% of the respondent pharmacists were reluctant to refer a patient to another health care professional only from assessing a patient's signs and symptoms on presentation to the pharmacy as shown in Figure 3.4. However, if the patient had experienced a recurrence of symptoms, more than half of the respondent pharmacists (P=115/185, 62.2%) indicated they would possibly refer the patient to another health care professional. The majority of pharmacists (P=136/185, 73.5%) reported they would definitely refer a patient to another healthcare professional when symptoms had not improved following previous treatment.

3.4.8.7 Factors that influenced perceived scope of practice of management of minor ailments

Table 3.10 showed univariate analyses regarding the MMA standard procedures as reported by the pharmacist respondents. It is evident that pharmacists review of medication allergies was the only factor associated with minor ailment assessments and treatment proposals. Pharmacy owner, employment of additional pharmacist, consumers seeking advice on the MMA, pharmacist attendance, number of additional pharmacists on staff, and total additional pharmacist working hours per week were associated with patient followed-up in the MMA procedures.

Table 3.11 presents the univariate analysis of the following variables, which were associated with the current provision in the MMA standard procedures as reported by the pharmacy technician respondents: minor ailment assessments (consumers seeking advice on the MMA), treatment proposals (employment of additional pharmacists, consultation area, and number of additional pharmacists on staff), patient management (pharmacy technicians who received additional remuneration, employment of additional pharmacist, and number of additional pharmacist on staff), and labelling and packaging (employment of additional pharmacist and number of additional pharmacist on staff).

Table 3.10. Univariate analysis of factors associated with the current provision in the MMA as perceived by pharmacist respondents (n=185).

Factors	n (%)	Assessment*	Treatment**	Management [#]	Labelling [^]	Follow-up ^{^^}
		P-value [@]				
Gender		0.026	0.415	0.026	0.379	0.641
Male	24 (13.0)					
Female	161 (87.0)					
Age		0.481	0.896	0.481	0.343	0.148
21-40 years old	165 (89.2)					
>41 years old	20 (10.8)					
Years of practice		0.985	0.701	0.985	0.375	0.255
≤10 years	138 (74.6)					
>10 years	47 (25.4)					
Received additional remuneration		0.975	0.127	0.226	0.307	0.133
Yes	140 (75.7)					
No	45 (24.3)					

Factors	n (%)	Assessment*	Treatment**	Management#	Labelling^	Follow-up^^
		P-value@				
Training in MMA		0.107	0.193	0.564	0.069	0.080
Yes	113 (61.1)					
No	72 (38.9)					
Type of pharmacy***		0.288	0.118	0.288	0.411	0.302
Co-located	40 (21.6)					
Not co-located	145 (78.4)					
Is owner a pharmacist?		0.646	0.092	0.011	0.022	0.003
Yes	72 (38.9)					
No	113 (61.1)					
Employment of additional pharmacist		0.904	0.040	0.257	0.072	0.004
Yes	87 (47.0)					
No	98 (53.0)					
Consultation area		0.329	0.856	0.754	0.230	0.098
Yes	150 (81.1)					

Factors	n (%)	Assessment*	Treatment**	Management#	Labelling^	Follow-up^^
		P-value@				
No	35 (18.9)					
Consumers seeking advice on MMA		0.904	0.183	0.904	0.182	0.002
≤ 50	87 (47.0)					
> 50	98 (53.0)					
% Pharmacist attendance		0.444	0.902	0.800	0.305	0.010
Low	104 (56.2)					
High	81 (43.8)					
A charged for MMA consultation fee		0.088	0.551	0.495	0.079	0.833
Yes	77 (41.6)					
No	108 (58.4)					
MMA activities spent at pharmacy		0.177	0.019	0.177	0.204	0.912
Low	128 (69.2)					
High	57 (30.8)					

Factors	n (%)	Assessment*	Treatment**	Management#	Labelling^	Follow-up^^
		P-value@				
Pharmacist assess patients' medication therapy		0.563	0.095	0.183	0.606	0.564
Yes	171 (92.4)					
No	14 (7.6)					
Pharmacist reviewing medication allergies		<0.001	0.010	0.080	0.375	0.986
Yes	175 (94.6)					
No	10 (5.4)					
Pharmacist providing minor ailments counselling		0.340	0.413	0.870	0.309	0.908
Yes	132 (71.4)					
No	53 (28.6)					
Number of additional pharmacist on staff		0.904	0.040	0.257	0.072	0.004
Low	98 (53.0)					
High	87 (47.0)					
Number of pharmacy technician as a staff		0.800	0.639	0.800	0.202	0.556

Factors	n (%)	Assessment*	Treatment**	Management#	Labelling^	Follow-up^^
		P-value@				
Low	148 (80.0)					
High	37 (20.0)					
Number of non-qualified assistant as a staff		0.146	0.716	0.699	0.366	0.098
Low	122 (65.9)					
High	63 (34.1)					
Total pharmacy manager working hours per week		0.991	0.598	0.317	0.796	0.162
Low	92 (49.7)					
High	93 (50.3)					
Total additional pharmacist working hours per week		0.887	0.047	0.248	0.080	0.003
Low	99 (53.5)					
High	86 (46.5)					

@Variables with P-value < 0.1 were included in the multivariate analysis

P-value < 0.01 indicated there were significant association with the current provision in the management of minor ailments standard procedure.

*Who has the ailment?, what are the symptoms?, how long have the symptoms occurred?, has the patient tried any medications?, does the patient take any regular medications?, does the patient have any medical conditions?, does the patient have any allergies?, is the patient pregnant or breastfeeding?.

**Supply of an appropriate medicine, advise the patient to use a medicine from home, advise the patient to use Western OTC medicines, advise the patient to use complementary medicines, recommend the patient for POCT, advise the patient to continue or stop using current treatment, advise the patient to use non-medical interventions. #Indication and presenting ailment, dosage and direction for use, treatment plan, medication recommended, side-effects, lifestyle advice, price.

^Dosage and the schedule on label, medication storage and expiry date on label, written drug information provided, pharmaceutical ingredient on label.

^^Follow-up after an appropriate period, review and update patient medication record, asking if further information is needed.

***Type of pharmacy: Co-located (no direct access to a pharmacy) and not co-located (direct access to a pharmacy) with medical practice.

Table 3.11. Univariate analysis of factors associated with the current provision in the MMA as perceived by pharmacy technician respondents (n=142).

Factors	n (%)	Assessment*	Treatment**	Management#	Labelling^	Follow-up^^
		P-value@				
Gender		0.050	0.417	0.478	0.478	0.886
Male	20 (14.1)					
Female	122 (85.9)					
Age		0.962	0.115	0.249	0.519	0.640
21-40 years old	125 (88.0)					
>41 years old	17 (12.0)					
Years of practice		0.535	0.034	0.072	0.630	0.374
≤10 years	132 (93.0)					
>10 years	10 (7.0)					
Received additional remuneration		0.171	0.057	0.001	0.195	0.097

Factors	n (%)	Assessment*	Treatment**	Management#	Labelling^	Follow-up^^
		P-value@				
Yes	127 (89.4)					
No	15 (10.6)					
Training in MMA		0.169	0.936	0.593	0.593	0.719
Yes	69 (48.6)					
No	73 (51.4)					
Type of pharmacy***		0.021	0.035	0.034	0.523	0.814
Co-located	27 (19.0)					
Not co-located	115 (81.0)					
Is owner a pharmacist?		0.155	0.122	0.925	0.262	0.917
Yes	51 (35.9)					
No	91 (64.1)					
Employment of additional pharmacist		0.031	0.007	0.006	0.006	0.274
Yes	101 (71.1)					
No	41 (28.9)					

Factors	n (%)	Assessment*	Treatment**	Management#	Labelling^	Follow-up^^
		P-value@				
Consultation area		0.075	0.003	0.080	0.700	0.386
Yes	108 (76.1)					
No	34 (23.9)					
Consumers seeking advice on MMA		0.002	0.193	0.019	0.262	0.805
≤ 50	51 (35.9)					
> 50	91 (64.1)					
% Pharmacist attendance		0.773	0.279	0.680	0.680	0.555
Low	78 (54.9)					
High	64 (45.1)					
A charged for MMA consultation fee		0.477	0.487	0.669	0.669	0.837
Yes	8 (5.6)					
No	134 (94.4)					
MMA activities spent at pharmacy		0.260	0.986	0.166	0.907	0.461
Low	99 (69.7)					

Factors	n (%)	Assessment*	Treatment**	Management#	Labelling^	Follow-up^^
		P-value@				
High	43 (30.3)					
Pharmacist assess patients' medication therapy		0.343	0.018	0.204	0.966	0.182
Yes	93 (65.5)					
No	49 (34.5)					
Pharmacist reviewing medication allergies		0.445	0.845	0.885	0.885	0.360
Yes	89 (62.7)					
No	53 (37.3)					
Pharmacist providing minor ailments counselling		0.296	0.435	0.212	0.993	0.680
Yes	47 (33.1)					
No	95 (66.9)					
Number of additional pharmacist on staff		0.031	0.007	0.006	0.006	0.274
Low	41 (28.9)					
High	101 (71.1)					

Factors	n (%)	Assessment*	Treatment**	Management#	Labelling^	Follow-up^^
		P-value@				
Number of pharmacy technician as a staff		0.216	0.505	0.038	0.038	0.408
Low	59 (41.5)					
High	83 (58.5)					
Number of non-qualified assistant as a staff		0.149	0.101	0.407	0.407	0.205
Low	116 (81.7)					
High	26 (18.3)					
Total pharmacy manager working hours per week		0.412	0.148	0.028	0.315	0.589
Low	55 (38.7)					
High	87 (61.3)					
Total additional pharmacist working hours per week		0.061	0.027	0.011	0.011	0.560
Low	46 (32.4)					
High	96 (67.6)					

@Variables with P-value < 0.1 were included in the multivariate analysis

P-value < 0.01 indicated there were significant association with the current provision in the management of minor ailments standard procedure.

*Who has the ailment?, what are the symptoms?, how long have the symptoms occurred?, has the patient tried any medications?, does the patient take any regular medications?, does the patient have any medical conditions?, does the patient have any allergies?, is the patient pregnant or breastfeeding?.

**Supply of an appropriate medicine, advise the patient to use a medicine from home, advise the patient to use Western OTC medicines, advise the patient to use complementary medicines, recommend the patient for POCT, advise the patient to continue or stop using current treatment, advise the patient to use non-medical interventions. #Indication and presenting ailment, dosage and direction for use, treatment plan, medication recommended, side-effects, lifestyle advice, price.

^Dosage and the schedule on label, medication storage and expiry date on label, written drug information provided, pharmaceutical ingredient on label.

^^Follow-up after an appropriate period, review and update patient medication record, asking if further information is needed.

***Type of pharmacy: Co-located (no direct access to a pharmacy) and not co-located (direct access to a pharmacy) with medical practice.

3.4.8.8 Factors independently associated with the current provision of MMA by pharmacists' and pharmacy technicians' (multivariate analysis)

Table 3.12 shows factors independently associated with the MMA standard procedures as reported by pharmacist respondents. The analyses indicated that pharmacist review of medication allergies was the only factor associated with delivering minor ailments assessment; employment of additional pharmacist, time spent on the MMA activities at pharmacy, and pharmacist review of medication allergies were factors associated with treatment proposal; pharmacy owner was associated with labelling and packaging services; and training in MMA, pharmacy owner, consumers seeking advice on MMA, and total additional pharmacist working hours per week were associated with patient followed-up.

The multivariate analysis in Table 3.13 shows that the following factors were independently associated with MMA standard procedures as reported by the pharmacy technician respondents: minor ailment assessment (gender and consumers seeking advice on MMA), and treatment proposals (pharmacy technicians' years of practice, employment of additional pharmacists, and pharmacy technicians' evaluation of patient medication history).

3.4.8.9 Factors associated with referral to another health care professional in the MMA standard procedure from the pharmacist reference

The univariate analysis from MMA standard procedures identified that training in the MMA, pharmacist attendance, pharmacist reviewing medication allergies were factors associated with referral to another health care professional (Table 3.14). The multivariate analysis from MMA standard procedures identified that training in MMA and pharmacists' review of medication allergies was also associated with referral to another healthcare professional.

Table 3.12. Multivariate analysis showing factors independently associated with the current provision in the MMA from pharmacist respondents (n=185).

Factors	Assessment		Treatment		Management		Labelling & packaging		Follow-up	
	OR (95% CI)	P- value	OR (95% CI)	P- value	OR (95% CI)	P- value	OR (95% CI)	P- value	OR (95% CI)	P- value
Gender										
Male										
Female										
Training in MMA										
Yes									2.1 (1.1-4.0)	0.032
No									Reference	
Is owner a pharmacist?										
Yes							0.3 (0.1-0.9)	0.022	0.4 (0.2-0.8)	0.010
No							Reference		Reference	

Factors	Assessment		Treatment		Management		Labelling & packaging		Follow-up	
	OR (95% CI)	P- value	OR (95% CI)	P- value	OR (95% CI)	P- value	OR (95% CI)	P- value	OR (95% CI)	P- value
Employment of additional pharmacist										
Yes			2.9 (1.2-6.5)	0.013						
No			Reference							
Consumers seeking advice on MMA										
≤ 50									3.1 (1.6-6.0)	0.001
> 50									Reference	
A charged for MMA consultation fee										
Yes										
No										

Factors	Assessment		Treatment		Management		Labelling & packaging		Follow-up	
	OR (95% CI)	P- value	OR (95% CI)	P- value	OR (95% CI)	P- value	OR (95% CI)	P- value	OR (95% CI)	P- value
MMA activities spent at pharmacy										
Low			0.3 (0.1-0.8)	0.016						
High			Reference							
Pharmacist reviewing medication allergies										
Yes	45.5 (3.2-654.3)	0.005	5.5 (1.3-23.0)	0.018						
No	Reference		Reference							
Total additional pharmacist working hours per week										
Low									0.4 (0.2-0.7)	0.003
High									Reference	

*Bold value indicated there were significant association with the current provision in the management of minor ailments standard procedure (P-value <0.05)

Table 3.13. Multivariate analysis showing factors independently associated with the current provision in the MMA from pharmacy technician respondents (n=142).

Factors	Assessment		Treatment		Management		Labelling & packaging		Follow-up	
	OR (95% CI)	p- value	OR (95% CI)	p- value	OR (95% CI)	p- value	OR (95% CI)	p- value	OR (95% CI)	p- value
Gender										
Male	0.1 (0.0-0.6)	0.013								
Female	Reference									
Years of Practice										
≤10 years			7.4 (1.6-35.4)	0.012						
>10 years	Reference									
Employment of additional pharmacist										
Yes			3.5 (1.3-9.3)	0.012						
No	Reference									

Factors	Assessment		Treatment		Management		Labelling & packaging		Follow-up	
	OR (95% CI)	p- value	OR (95% CI)	p- value	OR (95% CI)	p- value	OR (95% CI)	p- value	OR (95% CI)	p- value
Consumers seeking advice on MMA										
≤ 50	0.0 (0.0-0.4)	0.006								
> 50	Reference									
Pharmacy technician evaluating patient medication history										
Yes			0.2 (0.1-0.8)	0.026						
No			Reference							

*Bold value indicated there were significant association with the current provision in the management of minor ailments standard procedure (P-value <0.05)

Table 3.14. Univariate analyses and the multivariate analyses showing factors independently associated with referring a patient to another health care professional in the MMA from the pharmacist as reference.

Factors	n (%)	Univariate analysis	Multivariate analysis	
		P-value*	OR (95% CI)	P-value**
Gender		0.805		
Male	24 (13.0)			
Female	161 (87.0)			
Age		0.120		
21-40 years old	165 (89.2)			
>41 years old	20 (10.8)			
Years of practice		0.744		
≤10 years	138 (74.6)			
>10 years	47 (25.4)			
Received additional remuneration		0.169		
Yes	140 (75.7)			
No	45 (24.3)			
Training in MMA		0.011		
Yes	113 (61.1)		0.1 (0.0-0.7)	0.016
No	72 (38.9)		Reference	
Type of pharmacy***		0.254		
Co-located	40 (21.6)			
Not co-located	145 (78.4)			

Factors	n (%)	Univariate analysis	Multivariate analysis	
		P-value*	OR (95% CI)	P-value**
Is owner a pharmacist?		0.613		
Yes	72 (38.9)			
No	113 (61.1)			
Employment of additional pharmacist		0.467		
Yes	87 (47.0)			
No	98 (53.0)			
Consultation area		0.373		
Yes	150 (81.1)			
No	35 (18.9)			
Consumers seeking advice on MMA		0.467		
≤ 50	87 (47.0)			
> 50	98 (53.0)			
% Pharmacist attendance		0.052		
Low	104 (56.2)			
High	81 (43.8)			
A charged for MMA consultation fee		0.448		
Yes	77 (41.6)			
No	108 (58.4)			

Factors	n (%)	Univariate analysis	Multivariate analysis	
		P-value*	OR (95% CI)	P-value**
MMA activities spent at pharmacy		0.406		
Low	128 (69.2)			
High	57 (30.8)			
Pharmacists assess patients' medication therapy		0.734		
Yes	171 (92.4)			
No	14 (7.6)			
Pharmacist reviewing medication allergies		0.026		
Yes	175 (94.6)		6.4 (1.3-31.5)	0.022
No	10 (5.4)		Reference	
Pharmacist providing minor ailments counselling		0.312		
Yes	132 (71.4)			
No	53 (28.6)			
Number of additional pharmacist as a staff		0.467		
Low	98 (53.0)			
High	87 (47.0)			
Number of pharmacy technicians as a staff		0.804		
Low	148 (80.0)			

Factors	n (%)	Univariate analysis	Multivariate analysis	
		P-value*	OR (95% CI)	P-value**
High	37 (20.0)			
Number of non-qualified assistant as a staff		0.946		
Low	122 (65.9)			
High	63 (34.1)			
Total pharmacy manager working hours per week		0.637		
Low	92 (49.7)			
High	93 (50.3)			
Total additional pharmacist working hours per week		0.496		
Low	99 (53.5)			
High	86 (46.5)			

*P-value < 0.01 indicated there were significant association with referring a patient to another health care professional; **P-value < 0.05 indicated there were significant association with referring a patient to another health care professional. ***Type of pharmacy: Co-located (no direct access to a pharmacy) with medical practice and not co-located (direct access to a pharmacy) with medical practice

3.4.8.10 Factors that influenced perceived scope of practice of management of minor ailments

Table 3.15 shows 11 minor ailments with PCR values between 40-60%, reported by pharmacist and pharmacy technician respondents. However, the odds of each being within the perceived scope of practice of a pharmacist differed significantly between respondent groups (p<0.0001). Other factors more often independently associated with the ailment being within the scope of the pharmacist included practising for more than 6 years and the pharmacist assessing medication therapy. Where the pharmacy was co-located within a medical centre, the odds of the management of a particular minor ailment being with the scope of practice of a pharmacist

were significantly lower. Minor Ailments with Odds Ratio (OR) shows 34 minor ailments evaluated with PCR values and OR based upon the pharmacists' and pharmacy technicians' responses.

Table 3.15. Univariate and Multivariate analysis of factors influencing perceived scope of practice of management of minor ailments with PCR values between 40%-60% as perceived by pharmacist (n=185) and pharmacy technician (n=142) respondents. The Odds Ratio (OR) shows the odds of responding that the ailment is within the scope of practice of the pharmacist only.

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
Allergy/Rash	Respondent				
	Pharmacy technician	1 (reference)		1 (reference)	
	Pharmacist	5.33 (3.25-8.73)	<0.0001	3.92 (2.27-6.76)	<0.0001
	Pharmacy type*				
	Not co-located			1 (reference)	
	Co-located			0.47 (0.25-0.89)	0.0201
	Pharmacist assesses medication therapy				
	No			1 (reference)	
	Yes			2.15 (1.02-4.54)	0.0453
	Pharmacist provides ailment counselling				
	No			1 (reference)	
	Yes			1.76 (1.03-3.01)	0.0386
	Pharmacy technician work hours				
	Low			1 (reference)	
	High			2.02 (1.19-3.42)	0.0094

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
Back pain	Respondent: Pharmacy technician	1 (reference)		1 (reference)	
	Pharmacist	6.24 (3.76-10.38)	<0.0001	4.85 (2.85-8.26)	<0.0001
	Years of practice < 6 years			1 (reference)	
	6 or more years			1.70 (1.02-2.83)	0.0402
	Pharmacist assesses medication therapy				
	No			1 (reference)	
	Yes			2.19 (1.07-4.49)	0.0327
Cold sores	Respondent: Pharmacy technician	1 (reference)		1 (reference)	
	Pharmacist	9.79 (5.65-16.95)	<0.0001	11.40 (5.96-21.80)	<0.0001
	Years of practice < 6 years			1 (reference)	
	6 or more years			0.37 (0.18-0.75)	0.0056
	Training in MMA				
	No			1 (reference)	
	Yes			0.55 (0.30-0.99)	0.0476

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Number of pharmacy technicians as a staff Low High			1 (reference) 0.50 (0.26-0.95)	0.0353
	Consumers seeking advice on MMA Low High			1 (reference) 2.06 (1.10-3.84)	0.0238
Dermatitis	Respondent: Pharmacy technician Pharmacist	1 (reference) 5.20 (3.20-8.46)	<0.0001	1 (reference) 3.68 (2.13-6.33)	<0.0001
	Years of practice < 6 years 6 or more years			1 (reference) 2.09 (1.05-4.15)	0.0360
	Training in MMA No Yes			1 (reference) 0.55 (0.32-0.95)	0.0315
	Pharmacist reviewing medication allergies No Yes			1 (reference) 2.40 (1.22-4.75)	0.0283

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
Diarrhoea	Respondent:				
	Pharmacy technician	1 (reference)		1 (reference)	
	Pharmacist	6.91 (3.99-11.95)	<0.0001	5.28 (2.92-9.57)	<0.0001
	Training in MMA				
	No			1 (reference)	
	Yes			1.84 (1.07-3.18)	0.0283
	Pharmacy type				
	Not co-located			1 (reference)	
	Co-located			0.49 (0.25-0.94)	0.0318
	Consultation area				
	No			1 (reference)	
	Yes			2.22 (1.10-0.46)	0.0253
	MMA activities spent at pharmacy				
	Low			1 (reference)	
	High			0.53 (0.29-0.95)	0.0344
	Pharmacist assesses medication therapy				
	No			1 (reference)	
	Yes			4.00 (1.64-9.74)	0.0023

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Consumers seeking advice on MMA Low High			1 (reference) 0.53 (0.29-0.95)	0.0344
Eczema	Respondent: Pharmacy technician Pharmacist	1 (reference) 4.60 (2.84-7.44)	<0.0001	1 (reference) 3.63 (2.18-6.06)	<0.0001
	Gender Female Male			1 (reference) 0.43 (0.20-0.89)	0.0238
	Pharmacist assesses medication therapy No Yes			1 (reference) 3.76 (1.86-7.61)	0.0002
Hayfever	Respondent: Pharmacy technician Pharmacist	1 (reference) 6.38 (3.83-10.63)	<0.0001	1 (reference) 4.19 (2.30-7.63)	<0.0001
	Employment of additional pharmacist No Yes			1 (reference) 1.96 (1.09-3.52)	0.0247

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Consultation fee No Yes			1 (reference) 2.35 (1.13-4.92)	0.0017
	Pharmacist assesses medication therapy No Yes			1 (reference) 3.43 (1.70-6.90)	0.0006
Haemorrhoids	Respondent: Pharmacy technician Pharmacist	1 (reference) 5.72 (3.47-9.41)	<0.0001	1 (reference) 4.35 (2.55-7.42)	<0.0001
	Pharmacist reviewing medication allergies No Yes			1 (reference) 2.48 (1.18-5.25)	0.0172
	Consumers who present to a pharmacy Low High			1 (reference) 0.59 (0.36-0.96)	0.0339
Rheumatism	Respondent: Pharmacy technician Pharmacist	1 (reference) 13.41 (7.80-23.05)	<0.0001	1 (reference) 19.52 (10.41-36.61)	<0.0001

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Gender Female Male			1 (reference) 0.26 (0.11-0.61)	0.0019
	MMA activities spent at pharmacy Low High			1 (reference) 0.46 (0.25-0.85)	0.0126
	Pharmacy manager working hours Low High			1 (reference) 2.47 (1.34-4.52)	0.0036
Sore throat	Respondent: Pharmacy technician Pharmacist	1 (reference) 9.50 (5.65-15.96)	<0.0001	1 (reference) 5.77 (3.30-10.11)	<0.0001
	Years of practice < 6 years 6 or more years			1 (reference) 2.01 (1.15-3.53)	0.0151
	Pharmacist assesses medication therapy No Yes			1 (reference) 2.65 (1.23-5.71)	0.0129

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Pharmacist reviewing medication allergies			1 (reference)	
	No			2.46 (1.10-5.49)	0.0286
	Yes				
Superficial wounds	Respondent:			1 (reference)	
	Pharmacy technician	1 (reference)		1 (reference)	
	Pharmacist	3.34 (2.06-5.41)	<0.0001	2.74 (1.65-4.56)	0.0001

*Pharmacy type: Co-located (no direct access to a pharmacy) with medical practice and not co-located (direct access to a pharmacy) with medical practice

3.5 Discussion

This study aimed to evaluate the extent of current community pharmacy services in the MMA, their pharmacy and pharmacist/pharmacy technician characteristics associated with current practice, provided by community pharmacies in Indonesia. Further, this study has evaluated elements of perceived competence of current community pharmacists and pharmacy technicians to manage MMA. To our knowledge, this is the first study to evaluate Indonesian pharmacists' and pharmacy technicians' perceived scopes of practice and competency regarding their pharmacy-based services for the MMA.

Typical response rates for paper-based surveys (in the pharmacy profession) range from 30%-55%.²⁹⁹ This study had response rates of 81.5% for pharmacists and 67.3% the pharmacy technicians who attended the seminars. The setting for the survey was in a closed environment (i.e. those attending IAI and PAFI seminars) rather than a questionnaire mailed to members of the profession, which may have resulted in a higher response rate. This higher response rate reduced the risk of non-respondents biasing the results.²⁹⁹ Pharmacies located within a medical practice (without direct patient access) where the patients were required to see the doctor prior to visiting the pharmacy were excluded from this study because the initial assessment and consultation for any minor ailments were conducted by the doctor and not the pharmacist.

A high proportion of younger female respondents was found in both pharmacist and pharmacy technician groups compared with data for all registered pharmacists and pharmacy technicians in Central Java ($p < 0.001$). However, it is not possible to ascertain the representativeness of the samples because the register does not include employment category such as community, hospital, or industry. Responses from pharmacists' and pharmacy technicians' regarding attendances at their pharmacies, provided in the separate questionnaires in this study were however similar. In addition, the expansion of the number of pharmacy schools in Indonesia could contribute to the high number of younger pharmacists and pharmacy technicians that can be seen in both groups of this study (also results in Chapter 4). The pharmacy/pharmacist characteristics reported in this study are comparable to gender, type of pharmacy, and pharmacy ownership reported in studies conducted in community pharmacies in Bandung and Jakarta, Indonesia.^{165, 300, 301}

3.5.1 Scope and competence of minor ailment management

The Indonesian Ministry of Health's technical guidelines for pharmacy practice lists 10 minor ailments as manageable by community pharmacies. However, the majority of pharmacists and pharmacy technicians reported perceived competency in a wider range of MMA. The Ministry list is dated and these findings indicate a need to review the Indonesian pharmacy practice technical guidelines for MMA. Minor ailments are commonly classified as non-complicated and may be managed within a community pharmacy setting. Our findings suggest that pharmacists' perceived competence to manage certain ailments was much broader than the 10 listed by the Ministry and embraced 34 included in this study. Discordance is evident where pharmacy technicians' perceptions of their scope was wider than that ascribed by community pharmacists. Vaginal thrush, bacterial conjunctivitis, GORD, and acute pain were minor ailments that were perceived as limited to a pharmacist's scope. Minor ailments such as toothache, oral thrush, and constipation were clearly perceived to be within the scope of a pharmacy technician. Temporary mild anxiety and difficulty sleeping had higher levels of reporting beyond the scope of a pharmacist to manage in the community pharmacy (PCR 35.1% and 15.5%, respectively), which also implies beyond the scope of a pharmacy technician.

Pharmacy technician respondents indicated that they felt competent to manage not only straightforward minor ailments but also those requiring detailed assessment and treatment requiring pharmacist-only medicines. Notably migraine was included in pharmacy technicians' perceived competence to manage. Their actual competence (and that of pharmacists) to manage MMA needs to be evaluated in future studies.

There appears to be a discordance between pharmacists' and pharmacy technicians' perceptions of their scopes of practice and those of each other. This highlights that the pharmacists' and pharmacy technicians' perspectives toward a minor ailment may differ or that one might not be fully cognizant of the scopes of practice of the other group. Inadequate understanding of each other's capabilities may pose a problem for some MMAs, raising safety concerns, and contributing to inconsistent practice.^{15, 139, 302}

3.5.2 Pharmacy staff attendance

The findings in this study show that the pharmacist was not always available during pharmacy trading hours. Despite this, many pharmacies continued to operate during trading hours without the supervision of a pharmacist. The majority of the pharmacies employed one to four pharmacy technicians, which showed there may be an overlap between the pharmacist and the pharmacy technician attendance during pharmacy trading hours. Where a pharmacy had no additional pharmacist on the staff, it is likely that the higher number of the pharmacy technicians on the staff were intended to cover some or all of the unavailability of a pharmacist during trading hours.

Currently, there are 26,658 community pharmacies in Indonesia with more than 3,800 pharmacies located in the Central Java province (10,263 people/pharmacy).⁸² This ratio is similar to the ratio of community pharmacies to population in Malaysia, where there is a high level of hospital outpatient care and doctor dispensing.³⁰³ This ratio is high when compared with many Western countries, indicating that pharmaceutical services are available from other outlets. The ratio in Western countries such as the UK, Canada, and Australia is approximately 4,000 people/pharmacy, while the ratio in developing countries such as India and Thailand are similar to other developing countries, including Indonesia (10,000 people/pharmacy).³⁰³⁻³⁰⁷

This study found that 73.5% of the pharmacies in Central Java, Indonesia had less than 350 consumers presenting to their pharmacy per week and, with less than 70 patients seeking MMA per week. This number is considerably lower compared to the Australian studies in minor ailments prescribing.^{280, 293, 308} This low-level demand may contribute to their lack of affordability to employ pharmacists to provide MMA services. Closing half of the pharmacies, although simplistic, would immediately result in enough pharmacists to staff them during the current opening hours. The results in this study were similar to three studies in conducted in Jakarta, Semarang, and Jambi, Indonesia where pharmacist availability was low in community pharmacy, which hinders their level of professionalism and ability to deliver pharmaceutical care.^{85, 309, 310}

The Indonesia Ministry of Health regulation clearly states that if the pharmacy manager (a registered pharmacist) is unavailable during pharmacy trading hours, an additional pharmacist must be appointed to supervise the pharmacy services, which means there must be a pharmacist in attendance during trading hours, whether there are any activities requiring pharmacy services or not.⁷⁷ The additional pharmacist must cover the time where the pharmacy manager is

unavailable. Although the Indonesian pharmacy technicians could provide pharmacy services according to their competence, their activities must be supervised by a pharmacist.^{77, 98} There are activities in a pharmacy that a pharmacy technician simply should not manage, particularly the MMA, which may require pharmacist-only medicines and further assessment, where only the pharmacist has the authority to supply this product. Several factors that may contribute to this lack of pharmacist attendance include low salary payments, weak monitoring systems, and low availability of pharmacists.^{23, 29}

3.5.3 Current pharmacy-based services and pharmacy staffs' views in providing the management in minor ailments

The findings in this study have shown that the majority of the 185 pharmacists and 142 pharmacy technicians were confident and well prepared in managing patients who present with minor ailments to the community pharmacy. However, there were significant differences between the pharmacists' and pharmacy technicians' responses with regard to managing minor ailments in a community pharmacy.

The majority of pharmacy technician respondents indicated they were more prepared and confident in providing MMA services than their pharmacist counterparts perceived. They perceived that they should manage not only self-limiting minor ailments but also minor ailments, which require detailed assessment and may require pharmacist-only medicines. It is also an indication based on their responses that MMA services were mostly performed by the pharmacy technicians and that pharmacists' intervention generally unnecessary.

This study found that the majority of the pharmacy technician respondents were confident to manage migraines compared to the pharmacist respondents (PCR >60%). It is possible that many pharmacy technician respondents considered migraine as a minor headache. Migraines are the most common type of vascular headache; however, migraines are often under-diagnosed and under-treated, and can be potentially severe if misdiagnosed.³¹¹ It is essential to understand the type of headache a patient has in order to recommend the appropriate treatment. Severe or persistent headaches may indicate stroke, brain tumour, and raised intracranial pressure.³¹¹ One-third of people with migraines experience a significant disability as a result.³¹² Pharmacists within their scope of practice should be able to perform a differential diagnosis (pharmacists are trained and have advanced clinical knowledge compared to pharmacy technicians), when a primary diagnosis of migraine has been established to recognise headaches that are amenable for management as a minor ailment, and those that require referral to another healthcare

professional. For this reason, migraine resides within the scope of a pharmacist's practice, skills, and knowledge. Unless a pharmacy technician can determine and diagnose the patient type of headache with triaging, it is essential to refer the patient directly to a pharmacist for further evaluation. Further, the finding in this study that fewer pharmacist and pharmacy technician respondents indicated migraine resided within the pharmacist's scope of practice (PCR <40%) could be an indication of lack of knowledge, lack of self-confidence in managing migraine or an underestimation of the ailment.

3.5.4 Performance for the MMA activities in a pharmacy

In this study, a statistically significant difference was found when comparing pharmacists' and pharmacy technicians' perspectives to provide minor ailments counselling; and recommending Western conventional OTC and pharmacist-only medicines. It indicated that pharmacy technicians were confident and believed their communication skills were comparable to the skills of pharmacists. However, the majority of pharmacy technicians would refer patients to the pharmacist if they perceived that the ailments were not manageable by them. This shows that pharmacy technicians are aware of the pharmacists' higher level of competence on certain types of minor ailments.

Research has identified that the involvement of pharmacists in the minor ailments counselling process predicts an appropriate outcome or a more significant counselling score (a score for answering questions correctly for each interaction or counselling process).³¹³ Findings from another study demonstrated that those outcomes were positively influenced by the profession and professional degree (bachelor or masters), however, gender, years of practising, and age had no significant impact on the score.³¹⁴ In Indonesia, pharmacy technicians must complete a diploma (a three-year education) in pharmacy and are authorised to supply OTC medicines and provide counselling on self-medication. Pharmacists have to complete five-years of education (four years of Bachelor of Pharmacy plus one-year of Apothecary degree). Mandatory continuing professional education is established for both professions. It is possible that different levels of education may affect the quality of the counselling and their scopes of practice, which lead to different perspectives in providing counselling. Moreover, there is a need for professional responsibility and accountability between pharmacist and pharmacy technicians in the MMA. In most cases, there was no clarity of a professional responsibility and scope of practice for MMA activities performed in the absence of a pharmacist.^{13, 29, 62}

The pharmacy technicians saw themselves as the first point of contact with the patient in the pharmacy or a “gatekeeper” to the pharmacist. Thus, it is pivotal to ensure that pharmacy technicians have adequate training and know when to refer to the pharmacist. Findings in this study correlate with studies conducted in New Zealand and the USA, where pharmacy technician roles have expanded and developed into providing extended pharmacy services.^{244, 302, 315-318}

In 2014, the government of Indonesia established a constitution regarding the healthcare workforce in Indonesia.¹⁰⁶ The law clearly stated that pharmacy technicians were classified as those who graduated with a minimum level of diploma. After 2020, those who graduated from pharmacy secondary school/pharmacist assistant school (or previously graduated) can no longer practice as a pharmacy technician, but only as a pharmacy assistant with their main competency in the area of administration or clerkship. These pharmacy technicians (who previously or recently graduated from pharmacy secondary school/pharmacist assistant school) have been included in the analysis since at the time of the survey, they were still recognised as community pharmacy technicians.

3.5.5 Pharmacist activities

The data from this study shows that the majority of pharmacists reported similar activity to pharmacy technicians, where both respondents spent more time on dealing with minor ailments compared to prescription-only medicines. This reflects that many consumers would prefer to utilise the pharmacy as a primary health care resource. Further, pharmacists could have the capacity to focus on triaging more complex MMA consultations. Future research on identifying competencies between pharmacists and pharmacy technicians in managing minor ailments should be established, as it may contribute to the pharmacist's scope of practice and standardisation of protocols for the MMA.

3.5.6 Consultation fee

It is unclear whether the consultation fee had an impact on pharmacist providing the MMA services in this study. Many studies have argued that charging a consultation fee is part of the activity in delivering professional pharmacy services and supports pharmacists' competence in providing MMA service.³¹⁹⁻³²² However, the findings in this study showed that neither pharmacists nor pharmacy technicians in Indonesia were supportive of a consultation fee when

providing the MMA services. Rosenthal et.al., reported that the ultimate barrier for providing professional pharmacy services were the “pharmacists’ own psyche and culture”.³²³ Pharmacists were often not ready, lacked confidence, feared new roles, always needed approval, were stuck when faced with ambiguity, and reluctant to take risks, which may inhibit practice change and may also influence pharmacy practice change.³²³ A study conducted in Ethiopia identified several factors which influenced the pharmacists’ role in providing consultations such as attitude, knowledge, communication skills of pharmacy staff, remuneration, pharmacy settings, and the complex demands from consumers.¹³⁹

3.5.7 Medicines used in the MMA

The majority of the 185 pharmacist and 142 pharmacy technician respondents provided MMA services according to standard procedures. In delivering the treatment protocol, however, both respondent groups reported less frequently recommending using Western OTC medicines. As an example, in the case of pain management there is a perception between pharmacists and pharmacy technicians that Western OTC medications have more side-effects.³²⁴ Further, concerns about long-term use and the potency of Western OTC compared to traditional medicines also affected the extent to which pharmacists and pharmacy technicians would recommend.³²⁵

In providing labelling and packaging services, both respondents agreed that providing pharmaceutical active ingredients (e.g. drug substances contained in the medicine) on the label is considered an important piece of information as part of the MMA procedure. Further, written drug information on the label (e.g instructions for use, side-effects, possible drug interactions, and batch numbers) was a less provided service, as reported by one-third of the pharmacist and pharmacy technician respondents (P=67/185, 36.2%; T=40/142, 28.1%).

3.5.8 Activities provided as part of the MMA provision

The findings from this study revealed high frequencies in providing specific MMA activities which indicated that both respondent groups were clear about their professional responsibilities to provide these services. Both pharmacist and pharmacy technician respondents indicated that they were aware of the specific consultations standard required by the Indonesian Ministry of Health and the IAI, such as patient assessment, providing treatment and patient management (Table 3.8 and Table 3.9). Patient follow-up was an activity that the majority of pharmacists

and pharmacy technicians did not regularly provide, despite being explicitly stated in the MMA regular consultation requirement of the Indonesian Ministry of Health. This study also indicated that the majority of respondent in both groups did not provide the community pharmacy services recommended in developed countries minor ailments guidelines (e.g. follow-up on professional counselling).³⁰⁶ Further, the findings from this study indicated that pharmacy technicians provided referral to another healthcare professional as part of the counselling in the MMA services. Pharmacy technicians, where a pharmacist is available, should refer the patient to the pharmacist who should decide if referral is appropriate based on their knowledge and expertise. Therefore, the pharmacists and pharmacy technicians require clearly defined scopes of practice, such as clear referral procedures for delivering MMA services in community pharmacies. Both professionals play an important role in managing minor ailments in Indonesian community pharmacies, thus the urgency to establish a clear scope of practice for each professional is needed so that the pharmacy technicians have a clear understanding of when to refer patients to the pharmacist. Although Pharmacy Technicians and Pharmacists in Indonesia are qualified professionals the Pharmacist holds the higher qualification and is responsible for the conduct of the pharmacy; therefore should make a referral to another healthcare professional based upon the ailments are beyond the scope of their practice. It is also a legal requirement of the pharmacist to be available on the premises during trading hours to deliver standard professional care. It could be speculated that pharmacist absenteeism may have contributed to the current findings.

3.5.9 Factors that influenced perceived scope of practice of MMA associated with pharmacy characteristics

This study found that where a pharmacist assessed patients' medication therapy, provided minor ailment counselling, and had six or more years of practice experience, were associated with these MMA being within a pharmacist's scope of practice. A pharmacy within a medical centre with direct public access was associated with ailments being less likely within a pharmacist's scope and presumably were referred more often for a medical consultation due to the accessibility to a doctor (those with no direct access were excluded). Pharmacists assessed patients' medication therapy to gain patient information related to safety and appropriate medication. Allergy/rash is a common skin condition in which patients sought advice from pharmacists. Thus, pharmacist's clinical decision making is essential to identify if the management of the rash was within their scope of practice or required referral.³²⁶

The univariate analysis in this study found that pharmacist existence plays an important key role for providing services in MMA. This is in line with the finding from a Canadian study where pharmacists who are more available in a pharmacy are more likely to provide services beyond dispensing and scored higher than pharmacists who did not.¹⁷⁵ Moreover, pharmacies that were owned by a pharmacist were more likely to have a pharmacist available during trading hours. According to the pharmacists' perspectives in this study, the availability and attendance of pharmacists is a significant factor, which is associated with the patient follow-up in the MMA (either low availability as a barrier or high availability as a facilitator). Two studies in Indonesia (Jakarta and Yogyakarta) revealed that almost 60% of the pharmacists worked in pharmacies as their part time jobs, which indicated that they are not fully available at pharmacies during all trading hours.^{162, 327}

The Indonesian government pharmacy practice laws state that the presence of a pharmacist is required at all times when the pharmacy is open.⁷⁷ Furthermore, legislation in Indonesia requires that pharmacist-only medicines (which may be provided when treating patients with minor ailments) can only be supplied to the patient by the pharmacist or under pharmacist supervision.^{98, 194, 195}

Pharmacists undertaking MMA training was one of the facilitators for providing MMA services. Similar to this finding, studies conducted in the UK and Canada have shown that pharmacists involved in the non-prescription medicines training deliver more services in relation to MMA compared to other pharmacists who did not undertake training.^{175, 328, 329} Thus, it is pivotal to ensure that pharmacists update their knowledge and skills through the MMA training as part of their continuing professional development.

The majority of the pharmacies in this study had a private area/consultation room suitable for delivering MMA. It indicates that independent pharmacies or pharmacies that are not co-located with a medical practice might provide opportunities for pharmacy staff to deliver professional services and encourage pharmaceutical services. This is in line with the results from several studies in MMA, which indicated that an independent pharmacy not co-located with a medical practice (a pharmacy with direct public access) were important factors for delivering pharmaceutical care.^{330, 331}

Pharmacists and pharmacy technicians should adhere to codes of practice that ensure they manage ailments within their areas of competence and health authorities must support them through the development of appropriate regulations. However, these regulations must not

restrict pharmacies in the provision of guidance and support where they have the expertise. Future research should evaluate the expertise of community pharmacists and pharmacy technicians and their influence upon consumers when providing MMA services.

This survey was conducted before the COVID-19 outbreak announcement within Indonesia, thus the results in this study followed the normal situation and conditions and were not influenced by the impact of COVID-19 on community pharmacies.

3.6 Limitations

Limitations of this study include its reliance on respondents' perceptions and self-reports of scopes of MMA services in Indonesian community pharmacies. Data were based on recall, recollections, and perceptions about the MMAs in the Indonesian community pharmacy setting. Recruiting samples attending IAI and PAFI seminars may not be representative of all community practitioners. No suitable sampling frames are available to enable this evaluation. However, all pharmacists and pharmacy technicians are required to attend a range of seminars, such as those used for this study, for re-registration purposes. Further, respondents' age may bias perceptions regarding the scope of practice and roles. However, the younger respondents may reflect the views of how graduates have been more recently prepared. Some caution should be exercised in generalising these findings.

3.7 Conclusions

There were discordant perceptions regarding MMA by pharmacists and pharmacy technicians regarding the delivery of minor ailments services. This may be due to the lack of MMA practice procedures, the lack of a clearly defined scope of practice, insufficient medicines labelling, and pharmacist absenteeism. Pharmacy professionals and the Indonesian government should urgently establish the scopes of MMA practice to enhance primary health care in Indonesia. This study identified issues with limited pharmacist attendance during all opening hours and it is a legal requirement for the pharmacist to be available on the premises. The availability of professional guidelines would potentially better focus responsibility and delivery of MMA and would enable improved understanding and delivery of MMA by pharmacists and pharmacy technicians.

Chapter 4

Pharmacy Academics Surveys

Chapter 4. Pharmacy Academics Surveys

4.1 Introduction

Pharmacists providing advice on the MMA services play vital roles and offer several benefits to the community.¹⁷⁵ The provision of minor ailment services in community pharmacies has long been established and implemented, particularly in developed countries.^{136, 293, 332} In developing countries, MMA is an evolving pharmacy service. In providing these services, challenges have been reported, such as a lack of standard guidelines, which have hindered a full realisation of MMA services in developing countries.¹³⁹

Many studies in developing countries regarding MMA have been reported; however, the scope of community pharmacy professionals to provide the services is often overlooked.^{13, 139} Pharmacists in Indonesia serve as practitioners, regulators, policymakers, academics, and researchers in the healthcare system.³³³ As such, it is essential to prepare Indonesian pharmacy students with the knowledge and skills to manage patients who present with minor ailments.

The various roles of pharmacists create challenges for academics, particularly in the MMA courses.³³⁴ Results from Phase One (Chapter 3) of this study suggested pharmacists and pharmacy technicians held different perspectives in managing minor ailments. The requirement to ensure that each professional group practises within their competence is essential to deliver safe practice in community pharmacy. Hence, the future generations of pharmacists and pharmacy technicians when receiving their education, requires the achievement of the appropriate competencies for pharmacists and pharmacy technicians. This includes which subjects should be taught (given the limited space within the pharmacy course and pharmacy technician course and competition with other topics), how to best design and deliver courses related to minor ailments, learning resources, and teaching methods or pedagogies that best achieve competency.

It is important to explore and report the breadth and depth of pharmacy education in Indonesian pharmacy teaching institutions. Currently, Central Java, Indonesia has 30 pharmacy teaching institutions listed under the Indonesian Ministry of Research, Technology, and Higher Education.³³⁵ Pharmacy students should be equipped to triage and undertake basic patient assessment skills for managing patients who present with minor ailments. Students need to be able to select appropriate medicines and provide administration instructions and any expected

side-effects, and to be able to refer when appropriate.³³⁴ Students should also be prepared to use and access appropriate resources related to the MMA.¹⁷⁵ Given the above criteria, it is essential to examine pharmacy course and curriculum design that enable Indonesian pharmacy students (pharmacists and pharmacy technicians) to provide contemporary minor ailments services.

The pharmacist curriculum in Indonesia is comprised of four years of B.Pharm followed by one year of Apothecary degree (pharmacist degree). The B.Pharm program is focused on basic and theoretical pharmaceutical sciences, while the Apothecary program develops practical and clinical skills, and including experiential learning for pharmacy students.⁹⁵ In 2015, there were 162 pharmacy institutions in Indonesia. Of those, only 29 institutions/schools are eligible to offer both the B.Pharm and Apothecary degrees, with seven institutions being located in Central Java, Indonesia (accredited grade A and B).³³⁶ The remainder, due to their lower accreditation grades are only allowed to offer B.Pharm program. Pharmacy students who have graduated from a school with an accreditation grade of C or below must enrol in another pharmacy institution for the Pharmacist Degree (Apothecary degree), which meets the appropriate accreditation standard.

To establish an Apothecary degree program in Indonesian pharmacy institutions, a minimum of accredited grade B of Bachelor of Pharmacy Program is required. Further, the pharmacy institutions must obtain recommendations from the Indonesian Pharmacy Higher Education Association (APTFI), the Indonesian Pharmacists Association (IAI), The Indonesian Accreditation Agency for Higher Education in Health (LAM-PTKes), and approval from the Minister of Research, Technology, and Higher Education (currently the Minister of Education and Culture).^{337, 338}

The pharmacy technician diploma curriculum in Indonesia is comprised of a three-year education program and developed based on the recommendation of APDFI, the Indonesian Pharmacy Technician Association (PAFI), and the Ministry of Health. The Pharmacy Diploma (Dip.Pharm) aim to provide practical, work-oriented skills base employment program that prepares students for specific employment with applied skills. Indonesian Regulation number 36/2014 has defined the pharmacy technician workforce from 2021: as those who graduated with a minimum education of a pharmacy diploma, or a four-year B.Pharm without the one-year pharmacist degree (Apothecary degree). This then excludes those who graduated from Pharmacy secondary school/pharmacist assistant school and vocational high school or had previously graduated from secondary school.³³⁹

This study was designed to investigate the pharmacy curricula and teaching methods employed in Indonesian teaching institutions in relation to the MMA. Specifically, this phase of the study investigated current pharmacy academics' views on how pharmacy and pharmacy technician students were prepared to deliver the MMA services in community pharmacies in Indonesia, including the down-scheduling of medicines in Indonesia regarding the MMA.

4.2 Objectives

The main objectives of this study were to:

- a. Investigate academics' perceptions of the knowledge and skills required to prepare future pharmacists' and pharmacy technicians' competencies in managing minor ailments.
- b. Evaluate academics' perspectives on educational objectives and their contribution to the achievement of future pharmacists' and pharmacy technicians' competencies to manage minor ailments.
- c. Examine how pharmacy students are taught about MMA across Central Java Indonesia pharmacy institutions.
- d. Identify perceived barriers and facilitators in achieving students' competency in providing MMA services.
- e. Perform a comparative analysis of academics teaching pharmacist and pharmacy technician students regarding the MMA.

4.3 Methods

This study involved self-administration of two online surveys. The surveys were designed for academic staff teaching pharmacy students and those teaching pharmacy technicians and were administered between 5 November 2020 and 18 January 2021. Where they taught both groups both questionnaires were asked to be completed. This delivery mode was chosen due to the COVID-19 pandemic, particularly in Indonesia. Online administration of the surveys provided contactless access to respondents across Central Java, and was considered the preferred method to postal survey delivery. Questionnaires provide an opportunity for respondents to consider each question and review data before they respond. Respondents were also anonymous, which may enable more accurate responses. Email invitations were sent to the Pharmacy Head of School or Head of Department, of each eligible institution, inviting their staff to participate in

the survey. One participant from each institution was requested to respond to the survey. The study received ethical approval from Curtin University, Human Research Ethics Committee, Australia (approval number: HRE2019-0803-08), the IAI Central Java Regional Board, Indonesia (approval number: B1-064/PD-IAI/Jawa-Tengah/IX/2019), and PAFI Central Java Regional Board, Indonesia (approval number: 268/PAFI-JTG/XI/2019).

4.3.1 Setting and sample size

There were 30 pharmacy teaching institutions in Central Java, Indonesia identified from lists provided by the Indonesian Ministry of Research, Technology, and Higher Education (currently the Indonesian Ministry of Education and Culture).³³⁵ The institutions were accredited by the LAM-PT Kes.³³⁵ Pharmacy institutions in Indonesia provide programs leading to Diploma of Pharmacy, Bachelor of Pharmacy, and Apothecary degree. Central Java has a population of approximately 39 million people and an area of approximately 32,548 km².³⁴⁰ Table 4.1 shows a list of all invited pharmacy institutions in Central Java, Indonesia. Courses for pharmacy assistants through secondary schools were not included.

Table 4.1. Invited pharmacy institutions in Central Java, Indonesia (n=30).

	Institution	Location	Teaching courses	Accreditation*	Number of students in 2020**	Status university ***
1	Jenderal Soedirman University	Purwokerto	B.Pharm	B	477	Public
			Apothecary	B	108	
2	Sebelas Maret University	Surakarta	B.Pharm	B	218	Public
			Dip.Pharm	B	161	
3	Diponegoro University	Semarang	B.Pharm	C	290	Public
4	Muhammadiyah University	Surakarta	B.Pharm	A	757	Private
			Apothecary	A	186	
5	Wahid Hasyim University	Semarang	B.Pharm	B	786	Private
			Apothecary	B	241	
		Semarang	B.Pharm	B	393	Private

	Institution	Location	Teaching courses	Accreditation*	Number of students in 2020**	Status university ***
6	Sultan Agung University		Apothecary	C	75	
7	College of Pharmacy (STIFAR)	Semarang	B.Pharm	B	766	Private
			Apothecary	B	196	
			Dip.Pharm	B	237	
8	Setia Budi University	Surakarta	B.Pharm	B	1468	Private
			Apothecary	B	242	
			Dip.Pharm	B	102	
9	Muhammadiyah University	Purwokerto	B.Pharm	B	765	Private
			Apothecary	B	245	
10	Muhammadiyah University	Kudus	B.Pharm	B	420	Private
			Apothecary	B	30	
11	Muhammadiyah University	Magelang	B.Pharm	B	147	Private
			Dip.Pharm	B	99	
12	Cendekia Utama Health College	Kudus	B.Pharm	B	341	Private
			Dip.Pharm	B	174	
13	Pekalongan University	Pekalongan	B.Pharm	C	341	Private
			Dip.Pharm	B	205	
14	Nusaputera College of Pharmacy	Semarang	B.Pharm	B	N/A	Private
			Dip.Pharm	B	N/A	
15	Ngudi Waluyo University	Semarang	B.Pharm	C	864	Private
16	Muhammadiyah University Pekajangan	Pekalongan	B.Pharm	C	349	Private
17	Kusuma Husada University	Surakarta	B.Pharm	C	245	Private

	Institution	Location	Teaching courses	Accreditation*	Number of students in 2020**	Status university ***
18	Duta Bangsa University	Surakarta	B.Pharm	C	292	Private
19	Sahid University	Surakarta	B.Pharm	C	167	Private
20	Muhammadiyah College of Health Sciences	Gombong	B.Pharm	C	237	Private
21	Polytechnic Mangunwijaya (Theresiana)	Semarang	Dip.Pharm	B	249	Private
22	National Pharmacy Academy	Surakarta	Dip.Pharm	B	307	Private
23	Duta Gama College of Health Sciences	Klaten	Dip.Pharm	B	231	Private
24	Bhakti Mulia Health Polytechnic	Sukoharjo	Dip.Pharm	B	146	Private
25	Muhammadiyah College of Health Sciences	Klaten	Dip.Pharm	B	212	Private
26	Polytechnic Harapan Bersama	Tegal	Dip.Pharm	B	648	Private
27	Academy Pharmacy Nusaputera	Semarang	Dip.Pharm	B	N/A	Private
28	College of Health Sciences	Kendal	Dip.Pharm	B	37	Private

	Institution	Location	Teaching courses	Accreditation*	Number of students in 2020**	Status university ***
29	Bhakti Mandala College of Health Sciences Slawi	Tegal	Dip.Pharm	C	N/A	Private
30	Muhadi Setiabudi University	Brebes	Dip.Pharm	C	39	Private

*Indonesia's higher education accreditation award three grading scales of A (very good), B (good), C (fair) according to their scoring on the research work undertaken by lecturers, the quality of publications, and the length of time taken for graduates for employment. Accreditation is assessed every five years by the National Accreditation Agency of Higher Education (BAN-PT) and The Indonesian Accreditation Agency for Higher Education in Health (LAM-PTKs).³³⁵ Institutions that are not accredited do not receive a grade.

**Data from the Indonesia Higher Education database 2020 (PDDikti)³³⁶

***Public higher education institutions in Indonesia are funded by the government and governed as self-managed institutions. Public and private institutions are supervised by the Ministry of Education and Culture.

B.Pharm = Bachelor of Pharmacy, Dip.Pharm=Pharmacy Diploma

N/A = Not available

4.3.2 Questionnaire

4.3.2.1 Questionnaire development

The questionnaire questions were informed by the findings from Phase One of the study and support literature cited below. Two questionnaires were developed one for academics teaching pharmacy and one for those teaching pharmacy technician students. The questionnaires were developed based on the Indonesian Ministry of Research, Technology, and Higher Education (currently the Indonesian Ministry of Education and Culture) pharmacy curricula,^{116, 117, 161} Indonesian Ministry of Health pharmacy core curricula,¹¹⁸ current practice in the community pharmacy setting in Indonesia,^{23, 24, 29, 86} the Indonesian Ministry of Health technical guidelines in pharmacy services and the IAI,^{99, 114} PSA Professional Practice Standards for MMA,¹²⁴ the UK pharmacy scheme for minor ailments studies and guidelines,^{122, 136} and the Canadian Minor Ailments Scheme guidelines.^{175, 263} and existing literatures.^{2, 292, 294} The four core sections in the questionnaire were adapted from the framework domain (professional service, pharmacy staff, pharmacy, local environment, and system) in professional pharmacy services from published literature.¹³² Both questionnaires were translated into the Indonesian language and validated prior to being transferred and administered online through Qualtrics®.

The questionnaires for academics (Appendix G and Appendix H) teaching pharmacy and pharmacy technician students consisted of 10 sections: (1) respondent qualifications (registered within IAI, teaching which pharmacy program), (2) types of minor ailments (e.g. acne, acute pain, back pain, etc), (3) the MMA and triaging, (4) the MMA requirements (questioning patients, formulating diagnosis, etc), (5) academics perceptions of students' preparedness to practice (e.g. advice on minor ailments, scope of practice, etc), (6) training and resources for pharmacy students (experiential learning, suitable materials, etc), (7) collaboration with other healthcare professionals, (8) participant demographic characteristics (age, gender, years of teaching), (9) institution details (number of graduates), and (10) the MMA course and curricula information (courses related to the MMA). Section two of the questionnaire listed a number of minor ailments generated from the literature with which a patient may present at a pharmacy. The minor ailments included in the first part of the academics teaching pharmacist and pharmacy technician students were those developed based on the cited literatures above and used for the questionnaires administered to pharmacists and pharmacy technicians (Chapter 3). A separate section for the participant information sheet and a cover page was included in the questionnaire.

Section 4 of the questionnaire used 5-point Likert scales to obtain respondents' perceptions of the relevance of the pharmacy topics required for the MMA course (not relevant, slightly relevant, neutral, moderately relevant, very relevant). A 5-point Likert scale was used in sections 5, 6, and 7 to obtain academics perceptions of preparedness of students for practice, resources needed for MMA course, and collaboration with other healthcare professionals (strongly disagree, disagree, neutral, agree, strongly agree).

4.3.2.2 Questionnaire validation and translation

The questionnaires for academics teaching pharmacy or pharmacy technician students underwent a number of iterations with three members of the pharmacy research team where the content, structure, and wording were evaluated and reviewed. The final draft questionnaires were validated by five academics in Indonesia who specialised in pharmacy practice research to achieve face and content validity. Their feedback was incorporated into the questionnaires before them being finalised.

The questionnaires were drafted in English, then translated into the Indonesian language and validated by a sworn translator. The translations process was as follows: (1) English version

was translated to Indonesian version by the investigator whose first language is Indonesian (forward translation); (2) the Indonesian version was back-translated to English version by a sworn translator (back translation), and (3) the back-translation English version was then compared to the original version by three of the researchers whose first language was English. The Indonesian versions (translated versions) of the questionnaires were the versions pre-tested by five academics in Indonesia to ensure that participant responses were appropriate and identified issues regarding the questionnaires, including clarity of the questions and the time to complete the survey.²⁹⁵ The pre-testing resulted in minor changes to the questions in the questionnaires.

As an appreciation for completing the questionnaire, participants were provided an opportunity to enter into a draw for the chance to win a prize if they voluntarily provided theirs and the institutions' names. The information was collected strictly for the prize draw and was not linked to the survey responses according to ethical approval.

4.3.2.3 Questionnaire distribution

The questionnaire was distributed to all 30 pharmacy teaching institutions in Central Java, Indonesia, through Qualtrics® research suite software (Provo, UT, USA) provided by Curtin University. An invitation was sent by email (the link to the online questionnaire was included in the invitation) to 30 teaching pharmacy institutions by the investigator. Email addresses of pharmacy schools or departments were obtained from schools' websites for contact address information. Reply emails were sent by each Head of School or Head of Department requesting their consent to participate in the study. The Head of School sent the link to an appropriate staff member teaching MMA or related MMA subjects within their institution. The link to the online questionnaire was available from 5 November 2020 to 18 January 2021. If there were further questions regarding the questionnaire, the investigator was available to be contacted through email. Two reminder emails were sent at 2-weekly intervals to encourage participation. The study's purpose and benefits were displayed in the participant information sheet before entering the online questionnaire. An overview of the study was available through the link's survey, which also informed that participation was anonymous and voluntary. Responding to the questionnaire, provided consent to participate. Respondents teaching both pharmacy and pharmacy technician students were asked to complete both questionnaires which were administered separately (pharmacy and pharmacy technician students' surveys).

4.3.3 Data analysis

Data analysis was performed using SPSS version 25.0 software. Descriptive statistics were used to summarise academic characteristics, MMA course information, and MMA questioning and activities standard procedures. These included frequencies and percentages for categorical variables, mean \pm standard deviation (SD) and median [IQR] for variables measured on a continuous scale. Academic characteristics included gender, age (years), qualifications, registration status as an IAI registered pharmacist, teaching program, level of education, discipline of education, years of experience in teaching, employment status, academic status, practice experience, and current teaching and current research areas.

Frequencies were calculated for the responses on the current and ideal level for MMA course delivery and responses from Likert scales for the standard procedures evaluated for MMA. Respondent's age (≤ 40 years old and > 40 years old), years of practice in community pharmacy (≤ 3 years and > 3 years), and total MMA course hours (≤ 100 hours or > 100 hours) were summarised using categories based on the median values. Responses for the relevant topics for the MMA course and teaching methods were grouped into binary variables, which indicated 'not relevant' (Likert scale ratings 1-3) or 'relevant' (Likert scale 4-5). Responses for the students' preparedness to practice, training and resources for students, and collaboration with other healthcare professionals were classified into binary variables which indicated 'disagree' (Likert scale ratings 1-3) and 'agree' (Likert scale 4-5).

Chi-square tests were used to evaluate univariate associations between relevance of each topic being taught and the academics' characteristics. In addition to the factors outlined above (gender, age, years of experience and total hours of MMA course), characteristics also included whether the respondent had carried out MMA teaching as a separate subject in their course. Associations were considered statistically significant if the p-value was < 0.05 . Duplicate responses from the same teaching institutions were identified from the same or a similar number of students and teaching program reported by the respondents in the same city or a regional city identified from Qualtrics[®]. The respondent who had completed all questions in the questionnaire and had the highest position (e.g. course coordinator or senior lecturer) was chosen as representative of the institution.

Percentage of Common Responses (PCR) described similarity of perceived scopes of practice for academics teaching pharmacy, pharmacy technician, and both cohorts of students.²⁹⁷ PCR

was defined as the mean sum of percentages of combined academics teaching pharmacy, pharmacy technicians, and both students' responses data.

A Fisher Exact Test was used to identify the scope of practice perceived competence of minor ailments management perspectives provided by academics teaching pharmacy and pharmacy technician students. Those teaching both students completed two questionnaires and this question was the same in both and the mean values were determined. Qualitative data generated from the free-text box under the comments for challenges, suggestions, facilitators and barriers were grouped into specific themes. In this chapter, the comparative results or percentage (%) values were presented as **P** = data from academics teaching pharmacy students survey versus **T** = data from academics teaching pharmacy technician students survey versus **B** = data from academics teaching both students. Pharmacy students refer to students who are studying to become a pharmacist at the time of the survey.

4.4 Results

4.4.1 Response rate

One representative from each of the 30 pharmacy schools in Central Java, were invited to complete the survey. Thirty-nine staff members responded to the survey, indicating more than one academic from the same institution responded. Twelve surveys were excluded because five were not fully completed by respondents and seven were duplicates (excluded based on the same or similar number of students and teaching program in the same city or a regional city; and the participant who submitted the survey on the latest date was excluded (the latest date reported in the dataset). Since an incentive payment was provided this could have elicited duplicate responses). The total number of responses included in the final analyses was 32 responses from 27 pharmacy institutions, yielding a 90% response rate. Five of the 27 pharmacy academics teaching both pharmacy and pharmacy technicians courses submitted separate questionnaires for each group. In this study, frequencies for statements in relation to respondents' general views will be equal to $n=27$ and statements in relation to gathering specific information about specific curricula will be equal to $n=32$.

4.4.2 Respondent Demographics

4.4.2.1 Gender and Age

Table 4.2 shows the demographic characteristics of the academic respondents. Of the 27 academics, 18 (66.7%) were female and nine (33.3%) were male.

The majority of the respondents were aged 31 years or older (23; 85.2%), with the largest proportion was academics between 31-40 years (18; 66.7%). There were few respondents below 30 years (4; 14.8%).

Table 4.2. Gender and age distribution of academic respondents (n=27).

Characteristics	n (%)
Gender	
Male	9 (33.3)
Female	18 (66.7)
Age (years)	
21-30	4 (14.8)
31-40	18 (66.7)
41-50	2 (7.4)
51-60	3 (11.1)

4.4.2.2 Academic qualifications

Respondents reported their academic qualifications as shown in Table 4.3. Most respondents had a master's degree in pharmacy (24; 88.9%) as their highest level of education with few reporting a Doctoral degree (3; 11.1%). From 2015, academics teaching either a Diploma or Bachelor degree must have a qualification of a minimum of Master degree with no exception as stated by the Ministry of Research and Technology of the Republic of Indonesia (now Ministry of Education and Culture). Approximately two-fifths (44.4%) of the respondents teaching pharmacy students and a small number of respondents (n=5; 18.5%) teaching both

pharmacy and pharmacy technician students. It can be seen from the data presented that all respondents (27; 100%) had pharmacy as their discipline of education

Table 4.3. Academics' qualifications (n=27).

Academic qualifications	n (%)
Qualifications	
Pharmacist	27 (100.0)
Non-pharmacist	0 (0.0)
Highest level of education	
Master degree	24 (88.9)
Doctoral degree	3 (11.1)
Teaching pharmacy program/degree	
Pharmacy students*	12 (44.4)
Pharmacy technician students	10 (37.1)
Both	5 (18.5)
Discipline of education	
Pharmacy	27 (100.0)
Non-pharmacy	0 (0.0)

* Pharmacy students refer to students who are studying to become a pharmacist at the time of the survey.

4.4.2.3 Teaching experience of the academics teaching students

The majority of the respondents had approximately 15 years of teaching in pharmacy (20; 74.0%). Only one respondent had up to 20 years of teaching experience, who might be considered as an older academic (Table 4.4). Six respondents (22.2%) failed to provide details of their years of experience.

Table 4.4. Academics' years of experience in teaching pharmacy degree (n=27).

Years of experience	n (%)
0-5	7 (25.9)
6-10	7 (25.9)
11-15	6 (22.2)
16-20	1 (3.7)
Missing	6 (22.2)

4.4.2.4 Registered pharmacist status

Respondents were asked to provide details about their current pharmacist status, firstly whether they were registered as IAI pharmacist and secondly whether they were actively practising as a pharmacist (Table 4.5).

Based on the information provided, all had completed their Apothecary degree and were IAI registered pharmacists (27; 100%). Academics that held the Apothecary degree were eligible to be registered as an IAI pharmacist and practise in clinical settings. However, two-fifths of the respondents stated they had not practised in clinical settings in the last 12 months (11; 40.7%).

Table 4.5. Academics' pharmacist status and current practice status (n=27).

Status	n (%)
Registered as IAI pharmacist	
Yes	27 (100.0)
No	0 (0.0)
Practised in clinical settings in the last 12 months	
Yes	16 (59.3)
No	11 (40.7)

4.4.2.5 Academics' employment status

Academic respondents were asked to provide details of their current academic employment status, whether the positions were full-time, part-time or emeritus. As presented in Table 4.6, respondents to the survey covered status from full-time tutor to full-time senior lecturers with the majority of the respondents being lecturers (16; 59.3%) or senior lecturers (8; 29.6%).

Table 4.6. Academics' employment status (n=27).

Position title	n (%)
Employment status	
Full time	27 (100.0)
Part time	0 (0.0)
Academic status	
Tutor	3 (11.1)
Lecturer	16 (59.3)
Senior lecturer	8 (29.6)
Associate professor	0 (0.0)
Professor	0 (0.0)

4.4.2.6 Academics' practice experience

Table 4.7 shows academics' responses in regard to the settings of pharmacy practice with which the respondents had experience and the years they spent in a particular setting.

As shown in Table 4.7, community pharmacy was the setting in which academics pharmacist respondents had the most experience. One academic reported having experience as a pharmacist who practised within a doctor's clinic (3.7%). Surprisingly, although all academic respondents were registered as IAI pharmacists, one-fifth of the respondents (6; 22.2%) had never worked in a community pharmacy and more than four-fifths of the respondents (more than 80.0%) had no experience in either hospital pharmacy or pharmaceutical industry.

Table 4.7. Pharmacy practice settings in which academics had experience (n=27).

Practice experience (years)	n (%)
Community pharmacy	
0	6 (22.2)
<2	6 (22.2)
2 -5	8 (29.6)
6 -10	2 (7.4)
11 - 15	3 (11.1)
>15	2 (7.4)
Hospital pharmacy	
0	22 (81.5)
<2	4 (14.8)
>15	1 (3.7)
Pharmaceutical industry	
0	26 (96.3)
<2	1 (3.7)
Other (clinics)*	
<2	1 (3.7)

*Skin care clinic

4.4.2.7 Current teaching and research areas

As shown in Table 4.8, common teaching areas in which respondents were currently teaching included pharmacy practice (21; 77.8%), pharmacology (19; 70.3%), pharmacotherapy (18; 66.7%), pharmaceuticals (13; 48.1%), clinical pharmacy (12; 44.4%), and pharmacokinetics (10, 37.1%). It can be seen that these areas or subjects were mostly relevant to MMA courses.

Table 4.8. Academics' current teaching and research areas (n=27).

Areas	n (%)
Current teaching areas* (n=27)	
Clinical pharmacy	12
Community pharmacy management	6
Immunology and toxicology	2
Minor ailments	9
Pharmacy practice	21
Pharmacokinetics	10
Pharmacology	19
Pharmacotherapy	18
Pharmaceutics	13
Current research areas* (n=27)	
Clinical pharmacy	12
Community pharmacy management	3
Minor ailments	1
Pharmacy practice	11
Pharmacokinetics	5
Pharmacology	11
Pharmacotherapy	9
Pharmaceutics	5
Social and administrative pharmacy	4

*Respondents were able to select more than one area

Common research areas in which respondents were researching at the time of the survey completion included clinical pharmacy (12; 44.4%), pharmacy practice (11; 40.7%), pharmacology (11; 40.7%), and pharmacotherapy (9; 33.3%). Only one respondent (1; 3.7%) reported researching specifically in minor ailments.

4.4.2.8 Graduates' details in the pharmacy institutions as reported by the academic respondents

Respondents were asked to provide details of the number of their graduates in 2018 and 2019, with the summated data shown in Table 4.9.

Table 4.9. Number of pharmacy (n=17) and pharmacy technician (n=15) graduates in 2018 and 2019.

Pharmacy students*	Total numbers	Pharmacy technician students**	Total numbers
Bachelor of Pharmacy graduates in 2018	2850	Pharmacy diploma graduates in 2018	970
Bachelor of Pharmacy graduates in 2019	2739	Pharmacy diploma graduates in 2019	961
Apothecary graduates in 2018	2353	Bachelor of Pharmacy graduates in 2018	1252
Apothecary graduates in 2019	2407	Bachelor of Pharmacy graduates in 2019	1227

*Bachelor of Pharmacy graduates are Pharmacy students who are enrolled in Bachelor of Pharmacy degree, which is a pre-requisite for the Apothecary Program. Completion of the Apothecary Program is required to register as a Pharmacist.

**Pharmacy technician graduates are Pharmacy Technician students who were enrolled in a Pharmacy Diploma or Bachelor of Pharmacy Degree only (i.e. they do not complete the Apothecary program).

Table 4.10. The management of minor ailments course information from academics teaching pharmacy (n=17) and pharmacy technician (n=15) students.

	Academics teaching pharmacy students n (%)	Academics teaching pharmacy technician students n (%)
MMA taught as a separate subject		
Yes	9 (52.9)	4 (26.7)
No	8 (47.1)	11 (73.3)
MMA total hours course		
Not specifically taught	3 (17.6)	4 (26.7)
1-50	7 (41.2)	6 (40.0)
51-100	4 (23.5)	2 (13.3)
101-150	0 (0.0)	1 (6.7)
151-200	1 (5.9)	1 (6.7)
201-250	0 (0.0)	0 (0.0)
>250	2 (11.8)	1 (6.7)

4.4.2.9 The MMA course information

The respondents were provided with a list of questions relevant to their MMA course at their institutions, including hours spent in delivering the course as presented in Table 4.10. More than half of the respondents (9; 52.9%) teaching pharmacy students delivered MMA as a separate subject (not a standalone) in their institution compared to academics teaching pharmacy technician students where approximately less than one-third (4; 26.7%) of the respondents taught MMA as a separate subject (not a standalone). Notably in 2021, several institutions did not specifically teach the MMA.

As can be seen from Table 4.10, the majority of academics teaching MMA subjects in their institution provided between 1 and 100 hours of total MMA course to their students (P=11, 64.7%; T=8, 53.3%). A small proportion of academics taught MMA courses for over 250 hours (P=2, 11.8%; T=1, 6.7%).

4.4.2.10 Current and ideal delivery of MMA course

Respondents were asked to provide details of the delivery location in MMA courses they were teaching at the time of the survey and where it should ideally be delivered in the pharmacy curriculum based on their opinion. The most common time for MMA to be taught was year three of the Bachelor of Pharmacy degree or as part of the Apothecary degree, indicating it was commonly taught at the latter part of the degree of the pharmacy students' education (see Table 4.11). In contrast to those academics teaching pharmacy technician students, the most common time for MMA subject to be taught was year two of Pharmacy Diploma courses.

Table 4.11. The management of minor ailments course delivery location at institutions.

Pharmacy students (n=17)		Pharmacy technician students (n=15)	
Current level in the course for MMA delivery	n	Current level in the course for MMA delivery	n
Year 1 BPharm	0	Year 1 Dip.Pharm	0
Year 2 BPharm	2	Year 2 Dip.Pharm	6
Year 3 BPharm	11	Year 3 Dip.Pharm	5
Year 4 BPharm	9	Year 1 BPharm	1
Elective BPharm unit	3	Year 2 BPharm	3
Apothecary degree	11	Year 3 BPharm	6
		Year 4 BPharm	4
		Elective BPharm unit	3
Ideal level in the course for MMA delivery		Ideal level in the course for MMA delivery	
Year 1 BPharm	0	Year 1 Dip.Pharm	0
Year 2 BPharm	3	Year 2 Dip.Pharm	5
Year 3 BPharm	9	Year 3 Dip.Pharm	5
Year 4 BPharm	11	Year 1 BPharm	0
Elective BPharm unit	1	Year 2 BPharm	4
Apothecary degree	10	Year 3 BPharm	6
		Year 4 BPharm	7
		Elective BPharm unit*	1

Total frequency is larger than n= 27 as respondents were able to select more than one answer

BPharm= Bachelor of Pharmacy, Dip.Pharm= Pharmacy Diploma

*Elective unit = optional unit of student choice

4.4.2.11 PCR for minor ailments scopes of practice as perceived by academics teaching pharmacy, pharmacy technician, and both students

Figure 4.1 shows the PCR for each minor ailment and their perceived scopes of practice as perceived by academics teaching pharmacy, pharmacy technicians and both student groups. Respondents were provided with a list of minor ailments with which a patient may present to a pharmacy. Their views on which ailments were within pharmacists' scope of practice or pharmacy technicians' or whether the ailment was beyond the scope of a pharmacist are presented in Figure 4.1. PCR values for combined academics teaching pharmacy, pharmacy technician, and both students' responses to manage each of the ailments or if it reported beyond the scope of a pharmacist are also provided. Those deemed to be within the scope of a pharmacy technician would also be within the scope of a pharmacist.

There were different perceptions of scopes of practice of the 34 minor ailments included in the survey between academics teaching pharmacy, pharmacy technicians, and both student groups. As can be seen in Figure 4.1, the perceptions of academics teaching pharmacy students were more limited in regard to perceived pharmacy technician scopes of practice compared to the perceptions of academics teaching only pharmacy technician students. Notably, academics teaching pharmacy, pharmacy technicians, and both students responded similarly that the following ailments were limited to pharmacist's management: indigestion/heartburn, sore throat, migraine, dermatitis, GORD, diarrhoea, hayfever, and allergy/rash.

Half (50.0%) of the academics teaching pharmacy students perceived ailments such as dandruff, travel sickness, mild headache, head lice and nappy rash should be managed by pharmacists and not pharmacy technicians who has been through a reasonable course where they can manage the ailments. Indeed there was not a unanimous response that identified any ailment as within the scope of a pharmacy technician. On the other hand, academics teaching pharmacy technician students perceived that their scope of practice was broader to manage minor ailments than the pharmacists teaching pharmacy students.

There were academics in the three groups who consistently perceived that the 34 minor ailments provided in the list must only be managed by a pharmacist. In contrary, no academic respondents in three groups indicated that those 34 minor ailments provided in the list can only be managed by a pharmacy technician alone without pharmacist intervention. Overall, it is evident that more academics teaching pharmacy technician students perceived their students to

be competent to provide a broader range of minor ailments compared to academics teaching pharmacy and both groups of students.

4.4.2.12 Questioning and activities provided as part of the MMA

Respondents were asked whether they educated their students, firstly in terms of providing minor ailment assessment (triaging), and secondly providing management. Their responses to these statements are presented in Figure 4.2 and Figure 4.3. All academic respondents teaching pharmacy and pharmacy technician students provided education about minor ailments assessment (triaging), providing treatment, patient management, providing labelling and packaging details, and providing patient follow-up.

Approximately two-fifths of respondents teaching pharmacy students had not educated their students to provide advice to the patient to use medicines from home (7; 41.2%), or to review and update the patient medication record (6; 35.3%). However, most respondents (16; 94.1%) indicated that it should be included in the curriculum. This is to be expected as one-third of academics (5; 29.4%) teaching pharmacy students indicated they had not educated their graduates to advise patients using complementary medicines and indicated mainstream practice to recommend Western OTC (16; 94.1%), similar to those academics teaching pharmacy technician graduates. It was not clear whether those academics advise their students to recommend the patients using complementary medicines or not when seeking advice for minor ailments.

Interestingly, approximately three-quarters (11; 73.3%) of academic respondents teaching pharmacy technician students taught their students to provide points for referral to other healthcare professionals and educated their students to consult with the pharmacist when the ailments were considered not manageable within their scope (15; 100.0%). It is evident that providing referral to another healthcare professional should be performed by a pharmacist not a pharmacy technician.

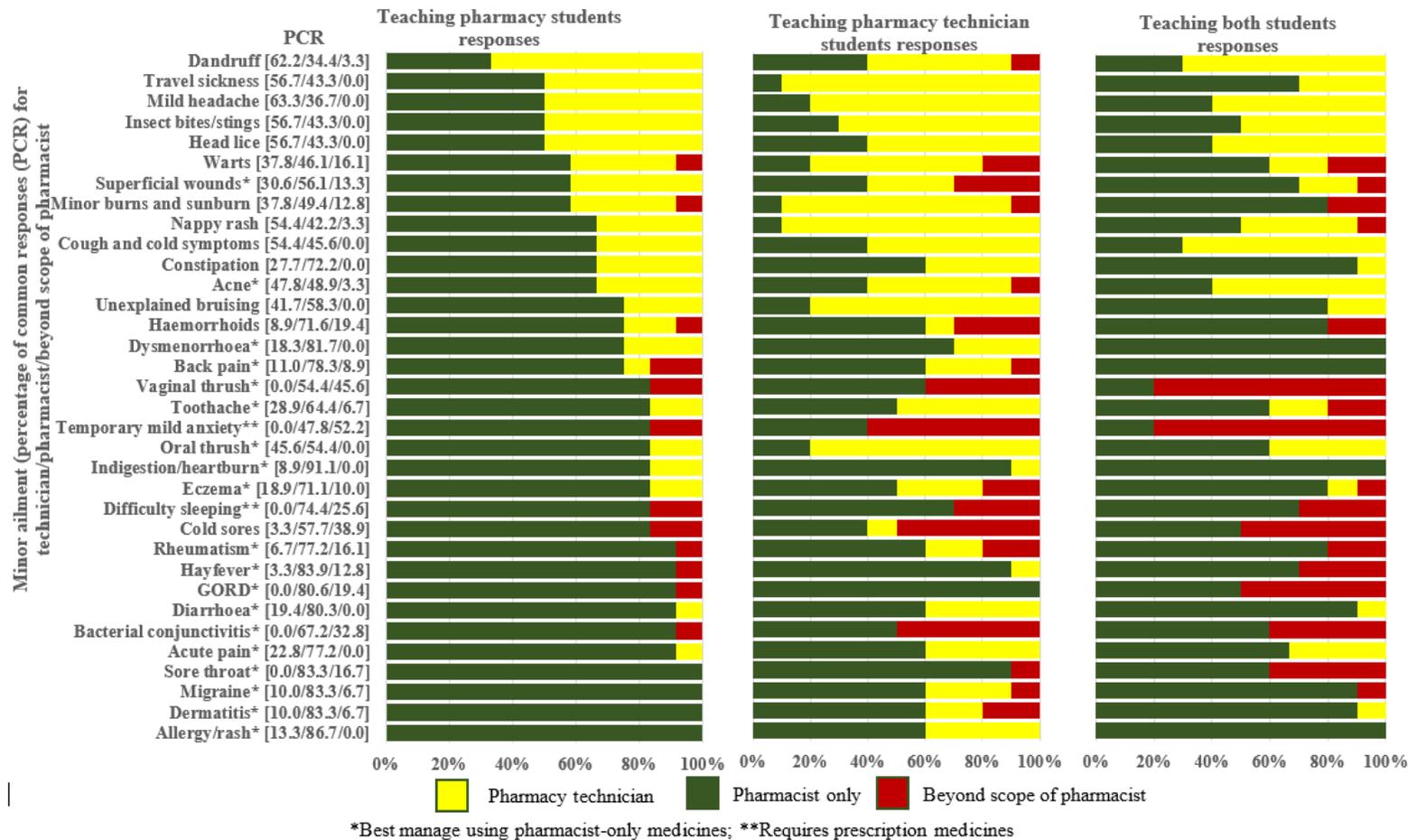


Figure 4.1. Percentage of common responses (PCR) for each minor ailment scopes of practice as perceived by academics teaching pharmacist (n=12), pharmacy technician (n=10), and both (n=5) students’.

4.4.3 Indicative index for MMA

4.4.3.1 The MMA relevant topics, preparedness, training, and resources for pharmacy students

Academic respondents were asked to indicate topics that were relevant for current and future practice for the MMA in the community pharmacy. In general, as can be seen from the data presented in Figure 4.4 with the exception of teaching the topic about ‘Formulating a diagnosis of minor ailments’, a majority of academics teaching pharmacy and pharmacy technician students addressed all topics as relevant to MMA courses for current and future practice.

Formulating a diagnosis in the MMA was a relevant topic for pharmacy students (P=8/12, 66.7%). In contrast to these results, the majority of academics teaching pharmacy technician students indicated that formulating diagnosis in the MMA was not a relevant topic for pharmacy technicians (T=6/10, 60%).

Respondents were asked to rate the strength of agreement in regard to graduate’s preparedness to practice (Figure 4.4). A majority of academics respondents teaching pharmacy and pharmacy technician students indicated a very strong agreement that their students had understood the scopes of practice of pharmacist and pharmacy technician practitioners. Students were also educated to understand what medicines can and cannot be provided for minor ailments (P=8/12, 66.7%; T=9/10, 90.0%).

Training and resources for teaching pharmacy and pharmacy technician students were similar as indicated by academic respondents teaching both student groups. The availability of a suitable range of products used for MMA, education training, experiential learning opportunities, and opportunities to practise with simulated patients were common responses stated by the respondents. All academics indicated a very good strength of agreement that working together with other healthcare professionals through interprofessional education, clinical placement, and teamwork increased learning in the MMA and was currently included in the curriculum, as shown in Figure 4.5.

4.4.3.2 Teaching methods that are relevant in the MMA

Academic respondents were provided with a list of teaching methods which may be employed to ensure the value of MMA courses and asked if the methods were currently used at their institution (Figure 4.6). In general, a majority of respondents teaching pharmacy and pharmacy technician students indicated all various types of teaching methods were relevant to the MMA course. As can be seen from the responses, with the exception of delivering MMA lectures through seminars or workshops, a large proportion of respondents indicated that all other teaching methods were relevant to MMA. Academics indicated that teaching methods using active learning, such as patient simulation and case studies from clinical practice, provided more engagement with students in the MMA course. However, they also indicated that passive learning using face-to-face lectures was also a relevant method to deliver MMA courses. All teaching methods provided in the list were currently being used at their institution as stated by the respondents.

4.4.3.3 Factors associated with the MMA course for pharmacy students (univariate analysis)

Table 4.12, Table 4.13, Table 4.14, Table 4.15 and Table 4.16 showed univariate analyses of the responses regarding MMA as reported by academic respondents teaching pharmacy and pharmacy technician students. It is evident that years of practice experience in the community pharmacy and minor ailments course that were taught separately were factors associated with a student's capability in understanding the knowledge of the signs and symptoms of minor ailments and formulating a diagnosis.

4.4.4 Indonesian pharmacy practice legislation in MMA

The majority of the respondents indicated a good agreement that there needs to be an appropriate amendment to the practice legislation and the responses differed significantly between respondents teaching pharmacy and pharmacy technician ($p=0.009$).



*Do you teach your students to ask the following questions when dealing with patients presenting with minor ailments?

**When teaching about minor ailments do you include any of the elements below in your course(s)?

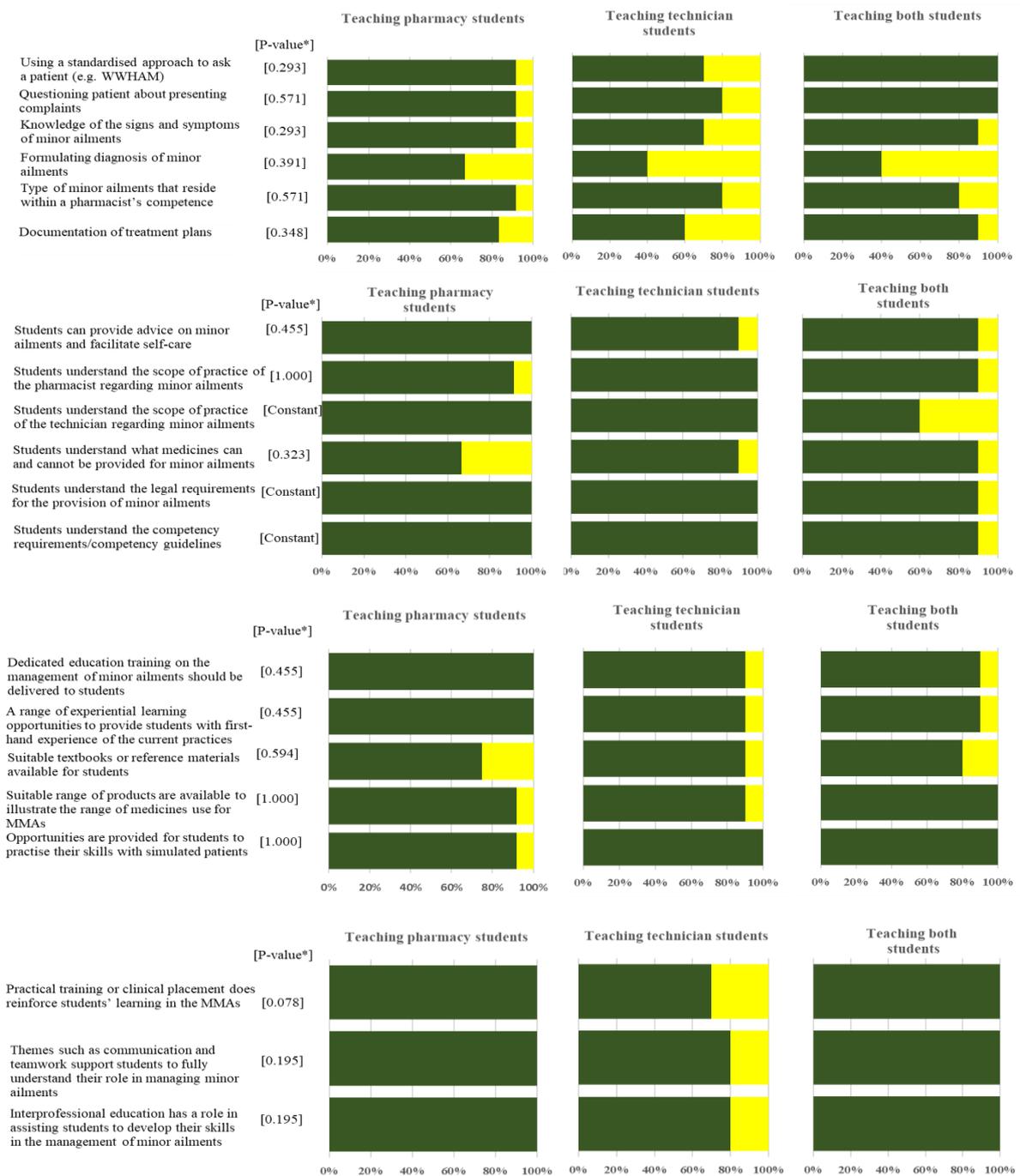
Figure 4.2. Assessment and activities provided as part of the MMA according to academics teaching pharmacy (n=12), pharmacy technician, and both students (n=10).



*Do you teach your students to ask the following questions when dealing with patients presenting with minor ailments?

**When teaching about minor ailments do you include any of the elements below in your course(s)?

Figure 4.3. Assessment and activities that should be included in the curriculum according to academics teaching pharmacy (n=12), pharmacy technician students (n=10), and both (n=5) students.



*P-value between academics teaching pharmacy and pharmacy technician students from the Fisher Exact Test

Relevant
 Not Relevant

Figure 4.4. Elements that are relevant to the management of minor ailments as perceived by academics teaching pharmacy (n=12), pharmacy technician (n=10), and both (n=5) students.

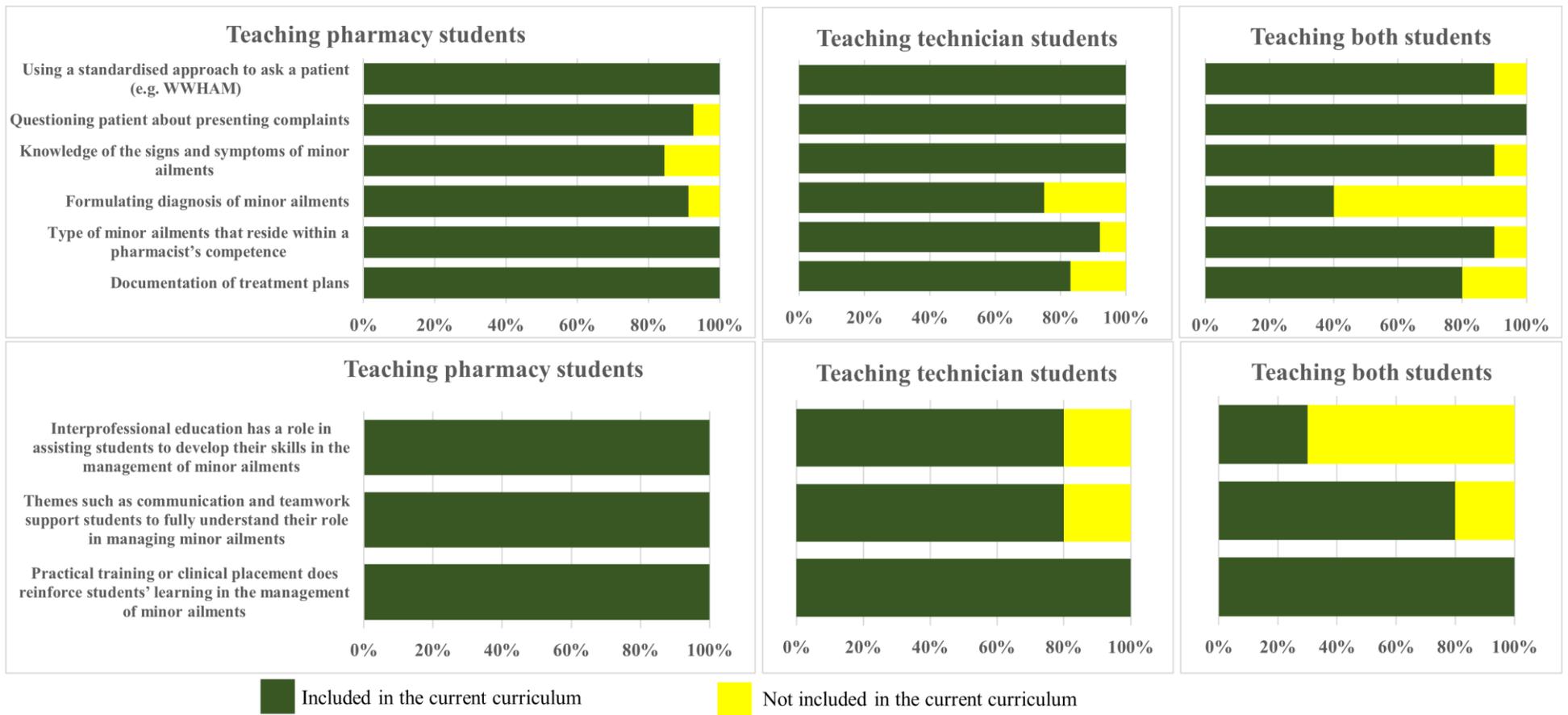
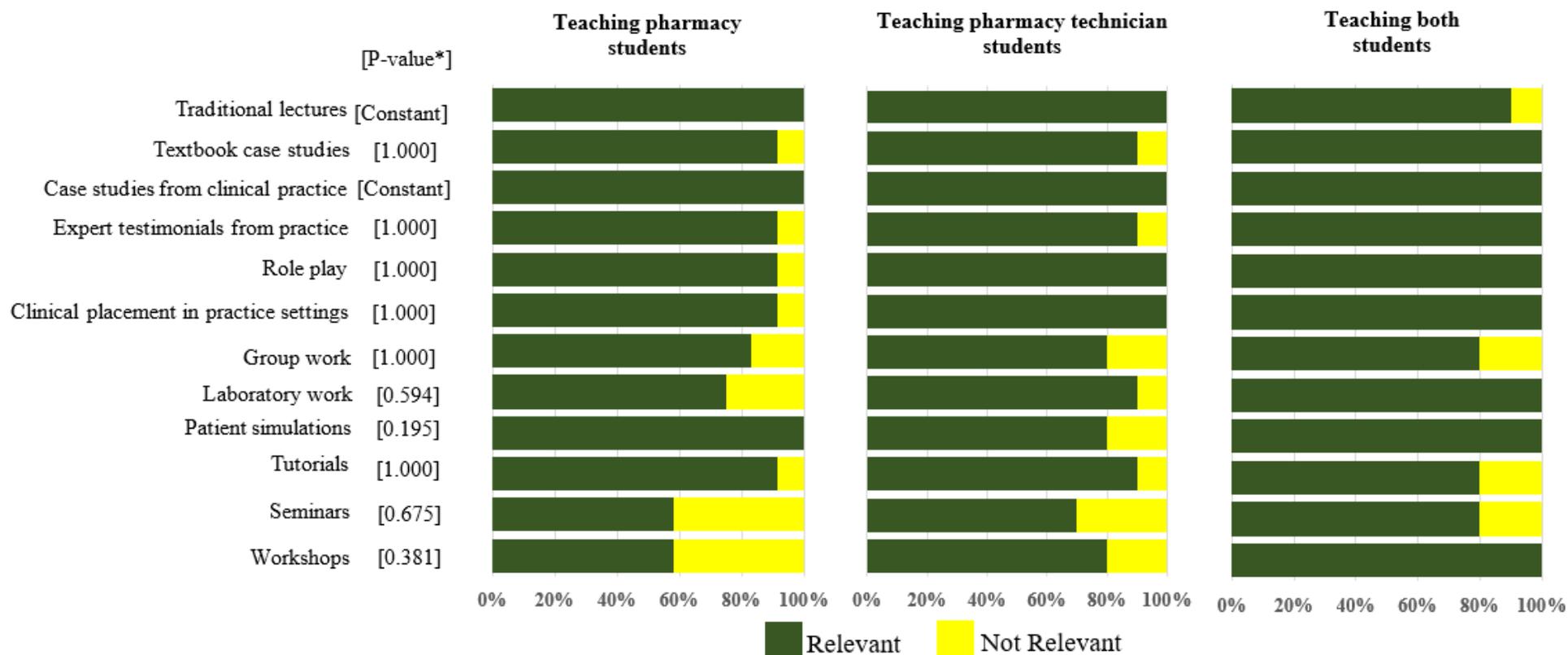


Figure 4.5. Minor ailments elements that are currently included in the pharmacy and pharmacy technician curriculum as perceived by academics teaching pharmacy (n=12), pharmacy technician (n=10), and both (n=5) students.



*P-value between academics teaching pharmacy and pharmacy technician students from the Fisher Exact Test

Figure 4.6. Teaching methods that are relevant for the management of minor ailments teaching between academics teaching pharmacy (n=12), pharmacy technician (n=10), and both (n=5) students.

Table 4.12. Univariate analysis of factors associated with topics that are relevant to the management of minor ailments as perceived by academics teaching pharmacy and pharmacy technician students (n=27).

	n (%)	Using a standardised approach to ask a patient	Questioning patient about presenting complaints	Knowledge of the signs and symptoms of minor ailments	Formulating diagnosis of minor ailments	Type of minor ailments that reside within a pharmacist's competence	Documentation of treatment plans
Gender		1.000	1.000	1.000	1.000	1.000	0.616
Male	7 (31.8)						
Female	15 (68.2)						
Age (years)		0.135	0.073	0.135	0.293	0.073	0.292
<=40	18 (81.8)						
>40	4 (18.2)						
Practised in community pharmacy (years)		0.292	0.169	0.046	0.056	0.169	0.283
<=3	16 (72.7)						
>3	6 (27.3)						
Minor ailments taught separately		0.096	0.221	0.096	0.043	0.221	0.594

	n (%)	Using a standardised approach to ask a patient	Questioning patient about presenting complaints	Knowledge of the signs and symptoms of minor ailments	Formulating diagnosis of minor ailments	Type of minor ailments that reside within a pharmacist's competence	Documentati on of treatment plans
Yes	10 (45.5)						
No	12 (54.5)						
Total hours course (hours)		0.541	0.532	0.541	0.646	0.532	1.000
<=100	16 (72.7)						
>100	6 (27.3)						

Table 4.13. Univariate analysis of factors associated with academics’ perceptions in preparing students’ (n=27) to practice.

	n (%)	Students can provide advice on minor ailments and facilitate self-care	Students understand the scope of practice of the pharmacist regarding minor ailments	Students understand the scope of practice of the pharmacy technician regarding minor ailments	Students understand what medicines can and cannot be provided for minor ailments	Students understand the legal requirements for the provision of minor ailments	Students understand the competency requirements
Gender		1.000	1.000	Constant	0.274	Constant	Constant
Male	7 (31.8)						
Female	15 (68.2)						
Age (years)		0.182	1.000	Constant	1.000	Constant	Constant
<=40	18 (81.8)						
>40	4 (18.2)						
Practised in community pharmacy (years)		0.273	1.000	Constant	1.000	Constant	Constant

	n (%)	Students can provide advice on minor ailments and facilitate self-care	Students understand the scope of practice of the pharmacist regarding minor ailments	Students understand the scope of practice of the pharmacy technician regarding minor ailments	Students understand what medicines can and cannot be provided for minor ailments	Students understand the legal requirements for the provision of minor ailments	Students understand the competency requirements
<=3	16 (72.7)						
>3	6 (27.3)						
Minor ailments taught separately		1.000	0.455	Constant	0.323	Constant	Constant
Yes	10 (45.5)						
No	12 (54.5)						
Total hours course (hours)		1.000	0.273	Constant	1.000	Constant	Constant
<=100	16 (72.7)						
>100	6 (27.3)						

Table 4.14. Univariate analysis of factors associated with training and resources for students as perceived by academics (n=27).

	n (%)	Dedicated education training on the management of minor ailments should be delivered to students	A range of experiential learning opportunities to provide students with first- hand experience of the current practices	Suitable textbooks or reference materials available for students	Suitable range of products are available to illustrate the range of medicines use for management of minor ailments	Opportunities are provided for students to practise their skills with simulated patients
Gender		0.318	0.319	0.565	1.000	1.000
Male	7 (31.8)					
Female	15 (68.2)					
Age (years)		1.000	1.000	0.554	1.000	1.000
<=40	18 (81.8)					
>40	4 (18.2)					
Practised in community pharmacy (years)		1.000	1.000	0.541	0.481	1.000
<=3	16 (72.7)					
>3	6 (27.3)					

	n (%)	Dedicated education training on the management of minor ailments should be delivered to students	A range of experiential learning opportunities to provide students with first- hand experience of the current practices	Suitable textbooks or reference materials available for students	Suitable range of products are available to illustrate the range of medicines use for management of minor ailments	Opportunities are provided for students to practise their skills with simulated patients
Minor ailments taught separately		1.000	1.000	0.594	0.481	1.000
Yes	10 (45.5)					
No	12 (54.5)					
Total hours course (hours)		1.000	1.000	0.541	0.481	1.000
<=100	16 (72.7)					
>100	6 (27.3)					

Table 4.15. Univariate analysis of factors associated with collaboration with other healthcare professionals as perceived by academics (n=27).

	n (%)	Practical training or clinical placement does reinforce students' learning in the management of minor ailments	Themes such as communication and teamwork support students to fully understand their role in managing minor ailments	Interprofessional education has a role in assisting students to develop their skills in the management of minor ailments
Gender		0.227	1.000	1.000
Male	7 (31.8)			
Female	15 (68.2)			
Age (years)		0.073	0.026	0.026
<=40	18 (81.8)			
>40	4 (18.2)			
Practised in community pharmacy (years)		0.169	0.065	0.065
<=3	16 (72.7)			
>3	6 (27.3)			
Minor ailments taught separately		0.221	0.481	0.481
Yes	10 (45.5)			

	n (%)	Practical training or clinical placement does reinforce students' learning in the management of minor ailments	Themes such as communication and teamwork support students to fully understand their role in managing minor ailments	Interprofessional education has a role in assisting students to develop their skills in the management of minor ailments
No	12 (54.5)			
Total hours course (hours)		0.532	1.000	1.000
<=100	16 (72.7)			
>100	6 (27.3)			

Table 4.16. Univariate analysis of factors associated with teaching methods that are currently used at the institutions for the management of minor ailments teaching as perceived by academics (n=27).

	n (%)	Traditional lectures	Textbook case studies	Case studies from clinical practice	Expert testimonials from practice	Role play	Clinical placement in practice settings	Group work	Laboratory work	Patient simulations	Tutorials	Seminars	Workshops
Gender		Constant	1.000	Constant	1.000	0.091	0.318	0.077	1.000	0.091	0.092	0.343	0.145
Male	7 (31.8)												
Female	15 (68.2)												
Age (years)		Constant	1.000	Constant	1.000	1.000	1.000	1.000	1.000	0.338	0.338	1.000	1.000
<=40	18 (81.8)												
>40	4 (18.2)												
Practised in community pharmacy (years)		Constant	1.000	Constant	0.481	1.000	1.000	1.000	1.000	0.481	0.481	0.624	1.000
<=3	16 (72.7)												
>3	6 (27.3)												
Minor ailments taught separately		Constant	1.000	Constant	1.000	0.481	1.000	0.096	1.000	0.481	0.481	0.675	1.000
Yes	10 (45.5)												
No	12 (54.5)												
Total hours course (hours)		Constant	0.481	Constant	0.481	1.000	1.000	0.541	0.541	1.000	1.000	1.000	1.000

<=100	16 (72.7)
>100	6 (27.3)

Table 4.17. Univariate analyses of factors influencing perceived scope of practice of management of minor ailments. The Odds Ratio (OR) shows the odds of responding that the ailment is within the scope of practice of the pharmacist only as perceived by academics teaching pharmacy (n=12) and pharmacy technician (n=10) students.

Ailment	Variable	Scope within pharmacist only n (%)	Univariate	
			OR (95% CI)	P-value
Acne	Respondent:			
	Teaching technician	44.44	1 (reference)	
	Teaching pharmacy	66.67	2.50 (0.42-14.83)	0.3963
Acute pain	Respondent:			
	Teaching technician	60.00	1 (reference)	
	Teaching pharmacy	91.67	7.33 (0.66-81.37)	0.1353
Allergy/Rash	Respondent:			
	Teaching technician	60.00	1 (reference)	
	Teaching pharmacy	100.00	>999.9 (<0.00 - >999.99)	0.0287*
Back pain	Respondent:			
	Teaching technician	66.67	1 (reference)	
	Teaching pharmacy	90.00	4.50 (0.37-54.15)	0.3034
Cold sores	Respondent:			
	Teaching technician	80.00	1 (reference)	
	Teaching pharmacy	100.00	>999.9 (<0.00 - >999.99)	0.3333
Constipation	Respondent:			
	Teaching technician	60.00	1 (reference)	
	Teaching pharmacy	66.67	1.33 (0.23-7.63)	1.0000
Cough and cold symptoms	Respondent:			
	Teaching technician	40.00	1 (reference)	
	Teaching pharmacy	66.67	3.00 (0.52-17.16)	0.3913
Dandruff	Respondent:			
	Teaching technician	44.44	1 (reference)	
	Teaching pharmacy	33.33	0.63 (0.10-3.71)	0.6731

Ailment	Variable	Scope within pharmacist only n (%)	Univariate	
			OR (95% CI)	P-value
Dermatitis	Respondent:			
	Teaching technician	75.00	1 (reference)	
	Teaching pharmacy	100.00	>999.9 (<0.00 - >999.99)	0.1474
Diarrhoea	Respondent:			
	Teaching technician	60.00	1 (reference)	
	Teaching pharmacy	91.67	7.33 (0.66-81.36)	0.1353
Dysmenorrhoea	Respondent:			
	Teaching technician	70.00	1 (reference)	
	Teaching pharmacy	75.00	1.29 (0.20-8.43)	1.0000
Eczema	Respondent:			
	Teaching technician	62.50	1 (reference)	
	Teaching pharmacy	83.33	3.00 (0.37-24.17)	0.3473
Hayfever	Respondent:			
	Teaching technician	90.00	1 (reference)	
	Teaching pharmacy	100.00	>999.9 (<0.00 - >999.99)	0.4762
Head lice	Respondent:			
	Teaching technician	40.00	1 (reference)	
	Teaching pharmacy	50.00	1.50 (0.28-8.19)	0.6194
Haemorrhoids	Respondent:			
	Teaching technician	85.71	1 (reference)	
	Teaching pharmacy	81.82	0.75 (0.06-10.23)	1.0000
Indigestion/ heartburn	Respondent:			
	Teaching technician	90.00	1 (reference)	
	Teaching pharmacy	83.33	0.56 (0.04-7.21)	1.0000
Insect bites/ stings	Respondent:			
	Teaching technician	30.33	1 (reference)	
	Teaching pharmacy	50.00	2.33 (0.40-13.61)	0.4149

Ailment	Variable	Scope within pharmacist only n (%)	Univariate	
			OR (95% CI)	P-value
Migraine	Respondent:			
	Teaching technician	66.67	1 (reference)	
	Teaching pharmacy	100.00	>999.9 (<0.00 - >999.99)	0.0632
Mild headache	Respondent:			
	Teaching technician	20.00	1 (reference)	
	Teaching pharmacy	50.00	4.00 (0.59-27.25)	0.2043
Minor burns, including sunburn	Respondent:			
	Teaching technician	11.11	1 (reference)	
	Teaching pharmacy	63.64	14.00 (1.25-156.61)	0.0281*
Nappy rash	Respondent:			
	Teaching technician	10.00	1 (reference)	
	Teaching pharmacy	66.67	18.00 (1.65-196.31)	0.0115*
Oral thrush	Respondent:			
	Teaching technician	20.00	1 (reference)	
	Teaching pharmacy	83.33	20.00 (2.29-175.00)	0.0083*
Rheumatism	Respondent:			
	Teaching technician	75.00	1 (reference)	
	Teaching pharmacy	100.00	>999.9 (<0.00 - >999.99)	0.1637
Superficial wounds	Respondent:			
	Teaching technician	57.14	1 (reference)	
	Teaching pharmacy	58.33	1.05 (0.16-6.93)	1.0000
Toothache	Respondent:			
	Teaching technician	50.00	1 (reference)	
	Teaching pharmacy	83.33	5.00 (0.70-35.50)	0.1718
Travel sickness	Respondent:			
	Teaching technician	10.00	1 (reference)	
	Teaching pharmacy	50.00	9.00 (0.85-94.90)	0.0743

Ailment	Variable	Scope within pharmacist only n (%)	Univariate	
			OR (95% CI)	P-value
Unexplained bruising	Respondent:			
	Teaching technician	20.00	1 (reference)	
	Teaching pharmacy	75.00	12.00 (1.58-91.08)	0.0102#
Vaginal thrush	Respondent:			
	Teaching technician	100.00	1 (reference)	
	Teaching pharmacy	100.00	5.25 (0.70-39.48)	0.1698

All P-value were using Fisher Exact Test

*P-value significant (P<0.05)

#P-value using chi-square test

4.4.5 Univariate analyses of factors associated with the current provision of MMA by academics teaching pharmacy and pharmacy technicians students

Table 4.17 shows the odds ratio of responding that the ailment is within the scope of practice of the pharmacist only as perceived by academics teaching pharmacy and pharmacy technician students. The data shows, for example acne, the odds ratio was 2.50 to 1.00 (0.42-14.83), which indicated that acne is within the scope of either, since it is not significantly different between respondents ($p>0.05$). The management of dandruff, where the odds ratio of it being within the scope of practice of the pharmacy technician as 0.63 to 1.00 (0.10-3.71), also did not differ significantly between respondents. With oral thrush, the odds ratio of it being within the scope of a pharmacist was significantly supported by respondents as 20.00:1.00 (2.29-175.00). The large confidence interval arising from the small number of respondents, some with different opinions.

4.5 Discussion

This study aimed to investigate current pharmacy academics' views on how students are being prepared to deliver the MMA in community pharmacies in Indonesia. A response rate of 90% (n=27/30) was achieved for this study.

To our knowledge, this is the first study to evaluate MMA courses within pharmacy institutions' curricula, specifically focussed on Central Java, Indonesia. This study found differences in scopes of practice for pharmacy and pharmacy technician students as perceived by academics teaching pharmacy institutions across Central Java.

Providing MMA courses in pharmacy institutions induces unique challenges for academics as a result of their complexity. Surprisingly, the majority of academics who responded in this study subsequently taught using all the materials listed in the survey, which implies either their institutions have an excellent level of resources available irrespective of their level, or they may have misinterpreted the survey questions. Therefore, it is possible that the academics are hesitant to report resources that their institutions do not provide such trainings or to the extent as indicated. However, the questionnaires were validated by academics teaching in Indonesian pharmacy institutions other than in Central Java., This was to avoid exposing the draft questionnaires to potential respondents, prior to its administration to the targeted respondents.

A census sample was adopted for the 30 pharmacy institutions. As this was relatively small number of institutions, it limited any detailed statistical analysis of the findings. Therefore, regression analysis was considered inappropriate for this purpose. Only univariate analyses were applied in this study, however, in Table 4.17, some significant different results were evident (for allergy, nappy rash, oral thrush, and minor burns). It is possible there was insufficient power to detect significant differences in some analyses.

Our findings indicated different views of the scopes of practice between academics teaching pharmacy and pharmacy technician students. Further, this study has indicated that a pharmacy technician's scope of practice as perceived by some academics teaching pharmacy technicians as being nearly equivalent that of a pharmacist with only six exceptions. Academics teaching pharmacy technician students seem to prepare their students for a broader responsibility, which was somewhat similar to a pharmacist's capabilities. A higher percentage viewed the pharmacy technician's scope of practice as broader than the responding academics teaching pharmacy students. Studies in the USA and Denmark have indicated that a greater scope of practice of a pharmacy technician is needed to reduce the pharmacist's workload and provide more time for

the pharmacist to perform more clinical services.^{341, 342} As frontline staff, pharmacy technicians are required to have appropriate training to ensure patient safety. This increases the responsibilities of a pharmacy technician as a professional pharmacist's assistant. However, it is important to define the limits of the scope of a pharmacy technician and only the scope of a pharmacist exists.³⁴³ Although literature data reported that pharmacists' workload was the main reason that hinders their availability for providing professional services, studies in Indonesia reported different reasons. Several factors have contributed to the frequent absence of pharmacists leading to fewer professional services being provided. Studies conducted in Surabaya, Jakarta, and Padang (West Sumatera) reported that Indonesian community pharmacists spent less time on their professional and non-professional activities due to low salary. This has caused a lack of time for delivering pharmacy services, unclear job descriptions between the pharmacist and the pharmacy technician or other pharmacy staff, commercial pressures, and pharmacists not being paid according to the agreement between the pharmacy owner and the pharmacist.^{29, 92, 165, 166}

Similar to pharmacists, after formal graduation, pharmacy technicians are able to become registered pharmacy technicians and obtained a competency certificate to practice in community pharmacies. Some academics teaching pharmacy technicians have taught their students to undertake and perform most MMA, which also implies that a practising pharmacy technician could then perform many clinical tasks. A meta-analysis study has demonstrated that trained pharmacy technicians have equally developed a complete and accurate patient medication history compared to pharmacists.²⁴⁵ In the UK and USA, obtaining complete and accurate medication histories is needed in triaging patients who present with minor ailments to a pharmacy to assess the urgency that requires a pharmacist intervention or referral (the underlying education of both groups enabled this to be achieved).^{344, 345} Pharmacists and pharmacy staff are required to ask sufficient questions to allow them to gain enough information to assess a patient's condition.^{346, 347} Hence, pharmacy staff in Indonesian community pharmacies must be equipped with adequate training and education. Although it is worthwhile to expand a pharmacy technician scope of practice when it is safe, direct supervision from a pharmacist may be needed to ensure patient safety. The pharmacy technician may not be adequately trained to triage patient's with minor ailments which require further assessment. A study using Indonesian baseline data from health centres reported that pharmacist's involvement in providing appropriate medicines ensured medication safety and prevented medication errors.³⁴⁸

Although the range of minor ailments in this study included ailments that can be managed without complexity using western OTC medicines, such as dandruff, travel sickness, mild headache, and head lice, only some academics perceived these ailments could be managed by pharmacy technicians alone, without intervention by the pharmacist. Some academics who responded to the survey lacked the confidence that pharmacy technicians could manage any minor ailment alone despite comprehensive training and education provided by those academics. The results of this study were consistent with the findings described in Chapter 3 where there were no uniform responses of what particular minor ailments a pharmacy technician can manage. A possible explanation may be that the ailments could become severe needing pharmacist involvement.

Some minor ailments covered in this study were best managed in the community pharmacy in Indonesia by using *Obat Wajib Apotek*/OWA (pharmacist-only medicines) and *Obat Bebas Terbatas*/OBT (cautionary labelling required medicines).^{194-196, 349} Direct supervision or the presence of a pharmacist is needed according to the regulations in Indonesia, designed to ensure the safe and appropriate use of these medicines. Some of the minor ailments covered in this study could involve the use of pharmacist-only medicines (e.g. medicines for migraine, dermatitis, allergy, rheumatism, bacterial conjunctivitis, GORD, etc) and where that occurred, it has to be within the scope of practice of a pharmacist only.

The results in this study which were consistent with the findings in Chapter 3 indicate that the scope of MMA services by pharmacists and pharmacy technicians needs to be firmly established. The discordant perceptions of MMA by academics teaching pharmacy and pharmacy technician students highlights the problems that may arise in providing minor ailment services, which is a safety issue (e.g. due to the lack of standardised or consistent provision and lack of defined scopes of practice).

Academics who teach both student groups perceived that back pain should be within a pharmacist's scope of practise, indicating that long time use of analgesics may lead to severe hepatotoxicity and liver failure, which may not be recognised by a pharmacy technician.³⁵⁰ Indigestion/heartburn is another ailment that academics perceived the management required pharmacist involvement as it may mask the presence of a severe gastrointestinal disease, which may not be considered by a pharmacy technician or by patients.

Certain ailments such as migraine, dermatitis, and allergy/rash were minor ailments usually only within the scope of pharmacists. However, a quarter of the academics teaching pharmacy

technician students perceived that those ailments could be managed by a pharmacy technician. Academics teaching both pharmacy and pharmacy technician students perceived their scopes of practice much more stringently as they perceived treatment for these ailments were beyond the scope of a pharmacy technician.

Oral thrush and migraine were regarded as minor ailments that should be managed by a pharmacist. Oral thrush can lead to more serious systemic candida infections which will require pharmacist intervention. Migraine has been considered a chronic ailment that may significantly affect the quality of life of a person; thus, the symptoms may suggest severe or persistent headache which OTC medications available in Indonesia usually cannot relieve. Both ailments are best managed using pharmacist-only medicines in Indonesia (e.g. fluconazole, nystatin and mefenamic acid), although some academics teaching pharmacy technician students thought otherwise.

A clear consensus from all academics indicated that bacterial conjunctivitis, difficulty sleeping, and temporary mild anxiety were ailments only within a pharmacists' scope of practice to manage. Some respondents, on the other hand, perceived that those ailments were beyond the scope of a pharmacist, possibly due to the fact that the optimum treatment for those ailments requires prescription-only medicines in Indonesia (i.e. chloramphenicol for bacterial conjunctivitis).

The current responses from the academics creates a perception of different opinions regarding scopes of practice. This could result in variation of teaching, especially for pharmacy technicians. This needs to be resolved by government and professional groups. These scopes of practice should be clearly defined and would then require curricula and practice that coincide. This should lead to an improvement in patient safety. Boughen et al. argued that pharmacy technicians should focus on the activities they performed rather than activities they are not allowed to perform.²³⁷ However, a study in the UK reported that performing activities that required clinical decisions seemed to be beyond a pharmacy technician scope of practice and should be within a pharmacist scope of practice.⁵⁹ Thus, pharmacy technicians should understand the extent to their scope of practice.

Academics teaching pharmacy technician students indicated that formal training in the MMA was included in their education or curriculum. Many studies have described activities performed by pharmacy technicians in the community pharmacy, but there are no clear definitions of what pharmacy technicians should or may perform. Clear consensus exists only

for those activities that do not require any professional and clinical judgement.^{243, 351} All academics who teach pharmacy students should be vigilant that although pharmacy technicians may perform a task including clinical responsibilities, pharmacists are usually held accountable for their actions as the person in charge of the pharmacy, although pharmacy technicians also may risk sanctions. This has become more important as selected medicines have been incorporated into a pharmacist-only schedule.^{77, 107, 352}

Few respondents reported that the MMA topic was delivered as a separate subject in their institutions which might be due to the fact that it was offered as an elective course in most pharmacist curriculum in Central Java. The MMA education is integrated in various ways, such as through mandatory or elective coursework or as a stand-alone subject.^{353, 354} A study reported that integrating the concept of MMA into other subjects or courses is insufficient to prepare students to manage minor ailments in pharmacy practice.³⁵⁴ Further, the concept of MMA taught in Indonesian pharmacy schools is often embedded within pharmacotherapeutics, pharmacology, and pharmacy practice subjects.¹⁶ The curriculum is changed periodically every five years and evaluated every year as required by the Indonesian Ministry of Education and Culture.³³⁶ Thus, adding curriculum and course specifically related to minor ailments will help meet community needs and highlight trends in pharmacy education and practice.⁹⁵

The results in this study demonstrated various experience profiles by academic respondents within different settings of pharmacy practice. As all academic respondents were registered pharmacists, it is expected that they have had experience in many of the pharmacy settings. Responses from the academics where the majority stated they had no experience in pharmacy practice settings were not surprising as the majority of the respondents were appointed based on the subject they taught in their institution (MMA). They were not appointed based on their practice experience. However, having a pharmacy practice experience could influence on how the respondents' views of how minor ailments were taught in their institutions. It is possible that academics teaching pharmacy students are appointed on different criteria (e.g. specific level of qualification or education) than academics teaching pharmacy technician students (e.g. major teaching in units that involve MMA).

Overall, the novel findings of this study indicated inconsistency in the MMA education across pharmacy teaching institutions in Indonesia, which can lead to unstandardised practice in delivering minor ailments services. The responses from the academics teaching pharmacy and pharmacy technician students indicated different perceptions regarding the scopes of practice in the MMA. The inconsistencies have resulted in variations in teaching in Indonesian

pharmacy institutions. Mattingly et al.²⁴³ and Myers³⁵¹ supported the findings in this study, which indicated that no clear consensus exists for activities requiring professional and clinical decisions between pharmacists and pharmacy technicians. Although Chamberlain et al.⁵⁹ argued that activities involving clinical judgement are within a pharmacist's scope of practice, this study showed novel findings where academics teaching pharmacy technician students perceived their scope of practice also involved a judgement in the clinical decision-making process.

4.6 Limitations and strengths

The survey was only distributed to one academic from each pharmacy school. Responses may be limited to a certain individual's perspective, particularly if responses were not discussed with other school academics. However, the academic respondent was considered a primary academic in the area of MMA. Further, different survey responses were influenced by how each faculty organised their program. It is challenging to define the total number of hours over the total course, including specific teaching of the MMA at their institution, particularly when it is integrated into several courses or subjects.

The limitations of methodologies used in this study include an online census survey which could have caused some access issues for respondents working from home. The census sample was small limiting regression statistical analysis. The method used in this study also relied on participants' self-reports and perceptions, which may need some caution in generalising the findings.

This study is the first in Central Java, Indonesia, to examine MMA courses across pharmacy institutions. Nearly all pharmacy institutions in Central Java were represented. This study assists in the development of best practice in future MMA education. These findings will help advance MMA curriculum across pharmacy institutions in Indonesia, as MMA continues to be an evolving pharmacy service in Indonesian community pharmacies, especially if down-scheduling of prescription medicines continues.

4.7 Conclusions

The discordant perceptions of academics teaching pharmacy and pharmacy technician students in defining scopes of practice of MMA who deliver the MMA courses emphasise a fundamental

need to define scopes of practice when developing MMA courses in pharmacy teaching institutions in Indonesia. A pharmacy technician's scope of practice was perceived to be nearly equivalent to a pharmacist's scope of practice by academics only teaching pharmacy technician students. Currently, no practice guidelines and consensus exists for consistent practice in delivering MMA services. Different perceptions between academics teaching pharmacy and pharmacy technician students need to be reconciled. Inconsistency of practice in the MMA might result from variation in teaching relevant subject topics, which leads to variation in training, practice, and curricula delivered by pharmacy academics. Indonesian pharmacy professional bodies (IAI and PAFI), APTFI, and APFDI should determine the scopes of practice for pharmacists and pharmacy technicians to ensure consistent, high-quality MMA practice in community pharmacy. This needs to be then incorporated into the appropriate curricula.

Chapter 5

MMA Services:

**A Qualitative Study of Pharmacists' and Pharmacy
Technicians' Responses**

Chapter 5. MMA Services: A Qualitative Study of Pharmacists' and Pharmacy Technicians' Responses

5.1 Introduction

Community pharmacists and pharmacy technicians are fundamental in the provision of MMA, particularly in developing countries. In Indonesia, the transformation occurring to enhance pharmacy services in the MMA has been discussed. However, the transition has been slow due to inconsistent practice and limited regulations to support pharmacy practice. The MMA services in Indonesia occur without established guidelines leading to variable practices in community pharmacies.^{7, 87, 89, 91}

Community pharmacies in Indonesia deliver MMA services through qualified and unqualified staff; however, pharmacy technicians and pharmacists have recognised expertise for their provision. The findings in Chapter 3 of this study indicated no clear consensus of MMA scopes of practice between pharmacists and pharmacy technicians, leading to potential inconsistent patient management when practising in community pharmacies. Further, the findings from Chapter 4 indicated that pharmacy academic staff also hold inconsistent views on scopes of practice influencing student training and education and subsequent practice.

The COVID-19 situation has been challenging for community pharmacy in Indonesia. For most community pharmacies, the COVID-19 outbreak has impacted the ability of the pharmacy staff to work normally.^{270, 277, 355} Community pharmacy staff frequently communicate with patients who present with minor ailments (e.g. respiratory symptom problems) and other COVID-19 related symptoms (e.g. anosmia, shortness of breath). The number of consumers seeking advice for their health problems has increased during the COVID-19 outbreak.²⁷⁷ The provision in the MMA during COVID-19 has formed part of this study as data collection occurred during its occurrence and specific impacts have also been included in this interview study as it has impacted how pharmacy staff have delivered the MMA.

In earlier 2021, the Indonesian Health Minister has issued the regulations for down-scheduling medicines (Minister of Health Regulation No.3/2021). A number of former prescription-only medicines have been down-scheduled to limited non-prescription medicines. These medicines are known as “*Obat Bebas Terbatas*” (OBT) medicines or cautionary labelling medicines

(limited non-prescription medicines). Indonesian pharmacists may now supply the following medicines labelled as OBT (with limited supply): Terbinafine, Famotidine*, Diclofenac diethylamine*, Selenium sulphide, Piroxicam*, N-Acetylcysteine*, Bifonazole, Cetirizine*, Loratadine, and Fexofenadine HCl. The regulation also scheduled former OBT medicines: Lidocaine and Benzocaine, as prescription-only medicines.

To date, there are limited studies that explored the scopes of practice of pharmacists' and pharmacy technicians' and their roles in the delivery of minor ailments services in Indonesia. Thus, this study aimed to explore pharmacists' and pharmacy technicians' perceived scopes of practice and factors influencing their educational and practice experience to professionally deliver minor ailment services in community pharmacies in Central Indonesia, and during the COVID-19 pandemic.

5.2 Objectives

The objectives of this study were to:

- a. Explore education and practice experience influencing the preparedness to deliver minor ailments services in community pharmacies in Central Java, Indonesia.
- b. Investigate the scopes of practice limitations of pharmacists and pharmacy technicians in the delivery of MMA.
- c. Explore the practice routine adopted for the provision of MMA in community pharmacies in Central Java, Indonesia, and
- d. Explore how pharmacy staff delivered MMA services during the COVID-19 pandemic.

5.3 Methods

The study methodology was approved by Curtin University, Human Research Ethics Committee, Australia, with approval number: HRE2019-0803-12; the IAI Central Java Regional Board, Indonesia with approval number B1-064/PD-IAI/Jawa-Tengah/IX/2019; and PAFI Central Java Regional Board, Indonesia, with approval number 268/PAFI-JTG/XI/2019.

5.3.1 Research Setting

A qualitative study was conducted in community pharmacies in Central Java, Indonesia. A purposive sampling method was chosen to ensure diversity in pharmacy staff demographics and characteristics and provide depth to the data in line with qualitative research principles. COREQ (COnsolidated criteria for REporting Qualitative research) checklist was used to guide the conduct and report of the study (Appendix K).³⁵⁶

5.3.2 Participant selection

This study aimed to recruit practising community pharmacists and pharmacy technicians currently working in different types of community pharmacies in various cities in Central Java, Indonesia. The inclusion criteria were pharmacists and pharmacy technicians working in independent/supermarket/co-located with a medical centre types of community pharmacies. The exclusion criteria were pharmacists and pharmacy technicians working in a pharmacy located within a clinic or located within a doctor's clinic, or pharmacy located in a medical skincare clinic.

Before conducting the interviews, the investigator contacted the IAI and PAFI chairmen in several cities in Central Java, Indonesia, to obtain lists of pharmacists and pharmacy technicians practising in community pharmacies in their localities. The investigator used the lists to select the participants randomly. The investigator then contacted the participants by telephone and explained about the study. If the participants agreed to participate, a time for the online interview was arranged. If the participant refused, another person was selected from the list and was contacted. The recruitment continued until data saturation was achieved. Data saturation occurred and no new themes emerged, which was after the ninth pharmacist and pharmacy technician interviews. However, a further three pharmacist and pharmacy technician respondents had agreed to participate in the study when the investigator contacted them. Interviews with these additional three respondents from each group further confirmed that data saturation had been reached as no new themes emerged from these additional interviews. Thus 12 pharmacist and 12 pharmacy technician respondents were included in the study.

Saturation was defined as a point where the themes/codes are "saturated", meaning the researcher no longer finds new information that contributes to understanding the themes/codes.³⁵⁷ Saturation in this study was standardised through literature searches, taking field notes, using adequate sample size, member checks by respondents (one pharmacist and

one pharmacy technician), and interviewing until data saturation was achieved.³⁵⁷⁻³⁶¹ One transcript was sent to a pharmacist and a pharmacy technician as a means of 'member checking' to ensure the transcription's trustworthiness, confirmability, and external validation.^{357, 358, 361}

5.3.3 Data collection

Due to the COVID-19 situation and travel from the university to community pharmacies in Indonesia was banned, the respondents were interviewed online (a one-on-one online video interview). The strength of using interviews (a qualitative study) lies in their ability to explore an in-depth understanding of an issue. Participants' perceptions and perspectives in delivering MMA services can be explored thoroughly to produce rich data, especially when the participants have experience with this subject. Uncovering underlying causes and factors influencing pharmacy staff in delivering minor ailment services is better conducted using qualitative methods. Online interviews were performed between June-July 2021 at a convenient time (either at their workplace or home). The investigator conducted the interviews from the university online, and the interviewees were respondents residing in several cities in Central Java, Indonesia.

A participant information sheet about the study and consent form were sent by email to the participants before the interview (see Appendix I and Appendix J). The respondents signed and returned the consent form by email to the investigator. Following consent, demographic data of the respondents including working hours of staff in the community pharmacy, were administered online through Qualtrics®, provided by Curtin University.

The investigator (a pharmacist with advanced clinical pharmacy qualifications), whose first language is Bahasa Indonesia, conducted all interviews in the Indonesian language using a semi-structured interview guide. Prior to the start of each interview, the investigator provided brief information about the study. During the interviews, the investigator often summarised the participants' statements to ensure clarity and appropriate interpretations of the data interview were being made.

The interviews lasted between 45 to 60 minutes, and all were audio-and video-recorded. All participants were offered a Rp100,000 (AUD10) gift card in recognition of their time and participation in the study.

5.3.3.1 Interview guides

Prior to conducting this qualitative study, the investigator had performed a quantitative survey on the characteristics of community pharmacies, pharmacy staff, and pharmacy academic staff (see Chapters 3 and 4). The findings of the previous quantitative studies and relevant literature^{23, 24, 87, 89, 139, 277, 293} were used to establish interview guides for community pharmacists and community pharmacy technicians. They included community pharmacy and pharmacy staff characteristics: type of pharmacy, age, and pharmacy consumer requests (Table 5.1).

The semi-structured interview guides consisted of a series of open-ended questions and were developed based on three key themes of interest: (1) the perspectives of the MMA, (2) factors influencing the current practice in the MMA, including scopes of practice, and (3) the impact of COVID-19 on community pharmacies (Appendix I and Appendix J).

Topics included in the interview guide were iteratively revised for clarity and relevance to the study objectives by the Curtin University pharmacy practice team. The questions for the interviews were validated by three academics with community pharmacy experience from Curtin University, and three pharmacists and three pharmacy technicians who were practising in different types and sizes in community pharmacies in Central Java, Indonesia. Interview trials were conducted for two people (practising pharmacists and pharmacy technicians who have the same characteristics as the participants) and were not included in the study. The trials resulted in minor changes in the interview guides.

5.3.4 Data analysis

Data analysis was performed using NVivo (QSR NVivo version 20, QSR International). Data collection and data analysis were conducted simultaneously throughout the study. The respondents' anonymity was protected by replacing their identifiers with a de-identified code (pharmacists become "Pharmxx" and pharmacy technicians become "Techxx"). The video interviews were recorded through Microsoft Teams supported by Curtin University, then transcribed verbatim in Indonesian Bahasa with a summary of the transcription also back-translated to English. The data were analysed initially in Indonesian Bahasa using inductive thematic analysis through initial coding, sub-themes, and the development of a coding framework.³⁶² The investigator performed the data analysis and the emerging themes and sub-themes were then discussed with the supervisory team with the processes as follows:

Firstly, a process of familiarisation with the data was performed by watching the video recording to ensure accuracy of the transcription and reading each transcript several times while noting ideas. Secondly, significant statements from the data interview were identified and coded. These codes were then grouped and organised into themes. The process of generating themes was refined back and forth between the themes and the codes, and between the themes and the transcripts until the themes were identified and finalised. The final themes were discussed and reviewed by the supervisor to ensure accuracy and appropriate interpretations. One female pharmacy academic as a second person (from an East Java University) from Indonesia with excellent Indonesian Bahasa and English language skills provided feedback on the final themes to provide external validity and trustworthiness of the data. The second person reads the selected Indonesian Bahasa transcription to ensure that the thematic analysis reflects the Indonesian Bahasa responses. Finally, examples of comments were selected to illustrate each theme. The interview data were analysed in the Indonesian Bahasa to avoid any lost that could occur in translation which may influence the validity of the data.³⁶³ An independent translator and proof-reader were engaged for translations of the transcriptions into English.^{357, 363} The investigator translated the theme labels into English and the analysis process was separate for pharmacist and pharmacy technician respondents. Data were analysed following the standard/particular method that is used regularly and adopted continuously for qualitative analysis.^{357-361, 363}

5.4 Results

5.4.1 Respondents characteristics

A total of 12 practising community pharmacists and 12 practising pharmacy technicians were interviewed. The characteristics of the respondents, practice settings, and working hours are presented in Table 5.1 and Table 5.2. One pharmacist and two pharmacy technicians withdrew from the study (before the interview) due to COVID-19 infections or were taking care of family with COVID-19. One community pharmacist declined to participate in the interview due to other commitments and one community pharmacist was excluded because the pharmacy was located within a doctor's clinic. In order to ensure the trustworthiness, confirmability, and external validation of the transcription, one verbatim transcript was sent to a pharmacist and a pharmacy technician respondents. No new themes based on the thematic analysis occurred and data had reached saturation after the ninth pharmacist and pharmacy technician interviews. To

confirm saturation, three further pharmacist and pharmacy technician respondents were recruited to participate in the study.

The majority of the pharmacist respondents were female, aged between 21 and 40, and had practised between 2 and 10 years. Independent pharmacies were the majority type of pharmacy business reported in this study, where half were owned by a pharmacist. Most pharmacies had on average between 351 and 700 per customer visits week, with around 70 patients of these seeking advice for MMA. The majority of the pharmacy managers reported working 41 or more hours per week. Of the 12 pharmacies where respondents worked, half of them had one to two additional pharmacists, while the remaining had no additional pharmacist on the staff. Two pharmacies did not have pharmacy technicians on staff and employed assistants without a pharmacy qualification, including a nurse, a midwife, and a high school graduate.

The majority of the pharmacy technician respondents were female, aged between 21 and 30, and had practised between 2 and 10 years. The majority of the pharmacy technician respondents reported working in independent pharmacies, where four of them also had other employment elsewhere. Most pharmacies had on average customers between 451 and 700 customer visits per week. All the pharmacy technicians, but one reported more than 70 patients per week seeking advice for minor ailments. The majority of the pharmacy technician respondents worked on average of 41-50 hours per week. Three of these community pharmacies where the pharmacy technicians worked did not have additional pharmacists on staff, i.e. they only had a pharmacy manager, while the remaining had between one to two additional pharmacists. The majority of the pharmacy technician respondents reported the employment of non-qualified assistants in their pharmacy numbering between one to eight staff.

Table 5.1. Demographic characteristics of participants and their practice settings (n=24).

Pharmacists (n=12)

Code	Gender	Age	Years of registered	Years of practice	Pharmacy type	Position	Average working hours per week	Average consumers per week	Average MMA patients per week	Total number of pharmacy staff
Pharm1	Female	31-40	11-15	11-15	Independent	Pharmacy manager and owner	51+	251-350	>70	Pharmacy manager = 1 Additional pharmacists = 0 Technicians = 1 Other staff = 5
Pharm2	Female	31-40	<2	<2	Independent	Pharmacy manager and owner	51+	451-550	>70	Pharmacy manager = 1 Additional pharmacists = 0 Technicians = 2 Other staff = 3

Code	Gender	Age	Years of registered	Years of practice	Pharmacy type	Position	Average working hours per week	Average consumers per week	Average MMA patients per week	Total number of pharmacy staff
Pharm3	Female	21-30	<2	<2	Co-located with a doctor's practice	Additional pharmacist	41-50	>700	61-70	Pharmacy manager = 1 Additional pharmacists = 1 Technicians = 2 Other staff = 0
Pharm4	Female	21-30	6-10	2-5	Independent	Pharmacy manager and owner	51+	351-450	>70	Pharmacy manager = 1 Additional pharmacists = 0 Technicians = 1 Other staff = 3
Pharm5	Male	21-30	<2	<2	Franchise	Pharmacy manager	41-50	>700	>70	Pharmacy manager = 1 Additional pharmacists = 1 Technicians = 2 Other staff = 0
Pharm6	Male	41-50	>15	>15	Independent	Pharmacy manager and owner	41-50	551-700	>70	Pharmacy manager = 1 Additional pharmacists = 2 Technicians = 2

Code	Gender	Age	Years of registered	Years of practice	Pharmacy type	Position	Average working hours per week	Average consumers per week	Average MMA patients per week	Total number of pharmacy staff
										Other staff = 2
Pharm7	Female	21-30	2-5	2-5	Franchise	Pharmacy manager	31-40	100-150	61-70	Pharmacy manager = 1 Additional pharmacists = 1 Technicians = 2 Other staff = 0
Pharm8	Female	31-40	11-15	11-15	Independent	Pharmacy manager	41-50	<100	61-70	Pharmacy manager = 1 Additional pharmacists = 0 Technicians = 0 Other staff = 4
Pharm9	Female	41-50	6-10	6-10	Independent	Pharmacy manager	31-40	351-450	21-30	Pharmacy manager = 1 Additional pharmacists = 0 Technicians = 0 Other staff = 2 (a nurse and a midwife)

Code	Gender	Age	Years of registered	Years of practice	Pharmacy type	Position	Average working hours per week	Average consumers per week	Average MMA patients per week	Total number of pharmacy staff
Pharm10	Female	31-40	6-10	6-10	Independent	Pharmacy manager and owner	41-50	151-250	41-50	Pharmacy manager = 1 Additional pharmacists = 0 Technicians = 1 Other staff = 3
Pharm11	Female	21-30	<2	<2	Co-located with a doctor's practice	Additional pharmacist	51+	551-700	21-30	Pharmacy manager = 1 Additional pharmacists = 1 Technicians = 3 Other staff = 0
Pharm12	Male	31-40	6-10	6-10	Independent	Pharmacy manager and owner	41-50	151-250	41-50	Pharmacy manager = 1 Additional pharmacists = 1 Technicians = 0 Other staff = 0

Pharmacy technicians (n=12)

Code	Gender	Age	Years of registered	Years of practice	Pharmacy type	Pharmacy ownership	Average working hours per week	Average consumers per week	Average MMA patients per week	Total number of pharmacy staff
Tech1	Male	21-30	2-5	2-5	Independent	Non-pharmacist	41-50	451-550	>70	Pharmacy manager = 1 Additional pharmacists = 1 Technicians = 7 Other staff = 0
Tech2	Female	21-30	2-5	2-5	Franchise	Non-pharmacist	41-50	>700	>70	Pharmacy manager = 1 Additional pharmacists = 1 Technicians = 3 Other staff = 1
Tech3	Female	21-30	6-10	6-10	Independent	Non-pharmacist	21-30	251-350	>70	Pharmacy manager = 1 Additional pharmacists = 0 Technicians = 1 Other staff = 2
Tech4	Female	21-30	<2	<2	Independent	Non-pharmacist	51+	151-250	>70	Pharmacy manager = 1 Additional pharmacists = 2 Technicians = 3

Code	Gender	Age	Years of registered	Years of practice	Pharmacy type	Pharmacy ownership	Average working hours per week	Average consumers per week	Average MMA patients per week	Total number of pharmacy staff
										Other staff = 4
Tech5	Female	21-30	6-10	6-10	Independent	Non-pharmacist	41-50	151-250	31-40	Pharmacy manager = 1 Additional pharmacists = 0 Technicians = 2 Other staff = 8
Tech6	Female	41-50	>15	>15	Independent	Non-pharmacist	21-30	451-550	>70	Pharmacy manager = 1 Additional pharmacists = 0 Technicians = 2 Other staff = 2
Tech7	Male	21-30	2-5	2-5	Independent	Non-pharmacist	41-50	451-550	>70	Pharmacy manager = 1 Additional pharmacists = 1 Technicians = 6 Other staff = 0
Tech8	Female	21-30	2-5	2-5	Franchise	Non-pharmacist	41-50	>700	>70	Pharmacy manager = 1 Additional pharmacists = 1 Technicians = 4

Code	Gender	Age	Years of registered	Years of practice	Pharmacy type	Pharmacy ownership	Average working hours per week	Average consumers per week	Average MMA patients per week	Total number of pharmacy staff
										Other staff = 0
Tech9	Female	21-30	<2	<2	Independent	Non-pharmacist	41-50	551-700	>70	Pharmacy manager = 1 Additional pharmacists = 1 Technicians = 1 Other staff = 0
Tech10	Female	21-30	2-5	2-5	Franchise	State-owned enterprise	41-50	451-550	>70	Pharmacy manager = 1 Additional pharmacists = 2 Technicians = 8 Other staff = 3
Tech11	Female	21-30	2-5	2-5	Independent	Non-pharmacist	41-50	>700	>70	Pharmacy manager = 1 Additional pharmacists = 1 Technicians = 3 Other staff = 2

Code	Gender	Age	Years of registered	Years of practice	Pharmacy type	Pharmacy ownership	Average working hours per week	Average consumers per week	Average MMA patients per week	Total number of pharmacy staff
Tech12	Female	31-40	>15	>15	Co-located with a doctor's practice	Regional-owned enterprises	41-50	>700	>70	Pharmacy manager = 1 Additional pharmacists = 1 Technicians = 5 Other staff = 5

Table 5.2. Pharmacy trading hours and pharmacists working hours as reported by pharmacist (n=12) and pharmacy technician (n=12) respondents

Pharmacist respondents (n=12)												
Code	Trading hours				Pharmacist manager attendance (hours)				Additional pharmacist attendance (hours)			
	Monday-Thursday, Saturday	Friday	Sunday	Public holiday	Monday-Thursday, Saturday	Friday	Sunday	Public holiday	Monday-Thursday, Saturday	Friday	Sunday	Public holiday
Pharm1	07.00-19.30	07.30-17.00	07.00-19.30	Closed	9.5	8.5	9.5	Off	-	-	-	-
Pharm2	07.00-21.00	07.00-21.00	07.00-21.00	07.00-21.00	11	11	Off	Off	-	-	-	-
Pharm3	07.00-22.00	07.00-22.00	07.00-22.00	07.00-22.00	8	7	Off	Off	7 (Off on Saturday)	8	8	8
Pharm4	08.00-21.00	08.00-21.00	08.00-21.00	08.00-21.00	10	10	10	10	-	-	-	-
Pharm5	08.00-21.00	08.00-21.00	08.00-21.00	14.00-21.00	7	7	7	Off	7	7	7	7
Pharm6	07.30-21.00	07.30-21.00	07.30-20.30	08.00-20.30	7.5	7.5	Off	Off	6	6	6.5	6.5

Pharmacist respondents (n=12)												
Code	Trading hours				Pharmacist manager attendance (hours)				Additional pharmacist attendance (hours)			
	Monday-Thursday, Saturday	Friday	Sunday	Public holiday	Monday-Thursday, Saturday	Friday	Sunday	Public holiday	Monday-Thursday, Saturday	Friday	Sunday	Public holiday
Pharm7	07.00-22.00	07.00-22.00	07.00-22.00	07.00-22.00	7 (Monday & Wednesday only)	7	7	5	7	7	7	7
Pharm8	07.30-20.45	07.30-20.45	07.30-20.45	Closed	6	6	Off	Off	-	-	-	-
Pharm9	08.00-20.30	08.00-20.30	08.00-20.30	Closed	6.5	6	Off	Off	-	-	-	-
Pharm10	08.00-20.30	08.00-20.30	Closed	08.00-20.30	7	7	Off	Off	-	-	-	-
Pharm11	07.00-22.00	07.00-22.00	07.00-22.00	09.00-22.00	8	8	8	6	7	7	7	7
Pharm12	08.00-20.00	08.00-20.00	16.00-20.00	16.00-20.00	7	7	4	4	-	-	-	-

Pharmacy technician respondents (n=12)												
Code	Trading hours				Pharmacist manager attendance (hours)				Additional pharmacist attendance (hours)			
	Monday-Thursday, Saturday	Friday	Sunday	Public holiday	Monday-Thursday, Saturday	Friday	Sunday	Public holiday	Monday-Thursday, Saturday	Friday	Sunday	Public holiday
Tech1	07.00-21.00	07.00-21.00	07.00-21.00	07.00-21.00	6	6	Off	Off	6	6	Off	Off
Tech2	08.00-21.00	08.00-21.00	08.00-21.00	14.00-21.00	7	7	7	7	7	7	7	7
Tech3	08.00-21.00	08.00-21.00	08.00-21.00	Closed	4 (Off on Saturday)	0	0	0	0	0	0	0
Tech4	24 hours	24 hours	24 hours	24 hours	7	7	Off	Off	7	7	Off	Off
Tech5	07.00-20.00	07.00-20.00	07.00-11.30	07.00-11.30	8	8	4	4	-	-	-	-
Tech6	07.00 - 20.30	07.30-20.30	7.30-20.30	8.00-20.30	6	6	Off	Off	-	-	-	-
Tech7	07.30-21.00	07.30-21.00	07.30-21.00	Closed	8	8	Off	Off	6	6	6	Off
Tech8	08.00-21.00	08.00-21.00	08.00-21.00	14.00-21.00	7	7	Off	7	7	7	Off	7

Pharmacy technician respondents (n=12)												
Code	Trading hours				Pharmacist manager attendance (hours)				Additional pharmacist attendance (hours)			
	Monday-Thursday, Saturday	Friday	Sunday	Public holiday	Monday-Thursday, Saturday	Friday	Sunday	Public holiday	Monday-Thursday, Saturday	Friday	Sunday	Public holiday
Tech9	08.00-21.00	08.00 - 21.00	08.00 - 21.00	14.00 - 21.00	5 (Off on Saturday)	5	0	0	5 (Off on Saturday)	5	0	0
Tech10	24 hours	24 hours	24 hours	24 hours	7	7	7	7	7	7	7	7
Tech11	07.00-22.00	07.00-22.00	07.00-22.00	07.00-22.00	7	7	Off	Off	7	7	Off	Off
Tech12	07.00-20.30	07.00-20.30	Closed	Closed	7	7	Off	Off	6.5	6.5	Off	Off

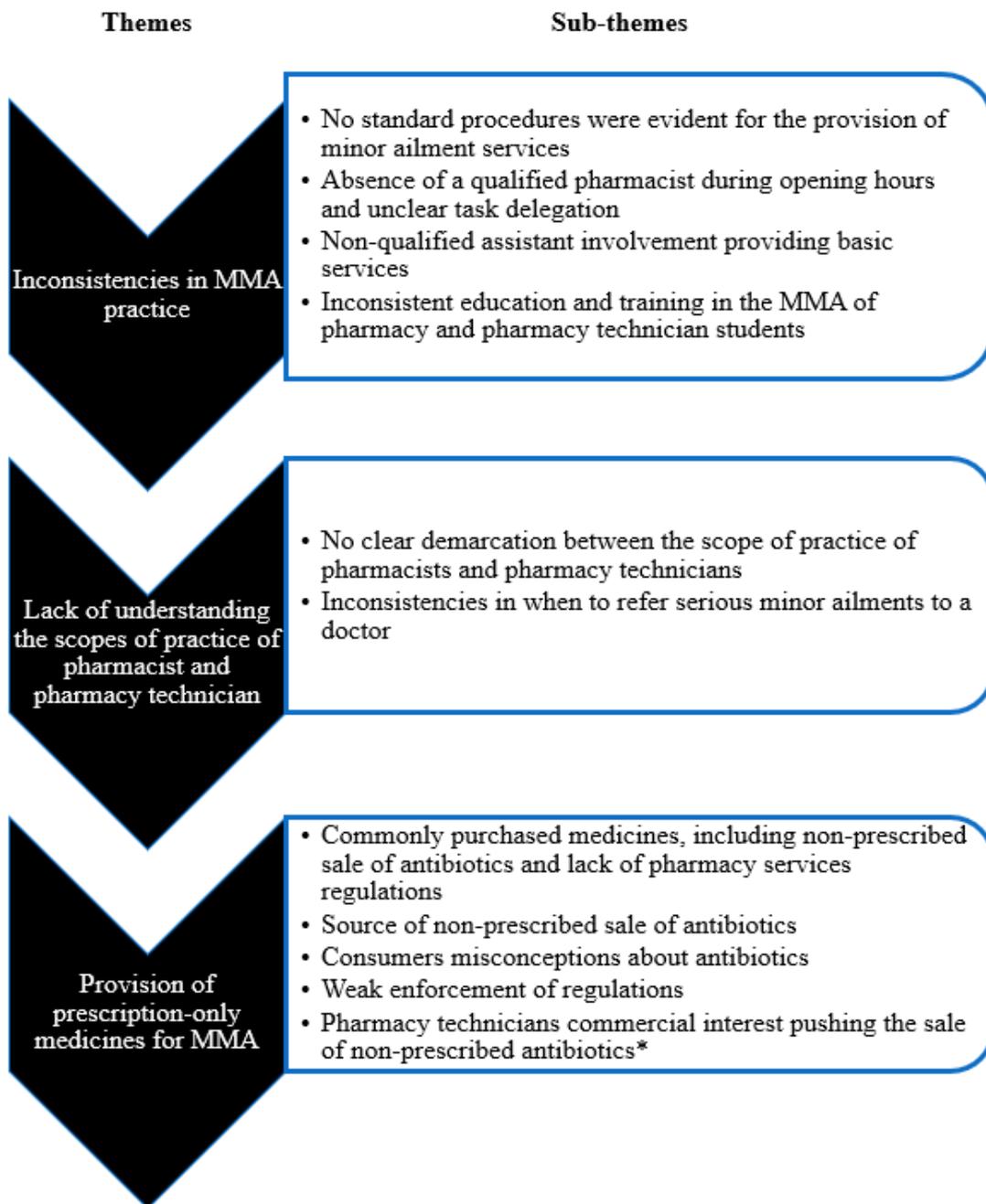
(-) = Pharmacy does not have additional pharmacist(s)

5.4.2 Current practice of the MMA

Three main themes emerged in related to the respondents' perspectives of the MMA, two main themes from factors influencing the current practice in the MMA, and two main themes from the impact of COVID-19 on community pharmacies, which are expanded in the following sections below. The interviews lasted between 45 minutes and one hour for the 24 interviews conducted for both respondent groups (pharmacists and pharmacy technicians).

5.4.2.1 The perspectives of the MMA

Respondents' perceptions of the interview questions regarding MMA were evaluated using inductive thematic analysis, which revealed three main themes. The themes are: (1) inconsistencies in MMA practice, (2) the lack of understanding of the scope of practice of pharmacists and pharmacy technicians, and (3) provision of prescription-only medicines for MMA. Interviewees indicated different sub-themes contributing to their perspectives of the MMA in community pharmacy in Central Java, Indonesia, ranging from pharmacy staff involvement in the MMA, respondents' education and training, the scope of practice, knowledge about prescription-only medicines, and weak regulatory enforcement. All themes and subthemes that emerged from the interviews are discussed in more detail below, with illustrative quotes from the respondents' interview transcriptions. Themes related to pharmacists' and pharmacy technicians' perspectives on the MMA are shown in Figure 5.1.



*Sub-theme emerged from the pharmacy technicians' interviews

Figure 5.1. Perspectives of the current MMA practice as perceived by pharmacist (n=12) and pharmacy technician (n=12) respondents.

5.4.2.1.1 Inconsistencies in MMA practice

A number of sub-themes encompassing the theme of inconsistencies in MMA practice were highlighted. No standard procedures were evident from the interviews for providing minor ailment services, unclear task decision and decision making was often evident, absence of qualified pharmacists from the premises during opening hours, non-qualified assistants involvement in providing basic minor ailments services, and inconsistent training and education were major issues that were identified from the interviews (Figure 5.1).

5.4.2.1.1.1 *No standard procedures were evident for the provision of minor ailment services*

The majority of pharmacist and pharmacy technician respondents perceived the current important role their community pharmacy plays in the MMA. Comments were consistent with the general view that all pharmacy staff provided the MMA services at the pharmacy. Both group respondents indicated that all pharmacy staff, regardless of their qualification, can initially assist customers presenting to the pharmacy and provided minor ailments services unless the request requires higher-level input. However, in the majority of cases no clear delegation limits were evident. Further, there was no real push to change the current pharmacy model:

“Sometimes, I am in charge of serving consumers (initially). Other times, it can be my wife (a pharmacist), the administrator, and staff (who graduated from pharmacy vocational high school or senior high school). Basically, anyone working in the pharmacy can be in charge of serving consumers”. (Pharm6)

“It depends on who is at the pharmacy. It can be a pharmacist, or it can be another staff.” (Pharm5)

“SPG (Sales Promotion Girls) will directly serve patients at the front door, welcome incoming patients, and offer their products to patients. Pharmacy technicians and pharmacists are also available when needed.” (Tech11)

“In the morning, the pharmacist can serve consumers, but in the afternoon, it is always the pharmacy technician who is in practice to serve consumers.” (Tech6)

In addition to there being no standard procedures for minor ailments services, both respondent groups reported unclear task delegation and decision-making if a pharmacist was not in the

pharmacy. Pharmacist respondents highlighted variable task delegation when pharmacists were not available at a pharmacy and utilised pharmacy technicians to assist in managing minor ailments as illustrated below:

“...In my pharmacy, there is a senior staff who can substitute me when I am not available. Usually, they will WhatsApp or call me when they need me”. (Pharm6)

“Four assistants and I will directly serve consumers at the front desk. The pharmacy assistant will consult me if there is a complaint that they do not understand. However, if they understand the illness, they will immediately serve the consumer.” (Pharm8)

“... I informed and admitted to BPOM (the Indonesian National Food and Drug Agency) that I am (the pharmacist) not always in practice at the pharmacy while the pharmacy is open. Thus, I trained and delegated two people (with training background) to provide services at the pharmacy while I am not at service.” (Pharm8)

“I always inform pharmacy technicians that whenever they are having certain issues, they can contact (by phone or WhatsApp) me because serving medicine cannot be done carelessly. However, since my TTK (pharmacy technician) has worked with me for a long time, such a situation is pretty rare.” (Pharm10)

“If one pharmacist is having a day off, the other pharmacist will only serve in the afternoon shift. Thus, we (pharmacy technicians) will be in charge of running the pharmacy. However, in case we need anything to ask, we can consult with a senior staff... we can call the pharmacist to consult the patient’s complaint according to their need.” (Tech11)

However, there are pharmacies where a pharmacist provides all MMA services, as illustrated below:

“I am in charge of serving patients at most of the time. Often, I work a full-time shift from morning to dusk (maghrib). After maghrib, the TTK (pharmacy technicians) will take over the shift.” (Pharm4)

“In the pharmacy, I do not recommend the pharmacist assistants to serve patients (presenting with minor ailments). Our pharmacy always has additional pharmacist for the morning shift, and a pharmacist in charge of the pharmacy for the night shift.” (Pharm7)

“If the situation at the pharmacy is quiet, I will treat them (consumers with minor ailments) all by myself.” (Pharm3)

In contrast, a pharmacy technician stated her confidence to manage minor ailments and pharmacist involvement was not required, as illustrated below:

“The pharmacist here is fresh graduated and does not have full-time work at the pharmacy, so I never recommend consulting a pharmacist for patients.... Whenever there is a problem related to the need to consult about medication, the pharmacist will consult me because I have worked in this field for nine years...” (Tech3)

5.4.2.1.1.2 *Pharmacists’ absence and task delegation*

While it was apparent that there were no standard procedures for MMA services, problems with the inconsistency in practice for minor ailments appears to be the result from pharmacist absence from the premises during opening hours. This creates inconsistencies in practice which affects professionalism in their pharmacy work, as illustrated by the following quotes:

“.. In the afternoon, when the pharmacists are not in practice, many consumers require self-medication, and we (the pharmacy technicians), have to serve them all, not the pharmacists because they are not in service...I just want to say that pharmacists should practice according to their job description.” (Tech6)

“Pharmacists must always be in practice at the pharmacy and provide services according to their oath. Thus, no pharmacist, no service. In fact, in the regions, many pharmacists are not in practice at pharmacies...” (Pharm8)

The findings from this study highlight that pharmacists’ absence during pharmacy trading hours is a common practice in community pharmacies in Central Java, Indonesia. One participant who raised this concern stated that a pharmacist’s absence in the pharmacy could jeopardise patient safety.

“...many people come with a complaint of minor ailments to the pharmacy every day. However, the main obstacle is that the pharmacist is not always at service at the pharmacy. It is also impossible for me to work a full-time shift at the pharmacy...many people do not know how to use medicines and the medicine indications can be fatal. I often see that my own family often have no idea on how to use medicines....” (Pharm10)

“Pharmacists are not always at practice at the pharmacy because they only work for one shift. For example, they can work at the pharmacy only from 8am-12pm. Thus, like it or not, everything should be handled by pharmacy technicians like us. During my decades of work, I have seen many pharmacists who only take up their salaries... when the pharmacy manager is not in practice at the pharmacy, usually there will be additional pharmacist(s). However, it remains the same, since pharmacists only serve half a day at the pharmacy.” (Tech6)

The pharmacy technician interviews indicated that pharmacists’ interaction with consumers was small and often these activities were delegated to other pharmacy staff, either pharmacy technicians or non-qualified assistants. The absence of pharmacists limited their ability to assume any direct responsibility for MMA provision, was often highlighted in this study.

One pharmacy technician expressed his hesitation to employ a pharmacist on a part-time basis and stated the only reason he did was to fulfil the requirements for establishing a new community pharmacy as follows:

“...in order to own a pharmacy...I have to hire pharmacists because I am only licensed as a pharmacy technician. It all comes back to business. You need to have a pharmacy manager, additional pharmacist(s), and at least two pharmacy technicians. In fact, I lost money from hiring additional pharmacist because they did not need to be present in the pharmacy. I hired additional pharmacist simply to meet the requirements of owning a pharmacy.” (Tech1)

Another pharmacist said the reasons for pharmacists’ absence were the difficulty of attracting pharmacists to work in rural areas because most pharmacists preferred to work in the cities. As a result, pharmacies were often supervised by non-qualified assistants. By law, Indonesian pharmacists are allowed to work in up to three community pharmacies, as illustrated below:

“Two years after the regulation (about additional pharmacists) was issued, finding additional pharmacists was very difficult.... I have been looking for an additional pharmacist until now, but I have not been able to find one. Many pharmacists were graduated from Yogyakarta (a highly populous province located in the Central part of Indonesia), but I do not know where the graduates were. This difficulty may be attributed to the regulations that allow one pharmacist to work in three places.” (Pharm8)

“Many pharmacies do not have their pharmacists always in service for two shifts. When I am (the pharmacist) not in service, I will assign other staff (e.g. high school graduates)

at the pharmacy. Thus, it is necessary to enrich high school graduates with knowledge... even though there is no pharmacist in service, the pharmacy can still provide the community with good service.” (Pharm8)

“The provision of counselling and administering prescription-only medicines belong to the pharmacist's scope. We, as a pharmacy technician, are only required to help. However, in practice, it is the pharmacy technicians who provide counselling for consumers, although I am not a pharmacist. Many pharmacists in other pharmacies also came to the pharmacy only for one to two hours, take-up salary and leave... counselling is supposed to be handled by the pharmacist” (Tech5)

Finally, the minor ailment services in community pharmacies in Central Java occur without properly defined procedures and may therefore be varied between practices. Community pharmacists and pharmacy staff continue to deliver a greater range of MMA services, and a structured approach for the treatment of minor ailments is needed to support these changes. As such the analysis of the interviewees’ responses indicates a need for structured, protocol-driven MMA services to ensure patient safety and prevent inconsistencies in the MMA practice.

5.4.2.1.1.3 *Non-qualified assistants’ involvement providing basic services*

The result from pharmacist and pharmacy technician interviews shows there was an involvement of non-qualified assistants other than pharmacists and pharmacy technicians in providing minor ailments services or acting as the first point of contact. Depending on the nature of the request, this involvement raises concerns regarding patient safety and quality of pharmacy services. Pharmacist and pharmacy technician respondents reported that non-qualified assistants were involved in the sale of medicines working under the supervision of a pharmacist or pharmacy technician as illustrated below:

“Non-qualified assistants are sometimes involved in providing pharmacy services to patients presenting with minor ailments, but they shall consult the pharmacist or pharmacy technicians for service provision. Non-qualified assistants only serve OTC medicines and OBT medicines, but not all of them.” (Pharm1)

“They (non-qualified assistants) serve all minor ailments because they have experience working in pharmacies. I could teach them easily, given their background. If they need to consult the pharmacist or me, usually they will call (by phone) me. They can serve the consumers alone or sometimes with the pharmacist or with me. In the pharmacy, notes

on the use of medicines that patients need are provided so that non-qualified assistants can serve the consumers or patients by looking at the notes. Usually, they will call me (by phone) for consultation if they are confused.” (Tech3)

“In my pharmacy, there are two people in charge of serving consumers at the front desk: staff who graduated from pharmacy vocational high school and non-qualified assistants.” (Tech5)

Although some respondents allowed non-qualified assistants involvement in the MMA services, other pharmacists disagreed and stated their concerns that such services could not be safely performed by non-qualified assistants:

“Staff without any pharmaceutical background are usually asked to help manage the administrative affairs. Therefore, the non-qualified assistants are not involved in the service at the pharmacy. We also have to maintain the good name of the pharmacy. It will be worrisome if we deliver the wrong medicine to patients because it can harm the reputation of the pharmacy.” (Pharm2)

It appeared that the issues of non-qualified assistants’ involvement in the MMA are the results of the shortage of staff and pharmacist absence in the pharmacy, particularly during pharmacy peak operating hours. It is evident that pharmacist respondents were aware of the regulation regarding non-qualified assistants’ involvement in providing minor ailment services indicates inappropriate practice, as follow:

“They (non-qualified assistants) cannot provide such service. The law has stipulated that they are not supposed to provide the service. However, during the peak hours at the pharmacy, non-qualified assistants (who collects the prescriptions or deliver medicines) will come to help us. Our non-qualified assistants at this pharmacy are very senior and are well experienced. Thus, she can help us a lot.” (Pharm3)

Pharmacists were adamant that staff with a pharmaceutical background were critical for patient safety. According to the Government Regulation of the Republic of Indonesia number 51/2009 regarding pharmacy services, it is illegal for non-qualified assistants to perform certain pharmacy activities during pharmacists’ absence, as it is considered not safe or appropriate for them to do so. Further, a pharmacist must always be available at pharmacies during trading hours, although ownership of a pharmacy is not restricted to pharmacists. This interview data suggests that despite the current regulations regarding pharmacy services, it appeared that both

group respondents were ignorant of such regulations, raising concerns about gaps in pharmacy staff's role in the MMA.

5.4.2.1.1.4 *Inconsistent education and training of pharmacy and pharmacy technician students*

There was a perception among pharmacist and pharmacy technician respondents that pharmacy education and training delivered by universities varies and lacks relevance to pharmacy practice. Further, minor ailments courses were often integrated into various therapeutic disciplines. Some pharmacists and pharmacy technicians reported their university experience as follow:

“Back then, the lectures at the university only provided us with theoretical explanation without going to further detail as what we can experience during the practice. In fact, there was no special course on minor ailments since the materials related to minor ailments were covered in some units such as Pharmacology and Pharmaceutical Science. Apart from that, there is a wide gap between theoretical aspect and practical aspect.” (Pharm9)

“...there is a huge gap between the curriculum related to the provision of minor ailments and the real practice. We will be able to tell this gap when we directly serve the patient. I only started to learn how to communicate and interact with patients effectively once I got involved in the real clinical practice.” (Pharm12)

“Based on my experience during clinical placements, there were some gaps between theoretical explanations in the university lectures and the real practices because we had to encounter different types of patients. Thus, I believe that the university shall provide students with the necessary materials or direct training to understand the real situation and conditions in the field, especially for patients with minor ailments.” (Tech2)

“What I received while practising in college is different from my working experience in a pharmacy. The first time I began working at the pharmacy, little did I know about anything.” (Tech11)

Other respondents reported similar experiences during their education which highlighted the gaps:

"...back then, there was no particular courses on minor ailments, since the materials for minor ailments were merely included in other units, such as pharmacotherapy, self-medication, community pharmacy, and pharmacology." (Pharm10)

"There was lack of classroom sessions on minor ailment materials." (Pharm1)

"There were some weaknesses in the curriculum.... I think the materials delivered to students were way too extensive, which made it hard to understand. Probably, it is a good idea to simplify the materials by only focusing on the core materials to make them easier to understand." (Tech4)

"I just feel that the material I obtained when I was at the pharmacy vocational high school was more comprehensive than when I was in Pharmacy Diploma." (Tech5)

Consequently, reported levels of confidence in providing minor ailments services varied when the pharmacy students graduated. Several pharmacists lacked the confidence to provide minor ailment services when they graduated due to inconsistencies and insufficient training received at university. They had turned to self-learning to improve their competence.

"I was not confident back then, because I had to learn everything from scratch (when graduated)." (Pharm6)

"I believe that confidence is more closely related to experience...Some universities may provide no clinical placement program for the undergraduate level. For example, a staff at my pharmacy who graduated from another university had never had a clinical placement during his studies at the undergraduate level." (Pharm2)

In contrast, the majority of pharmacy technician respondents reported a high level of confidence in providing minor ailments services when they graduated. This is possibly because the majority of them had graduated from pharmacy vocational high school and had employment in the community pharmacy before they continued their education to a Pharmacy Diploma, as illustrated below:

"I was grateful that I had a chance of working at the pharmacy for a year before entering the Pharmacy Diploma course. Thus, after finishing college, I became more confident about my skill." (Tech7)

“Because I graduated from pharmacy vocational high school, I have the basic knowledge to work in a pharmacy. After graduating from vocational high school, I started to work part-time in a pharmacy. Hence, I already have some experience working at the pharmacy.” (Tech8)

“We were already employed, so we were considered to have practical experience.... I was very sure and confident about my skill.” (Tech6)

On the other hand, only one pharmacist reported having the confidence to manage minor ailments at graduation and stated that her education had prepared her to provide services in the MMA:

“I was quite confident with the knowledge that I had received from campus. During the Apothecary program, I was equipped with a clinical placement in the hospital and there was a comprehensive exam for deepening my understanding. Thus, when I graduated, I felt confident enough with my knowledge although there were still many shortcomings.” (Pharm10)

Pharmacy training received much attention from pharmacist and pharmacy technician respondents as they viewed it as essential to improving the relevance to pharmacy practice. There was a mixed response from pharmacist respondents regarding the format of the proposed training. Some pharmacists proposed clinical practice or hands-on experiential training. Others proposed a longer duration of clinical placement during the Apothecary program.

Respondents who proposed hands-on experiential training during pharmacy course stated their opinions as follows:

“.... there should be some kinds of training or seminars and internships with hands-on experience to the patient because a mere theoretical practice will not prepare students with the real practices.” (Pharm3)

“I think the best training is by having many interactions with patients and mental training to deal with patients because, in practice, it is hard sometimes to deal with certain types of patients.” (Pharm5)

“In my opinion, it is necessary to add a clinical placement at a pharmacy, because in the past, clinical placements were only conducted in hospitals or in industries.” (Tech7)

“I received hands-on experience when I had my PKL (Field Work Practice) at a pharmacy because the pharmacy where I did my internship was a busy pharmacy with many consumers. That way, I felt confident with my skills after experiencing two months of a clinical placement in a pharmacy... As a result, I could boost my confidence because I have better knowledge about calculating doses and all that stuff.” (Tech10)

While pharmacists who preferred a longer duration of clinical placement and practical training (internship) after the Apothecary program stated that such activities would provide students a better learning experience. Further, there was a recommendation that there was a need to add a clinical placement in the Bachelor of Pharmacy program prior to undertaking the Apothecary program, as illustrated below:

“In my opinion, clinical placement would be better if the duration was extended.... what I mean is ideally there should be a longer duration for fieldwork practice.” (Pharm4)

“Students should have some practical training (internship) in pharmacies and hospitals after undergoing the Apothecary degree program. This is given the fact that the duration for clinical placement was limited to only three months in a hospital and three months in a pharmacy... when I enrolled in the Apothecary program, I did not get enough knowledge about medicines...” (Pharm10)

“In my opinion, clinical placement should be made available at the undergraduate level and if possible, the duration should be increased to at least three months or one semester. This way, I believe that prospective pharmacists can better prepare themselves to face the real-life cases.” (Pharm2)

One senior pharmacist who owned a pharmacy was highly supportive of expanding pharmacist professional training, which was outside the scope of standard practice to improve services:

“I learned about acupuncture, cupping, the theory of herbal medicine and acupressure as capital to serve the community...hence, I often combine chemical medicine and traditional therapy to treat patients.” (Pharm6)

Unlike pharmacy technician respondents, lack of training and confidence was reported by the majority of pharmacist respondents as the main difficulty to providing the MMA and thus, they would like further training in this area. The majority of pharmacist respondents agreed that they would need longer clinical placement or training. However, no clear area for future training was

identified in the interviews, although some pharmacists agreed that training should focus much more on experiential learning.

5.4.2.1.2 Lack of understanding of the scopes of practice of pharmacists and pharmacy technicians

5.4.2.1.2.1 *No clear demarcation between the scope of practice of pharmacists and pharmacy technicians*

In the community pharmacy setting, the pharmacist's role in managing minor ailments was supported by pharmacy technicians. Pharmacy technicians may perform many pharmacy services, however they should know when to refer to a pharmacist. Unfortunately, there is lack of consensus between the pharmacists and pharmacy technicians with regards each other's scope of practice. This area is expanded below.

Firstly, there is no standard procedure for the MMA services in community pharmacy, leading to services being managed by pharmacists, pharmacy technicians, or non-qualified assistants. It was apparent that pharmacy technicians perform the same pharmacy services as pharmacists would do. The interviews suggested there were no clear limits for their scopes of practice between pharmacists' and pharmacy technicians', including their responsibilities to undertake MMA services as illustrated below:

“There is no such difference (scope of practice) at my pharmacy. But there should be a difference. Mostly we handle some common diseases, such as coughs, colds, fever, dizziness, toothache, allergies, skin diseases, and sore eye. Patients are mostly served by both pharmacists and pharmacy technicians. But currently, there is no difference or limitation between my pharmacy technicians and me.” (Pharm1)

“I think they are all the same. If the types of minor ailments at the pharmacy can be handled equally well by pharmacists and pharmacy technicians, there should be no difference. However, sometimes pharmacy technicians may consult me for some complicated cases because the pharmacist has a deeper understanding of the required knowledge.” (Pharm3)

“Since I work in this pharmacy, there is no strict difference between the service provision for minor ailments that should be handled by a pharmacy technician or by a pharmacist. From my experience, the complaints of minor ailments are all the same. Thus, there is no

need to differentiate between the classification of minor ailments that require the management of a pharmacist or a pharmacy technician.” (Tech2)

Secondly, variations exist in the type of minor ailments to be managed between pharmacists and pharmacy technicians. Pharmacists were perceived to manage more “complex” ailments such as skin problems or allergies (the most common) and bacterial conjunctivitis, and provide further referrals to the doctor if there was no improvement:

“... pharmacists are in charge of allergies, itching, heartburn or stomach ache...” (Pharm11)

“Yes, I have often treated patients with these complaints (eye infections or bacterial conjunctivitis). However, if their eyes are infected or red due to irritation, I usually give something mild like Xitrol (Cendo Xitrol). If after two to three days it has not healed, I suggest the patients see the doctor.” (Pharm10)*

**Cendo Xitrol: prescription-only medicine for eye inflammation containing Dexamethasone 1mg, neomycin sulfate 3.5mg, polymyxin B sulfate 10,000SI*

5.4.2.1.2.2 *Inconsistencies in when to refer serious minor ailments to a doctor*

In the case of MMA, many patients who come to the pharmacy will be advised and treated without a referral to another healthcare professional. However, there will be some potentially serious ailments that require urgent treatment by a doctor. Although the majority of pharmacist and pharmacy technician respondents mentioned that referral is required when the symptoms are prolonged, the majority of them indicated inconsistencies in which ailments should be referred, as illustrated by the following:

“...we would refer the patients suffering from diarrhea for more than three days with the bloody stool containing mucus to the nearest hospital/Puskesmas (community health centre). In addition, we also recommend patients with fever, cough, runny nose for more than three days to visit the hospitals/health centers.” (Pharm1)

“...I shall refer some patients who suffer from shortness of breath and heartburn, complaints of pain in the left chest to see a doctor. Usually, I will examine their condition by seeing whether the leg is swollen or not. In the case of a swollen leg, I will suggest the patient see the doctor.” (Pharm9)

“Whenever we have patients with complaints of diabetes and refuse to go to the doctor, I usually check their sugar levels and ask if they have shortness of breath. If the patient is only taking metformin, I suggest that they change their medicine because it did not downgrade their sugar levels.” (Tech3)

“Usually, I will recommend patients with vomiting and prolonged fever to see the doctor.” (Tech7)

“I will recommend patients with some prolonged diseases such as a cough that has lasted for two weeks to see the doctor.” (Tech10)

5.4.2.1.3 Provision of prescription-only medicines for MMA

5.4.2.1.3.1 Commonly purchased medicines, including the non-prescribed sale of antibiotics and its existing regulations

There appears to be a similarity between the pharmacist and pharmacy technician respondents that non-prescription supply of prescription-only medicines is a common practice in community pharmacies in Central Java. The interviews indicate that many pharmacists and pharmacy technicians had dispensed all classifications of medicines, including prescription-only medicines for treating minor ailments. The interview analysis showed that the Indonesian health authorities have failed to initiate any program to address concerns regarding non-prescription supply of prescription-only medicines, which has resulted in this becoming common practice. Regulations regarding community pharmacy services must be reviewed regularly and health authorities need to support pharmacy staff in providing greater services:

*“Yes, we have often served it (prescription-only medicines) every day before the regulation of the Minister of Health (down-scheduling of medicines) was issued. We have provided patients with medicines, such as cetirizine***, CTM**, and dexamethasone* (tablet) too (without prescriptions).”* (Pharm8)

***Labelled as pharmacist-only medicines

**Labelled as limited non-prescription medicines

*Labelled as prescription-only medicines

“You can call me to not comply with the regulation because I have sold those medicines (prescription-only medicines) even before the issuance of the regulation. For example, I sold allergy medicines that must use a prescription.” (Tech5)

“I have given these medicines (prescription-only) every day before the issuance of the regulation of the Minister of Health. Even though the patient came without a prescription, whenever their blood pressure turned out to be high, and they had never taken any medicine, usually I would give them a common blood pressure medicine such as amlodipine.” (Tech8)*

*Labelled as prescription-only medicines

*“... the pharmacy where I work never prohibits the provision of prescription-only medicines to patients. Some medicines like cough medicine for allergies are classified as prescription-only medicines, but it has often been given freely (supplied) to patients...there is no limit between prescription-only medicines and OBT medicines, so all medicines can be given to patients...We serve this medicine (cetirizine***) and also (we serve) if the patient brings any pack of medicines which is classified as prescription-only medicines to indicate that the patient had already taken it previously.” (Tech11)*

***pharmacist-only medicines

Both pharmacist and pharmacy technician respondents were aware of the regulations for dispensing prescription-only medicines. However, the interview data indicated a disregard to comply with the regulations. The supply of non-prescription medicines, including pharmacists-only medicines, was provided by unsupervised (no pharmacist presence in the pharmacy) pharmacy technicians in the majority of the cases. With the exception of narcotics and psychotropics, many pharmacists and pharmacy technicians illegally supply any medicines without prescriptions and without proper secondary packaging (the medicines are usually dispensed in a plastic clip, rather than using the original container).

There was a mixed response between pharmacists' perceptions regarding the non-prescribed sale of antibiotics. Some pharmacists indicated that antibiotics could be easily purchased without a prescription, and thus, considered a common practice.

“In Kebumen (a district in Central Java), there are many pharmacies that sell antibiotics without any prescription.... antibiotics are mostly sold freely without any prescriptions, but I limit the selling according to the usage in my pharmacy. If the patient really needs it, I will give it. If not, I will not give it.” (Pharm10)

“Actually, based on the regulations, we cannot provide patients with such medicine (antibiotics). However, in practice, not all pharmacies apply the same rules. Unless all pharmacies agree that they cannot give antibiotics, I will do the same. Sometimes I have

tried to comply with the regulation by preventing my pharmacy from selling antibiotics freely, but other pharmacies still sell them.” (Pharm9)

“...we do serve it to patients because antibiotics are affordable. You can get amoxicillin only for Rp 4500 (45 cents). Even you can have it only for Rp.2000 (20 cents).” (Pharm12)

A pharmacy technician respondent supported the statement that consumers can purchase antibiotics without a prescription when they show the sample container of the medicines to the pharmacy, as illustrated below:

“Yes, if they bring a sample of the medicine (antibiotics), they can easily get the medicine. Bringing a sample of the medicine means that they have used the medicine before.” (Tech6)

In contrast, other pharmacists responded that antibiotics were not allowed to be dispensed without a prescription. Pharmacists’ views around antibiotics can only be sold by a pharmacist after the presentation of a valid prescription are illustrated below:

“I always refuse to provide my patients with antibiotics at my pharmacy if the patient did not bring a prescription. However, patients often scold me for doing this... we have stopped providing antibiotics without any prescription...This regulation is triggered by fear of antibiotics resistance.” (Pharm4)

“...it is impossible for us to provide patients with antibiotics without a doctor's prescription. Patients who really need antibiotics, will immediately be referred to the Health Centers/Hospitals.” (Pharm1)

Although policies restrict antibiotic sales without prescriptions, the interview data indicated that antibiotics are still sold freely in most community pharmacies in Central Java, with or without pharmacist supervision. Some antibiotics were dispensed by pharmacy technicians without an appropriate assessment and the appropriateness of request (only using sample). It is unclear whether antibiotics dispensed were likely to be given with appropriate information (indication, duration, dosing, and directions) and advice.

5.4.2.1.3.2 *Source of non-prescribed sale of antibiotics*

The results for this study also suggest that non-pharmacy healthcare professionals were one of the sources of non-prescribed sale of antibiotics. The interviews reflect the current regulations and inconsistent monitoring by the Indonesian authorities, as reported by the pharmacist respondents:

“Nonetheless, in practice, even though my pharmacy does not sell antibiotics freely (supplied), it turns out that some midwives and nurses uncontrollably provide patients with antibiotics. They keep on providing patients with antibiotics. Many medical sales representatives of (certain) antibiotics meet the midwives or nurses in the village, and they work together so that the antibiotics can be supply directly to the patients or consumers...especially in the village with a large number of orderlies or midwives who during their clinical practice provide patients with excessive medicines without complying with the standard determined by the health department or BPOM. However, these agencies seem to have no gut to reprimand them because these medical practitioners have some specific laws to support their clinical practice.” (Pharm4)

"Even the paramedics and midwives gave antibiotics freely (supplied) to patients." (Pharm12)

Apart from the illegal dispensing of antibiotics, one pharmacist also reported that other healthcare professionals also engaged in the illegal provision of other prescription-only medicines:

“I saw some midwives and mantri (orderlies) providing some medicines that were out of their scope, and sometimes they gave the wrong medicine. Even worse, they also gave the patient who had a cardiac history with the medicine that contradicted the illness. Thus, I often ask some questions and counsel patients whether they have gastric ulcers because patients often receive medicines that are prescribed carelessly that may affect their stomach. Yesterday, I saw there were about five people having such cases, and in fact, they received (from the midwives and orderlies) the same medicines which caused problems in their stomach.” (Pharm12)

5.4.2.1.3.3 *Consumers misconceptions about antibiotics*

In addition to the interview reports concerning the sale of antibiotics, the interview questioning sought to explore factors that influenced this practice. As reported by pharmacist and pharmacy technician respondents, consumers' lack of knowledge or misconceptions about antibiotics were commonly raised in this study. Both pharmacists and pharmacy technicians described that their consumers demanded antibiotics indiscriminately for any minor ailment condition. As reported by both respondent groups, consumers believed that antibiotics are “powerful” medicines that can effectively treat minor ailments such as common cold, cough, diarrhoea, infections, itch, wounds, and pain. Several respondents discussed their experience with consumers around antibiotics, as illustrated in the following quotes:

“I often see patients use amoxicillin to treat itching, even though it should not be used to treat an itch. However, many patients always have their own assumptions about certain antibiotics. Often patients come with diarrhea and ask for super tetra. Then I explain that super tetra is not an antibiotic for diarrhea.”* (Tech3)

*Antibiotic contains tetracycline

“...there are some minor ailments treated with antibiotics. For example, usually, I will provide super tetra antibiotics for patients with urinary tract infections. In addition, I also provide the patient who has a prolonged and persistent cough that has lasted for two to three weeks but refuses to go to the doctor and insists on buying the medicine with cefadroxil** or amoxicillin.”* (Tech10)

*Antibiotic contains tetracycline

**A broad-spectrum antibiotic of the cephalosporin type

“I can easily provide amoxicillin to treat cough and cold. I always give information that the antibiotic must be taken three times a day and must be taken in a full course.” (Tech12)

“A common example that allows the provision of antibiotics is urinary tract infection (UTI). In general, patients will use ciprofloxacin and cefixime. Sometimes, pharmacists may give antibiotics if the patient has had a previous UTI. Patients prefer to come directly to the pharmacy rather than check with the doctor. Pharmacists will usually suggest increasing broader spectrum of activity, such as giving urinary Urotractin antibiotics.”* (Tech8)

*Antibiotic contains pipemidic acid

“There was also a patient who came to the pharmacy after falling and had a slashed wound... I gave him antibiotics to avoid infection because the wound was very wide...in essence, I always provide patients with three kinds of medicine: antibiotics, anti-inflammatories, and painkillers.” (Pharm9)

As reported, pharmacist and pharmacy technician respondents perceived that consumers were ignorant or lacked knowledge about antibiotics. These practices appeared to be driven by consumers’ perceptions that antibiotics could speed up recovery and eliminate any infections secondary to their sub-optimal knowledge of antibiotics. Misconceptions about the need to complete of the course of antibiotics by consumer raised concerns about antimicrobial resistance, as the following quotes illustrate:

“Consumers often feel better when they are given antibiotics, although these medicines should not be used carelessly and need to use based on the indications. Consumers often feel that if they have not taken antibiotics, they will not recover, and in fact, they often use antibiotics for less than five days, which causes resistance.” (Pharm10)

“I often ask patients who ask for amoxicillin about the use, and they have no idea about it. Although the medicine is still in a low category of antibiotics, many patients also do not know how to use high category antibiotics such as cefixime and ciprofloxacin. Many use less than five days. Consumers are often confused about why the medicine has to be all taken, but they will still buy the same antibiotic again at the pharmacy even though I have told them about it.” (Pharm10)

Both pharmacist and pharmacy technician respondents indicated that consumers pressured them to dispense antibiotics without a prescription. Consumers’ poor behaviour in demanding the non-prescribed sale of antibiotics indiscriminately are illustrated below:

“Patients will surely become upset. Instead, they will try to obtain antibiotics in other pharmacies. In their view, why they cannot have it at my pharmacy?” (Pharm12)

“I have encountered some obstacles like the provision of antibiotics, as previously mentioned. If I do not give it to the patients, they remain nagging about it.” (Tech12)

“As a pharmacist, I often receive some protests from patients when they do not receive their request for medicine. This fact especially applies to antibiotics restriction. I always refuse to provide my patients with antibiotics at my pharmacy if the patient does not bring a prescription. However, patients often scolded me for doing this.” (Pharm4)

5.4.2.1.3.4 Pharmacy technicians' commercial interest pushing the sale of non-prescribed antibiotics

Pharmacy technician respondents stressed concerns regarding “demand” as an influencing factor for the non-prescribed sale of antibiotics. They stated that they dispensed antibiotics without a prescription because of a culture of not refusing any customer request for medicines, as illustrated below:

“Consumers always expect to get all medicines easily including antibiotics and that is what makes me sometimes hesitate about refusing their request.” (Tech8)

Pharmacy technician respondents also justified the non-prescribed sale of antibiotics based on the need for the pharmacy to make a profit. According to them, they wanted to improve the pharmacy’s income by increasing the sale of medicines, including antibiotics, as follow:

“The poor condition of the pharmacy makes it unable to receive many prescriptions. Thus, the pharmacy had to sell antibiotics easily, and sell all medicines, both prescription-only medicines and antibiotics for profit.” (Tech5)

“...the circumstances on the ground often require us to exercise authority that is not ours, such as selling antibiotics to consumers. Principally, I know that antibiotics should not be traded easily. Nonetheless, if we do not sell antibiotics, the pharmacy will not make a profit.” (Tech6)

“I have been providing people with antibiotics a lot of times during my nine years of work. If the patient is not served, we will also not receive any income. The most important thing is that the medicine is actually used according to the patient's condition, not being abused.” (Tech3)

Further, a pharmacy technician stated another reason for the inappropriate dispensing of antibiotics was the financial circumstances of patients who could not afford the fees to see the doctor. Thus, they came directly to the pharmacy for their health problems. In such a case, the pharmacy technician perceived it was the pharmacy technician’s responsibility to dispense antibiotics and write a prescription as a doctor would do, as illustrated below:

“...patients do not want to go to the doctor because buying medicines directly at the pharmacy is much more affordable. For antibiotics, sometimes, when I have time, I will ask the doctor for a prescription at the second pharmacy where I work because the doctor owns the pharmacy...usually, he (the doctor) will ask the pharmacist or me to write the

prescriptions in his practice room. A doctor's prescription book is provided in the practice room, which the pharmacist or I can directly write." (Tech3)

5.4.2.1.3.5 *Weak enforcement of regulations*

Although several pharmacist respondents indicated they were aware of the regulations to restrict the sale of antibiotics without prescription, this inappropriate practice continues as no enforcement of regulations has been applied from the Indonesian authorities. Some respondents stated that the regulations to dispense prescription-only medicines are not strictly enforced in community pharmacies, as illustrated in the following quotes:

"BPOM only checks medicines without a logo. BPOM never asked about antibiotics in detail. They only asked about medicine availability, unclear medicine logos, unclear licenses for herbal medicines, pharmaceutical administration, and narcotics psychotropic books." (Pharm9)

"...a visit from BPOM is always related to pharmaceutical administration." (Pharm8)

"Each representative from the pharmacy was invited to come (to BPOM office) to have the briefing (about dispensing antibiotics). However, it remains merely a briefing and direction without any strict supervision." (Tech6)

5.4.2.2 Factors influencing the current practice in the MMA

5.4.2.2.1 Facilitators to the provision of MMA services

This study has explored the facilitators and barriers in the current practice to improve the quality of pharmaceutical care in the MMA. The interviews identified a variety of practices in the community pharmacy setting. Themes related to pharmacists' and pharmacy technicians' views on the factors affecting MMA services are shown in Figure 5.2.

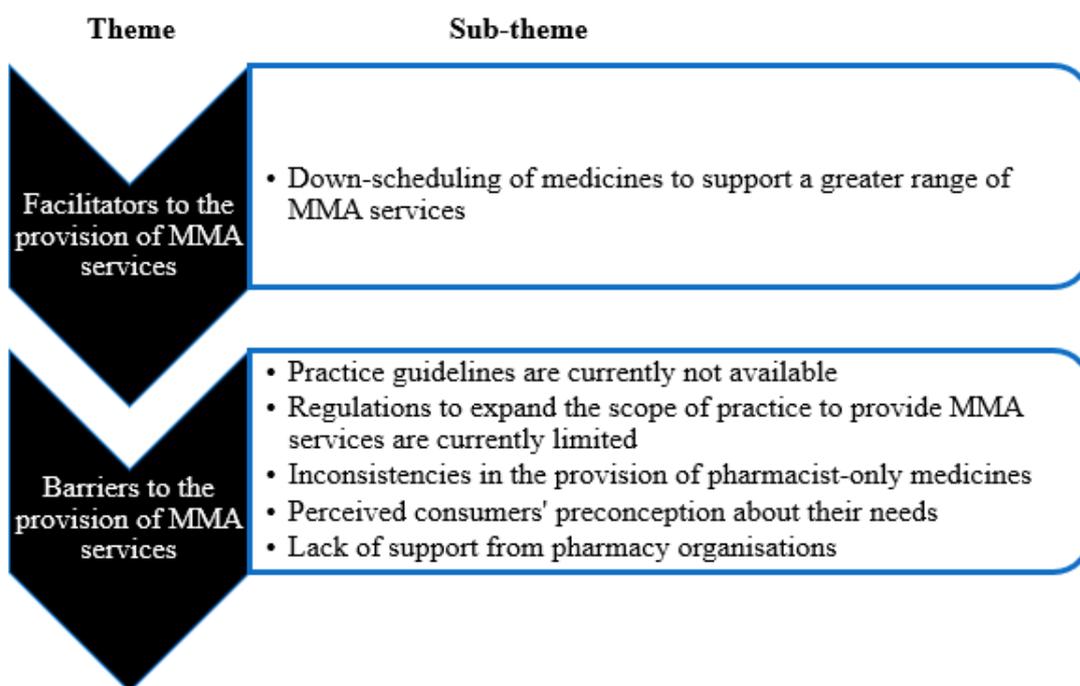


Figure 5.2. Factors influencing the current practice in the MMA as perceived by pharmacist (n=12) and pharmacy technician (n=12) respondents.

5.4.2.2.1.1 *Down-scheduling of medicines to support a greater range of MMA services*

Down-scheduling of more medicines received much attention as viewed by pharmacist and pharmacy technician respondents to support a greater range of minor ailment services. There was a mixed response from pharmacist and pharmacy technician respondents regarding the benefit of the down-scheduling of more medicines. Some pharmacist and pharmacy technician

respondents agreed that the recent down scheduled of medicines are required to support their practice.

The interview results indicated that the benefits of down-scheduling medicines are to improve and enable access to patient treatment, particularly in the rural areas, as illustrated by the respondents below:

"I suggest the need for providing certain medicines for people in rural areas. I mean, all medicines in all classifications that especially needed by deprived people in rural areas or inaccessible remote places. Because I believe we should be allowed to sell certain medicine based on certain reasons." (Pharm1)

"Yes, it (down-scheduling of medicines) surely helps us, especially during the pandemic situation. I believe it is very necessary." (Pharm3)

Further, according to some pharmacist and pharmacy technician respondents, down-scheduling medicines provides greater support and authority to manage wider range of ailments within their scope of practice.

"In my opinion, the OWA (pharmacist-only medicines) should be added more, especially for pharmacies in the rural areas. We are here in the pharmacy find it very hard for treating patients using only the current OWA. The maximum we can give to the patients are using OTC and current OWA." (Pharm1)

"It is very necessary to downgrade the category of prescription-only medicines to OWA (pharmacist-only medicines), especially for pharmacies located in rural areas...Most of them prefer to go to the pharmacy because it is more affordable. However, there are very few OWA available...Therefore, in my opinion, if the side effects are not too big, I really want some prescription-only medicines to be down scheduled to OWA." (Pharm4)

"Our medicines are very limited, for example, OWA ...we only take actions that are in accordance with our authority, but in reality, the practice is different.... there are many factors to contribute to the provision of a wider range of services...expanding a wider classification of medicines are needed. When I attended the seminar, there was a pharmacist who delivered limited non-prescription medicines to give to patients, such as Omeprazole. The medicine is limited to a maximum of seven tablets (of supply), which includes restrictions. However, we often sell it one strip (10 tablets)." (Pharm2)

On the other hand, some pharmacist respondents did not support the down-scheduling of medicines, expressing concerns due to the potential risk of misuse and harm. This may be due to their perceptions that prescription-only medicines may pose a risk to patient safety than the current non-prescription medicines, as follows:

“Adding the classification of medicines that can be sold freely in pharmacies will be risky. I often find consumers buying Komix (Indonesian OBT medicine for cough) that contains Dextromethorphan. Thus, I often limit the purchase if not reasonable. Cough medicines like that are not only sold in pharmacies but also in grocery stores. I also often see children buying cigarettes and a box of Komix* cough medicine, which is very risky if they are misused.” (Pharm5)*

*Komix: Indonesian limited non-prescription medicines (OBT) brand name for cough

“...since the government has already changed the classification of prescription medicines into OBT medicines, I hope there will not be any medicine abuse.” (Pharm1)

One pharmacist stated his concerns of down-scheduling medicines that might reduce community pharmacies exclusive jurisdiction over a range of pharmacy-only medicines, which drugstores do not have, as follows:

“I find it agreeable if prescription-only medicines are changed to OBT medicines, but it will reduce the exclusivity of pharmacies in the future because drugstores can sell these medicines. Medicines with the blue logo (OBT) in Indonesia are widely sold in stalls, markets and supermarkets. For example, we can see that cetirizine is now widely available in the traditional markets.” (Pharm6)*

*Labelled as pharmacist-only medicines before down-scheduling regulations No 3/2021

Unauthorised/unlicensed outlets (supermarkets, traditional markets) and Indonesian drugstores can sell OTC medicines. They often supply a range of medicines without legal supervision. By law, the provision of OBT (limited non-prescription) medicines must only be dispensed by a registered pharmacist or a pharmacy technician. Despite being illegal, it is unclear how unauthorised outlets and drugstores order/purchase prescription and pharmacist-only medicines for sale, as this study did not aim to address this.

The majority of pharmacy technician respondents also indicated that down-scheduling of medicines could support them to provide a greater range of minor ailment services as follows:

“It (down-scheduling of medicines) can help us a lot and it will make us easier to choose the medicine too.” (Tech7)

“Yes, it (down-scheduling of medicines) helps us a lot. During this pandemic, many people are afraid to go to the doctor and prefer to go to the pharmacy. Thus, by reclassifying the prescription-only medicines into OBT medicines, a doctor’s prescription is no longer required in administering the medicine.” (Tech8)

“.. it (down-scheduling of medicines) helps a lot because I no longer have to worry if a patient comes asking for prescription-only medicines without any prescription. I really want to help patients...” (Tech12)

“...to my understanding, minor ailments are better treated with OBT medicines first... OBT medicines are commonly traded in supermarkets, like Panadol and so on. However, I tend to provide patients with stronger medicine for sore throat and cough, such as cetirizine.” (Tech10)

The analysis of the interview data indicates that the down-scheduling of medicines may facilitate the provision of MMA services under the supervision of a registered pharmacist or a pharmacy technician.

5.4.2.2.2 Barriers to the provision of MMA services

5.4.2.2.2.1 Practice guidelines are currently not available

Although pharmaceutical care in the provision of minor ailments remains the major emphasis for pharmacy-driven services, practice guidelines are required to introduce and improved consistency amongst community pharmacies in the Indonesian healthcare system.

The pharmacists’ and pharmacy technicians’ interviews in this study indicated that practice guidelines were required as facilitators to better standardise the provision of MMA services. Practice guidelines are important to achieve safety and rational use of medicines, as illustrated by the majority of the pharmacist respondents below:

“In my opinion, guidelines are really necessary to avoid carelessness in providing medical recommendation, and self-medication treatment or minor ailment services at pharmacies.” (Pharm1)

“It is better to have such kind of guideline because as pharmacists, we often feel anxious and afraid of giving the wrong medicine. What I mean is that most pharmacists are worried about providing consumers with non-prescription medicines, and when the BPOM did an inspection, it turned out that the medicine should not be given without a prescription. Indeed, so far, there are no clear guidelines on the issue of giving such medicines.” (Pharm4)

“It is necessary to make sure that the practice in all pharmacies remains equal. In fact, some pharmacies sell medicines that do not match the symptoms that the patient complains about. Thus, practical guidelines are needed.” (Pharm5)

“Yes, the guideline is necessary. There must be a knowledge basis in our practice. The guidebook will serve as a scientific reference. In fact, in Indonesia, there is no single book that regulates counselling practice.” (Pharm12)

Further, the majority of the pharmacy technician respondents indicated that practice guidelines are required to make them better comply with the regulations. They reported that practice guidelines are needed to regulate practice and achieve higher standards of care, as illustrated below:

“Yes, it is certainly needed. In principle, the provision of counselling and administering prescription medicines belong to the pharmacist's scope... However, in practice, it is the pharmacy technicians who provide counselling for consumers, although I am not a pharmacist. Thus, I think the provision of guidelines can make us better comply with the regulations.” (Tech5)

“A practical guideline is very necessary because sometimes patients come with different complaints, which requires pharmacy technician to learn more about managing the diseases and update their knowledge.” (Tech11)

“I think it is needed, especially because the pharmacy technicians are always in practice at the pharmacy.” (Tech6)

“I think it is necessary because we cannot directly give medicine to patients who come to the pharmacy. We must ask the patient about his medical history to avoid medicine interactions.” (Tech9)

5.4.2.2.2 *Regulations to expand the scope of practice to provide minor ailments services are currently limited*

Regulations and policies that encourage enhanced services for minor ailments are required, as indicated by the majority of pharmacist and pharmacy technician respondents in this study. Legislative barriers around pharmacists' roles in the MMA are factors that limit pharmacy staff's ability to provide professional pharmacy services. Interview responses indicated that a variety of community pharmacy services were provided, particularly MMA services. However, it was felt that there is an urgent need for Indonesian health authorities to consider regulations to expand pharmacists' scope of practice, as illustrated as follows:

"In my opinion, we should have a legal standing in the practice of pharmacy for pharmacists, and the scope of the pharmacist's authority can be expanded further." (Pharm2)

"We still need to upgrade many laws and regulations related to pharmacists." (Pharm3)

"...sometimes there is a gap between legislation and real practice in the field because it is more difficult to comply with the stipulation." (Pharm10)

"Honestly, our regulations (pharmacy regulations) definitely need an update." (Pharm12)

The majority of pharmacist respondents stated the urgent need to establish regulations to expand the scope of pharmacy practice and indicated that current regulations are insufficient to deliver MMA services:

"... there has been a lack in the regulation (in the MMA) because at this time more patients prefer to come to the pharmacy.... We only have limited authority, but patients sometimes ask for more services." (Pharm2)

"In my opinion, pharmacists in Indonesia have not been able to practice freely because of regulatory problems... Basically, I just want to practice minor ailments as long as it is supported by existing regulations." (Pharm6)

"I think the law has insufficiently met the need of the community...it gets back to the real practice." (Pharm8)

In contrast to pharmacist respondents, pharmacy technician respondents indicated indifference regarding regulations and lack of understanding regarding their relevance to MMA services as illustrated below:

“I do not really know it about the regulations related to pharmacy technician serving patients with minor ailments at pharmacies well.” (Tech11)

“I do not have a comprehensive understanding about it (pharmacy laws and regulations).” (Tech6)

“As far as I know, based on the regulations, pharmacy technicians are allowed to supply patients with OBT (limited non-prescription medicines) for those having minor ailments. If you need prescription-only medicines, it is included in the scope of a pharmacist, so you must first consult with the pharmacist.” (Tech10)

5.4.2.2.2.3 *Inconsistencies in the provision of pharmacist-only medicines*

The inconsistent provision of pharmacist-only medicines has been raised by respondents. One pharmacist indicated they provided such medicines if the consumers had previous experience with their use, as illustrated below:

“It depends on the situation... For example, in the case of Lidocaine, we will provide the patient with this medicine if the patient is used to taking medicine and gets it from the hospital. We will provide it if the patients have taken it to cure the disease. Thus, I always ask the patient to make sure that they know the use of the medicine and the indication. However, if they do not know how to use it, I prefer saying that we ran out of stock of that medicine at the pharmacy.” (Pharm5)

“Yes, for sure it can help us. Theoretically, prescription-only medicines should only be given with a prescription. Nonetheless, it is no secret that many pharmacies provide prescription-only medicines without a prescription, even though they are not OWA (pharmacist-only medicines).” (Pharm8)

“It’s really helpful because I usually give over-the-counter medicines first for minor ailments. Then, I will provide patients with limited non-prescription medicines. I can give prescription-only medicines if they have mild side-effects other than antibiotics. Thus, the change in medicine classification makes it easier for us to work to serve patients.” (Pharm11)

Although the majority of the pharmacy technician respondents stated that they are willing to provide a broader scope of service for minor ailments, one pharmacy technician raised her concerns that those services should be within a pharmacist scope of practice as illustrated below:

“I do not think I can cover the service on minor ailments with a wider range because the risk is high. The treatment of some diseases with complications is not the authority of the pharmacy technician.” (Tech6)

5.4.2.2.2.4 Perceived consumers’ preconception about their needs

The interview data shows that consumers’ demands on pharmacies is one of the barriers to providing legislation compliant MMA services. Consumers past experiences of cure from using specific medicines or past experiences from friends and family are reported in the interviews. The data indicates that consumers visit the pharmacy demand specific medicines using empty blisters/boxes, as illustrated below:

“Many villagers buy a particular medicine because they hear past experiences from other people. For instance, upon hearing a story about someone recovering from a headache after taking analgesic medicines, they will ask for the medicine at the pharmacy I usually tell them that analgesics are psychotropic medicines and cannot be given for free like those classified as OTC medicines. However, they will protest against this statement since their friend could get it at another pharmacy easily.” (Pharm4)

“I often get consumers who come with plastic clips of medicines without any labels and say they get the medicines from the pharmacy next door. These medicines are usually three kinds of concoction with a yellow colour and the consumer asks for the same medicines. However, because there was no label, I could not tell the type of that medicines. Although I know that usually, the medicines handed over by the pharmacy next door are a combination of allopurinol, dexamethasone and piroxicam. I always educate the consumer. In other pharmacies, many employees administer their own medicine, put it in plastic and write it down for one dosage of consumption.” (Pharm5)

5.4.2.2.2.5 *Lack of support from pharmacy organisations*

Lack of support from IAI was one of the major barriers hindering the implementation of MMA services in the community services in Central Java, Indonesia. The majority of pharmacist respondents expected their pharmacy organisations to support their professional practice in MMA, but many perceived it failed to do so. Some mentioned the lack of support from IAI was due to a dispute within the IAI organisation:

"Currently, there has been a dispute between the management of IAI of Central Java and the Central Management of IAI, which leads to indefinite regulation on the implementation. Therefore, as a member of IAI, I feel that the organisation has not played its significant role." (Pharm4)

"...in my opinion, IAI is like an organisation that only takes care of licensing documents, administration, and filling out seminars for the requirements of SKP (credits for license renewal)." (Pharm3)

"I am not really satisfied with its current role (in the MMA) even though I am one of the administrators of IAI." (Pharm6)

"Frankly speaking, there has not been a clear role of IAI Kebumen (a district in Central Java). The complaints of its members are still not 100% resolved by the IAI management because most of the IAI administrators are still attached to the service and feel uncomfortable with other administrators. I am also the administrator of IAI Kebumen often feel irritated for not being firm. Thus, I often say that IAI Kebumen has not played its significant role effectively." (Pharm10)

"...it will be much better if they can improve their service. Thus far, I have not received any benefits from this organisation (IAI). Probably, this is because I'm still a new member and I do not receive lots of information from the organisation." (Pharm7)

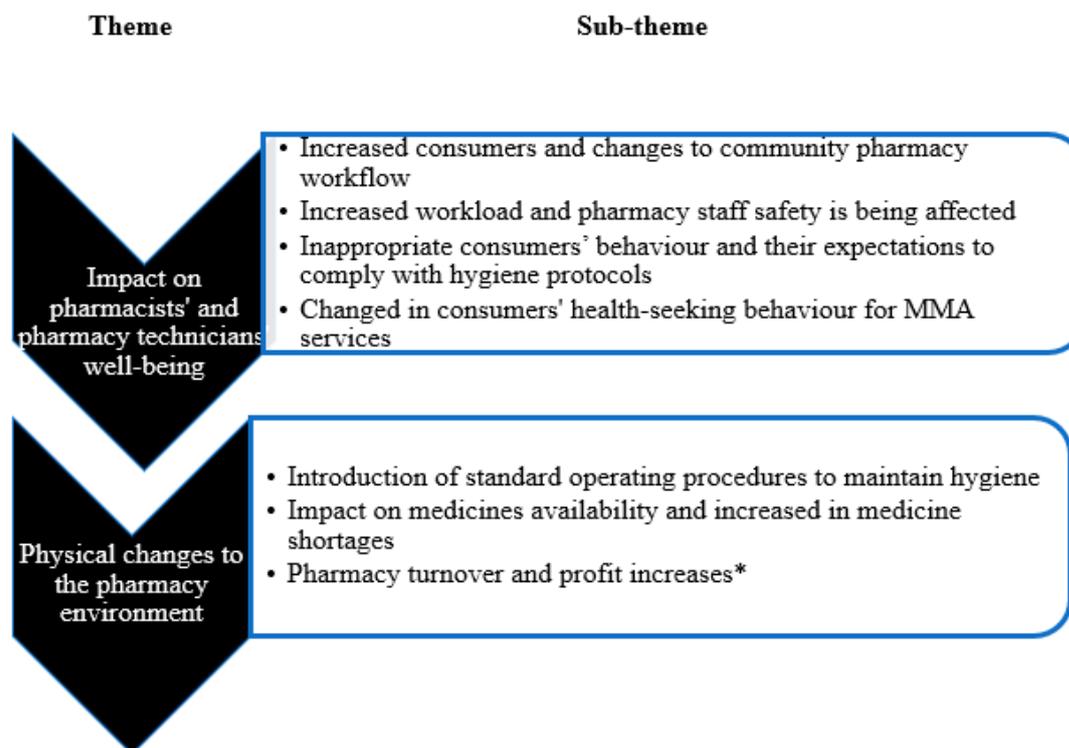
In contrast to the pharmacist responses, the majority of pharmacy technician respondents indicated that PAFI fully supports them in providing MMA services and has done a satisfactory role for their duty. Only two pharmacy technician respondents perceived that PAFI failed to carry out their duty due to the COVID-19 situation, as mentioned below:

"I do not think PAFI has played a significant role in providing further information on seminars. During this pandemic, PAFI held less seminars." (Tech2)

“I notice PAFI has not played its role satisfactorily. For example, during this pandemic situation, the opinions of many members are ignored. Usually, there is a special PAFI meeting every three months, but because of the pandemic, members’ complaints are never heard. So, every time there is a meeting via Zoom, the results are never shared.” (Tech3)

5.4.2.3 Impact of COVID-19 on community pharmacies

The impact of COVID-19 on community pharmacies, based on the responses of community pharmacists and pharmacy technicians was summarised by two main themes: (1) impact on pharmacist and pharmacy staff well-being and (2) physical changes to the pharmacy environment, described in the following section. Themes related to the impact of COVID-19 on community pharmacies is shown in Figure 5.3.



*Sub-theme emerged from the pharmacy technicians' interviews

Figure 5.3. The impact of COVID-19 on community pharmacies as perceived by pharmacist (n=12) and pharmacy technician (n=12) respondents.

5.4.2.3.1 Impact on pharmacists' and pharmacy technicians' well-being

5.4.2.3.1.1 *Increased consumers and changes to community pharmacy workflow*

Pharmacist and pharmacy technician respondents reported an increased request for the provision of the MMA during COVID-19. Many patients came to the pharmacies with symptoms related to COVID-19, which changed their practice in managing minor ailments. The majority of pharmacist respondents also indicated an increased number of consumers visiting the community pharmacy for symptoms, as illustrated below:

“... there have been a lot of changes. Many consumers bought cough medicines. We have also applied many changes in our practice...many patients complain with cough, colds, fever, loss of appetite and pain. Now the symptoms of COVID are more likely to be commonplace pain.” (Pharm10)

“The pandemic has led to some significant changes in our service. Currently, there has been a greater number of patients who came with minor ailments, of a more various type.” (Pharm7)

“There has been a higher demand for minor ailments during this Covid-19 pandemic, especially for treatments of coughs and colds, and diarrhoea, when it comes to the seasonal-related diarrhoea... the current situation has changed the scope of the pharmacist. For example, we may refer a consumer with symptoms (cough, colds, shortness of breath, and anosmia) of Covid-19 because we do not handle them.” (Pharm1)

“Since the pandemic, there is a relatively higher number of consumers who come to our pharmacy to complain about their minor ailments, which are unlike the usual occurrences ... presumably, these people contracted Covid-19.” (Pharm4)

“...indeed, there have been a greater number of patients who attended the pharmacy (during COVID-19), maybe two to three times higher than before.” (Pharm2)

In line with the majority of pharmacists' responses, the pharmacy technician respondents also stated that during COVID-19, there had been an increasing the number of consumers which had changed how they practise, as mentioned:

“The current pandemic situation has greatly changed our clinical practice. Thus far, we have been providing people with lots of services for coughs, colds, and sore throats. There

has also been an increasing demand for multivitamins. In addition, the pandemic has also changed the scope of practice in pharmacy a lot.” (Tech2)

“We have numerous patients complaining with coughs, colds, itching and other diseases that lead to COVID-19 symptoms.” (Tech6)

“There are a lot of complaints that are similar to coughs, colds and inflammation. The pharmacy becomes more crowded and administrative work such as medicines reporting is disrupted because we focus too much on services.” (Tech8)

“There has been an increasing number of patients, wider types of disease, and numerous patient requests.” (Tech7)

The interview findings show that many patients with COVID-19 related symptoms presented to the pharmacy, mimicking a cold or flu for minor ailments. With these symptoms, many patients consulted the community pharmacist and/or pharmacy technician, putting them at greater risk of contracting the virus.

5.4.2.3.1.2 *Increased workload and pharmacy staff safety is being affected*

The general well-being of pharmacists and pharmacy staff during COVID-19 was an important issue, particularly for healthcare professionals. Pharmacists described an unexpected workload surge that occurred during the pandemic inducing burnout and stress. Some pharmacists reported a surge in workload and exhaustion that they were then struggling to deal with:

“I notice the escalating number of patients who come with minor ailments to the pharmacy. This condition forces me to endure physical and mental challenges. The current pandemic situation has driven us to be highly emotional in handling things.” (Pharm3)

“The situation during the COVID-19 pandemic has doubled my workload and has drained my immune system.” (Pharm1)

“It (COVID-19) has affected us very much and the turnover has also increased significantly during the pandemic.... It increased our workload.” (Pharm6)

“It has become a consequence (of COVID-19 impact) of us as health workers in the pharmaceutical field and like it or not, we have to serve patients.” (Tech11)

There is a possibility that the workload surge during the pandemic situation was also impacted on by staff shortages to deal with the number of consumers who came to the pharmacy at one time:

“There is a staff shortage in the pharmacy (to limit the number of consumers who come to the pharmacy in one time) ...” (Pharm11)

“It is impossible for us to supervise everyone who comes and requires for our service because of the limited resources available in the pharmacy.” (Pharm3)

“Consumers who come never keep their distance and we cannot remind them because of the limited staff at the pharmacy.” (Tech8)

“... working alone at the pharmacy is a mounting task, especially when I have to serve many consumers (during COVID-19 pandemic).” (Tech3)

The data suggested that pharmacists were more conscious of their safety and more cautious about becoming infected, thus employing preventive measures.

Pharmacist respondents cited their own experiences with COVID-19 and those of colleagues:

“Many pharmacist friends have tested positive for COVID-19. I was also tested positive for COVID-19 yesterday. I did not know where it came from because I always wear a double mask every day.” (Pharm5)

“There are a lot of patients complaining about cough, dizziness, feverish, feeling unwell, anosmia and bitter taste in the mouth.....I almost contracted the disease myself. I felt feverish, suffered from severe flu and dizziness, and I lost all appetite. Then, on the third day, I lost my sense of smell, and I felt cold every day, even at 2 pm... I read literature from the internet to wash my nose using a saline solution and after three days, my sense of smell went back to normal.” (Pharm12)

Pharmacist and pharmacy technician respondents reported anxiety and worry while working in the pharmacy during the COVID-19 pandemic. They indicated difficulty in detecting cases of COVID-19 while providing services which resulted in anxiety and fear at work:

“I'm actually tired of this COVID-19 pandemic because I will not be able to tell which patients are positive for COVID or not during my shift. I often feel anxious about my current practice.” (Pharm10)

“Even though I wore a face shield and mask, I will not be able to tell which patients suffered from Covid-19 when they had cough or cold symptoms... or maybe they are asymptomatic. Thus, I feel that there are a lot of viruses in the pharmacy.” (Pharm3)

“There has been a huge impact on my service as a pharmacist, one of which is the feeling of anxiety or fear. I find it difficult to distinguish between coughs and common colds or COVID-19, because of the symptoms of COVID-19.” (Pharm1)

“...we do not know which consumers who came in the pharmacy had tested positive for COVID-19 or not, but we have to continue to serve.” (Tech12)

5.4.2.3.1.3 *Inappropriate consumers’ behaviour and their expectations to comply with hygiene protocols*

Pharmacist and pharmacy technician respondents reported failure of consumers to follow hygiene protocols, as one of their major concerns while working at the pharmacy. Pharmacist and pharmacy technician respondents reported inappropriate consumers’ behaviour to comply with COVID-19 safety even when they requested the consumers to do so. Given COVID-19 infections may be serious and potentially life-threatening; the lack of adherence to public health measures to protect against COVID-19 was perturbing:

“Many people do not wear masks.... there is also no distance between consumers when entering the pharmacy because consumers are very emotional when they are restricted from entering...the pharmacists and other pharmacy staff have been scolded many times by patients (when asking the consumers to wear masks).” (Pharm3)

“We have applied strict health protocols. However, sometimes we are still clueless when consumers come without a mask partly because our regent (City Notary) does not recommend implementing strict health protocols... many patients refuse to apply health protocols by saying that COVID is just a hoax... We once provided free masks, but consumers put them on their hands like wearing a bracelet. Yesterday, during the first wave of COVID-19, they still wanted to wear masks, but after this Eid-ul-Fitr (Islam big holidays), more people refused to wear masks.” (Pharm4)

“Nowadays, we have been serving patients who come to us complaining about shortness of breath. Many of them do not want to self-isolate themselves, and they even walk here and there freely.” (Pharm5)

“I often remind consumers to wear masks and often give them free masks. However, over time I got tired of reminding them myself. Many consumers refused the instruction, especially parents and children.” (Tech6)

“I increasingly dare myself to warn consumers who do not wear masks every day... Some consumers obeyed it, while some others did not because they felt uncomfortable wearing a mask.” (Tech9)

“When I was on duty, there was a patient who came in without wearing a mask and I had reminded him, but he refused to wear one, so he bought medicine in a hurry and left immediately.” (Tech11)

5.4.2.3.1.4 *Changed in consumers’ health-seeking behaviour for MMA services*

Because of the nature of COVID-19, there has been increased levels of anxiety and fear among the general public to attend certain healthcare settings for fear of being diagnosed positive with COVID-19. Pharmacist and pharmacy technician respondents emphasised the accessibility of pharmacy as a primary point of contact for their health problems and treatment by many consumers due to COVID-19, as reported below:

“It is noteworthy that numerous people flock to the pharmacy because they are afraid to go to the hospital and are afraid of being mistreated for having COVID-19.... they have seen how many people among them were persecuted by the local community after being tested positive for COVID-19.” (Pharm4)

“They (consumers) did not want to go to the hospital because the health facilities were fully loaded with patients. This condition made patients prefer to go to the pharmacy.” (Pharm3)

”at this time, more patients prefer to come to the pharmacy. Patients are reluctant or afraid to go to the hospital or healthcare centers in the midst of a pandemic situation.” (Pharm2)

“Many doctors’ practices have also reduced the number of general patients due to COVID-19 and thus, people prefer buying medicines directly at pharmacies.” (Tech4)

“I have to serve a greater number of patients because patients refuse to go to see the doctors, and they do not want to go to hospitals or health centres for fear of being detected positive for COVID-19.” (Tech11)

“Although patients are not sure whether they are positive for COVID-19 or not, they keep on buying the medicine as a preventive medication, even though the medicines cannot be bought without a prescription.” (Tech12)

Pharmacies were identified as an important health care destination, providing independent advice and support to consumers. Further, pharmacist respondents stated that the consumers tended to ask for self-isolation treatment at the pharmacy:

“This need is heightened by the fact that our surrounding community is uneager to go to the hospital. It is difficult to ask them to self-isolate because they immediately come to us and ask for treatment at the pharmacy (self-isolation treatment)” (Pharm5)

“Many patients come to the pharmacy with a complaint on cough and runny nose. They do not want to go to the hospital for fear of being mistaken for Corona, so they mostly always go to the pharmacy (for self-isolation treatment).” (Pharm8)

5.4.2.3.2 Physical changes to the pharmacy environment

5.4.2.3.2.1 Introduction of standard operating procedures to maintain hygiene

All 24 pharmacist and pharmacy technician respondents, when asked about personal protective equipment (PPE), reported that they did maintain a hygienic environment and take precautionary measures to protect themselves from being infected. Hygienic practises among pharmacy staff were perceived as priorities during COVID-19. These included increasing the frequency of regular cleaning using disinfectants in most pharmacy areas, particularly areas known for disease transmission (e.g. cashier, door handles, etc.). Moreover, pharmacists reported they had a sink with soap and water for hand washing and provided hand sanitisers:

“...our pharmacy has provided hand sanitiser, handwashing sink, and a statement saying, “Please wash your hands before entering.” We have applied a strict health protocol at the pharmacy for the staff and me. Everyone must wear a medical mask and never take it

off except when eating and drinking. We also often spray disinfectant at the pharmacy barrier twice a day, morning and evening.” (Pharm4)

“We spray disinfectants every day, sterilise every room, and clean everything. In addition, masks and hand sanitiser are always readily available. Consumers are required to wear a mask and have their temperature checked. Before entering the pharmacy, they are asked to wash their hands or use hand sanitiser first.” (Pharm7)

“We require every consumer who comes to our pharmacy to wear a mask. If they do not wear masks, they will be asked to go home or buy masks at the pharmacy. We have also applied a physical distancing policy for the patients who stand in line. In addition, we provide hand sanitiser and handwashing facilities.” (Tech2)

“Every morning the pharmacy is swept and mopped and then disinfected. Then, we require staff to wear a mask and gloves and provide hand sanitiser at the front of the pharmacy.” (Tech8)

“Every two hours, the pharmacy is sprayed with disinfectant because there are many consumers who come.” (Tech12)

A pharmacist respondent reported providing free masks for consumers who came without using masks as protection from transmission:

“Usually, I give them free masks when they do not wear masks at the pharmacy.” (Pharm11)

Despite protective measures to maintain hygiene in the pharmacy, pharmacy staff inevitably interacted with crowds of consumers during counselling or taking payments. Avoiding consumer crowding through restrictions on the number of consumers that could come into the pharmacy at one time, and advising consumers to keep distance were measures used by the pharmacists in the pharmacy:

“We apply some restrictions because the space of our pharmacy is not too wide. We limit our service to only two people entering the pharmacy, while other patients have to stand in line outside while maintaining a physical distance. We also provide seats for patients who are waiting in line.” (Pharm2)

“.. they (consumers) have to stand in line and keep their physical distance from each other.” (Tech11)

Pharmacist and pharmacy technician respondents reported restrictions placed on consumers entering the pharmacy with signs and symptoms of cough and cold, and suggested alternative delivery of medicines:

“In our pharmacy, there are regulations that if patients have symptoms of coughing, sneezing and runny nose, they are not allowed to enter the pharmacy, they are recommended to take their medicines via delivery, or WhatsApp or via an application.” (Pharm7)

“... if there are too many consumers, we usually offer medicine to be delivered to their home instead of waiting in a rush.” (Tech5)

On the other hand, some pharmacist and pharmacy technician respondents reported they still served consumers with cough and cold symptoms to manage the crowd, and felt they had an obligation to serve them:

“We still serve all consumers because if they are not served, the queues are getting longer, and the crowd of patients will never disperse.” (Pharm5)

“Considering that the hospital is very full now, I will feel sorry if I do not serve them.” (Pharm10)

“Yes, we do still serve them (consumers who present with cough and cold symptoms) because it is impolite to refuse consumers.” (Tech8)

Although PPE was adopted as precautionary measures, both respondent groups reported that the protocol did not include sign-in or writing any consumer contact details before entering the pharmacy; thus, there was no tracing system available for patients who had positive COVID-19. There was no recommendation from the health authorities to provide a tracing system. Pharmacist respondents stated that attendance was only written if the pharmacy staff were willing to write the patient data:

“We only provide attendance for consumers taking self-medication. We write down patient data as long as the staff at the pharmacy are willing to write it down.” (Pharm6)

“Currently, we have none (tracing and no sign-in) because it will be bothersome to ask people to fulfil such attendance list (manually).” (Pharm9)

“We do not have an attendance list for the coming consumers.” (Pharm3)

“There is no tracing system implemented in the pharmacy. No tracing system is implemented in any pharmacy in Boyolali (a district in Central Java). Even the state-owned pharmacy does not implement it. The Public Health Office does not give any recommendation on this matter.” (Tech1)

“The provided data in the pharmacy is more similar to a membership’s model. Thus, only the patient who comes to the pharmacy (with prescription-only) shall mention the name and date of birth, and their data will be automatically recorded in the system.” (Tech9)

5.4.2.3.2.2 *Impact on medicines availability and increases in medicine shortages*

During COVID-19, pharmacist and pharmacy technician respondents reported a dramatic increase in demand for medicines for minor ailments related to COVID-19 symptoms. They reported this trend as a result of “panic buying” mode due to the rising cases of COVID-19, which has consequences in medicines shortages and price increases, as illustrated below:

“We have been serving many patients with coughs, dizziness, fever and those who need some medicines, such as vitamin C 1000. In addition, we also ran out of hand sanitiser and many disinfectants in a day or two. Many patients were willing to buy up a million worth of vitamins.... We often run out of stock of some medicines like paracetamol, cold, cough medicine, medicines for fever, Bear Brand milk, and the hand sanitiser, since most of them ran out immediately, after which we had to restock. There has been panic buying around here. We also ran out of stock for COVID-19 antibiotics.” (Pharm5)

“During the pandemic, the pharmacies along the area of the north coast of Java always ran out of the stock of some medicines, especially cough medicine. The limited stock occurred in some areas starting from Kudus (the smallest district on Java Island located on the east of Central Java) to Tuban (a district on the north coast of Java Island). Overall, this situation is due to the escalation of Covid-19 cases.” (Pharm12)

The data suggests that stockpiling medicines has affected the supply chain in most pharmacies due to the increase of COVID-19 cases in Indonesia. Public fear of entry into lockdown mode had the consequence of “panic buying” as people started to stock up in anticipation of medicine shortages for prevention of COVID-19.

It can be seen from the interview results that many pharmacists and pharmacy technicians had provided medicines (e.g pain relief, vitamins, and antibiotics) for the relief of the symptoms related to COVID-19, as illustrated below:

“We had a shortage of medicines such as oseltamivir, acetylcysteine, and azithromycin; also, large cylinders of oxygen are out of stock.” (Pharm11)

“Generic paracetamol disappeared from the market, and the stock at the factory was empty. Then most often, we also ran out of vitamins, such as Ester C that often disappears from the market. All kinds of medicines, be it expensive or cheap, all disappeared from the market.” (Pharm4)

“Currently, vitamins, such as Imboost and cough and cold medicines are always running out of stock, and their prices have increased drastically.”* (Pharm8)

* Indonesian immune-boosting complementary medicine

“We often run out of stock, especially for some medicines, such as acetylcysteine and medicines for COVID-19 symptoms... during the COVID-19 pandemic, many consumers are persistent at asking for antibiotics to be stocked at home.” (Tech12)

“We ran out of stock of Bear brand milk, Vitamin C, and supplements.” (Tech5)

“We have run out of some medicines like Fluimuicil, vitamin C, and antivirals. For treatment-related to COVID-19, we always give it freely (supplied) without requiring a prescription at pharmacies because patients do not want to go to the doctor.”* (Tech4)

* Indonesian mucolytic agents contain acetylcysteine

Most pharmacies tried to stock up for medicine shortages due to the increased demand and lack of stock. A pharmacist reported the practice of providing alternative medicines as substitutes when they run out of stock:

“I recommend the patients to take herbal medicine (when out of stock for certain cough medicines), such as Laserin and OB Herbal*, which are mild in terms of dosage.”* (Pharm12)

*Indonesian OTC herbal medicines for cough and cold symptoms

The data suggests that pharmacists are expected to be involved in initiatives to deal with medicine shortages which involve assessing and switching to alternative medicines to reassure

consumers of the availability of medicines. Pharmacists are required to reduce the risks of further shortages in medicines due to COVID-19.

A pharmacist reported that azithromycin was rarely sold in her pharmacy before the pandemic situation. However, due to COVID-19, it was reported as out-of-stock:

“There are many (consumers) who come with COVID-19-related symptoms. Most of them will require azithromycin. However, we rarely use it in our pharmacy, but after the pandemic started, many people looked for it until we ran out of supplies.” (Pharm9)

5.4.2.3.2.3 Pharmacy turnover and profit increases

Several pharmacist and pharmacy technician respondents reported increasing sales and turnover remained high during COVID-19. Further, an increase in pharmacy’s profit as a result of the long-term impact of COVID-19 was mentioned by respondents, as illustrated below:

“The most observable impact is an increase in turnover, especially for independent pharmacies without a doctor’s practice, because many people avoid health services such as hospitals, health centers and doctor’s clinics.” (Pharm6)

“For me, there is a positive impact, many medicines and vitamins are sold, therefore, increasing the pharmacy's profit.” (Pharm11)

“...there has been an increasing demand for medicines, which leads to an increased turnover of medicines. Many consumers ask for vitamins, cold, and cough medicine.” (Tech3)

“It is good, as it (COVID-19 situation) drives the business.” (Tech1)

5.5 Discussion

This study was designed to explore factors influencing the scope and delivery of the MMA in community pharmacies in Indonesia by pharmacists and pharmacy technicians, and issues related to these services. Data were, however, collected during the COVID-19 pandemic in Indonesia, which may influence some of the responses related to the provision of MMA services. The demographic characteristics of respondents were similar to the data reported in Chapter 3 of this study. A particular method for the qualitative study was followed because the original interviews were carried out in the Indonesian Bahasa and translated, and therefore the original safeguard to ensure the trustworthiness of the translation.^{357-361, 363}

The major themes from this study included inconsistencies in the MMA practice, partially caused by lack of specific regulations, weak enforcement (when regulations exist), lack of professional guidelines, easy access to medicines by the community from drug stores, markets, nurses and mid-wives in addition to community pharmacies. Changes in pharmacy practice during COVID-19 were also evident. These factors have contributed to the pharmacists' and pharmacy technicians' perceived requirement to provide a broader range of medicines within minor ailments services. Secondly, it is evident there are blurred professional boundaries between the pharmacist and pharmacy technician scopes of practice. Some of this relates to underlying factors causing inconsistent practice. Thirdly, these issues could have confused the local community regarding pharmacists' image in the MMA and diminished their critical role.

A model adopted from the agency theory provides insight for the MMA provision in community pharmacies evident from the interview themes as shown in Figure 5.4. The agency theory model applies when the "principal" (pharmacy consumers) depends on second parties (the pharmacist or pharmacy technician) to perform actions on their behalf.³⁶⁴ Within the context of this study, the agency relationships established were that of the pharmacist (agent) and patient (principal). The patient as principal relies on the pharmacist to use their specialised knowledge and skills on their behalf, to select appropriate medications and provide professional advice to manage their minor ailments. It is noted in this study that pharmacy technician interventions either when the pharmacist is present or absent from the pharmacy may influence pharmacists' function in delivering MMA services. Most respondents indicated that pharmacy consumers engaged not only with a pharmacist but also a pharmacy technician for advice for the MMA. In the absence of a pharmacist, the patient may rely on either the pharmacy technician or other less qualified staff. However, pharmacy technicians indicated that they would refer a patient to the pharmacist if the ailments were considered to be more "complex". If the pharmacist was absent the

pharmacy technician may contact them by a digital mean (e.g. telecommunication via “WhatsApp”^{*}) for advice for a complex situation. However, when communicating via this mean there is a potential issue with confidentiality and security of the content of messages. Patient referral to another health practitioner or hospital were usually undertaken by the pharmacist, but some blurring of this role was evident where pharmacy technicians may make this recommendation to the patient directly. All community pharmacies are required to have either a pharmacist owner, or for non-pharmacist owners a pharmacist must be employed who holds the license that enables the pharmacy to legally be recognised as a community pharmacy.

^{*} Online application for instant messaging (<https://www.whatsapp.com/>)

5.5.1 The perspectives of the MMA

Interview respondents indicated that despite the positioning of community pharmacies as primary healthcare providers, inconsistencies occurred in the MMA practice in community pharmacies in Central Java, Indonesia. Procedures and task delegation varied across community pharmacies. Several reasons may explain these findings.

First, no standard procedures have been developed by government or professional bodies for the MMA. As a result, no clear scopes of practice relating to pharmacists and pharmacy technicians have been defined. Inconsistencies across pharmacies occurred involving the requests of MMA for chronic medical conditions (which are not minor ailments but managed similarly) and also for minor ailments. These results have some similarities with studies conducted in some developing countries such as Thailand, Malaysia and Vietnam.^{88, 197, 365, 366} Furthermore, published literature from developed countries such as Australia, Canada, and the UK showed that protocols and frameworks for the MMA had achieved positive outcomes.^{122, 129, 294, 367}

In Australia, the UK, and USA, the conduct of professional pharmacy services occurs within the remit of explicit regulations and professional practice standards.^{2, 263, 332, 368} Pharmacists have a clearly defined scope of practice with minor ailments involving counselling and providing pharmacy or pharmacist-only medicines or make a referral to the GP if necessary. However, contrasting practices exist in Indonesian community pharmacy. Some respondents stated that all pharmacy staff had a similar role in managing patients with minor ailments. With the exception of psychotropic and opioids, many pharmacies provided not only pharmacy and pharmacist-only medicines but a range of prescription medicines. It was evident that this practice breaches current regulations but appears to be 'common' and 'standard practice'.

This study indicated that one issue leading to inconsistencies in MMA practice occurred due to the absence of a pharmacist during opening hours. As with many other developing countries, pharmacists in Indonesia hold the authority to manage the operation of community pharmacies. According to the Indonesian Government Regulation and Ministry of Health Indonesia regarding standard of community pharmacy services, pharmacists' presence should be required at the premises at all times.¹⁰² However, this study found that pharmacies were often not supervised by a pharmacist. One reason stated for pharmacists' absence was difficulties in attracting pharmacist workforce in rural and remote areas. Low wages in the rural areas and

relatively small numbers of consumers attending pharmacies may also lead to absences. In addition, community pharmacies are open for long hours making it difficult for the primary pharmacist to be there for the entire opening period. The concept of employing pharmacists to cover the remaining times occurred inconsistently. Indonesian pharmacists are however allowed to practise in up to three community pharmacies, and they generally only work for one to three hours per day in each pharmacy, adding to the complexity of workforce in community pharmacies.^{100, 104} Consequently, professional pharmacy services were often delegated to other pharmacy staff or non-qualified assistants. This might jeopardise patient safety particularly for non-qualified assistants' inability to carry out professional pharmacy services that might need a professional decision or clinical judgment.

The issue of pharmacist absence has been previously recorded in Indonesian community pharmacies, where only 14-25% of pharmacists work on a full-time basis and delegate their professional work to pharmacy assistants.^{24, 29, 40, 222} The result of this study indicates that the majority of pharmacies (particularly those without additional pharmacists) often operated without regular pharmacists' presence during all of pharmacy trading hours. These situations, to some extent, could have influenced pharmacy practice in Indonesia. These issues were identified by the majority of pharmacists and pharmacy technician respondents as obstacles to provide professional MMA services. Although the government of Indonesia has introduced the "No Pharmacist No Services" slogan, however, no audit or evaluation has thus far been undertaken to assess if these initiatives were implemented effectively.

Pharmacy ownership restricted to pharmacists may be one way to solve issues in relation to pharmacist absence. Pharmacist ownership may reduce the level of business profit seeking by non-pharmacist owners who solely have the demands for profit.³⁰⁶ The majority of community pharmacies in Indonesia are private businesses and their income is mainly derived from product sales. Some pharmacies may have lower income levels due to business competition. Non-pharmacist owners may not be prepared to pay a pharmacist to attend the pharmacy during all opening hours which is the common reason for pharmacist absence in Indonesia. Pharmacist absence when the supply of certain medicine that requires a certain skill for the correct diagnosis is made often leads to poor quality of care, which has been reported in Nepal and Pakistan.^{369,}

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Second, this study respondents identified inconsistencies in the MMA practices involving prescription-only medicines. From the interview reports, it can be seen that local communities can obtain most classifications of medicines from community pharmacies without a

prescription. It was reported as a common practice, beyond the pharmacist's and pharmacy technician's professional boundaries and scopes of practice. It frequently was reported as akin to a repeat supply provision where if the patient had previous evidence of possessing the medicine, this provided the basis for continued supply over-the-counter without reassessment of the clinical appropriateness of such therapies at the time of presentation. This lack of adherence to boundaries has occurred from no strict regulation enforcement and clear consensus of scopes of practice between medicine and pharmacy professions which could increase the risk to patient safety.

One of the striking findings in this study was the sale of non-prescribed antibiotics being a common practice. The responses suggested that non-medically prescribed antibiotics can be purchased affordably and conveniently in community pharmacies in Central Java, Indonesia. Although the respondents indicated that first-line broad spectrum antibiotics such as amoxicillin were widely dispensed in most community pharmacies in Central Java, it was of heightened concern that second-line antibiotics, including cefixime, were dispensed to some extent without a prescription. These findings were consistent with other studies where antibiotics for the common cold were sold inappropriately and were easily duplicated from previous prescriptions for self-medication purposes in Yogyakarta and Surabaya, Indonesia.^{90, 93} Studies among community pharmacies in China, India, and Thailand have also reported the sale of antibiotics without prescriptions which were commonly used for managing cough, sore throat, fever, URTI, and diarrhoea.^{203, 214, 215, 371}

Some respondents have indicated that some community pharmacies may require to sell non-prescribed antibiotics without prescription to maintain business profitability or sustainability. This could be influenced to some degree because medicines are provided free at primary health centres and hospital out-patient clinics. In addition, dispensing by doctors reduces community pharmacy income to some extent.

The responses revealed that pharmacists and pharmacy technicians often felt pressured by the consumers to supply antibiotics without a prescription. Pharmacies, therefore, were often branded by the public as not being an "appropriate" health destination if they do not comply with the consumer's demands. Further, there was a perception that dispensing antibiotics without prescriptions was right, as most pharmacy technicians perceived they knew about the medicines based on their experience. They perceived they were qualified to give medicines for minor ailments.

Indonesian community pharmacies often dispense the requested amount of medicine from an original container (blisters) in a plastic clip. The lack of appropriate labelling occurring at pharmacies also indicated inadequate training or application of training by pharmacy staff. Although it is common in most community pharmacies in Indonesia, it is not good practice. This practice may lead to the misuse of medicines owing to poor understanding and risks patient safety. Insufficient medicines labelling and information may also be the result of repackaging from large bulk supplies of medicines without providing appropriate information leaflets. The findings in this study are similar with practice in community pharmacy in Pakistan and Malaysia where it is also a common practice in these community pharmacies to dispense medicines from its loose packaging (not the original packaging from the manufacturer), thus leading to inadequate labelling.^{31, 366, 372}

Respondents also identified unauthorised supply sources of antibiotics made routinely by midwives, nurses, and orderlies which raised concerns about the ease of access the community has to antibiotics from multiple sources rather than just most community pharmacies. The ease of access of the community to antibiotics from multiple sources potentially leads to antibiotic resistance.³⁷³ However, to overcome this all outlets providing antibiotics illegally would have to cease supply and judicious antibiotic prescribing and dispensing by doctors also achieved.

Third, inconsistencies in pharmacy education and training lead to inconsistencies in MMA practice. Inconsistencies in pharmacy education have been a common barrier to delivering MMA services in many countries.³⁷⁴⁻³⁷⁶ Both respondent groups indicated that university training in the MMA was variable across pharmacy teaching institutions. The Indonesian Pharmacy Higher Education Association (APTFI) and IAI are responsible for developing pharmacy education curricula and developing pharmacists' competencies. The Indonesian Pharmacy Diploma Association (APDFI), Indonesian Ministry of Health and PAFI are organisations responsible for developing pharmacy technician education curricula and developing pharmacy technicians' competencies. The inconsistent education programs reported in this study require a review by these organisations. However, to date, no studies have been undertaken to evaluate the roles or activities of these organisations when developing MMA curriculum.

This study found that pharmacy curricula, including MMA subject/unit, were delivered of variable length, relevance and access to direct clinical practice. Thus, a review of pharmacist training and education with respect to MMA should occur to ensure all pharmacy and pharmacy technician students experience adequate educational and practical exposures with respect to

MMA. The content of the MMA curriculum should be defined clearly to target more relevance to pharmacy practice. Despite the existing pharmacy regulations, pharmacy practice in Indonesia has not reached its potential. MMA course/education has not evolved sufficiently to prepare pharmacy graduates for professional pharmacy practice and extended roles.

Pharmacy education in Indonesia also needs to reflect current practice to ensure that graduates harness the necessary clinical knowledge and able to translate their skills in practice. Pharmacy education and institutions must be consistent in implementing future practices and introduce clearly defined scopes. The curriculum must also be carefully designed as there is a wide gap of accreditation levels between institutions. Pharmacy curriculum design consisting of 60% in theory and 40% in practice may also influence how pharmacists deliver MMA services compared to pharmacy diploma curriculum (consists of 40% in theory and 60% in practice).³⁷⁷ Thus, the level of training for pharmacy graduates must be thoroughly evaluated to equip students with more experiential learning. In this way, the pharmacist will be regarded as the best educated and trusted health care professional.

According to the Indonesian National Pharmacy Board (KFN), in 2016, Indonesia had nearly 55,000 registered pharmacists (in all settings), representing a ratio of one pharmacist per 4,528 people³⁷⁸, while the ideal recommendation according to WHO is 1:2,000.^{379, 380} Of these pharmacists, approximately 45% worked in the community pharmacies in the city, leaving the vast majority of Indonesians in the rural areas without access to a pharmacist (including pharmacists working in other clinical settings). This means the pharmacist workforce in Indonesia is inadequate. The WHO ideal recommendation may not be an unreasonable figure; however, this figure may not be economically achievable as Indonesian pharmacists are not working for a significant amount of time during pharmacy trading hours (as explained in the pharmacists' absence section). It could be argued that the pharmacy workforce is augmented by the availability of the pharmacy technician workforce or diminished by other healthcare professionals dispensing medicines (e.g. doctors). As with many other countries, there are inequalities in the distribution of pharmacists with a congregation in highly populous areas.³⁸¹⁻³⁸³ Further, the need for a greater pharmacy workforce has been identified by the increasing number of pharmacy institutions offering pharmacy degree in Central Java, Indonesia which may somewhat address the issue of pharmacist shortage in the near future.³³⁵

5.5.2 Facilitators and barriers to the provision of MMA services

The responses found in this study provides valuable information on medicines reclassifications. This study captured potential medicines that allow future down-scheduling to expand the scope of pharmacy practice in the MMA as one of the facilitators identified in this study. Although the majority of pharmacist and pharmacy technician respondents stated their agreement for down-scheduling of medicines, the interviews did not identify any medicines for down-scheduling. However, it is concerning that the supply of non-prescribed prescription-only medicines to the public appeared to be a common practice. For example, some had supplied medicines such as omeprazole and cetirizine before these medicines were officially down-scheduled. This may indicate that expanding the range of pharmacist-only medicines to include omeprazole and cetirizine may facilitate compliance to legal requirements.

The interview findings revealed that both respondent groups demanded an increase of medicines they can supply without a prescription from a doctor. The majority of pharmacists and pharmacy technicians strongly supported regulations and policies to assist consumers in the MMA services and non-complex chronic diseases, where they felt confident and qualified to provide. There appears to be an opportunity to facilitate the provision of MMA services to improve their professionalism. The findings in this study were consistent with previous studies in the UK, New Zealand and Canada, which strongly emphasised that the down-scheduling of medicines was one of the main facilitators for expanding the pharmacist role in the MMA and improving access to essential medicines by consumers.^{128, 130, 135, 199} Further, Australian studies have also suggested that down-scheduling of medicines for pharmacist will increase options in the MMA and manage treatment of chronic conditions (OTC medicines classifications are generally within the law as the developed countries health systems cater this with enforcement).^{384, 385}

The results in this study indicated pharmacists' and pharmacy technicians' common expectations to provide a greater pharmacy service to serve local community needs. Public concerns along medicines safety and the minor ailments health seeking behaviour alluded to a change in community pharmacy practice. The interview findings revealed a requirement to standardise the practice of non-prescription medicines provision in the MMA by initiating standardised training for pharmacy staff and providing clear protocols and standard operating procedures for the MMA services. Previous research supports these findings that identify pharmacists' perceived barriers to include a lack of practice guidelines and lack of support from professional bodies as factors affecting the application of MMA service.^{24, 29, 87, 386}

Another barrier reported was that community pharmacies current action to supply many prescription-only medicines renders current down-scheduling regulations and expansion irrelevant. The down-scheduling of medicines in Indonesian community pharmacies may not have practical benefit unless the regulations are enforced. This means all sources of illegal supply (e.g. drug stores, traditional markets, kiosks, nurses, midwives) providing prescription-only medicines would have to cease supply. Such a large change to medicine availability would require changes in the primary care system and a complete change in culture or health-seeking behavior of consumers, which in practice could not be achieved in a short time. With those changes, it is expected that community pharmacists will provide appropriate medicines (e.g. antibiotics) on prescription or following down-scheduling with the appropriate length of course minimises adverse effects or resistance. Further, the Indonesian government may need to re-examine, re-formulate and adjust health policy framework and enforce legislation to overcome these barriers.

Some pharmacists and pharmacy technicians who supplied prescription-only medicines for chronic conditions such as hyperglycemia and high blood pressure suggested possible down-scheduling of medicines, particularly for the purposes of medication continuance. Both respondent groups indicated their preference for non-prescription supply of prescription-only medicines for chronic conditions was influenced by consumer requests. Pharmacist respondents also indicated this preference as a barrier to providing prescription-only medicines, but they still breach the law to supply the medicines for chronic diseases presumably due to patient demand. This may indicate a need for a repeat prescription system operating in community pharmacy in Indonesia to meet patient demand and minimise the illegal supply of prescription-only medicines. So far, the Indonesian private and public health and medical systems have failed to manage patients appropriately and effectively. In Australia, repeat intervals for long-term prescriptions are common practices where patients were issued repeat prescriptions by community pharmacist without face-to-face consultations with the doctor.³⁸⁷ Unless it is provided as a repeat for chronic diseases, there are issues of patient safety. Thus, future research should investigate the preferred models of medicine provision in the MMA and whether additional training in the provision of medicines for chronic diseases is required.

This analysis reports on sales and consumers' purchasing behavior for non-prescription medicines. Pharmacists' fear about the likelihood of medicines misuse and abuse was identified as one of the barriers regarding the down-scheduling of medicines. Pharmacists were concerned that down-scheduling of medicines would have further negative consequences for public safety.

For example, some pharmacists mentioned medicines misuse in Indonesian OTC medicines for cough and cold symptoms that contains dextromethorphan (e.g. Komix®) which in supra-therapeutic doses can have psychoactive effects such as euphoria, calming, and recreational effects that was mostly abused by teenagers.³⁸⁸

While it is considered that down-scheduling of medicines can improve consumer access to medicines, however, other issues that need to be considered in down-scheduling of medicines were the lack of adequate training for pharmacist and pharmacy technicians and pharmacists' absence that leads to lack of availability to provide counselling in minor ailments. Thus, an adequate training to improved knowledge and skills in the provision of MMA carried out by IAI and PAFI can improve pharmacists' and pharmacy technicians' professionalism. Such training would overcome the barriers and challenges when providing counselling and raise pharmacy staff confidence.^{386, 389, 390}

With the pressure and ongoing inconsistencies of MMA practice – supply issues in the management of medicines, weak enforcement of regulations of illegal supply of medicines, it will not be easy to enhance MMA professional services. The findings in this interview study suggest a thorough evaluation of the regulations and stricter enforcement should be implemented to improve access to legal medicines. However, this study also acknowledges that perhaps the government of Indonesia and health authorities are inattentive when developing plans for pharmacy. Thus, more research and audit are needed to better inform the policy makers in Indonesia.

To summarise, despite the existing regulations and current provisions in the MMA, this study indicates limited progress has been made in the MMA community pharmacy. For example, the lack of guidelines and pharmacist presence has been an obstacle to implementing professional services in the MMA. With the growing number of community pharmacies in Central Java and their competitiveness, community pharmacies are under great pressure to balance professional ethics and a retail business. This may be a factor emanating from non-pharmacist ownership.

5.5.3 Impact of COVID-19 on community pharmacies

Indonesia confirmed its first case of COVID-19 on 2 March 2020, and by 31 March 2020, it had escalated to 1,528 confirmed positive cases and 136 deaths.³⁹¹ To support prevention and control of the virus, the Indonesian government implemented lock-downs, stay at home policies, restrictions on large-scale social gatherings, and quarantine. Community pharmacies,

as one of the recognised healthcare facilities, remained open to the public despite lock-down restrictions for other businesses in Indonesia.

The COVID-19 pandemic has had a considerable impact on the MMA provision. In this study, respondents reported that greater numbers of consumers presented to pharmacies with minor ailments and COVID-19 related symptoms. Throughout the interviews, both respondent groups described their increased workflow and workload owing to the COVID-19 pandemic. Managing crowding in pharmacies, cleaning protocols, sanitiser, masks, queuing outside the pharmacy were described by the respondents as stressful and difficult to manage. Moreover, dramatic workload increase coupled with emotional responses to handle consumers refusing adhere to pharmacy protocols such as queuing and keeping social distancing were reported to cause significant stress and concerns. This placed pharmacy staff under great pressure as many perceived they risked their lives and their own health under these challenging circumstances. Initiatives to mitigate staff exhaustion, therefore, were needed, but often not provided to address these concerns.

The current practice of community pharmacy during COVID-19 found in this study required self-protection. Pharmacists and pharmacy technicians reported high awareness of practising hygiene measures. The majority of both respondent groups indicated that they had masks (some stated double), gloves, hand sanitisers, and some offered masks free of charge to patients who entered their pharmacies without a mask. Some respondents reported consumers adherence to protective measures, although some reported refusal to adhere to these requirements. It is important to consider how consumers reactions may differ, and strategies to manage non-compliance were needed to tackle this issue.

The respondents indicated that consumers behaviour and visits to the pharmacy during COVID-19 occurred because they believed it was the best and most convenient place to seek advice for their health problems. The greater public enthusiasm for visiting the community pharmacy was partially due to fear of being infected by COVID-19 when visiting public health facilities. Pharmacy consumers perceived community pharmacists as the safest urgent care healthcare professionals to visit for reassurance and advice when patients feared going to healthcare facilities. Moreover, the analysis indicated that fear of exposure to the coronavirus and potential requirement to isolate facilitated consumers' preference to seek care from a pharmacy. Consumers recognised community pharmacists as credible healthcare professionals to treat them, similar to some studies reported in other developing countries.^{269, 355, 392}

Despite precautions taken such as protection while working at the pharmacy, pharmacists and pharmacy technicians reported inevitably interacting with patients when dealing with crowds of consumers, which lead to the fear of infection to spread. Community pharmacists felt they were required to continue to provide services and care to patients during the COVID-19 pandemic. The respondents in this study indicated that non-compliance behaviour of consumers about the preventive measures against COVID-19 might cause an increased rate of infection in Indonesia.

Tackling medicine shortages during the pandemic situation became a major issue for community pharmacies. Medicine shortages during the COVID-19 pandemic in community pharmacies in Central Java were described as a healthcare crisis. The underlying reasons for increased medicine shortages were complex, including disruption in the pharmaceutical supply chain at a local and national levels. The demand for medicines to prevent COVID-19 related symptoms escalated from the point Indonesia had confirmed its positive cases in March 2020. Notably many minor ailment medicines for influenza-type symptoms were in demand to treat the most common symptoms of COVID-19. Further, panic buying resulted in medicine shortages and increased pressure on pharmacy staff. Pharmacists and pharmacy technicians reported reassuring patients and sought alternative medicines to continue the availability of OTC and prescription-only medicines. The resulting drug shortages in some localities might also have been better managed by addressing quotas imposed by manufacturers on community pharmacies.³⁹³

Studies have shown that community pharmacists provided an important role in preventing the spread of COVID-19 infection using OTC rapid antigen tests and sustained community transmission.^{355, 394, 395} However, this study revealed no rapid antigen tests were available in the Indonesian community pharmacy sector to detect earlier cases of COVID-19 at the time of data collection. Thus, future research should investigate whether providing access to OTC rapid antigen tests in community pharmacy could lead to early detection of infectious cases.

Many respondents reported that doctors practice switched to telehealth, which left the only healthcare professional available face-to-face was community pharmacists. As the COVID-19 pandemic may last for a longer time, implementing telepharmacy and medicine delivery services during the COVID-19 could minimise community transmission.^{278, 396} Further, the Indonesian health authorities could facilitate telepharmacy by providing guidelines and supporting educational webinars for pharmacists and pharmacy staff to minimise patient interactions during COVID-19 pandemic.

5.6 Limitations

Data in relation to pharmacist and pharmacy technician roles and scope were collected during the COVID-19 pandemic, which may have influenced some of the findings. This study has included a range of practitioners in community pharmacy in Central Java, Indonesia and has identified their behaviour patterns in the provision of MMA. Further, purposive sampling in this study obtained pharmacists' and pharmacy technicians' views and recruited participants from several cities in Central Java rather than representing them proportionally. This study only included pharmacists' and pharmacy technicians' perceptions, thus, further research involving other parties (e.g. academics, government staff, professional bodies) perceptions may enrich the findings. As highlighted in this section, the method used in this study (purposive sampling) was not intended to be generalised, thus a limitation of the method. Participants' diverse experiences in the interviews may not be explored within a complete portrait of MMA services and recommendations arising from the discussion may not answer some issues, for example, clear scopes of practice for the pharmacy workforce and pharmacists' absenteeism. While other developing countries have established data about pharmacist and pharmacy technician scopes of practice and roles in the MMA, Indonesia lacks these details. Therefore, collecting national data to map workplace structure, pharmacists' and pharmacy technicians' roles and activities in Indonesian community pharmacies would be the first stage in any future study. This research would be best designed using a national quantitative survey.

5.7 Conclusions

Based on the findings in this study, there is a lack of clearly defined scopes of practice for practising community pharmacists and pharmacy technicians, influenced by inconsistency in MMA teaching and training and student's lack of academic preparedness. The scope of practice and roles of the pharmacist and pharmacy technician are currently blurred. They should be clearly defined, considering the nature of the public health-seeking behaviours and activities of their clientele. There are no relevant regulations, health laws, or practice guidelines for delivering MMA services to ensure pharmacists and pharmacy technicians practice within their scope. Further, there is no review available of the pharmacy practice regulations at the health policy level by the Indonesian government and pharmacy-based organisations, leading to the blurred scopes of practice. Bachelor of Pharmacy graduates not continuing to the Apothecary qualification are a wasted resource when only practising as community pharmacy technicians. Therefore, the academic requirements for pharmacy technician training need a review. Further,

the health authorities have not addressed the availability of illegal medicines from all current outlets in Indonesia. This would result in a major change in primary care and need issues such as repeat prescriptions and the down-scheduling of selected medicines to the pharmacist-only status being considered. Another blurred area is the interface between minor ailments and minor chronic diseases; thus, additional training is needed to identify the appropriate use of medicines for chronic diseases and minor ailments. Community pharmacies became a major source of assistance for patients with COVID-19 like symptoms. Although many pharmacists saw managing COVID-19 patients as risking their health and life, they were prepared to provide pharmacy services in a difficult environment.

Chapter 6

General Discussion

Chapter 6. General Discussion

6.1 General Discussion

The overall aim of this thesis was to investigate and evaluate aspects of the management of minor ailments (MMA) in community pharmacies in Central Java, Indonesia. This thesis reports current practice in delivering minor ailments services, the roles and scopes of practice of pharmacy staff (pharmacists and pharmacy technicians) in providing these services, and academics' perspectives on how they perceive pharmacy and pharmacy technician's scopes of practice and student preparation related to provision of these services.

6.2 Research methodology selected for the studies

Traditionally, research studies have often used a single method design. However, it is reported that single-method study designs often have limitations and shortcomings, such as no consideration of multiple perspectives and viewpoints.³⁹⁷⁻³⁹⁹ It is important that the methodologies selected should generate high-quality data and evidence, and that they answer the research questions.³⁹⁹

Over the last decades, the practice of using mixed-methods research has become increasingly popular. This allows an expansion of the research focus to limit the weaknesses of using a single method approach. Mixed-methods research is a recognised research paradigm in the fields of health services and pharmacy practice.³⁹⁷

A mixed-methods approach was used to collect the data in this study. The term 'mixed-methods' refers to an approach that promotes the integration or 'mixing' of quantitative and qualitative data within a single investigation.³⁹⁸ Such integration allows for more comprehensive and synergistic collection and analysis of data than a single quantitative or qualitative analysis. A study design may be considered mixed if it incorporates both qualitative and quantitative methodologies at any point, including the development of research questions, sampling strategies, data collection, analysis approaches, or conclusions.³⁹⁸ A mixed-methods approach offers immense potential for integrating new ways of understanding the complexities of an experience and enhancing capacities for generalisation and explanation.³⁵⁷

Despite the novelty of the mixed-methods approach, the process of using more than one method design within a single study has been common.³⁹⁷ It adds additional insights to the research question that would not have been otherwise available if only a single method was used. However, mixed-methods research may not always be appropriate and it is essential to allow the research question to guide the study design. The selection of the study design should be based on the research question asked and it may be answered by a single study.⁴⁰⁰

This project comprised three phases to collect and analyse comprehensive data employing quantitative and qualitative approaches to investigate the perceptions of practising pharmacists, pharmacy technicians, and academics on MMA services in Indonesian community pharmacies. As this thesis was an original work based in Central Java, Indonesia, it followed a developmental approach where the subsequent phases were guided by the findings of the previous phase(s) of the study.

Several studies have been conducted in a number of locations in Indonesia, to investigate pharmacy staff roles in the provision of MMA services.^{29, 86, 92, 401} However, the scopes of practice and competency of the pharmacy workforce have not been previously explored. To fulfil the objectives of Phase One, a questionnaire-based cross-sectional survey of community pharmacists and pharmacy technicians practising in Central Java, Indonesia, was chosen and considered a feasible and appropriate methodology to gather the data. The challenge was to achieve a representative sample as no sampling frames for community pharmacists or pharmacy technicians were available. Seminars conducted by two pharmacy professional bodies, namely the Indonesian Pharmacists Association (IAI - pharmacists) and Indonesian Pharmacy Technicians Association (PAFI - pharmacy technicians), were used as the settings for conducting the surveys. This approach was chosen as it targeted pharmacists and pharmacy technicians in community pharmacies at the time of the survey who attended the seminars to obtain their re-registration CPD credits. Attendees completed a self-administered questionnaire seeking their perceptions about the MMA services. The data collected allowed comparisons between the responses of pharmacist and pharmacy technicians.

The findings in Phase One guided the development of Phase Two of this study. Phase One of this study identified a lack of clearly articulated scopes of practice regarding pharmacists or pharmacy technicians based on perceived competence to manage specific minor ailments amongst the surveyed respondents. Owing to the differences in their perceptions of the scopes of practice of pharmacists and pharmacy technicians in managing minor ailments, the perceptions of academic staff who teach pharmacist and pharmacy technician students were

sought. It was considered that academics' perceptions may provide more insight into the lack of clarity regarding defined scopes of practice evident amongst practitioners. It also was essential to understand academics' perceptions of how the pharmacy curricula shaped pharmacy students' learning about MMA. One of the key course learning outcomes for the pharmacy degree is to provide students with the requisite skills and knowledge to practice. During university training, students gain foundation learning from the academics, but continue to develop their clinical skills in practice over the course of their career.

A cross-sectional, descriptive census online survey was used in Phase Two of the study to investigate current pharmacy academics' views on how students were prepared to deliver the MMA services. Due to the COVID-19 outbreak and travel restrictions in and out of Australia (Western Australia implemented strict border restrictions during the COVID-19 pandemic) and Indonesia, this method was chosen as it was the most feasible and cost-effective means of engaging the academics. During the COVID-19 outbreak, the government of Indonesia implemented restrictions and locked down many public facilities, including universities. Thus, academic staff were required to work from home with computer and internet access. As they were required to work from home, it was thought that they may be more attuned with online surveys. Conducting an online survey has advantages such as no postage costs and mailing envelopes, and the responses can be entered easily and downloaded into a database for analysis. Online surveys also allowed the respondents to save their responses and return later to finish the survey. Reminders can also easily be sent by email to complete the online survey to increase the response rate. Generally, conducting an online survey may have a lower response rate compared to a paper-based survey.^{299, 402} However, in this case, targeting the respondents initially through their Head of School was used to improve the response rate.

Based on the findings of Phases One and Two, there was a need to gain an in-depth understanding of the views and perceptions of community pharmacists and pharmacy technicians on their scopes of practice in MMA services and factors influencing the delivery of MMA services. Further investigations were needed to explore pharmacists and pharmacy technicians' perceptions of their roles in the MMA. Hence, the above objectives justified the need to conduct Phase Three using a qualitative method to collect rich, relevant, and in-depth information. The methodology adopted was to use in-depth interviews and because of COVID-19, these were conducted using a virtual meeting system (either Zoom or Microsoft Teams) that was convenient for the participants and the investigator who was located in Perth, Western

Australia. A qualitative approach allowed the investigator to explore the perceptions of individuals in their current circumstances.⁴⁰⁰

Interviews or focus group discussions were considered the best methods as they allowed the investigator to explore pharmacists' and pharmacy technicians' perceptions towards the findings of Phases One and Two. However, due to the COVID-19 pandemic, one-on-one in-depth interviews delivered online were considered the most feasible method to explore respondents' perceptions and opinions. These also allowed respondents to elaborate, or be asked to elaborate their thoughts and the factors impacting their views without the influence of others.³⁹⁷ Hence, the investigator was able to explore their experiences and understanding intensely, suggesting a clearer picture of the current practice in the MMA. The investigator did not choose focus group discussion as conducting focus groups during the COVID-19 outbreak was impracticable. These respondents are frontline health workers, and many of them were required to work long hours (particularly during COVID-19) and therefore coordinating a time which suited all respondents would have been extremely challenging.

In summary, the mixed-methods approach used in this thesis was beneficial in identifying and understanding the MMA by pharmacists and pharmacy technicians in community pharmacies in Central Java. It also allowed respondents to voice their thoughts and allowed comprehensive data to be collected.³⁹⁷ This approach allowed the investigator to provide a more complete and rigorous analysis than would have been achieved using a single methodology.

6.3 The necessity to clearly define pharmacists' and pharmacy technicians' scopes of practice

Community pharmacies in Indonesia provide a wide range of minor ailment services. However, this study has found a lack of clearly defined scopes of practice maintained and comprehended by pharmacists and pharmacy technicians when delivering MMA services. Pharmacy technicians considered overall the scope of minor ailments they could manage was much broader than that perceived by their pharmacist colleagues. However, respondents' perceptions were influenced by factors such as professional experience, expertise in providing patient counselling, and pharmacy co-location (a pharmacy with direct public access), as outlined in Chapter 3, page 52.

There was an overlap of scopes of practice between pharmacists and pharmacy technicians as perceived by pharmacy academics, whether they were teaching pharmacy students, pharmacy

technician students or both. This lack of role clarity exists amongst community pharmacists, pharmacy technicians, academics and therefore presumably the leaders of the profession. This could lead to significant patient and medication safety issues, particularly if such practice is not within the scope of the pharmacy technician then the quality and standard of the service provided could be affected, and patient outcomes negatively impacted. This is not, however, well supported from the interview findings where little difference in scopes of practice often seemed to be evident in regard to which group managed minor ailments. However, occasionally the pharmacist was consulted by pharmacy technicians for more complicated cases.

The existence of pharmacists and pharmacy technicians in community pharmacies has given rise to a lack of clarity of the limits of professional responsibility applicable to each group. Where pharmacy technicians and pharmacists co-exist elsewhere, the roles are usually separated by dispensing and clinical functions, although some lack of clarity exists, especially when both groups are independently registered practitioners who carry liability for their own actions and clinical decisions.^{59, 223, 246, 403}

The issue in relation to the lack of clear scope of practice of pharmacy technicians was also evident from the findings of a study by Koehler and Brown.²²³ They found from an online survey conducted across 28 countries, that a high number of respondents reported no apparent clear difference in the scope of practice between pharmacists and pharmacy technicians.

Although a lack of clearly defined scopes of practice exists, there was a high level of perceived agreement between practising pharmacists and pharmacy technicians about which minor ailments that should be managed within the pharmacist's scope of practice (PCR level above 60%). Percentage of Common Responses (PCR) described the level of similarity of perceived scopes of practice for pharmacists and pharmacy technicians. PCR values above 60% indicated a reasonable level of agreement for pharmacists or pharmacy technicians to manage each of the ailments or if the ailment was beyond the scope of a pharmacist. PCR values above 80% for 10 minor ailments including oral thrush, mild headache, and travel sickness, were perceived by practising pharmacists and pharmacy technicians to lie within the scope of a pharmacy technician. Academics teaching pharmacy and pharmacy technician students (who were pharmacists) however, perceived pharmacy technicians' scope of practice was much more limited with only dandruff and mild headache having PCR values above 60%. They perceived all other minor ailments as requiring pharmacists' clinical judgement and knowledge to manage. This group would be making their assessment based upon pharmacy and pharmacy technician graduates preparedness at graduation. The interview data generally supported the

practitioner's questionnaire responses indicating little difference between the minor ailments managed by pharmacists or by pharmacy technicians. For a more complex case the pharmacy technician would seek the advice of a pharmacist. These findings indicate a marked difference in the perceptions of practitioners and academics and a clear lack of role clarity.

Studies about the role clarity between pharmacists and pharmacy technicians have been described in community pharmacies in developed countries such as Denmark and Germany.^{223, 342, 403} Denmark has implemented a health system where only pharmacists can own a pharmacy and community pharmacies have a monopoly for medicines, thus, community pharmacists have a clearly defined scope when practising.⁴⁰³ Qualified pharmacy technicians in Denmark hold a three-year academic degree and work under the supervision of a registered pharmacist. Pharmacy technicians' defined scope of practice in Denmark includes the provision of OTC and prescription-only medicines, providing counselling on minor ailments, self-care advice, recommendation of a product, referral to a GP, and delivering Inhaler Technique Assessment service. For more complex pharmaco-therapeutic cases, pharmacy technicians will refer to the pharmacists. Non-qualified staff are not allowed to provide medicines and counselling which is only delivered by pharmacists and pharmacy technicians.^{342, 403}

A systematic review has identified various roles for pharmacy technicians which include: administrative roles (including managing patient appointments), pharmacy consultations (clinical pharmacy services), collection of patient medication histories and collection of clinical data and report it to the pharmacist who will assist and make a clinical recommendations.²⁴³ The study showed that pharmacy technicians in developed countries (e.g. UK, The Netherlands) have more advanced roles in the community pharmacy (e.g. medicines reconciliation, pharmacy technician led outpatient breast cancer clinics). A study in The Netherlands supported the role of pharmacy assistants (graduates of a three-year vocational program) to advise on the use of non-prescription medicines in the MMA as part of their competence, however they are required to adhere to guidelines and provide up-to-date evidence-based treatment.⁴⁰⁴ Pharmacy assistants education in The Netherlands is similar to pharmacy technicians in Indonesia, however, pharmacy assistants in The Netherlands are required to complete a further three years of training at a higher level which included theoretical courses and internship after their Diploma courses which may suggest a higher level of preparedness in managing minor ailments.⁴⁰⁴ This finding further adds to the need to define the extent of pharmacy technicians' scope of practice and education in the MMA in Indonesia.

Evidence from the interview findings conducted for this study, showed that minor ailments were being managed not only by pharmacists, but also pharmacy technicians and non-qualified assistants (in some cases). This has occurred in many cases due to pharmacist absence from the pharmacy during some opening hours. Given the current situation, the legislation requiring a pharmacist to be on duty during all pharmacy opening hours is enforced and strongly supported by the profession or diploma qualified pharmacy technicians could be prepared to a higher level than that currently perceived by academics (Figure 6.1).

6.4 Community pharmacy within the healthcare system in Indonesia

The Indonesian healthcare system is complicated and dynamic.^{65, 405} Independent community pharmacy is a private sector operation within the healthcare system which has played a significant role in Indonesia and has become a popular source of primary care, particularly in the MMA. Currently, the community pharmacist's role is shifting focus to an extended role in the MMA services. This focus shift has reinforced and extended community pharmacists scope to manage more complex ailments rather than simply supplying medicines. The community prefer to visit community pharmacies for their health problems and request certain medicines for MMA, which includes prescription-only medicines, including antibiotics and medicines for chronic diseases. Community pharmacists are often requested by the consumers to manage not only minor ailments, but also chronic diseases. Issuing prescription-only medicines by pharmacists and pharmacy technicians without a valid prescription, including antibiotics, was identified as a common practice in the interviews. This was partially influenced by consumers' demands and commercial interests. However, the provision of antibiotics and medicines for chronic diseases is outside the accepted/legal scope of practice of both community pharmacists and pharmacy technicians in Indonesia.

Community pharmacies in Indonesia face a history of inextricably intertwined pharmacy and medicine, where dispensing by doctors and other healthcare professionals still exists. Whilst the main dispensers of medicines are community pharmacists, ongoing tension between healthcare professions over the supply of medicines remains. It is clearly stated in the Indonesian Community Pharmacy Act that they are the only practitioners who have the authority to dispense medicines.^{98, 101, 106} Other healthcare professionals such as doctors, nurses, midwives are not permitted to dispense medicines; however, the law is not being enforced.⁹⁵ These situations have contributed to a practice that is not in accord with the legislation. A key

driver for doctors and other healthcare professionals supplying medicines is to gain profit, which is partially influencing the current practice by pharmacists to provide prescription-only medicines.

In addition to the healthcare system, the findings from the qualitative study (Chapter 5) show that many community pharmacists have improved their professional time commitment from practising one to two hours per day to one shift (approximately seven hours) a day, a finding supported by other Indonesian studies.^{84, 86, 92, 162, 301} This increased participation may have been influenced by the salary which is now greater than in previous years, or other sources of income having diminished with COVID-19. However, these longer hours do not cover the whole duration when the pharmacy is open, which leaves the pharmacy without a pharmacist and usually with a pharmacy technician in charge. While the pharmacy is open and the pharmacist is absent, role clarity may not be achieved. Studies in Sri Lanka and Pakistan have indicated that increased pharmacist presence during opening hours of pharmacies improved the quality of pharmacy services and provision of medicines.^{31, 406}

6.5 Sales of non-prescribed antibiotics and medicines for the management of chronic disease

It was evident especially from the interviews that pharmacists and pharmacy technicians (although not all) frequently dispensed antibiotics and medicines for chronic diseases without a prescription. Although some pharmacists in the interviews were concerned about antibiotic misuse, their justification for dispensing those medicines has arisen from their perception and experience in managing the ailments, thus, it has become perceived as a “legitimate practice”.^{90, 407} The underlying basis is often the customer bringing with them an empty container implying they have purchased it previously. These practices were similar to a study reported from Ethiopia where pharmacy staff tended to mimic prescribing trends of doctors to manage minor ailments and chronic diseases.⁴⁰⁸ Other factors, including business profit gain, have been cited as the reasons pharmacy staff supply prescription-only medicines, including antibiotics, without justifiable clinical reasoning or rationale.⁹⁰

Not all pharmacists and pharmacy technicians supported the sale of medicines for chronic diseases without prescription; stating that medicines for chronic diseases should be dispensed, knowing the importance of the medicines to the patient. Pharmacists and pharmacy technicians may presumably claim that the benefit to the patient of medicines being supplied outweighs the

risks, also prompting the continuation of this practice. In some cases, pharmacists advised a regular check-up (e.g. blood pressure, blood glucose level) and they are trained to refer the patient to the doctor if any changes (e.g. medicines dose, duration) are needed to the prescribed therapy.^{40, 60, 231, 409} From the interview results, pharmacists and pharmacy technicians dispensing chronic disease medicines without a prescription indicated that a repeat prescription system within the Indonesian healthcare system is required for the purpose of medicines continuation for chronic diseases. The current Indonesian healthcare system does not operate a repeat prescription system. It is anticipated that implementation of such a system would be beneficial for patients (e.g. reducing unnecessary visits to the doctors simply to get a prescription). Repeat prescriptions would allow a pharmacist to dispense ongoing supplies of medicines for up to six months for patients with chronic conditions or require long-term medicines without the need to visit the doctor.³⁸⁷

6.6 Supply and sources of medicines in Indonesia

Lower-income Indonesians may opt to visit drugstores (the differences between a community pharmacy and a drugstore have been presented in Chapter 1), supervised by a pharmacy technician, for their minor ailments rather than to community pharmacies.^{410, 411} Indonesian drugstores are only legally allowed to supply OTC and limited OTC medicines under the supervision of a pharmacy technician. However, studies conducted by the Ministry of Health Indonesia using the National Institute of Health Research (NIHRD), National Basic Research (*Riset Kesehatan Dasar/Riskesdas*), and National Health Indicator (*Survei Indikator Kesehatan Nasional/Sirkesnas*) data have revealed that drugstores also illegally supply prescription-only medicines, which include antibiotics, corticosteroids, drugs for erectile dysfunction (e.g. sildenafil citrate), and medicines for chronic diseases (e.g. diabetes mellitus).^{71, 411, 412} In light of these issues, community pharmacies as the only legal source of medicines supplied on the presentation of a prescription, are compelled to compete with drugstores providing such medicines illegally.⁷¹

The number of drugstores currently operating in Indonesia (2021) was estimated at approximately 5,000. This number may rise, presumably due to the ease of establishing new drugstores compared to community pharmacies. According to the regulation of the Indonesian MoH, establishing a drugstore requires only pharmacy technician supervision.⁴¹³ In some rural areas or small villages, recruiting pharmacists has been challenging compared to recruiting

pharmacy technicians, thus, establishing a new drugstore may be the only way to benefit the community.

Further, Indonesian studies have shown that anti-malarials, antibiotics, anti-inflammatories, and non-opioid analgesics were freely supplied by only showing the medicine's strips/package at kiosks, stalls, and by peddlers or hawkers.^{410, 414, 415} Many Indonesians opt to buy medicines from illegal non-pharmacy sources as the prices are below the market price.⁴¹⁶ A study conducted in Jakarta, Bandung, Surabaya, and Malang in Indonesia detected fake/counterfeit medicines (e.g. sildenafil 100 mg tablets) supplied from street peddlers (100%) and drugstores (56%).⁷¹ These poor practices are common in the Indonesian healthcare system and possibly occur due to poor supervision from the health authorities.⁴¹⁶ Indonesian health authorities often visit legal facilities of medicines supply (e.g. community pharmacies and drugstores) rather than non-pharmacy sources of medicines (stalls, kiosks, peddlers/hawkers who illegally supply prescription-only medicines) due to insufficient staff to undertake regular inspections.⁶⁵

Pharmacists' and pharmacy technicians' current practice in supplying prescription-only medicines without a prescription potentially leads to malpractice. This is of professional concern as studies conducted in community pharmacies in Indonesia have indicated that more than 35% of medicines supplied OTC were prescription-only medicines. However, no serious actions have been taken by the health authorities to control the situation.^{90, 91, 412}

Findings from this study raise questions regarding the need and existence of drugstores and highlight the need to review the extent of services they provide to the community, which are often duplicated at a nearby community pharmacy. Stricter supervision and monitoring from the BPOM must be implemented to deal with non-pharmacy dispensing. Medicine distribution from pharmaceutical wholesalers to doctors or other healthcare workers should be restricted and, where possible, ceased.^{27, 71}

6.7 Enactment and enforcement of regulations and laws relating to the management of minor ailments

Although laws controlling community pharmacy exist, there is a lack of enforcement due to a weak regulatory framework in the healthcare system. Stronger enforcement is desirable to improve pharmacy staff adherence to the regulations. These problems are also reported commonly in community pharmacies in developing countries such as Pakistan and Bangladesh, where studies reported ambiguity in laws and weak enforcement of regulations that lead to the

common supply of irrational and inappropriate medicines for MMA.^{31, 147, 216, 372} Stringent implementation of good pharmacy practice and dispensing has been shown to be effective in reducing pharmacists' and pharmacy technicians' failure to comply with the regulations.^{408, 417} Laws and regulations regarding community pharmacy practice are taught as part of the curriculum for Indonesian pharmacy and pharmacy technician students during their studies and they are fully cognizant of the requirements at graduation.¹¹⁶⁻¹¹⁸

6.8 Pharmacy education

This study has highlighted a need for a review of the current pharmacy curricula related to the MMA in pharmacy teaching institutions in Indonesia. Rather than relying on one or two months of clinical placements for pharmacy students in community pharmacies, there should be a defined didactic element(s) or a unit(s) that cover the MMA content as required by future pharmacists and pharmacy technicians (Figure 6.1). These defined MMA elements should be implemented in the BPharm, Apothecary Degree, and Pharmacy Diploma core curricula rather than relying on institutional curricula. Specific syllabus material related to the MMA in the Apothecary Degree may help pharmacy students to focus on what is required to provide minor ailments services in practice, to meet community demands. The interview findings have provided evidence that current pharmacy education and curricula lacked specific syllabus material. Studies from Indonesia, Thailand and Brazil also support the need for a specific syllabus in the MMA to be established within pharmacy education to expand the pharmacist's role.^{307, 401, 418} Rather than relying on practice, clearly defined scopes of practice should be specifically introduced in pharmacy education and curricula.

6.9 Influence of the COVID-19 pandemic

Due to the COVID-19 outbreak, community pharmacists in Indonesia have become the main primary care healthcare practitioner available to the general public, particularly for patients who present to the pharmacy with respiratory symptoms (often part of MMA). Indonesians are now more likely to consider a community pharmacy as their first option to treat their ailments as many people are reluctant to visit public health centres for fear of contracting the virus. Therefore, community pharmacists are assisting patients with symptoms related to COVID-19 which assists their general public profile as they find the community pharmacy a safer option than others to seek advice.

Work practice has changed during the COVID-19, which has escalated anxiety and stress levels among pharmacy staff due to increased workloads, fear of being infected by the virus, burnout, and patient aggression.^{271, 419} From the interview findings, the COVID-19 pandemic has caused increased pressure for pharmacy staff and pharmacists being present in the pharmacy for longer periods. As providers of MMA services, pharmacy staff have been directly exposed to the public, increasing the risk of infection, especially when their working hours are extended.

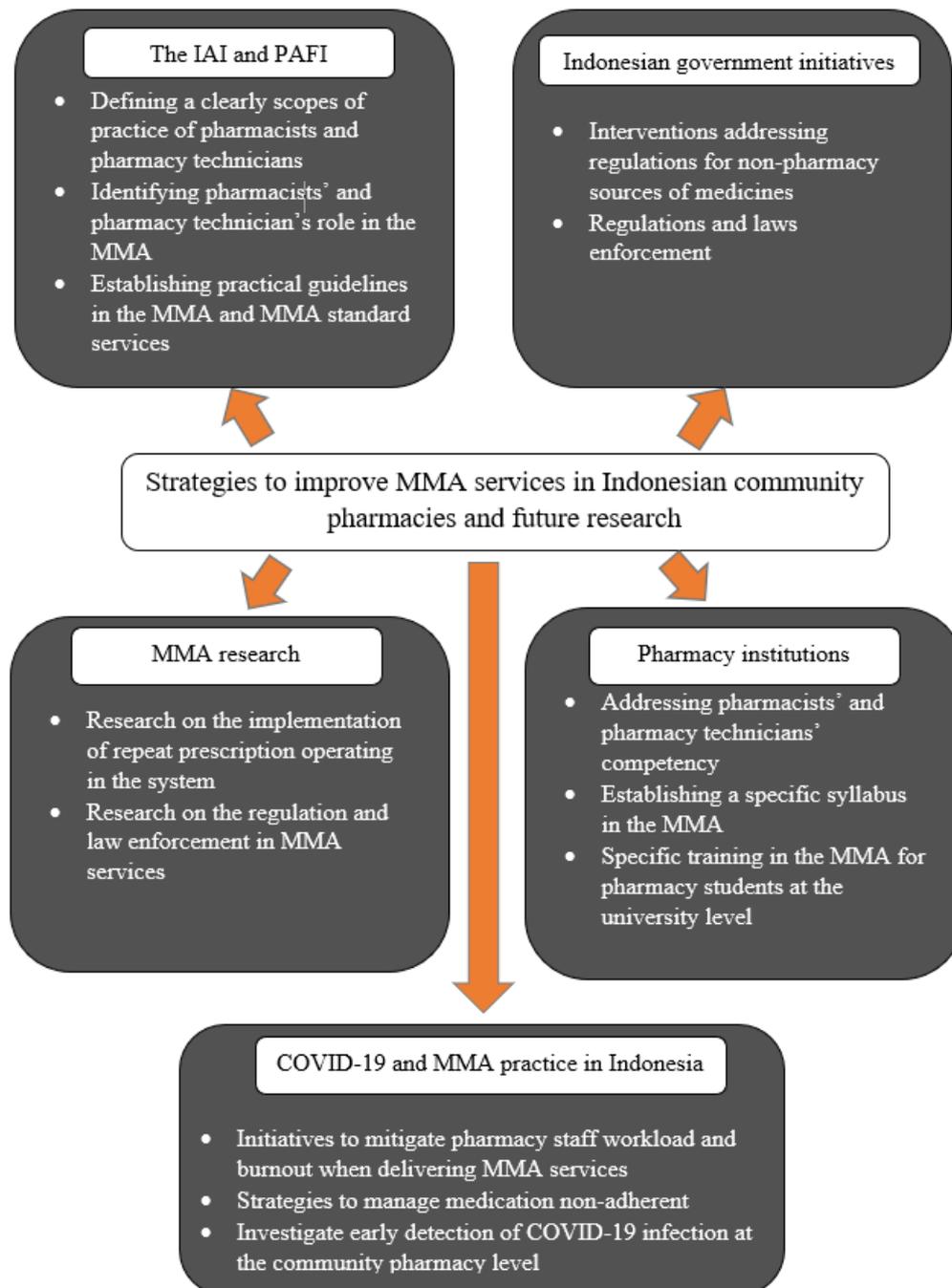


Figure 6.1. Multifaceted and multi-interventions strategies to improve MMA services and future research in Indonesian community pharmacies.

6.10 Agency theory

In general, Indonesian health-seeking behaviour can be described with reference to the Agency theory, where the basic premise indicates that a patient (the principal) delegates their authority to the doctor (the agent) to act on their behalf to manage their health problems, including the selection of medicines. The doctor may issue a prescription when the patient will this time delegate their authority to their pharmacist of choice to dispense the prescription.⁴²⁰ This theory can be adapted to the MMA when consumers delegate their authority to community pharmacists or pharmacy technicians to manage their minor ailments as indicated in the modified Agency theory (Figure 6.2). In this model when a patient seeks assistance from the pharmacist or pharmacy technician, they may be able to assist but if the request is beyond their scopes of practice, then a referral to a suitable health professional is warranted. There is added complexity in the Indonesian health setting where the initial request may be made to other non-qualified pharmacy staff, where it should be triaged to the pharmacy technician or pharmacist depending on the complexity of the condition.

Agency Theory has been extensively used in the economics sector, however, there is a paucity of such data on the application of this model in the MMA in community pharmacies. Some authors have emphasised the use of Agency Theory in pharmaceutical care considering the relationship of a principal-agent relationship in medication selection.^{364, 421} Since the process of selecting medications involves stakeholders (i.e. doctors, pharmacists, pharmacy staff, and patients), the Agency Theory provided valuable insight into the relationship between pharmacists (agents), pharmacy technicians (agents), and patients (principal). In addition, Agency Theory has been applied in pharmacy practice to examine pharmacy clients' attitudes toward the pharmacist's role in prescribing in therapeutic areas independent of doctors prescribing.⁴²⁰ This theory was selected over other theories as it emphasised the interest to align with the relationships of principals and agents in the MMA service.

The request from consumers for a broader range of medicines for minor ailments including antibiotics and prescription-only medicines for chronic diseases can be accommodated by the Agency theory model where the patient has delegated their authority to the community pharmacist rather than the doctor (particularly for chronic diseases). Consumers then rely more heavily on the pharmacist rather than the doctor as their preference to seek advice. In this case scenario the pharmacist's position is shifted in the Agency theory and they may take on a more medical role.

The Agency theory is also altered when repeat prescription-only medicines are provided for managing chronic diseases in community pharmacies. The relationship between the doctor and the patient is disrupted when the community pharmacist becomes the first point of contact for the patient with chronic diseases. Normally a patient would delegate the authority to the pharmacist to provide repeat medicines based on a medical prescription. However, commonly the patient is providing a labelled empty container to the pharmacy and placing their trust in the pharmacist to fulfil this role, without consultation with their doctor.

In addition, the examination of the provision of MMA services in this study has found an interesting trend, where during the COVID-19 outbreak, the MMA services provided by pharmacists has disrupted the relationship between patients and doctors. As illustrated in Figure 6.2 (bold green line), this occurs when the patient (the principal) delegates the decision-making authority regarding health to pharmacists which disrupts the relationship that had been established between the doctor and themselves. According to the Agency theory, the COVID-19 pandemic has caused pharmacy consumers to establish a more direct-dependent relationship with their pharmacist. Community pharmacies remained open during the pandemic, thus patient access to community pharmacists was not impacted. This may be due to doctors employing telehealth leading the community pharmacies becoming the first option for consumers to address their health concerns. Thus, consumers' interest in delegating their authority to community pharmacists to act on their behalf becomes greater. The theory emphasises that the longer relationships exist between the principals and agents, the more principals will learn about their agents. This provides an opportunity for community pharmacists to gain higher respect and trust within the community, which hopefully will lead to improved recognition and remuneration for their role in MMA in Indonesia.

6.11 Limitations

Limitations regarding each study in this thesis have been provided in the relevant chapters. This study was conducted in Central Java, Indonesia, therefore, it being a highly populated area on Java Island might limit the generalisability of the findings to the other parts of Indonesia with limited facilities and infrastructure (e.g. Papua province, West Nusa Tenggara province etc.). However, there may not be many differences compared to other provinces in Java Island (West Java and East Java). Further, pharmacists' and pharmacy technicians' practice, education, and training and governing laws are similar across Indonesia. All pharmacist and pharmacy technician curricula at the university level are informed by the competency standards

determined by the Indonesian Association of Pharmacy Institutions (APTFI) and Indonesian Pharmacy Diploma Education Association (APDFI), which may generalise the findings of this study to the other parts of Indonesia. There may be differences in conditions and situations with the impact of COVID-19 across various jurisdictions in Indonesia, however, given the similar practice in community pharmacies, it minimises bias.

This study did not explore any possible pharmacy technicians' increased scope of practice when a pharmacist was not present. However, Figure 3.3 in Chapter 3 of the responses of pharmacists and pharmacy technicians to 34 proffered minor ailments asking their perceptions of the scope of practice, has indicated that some pharmacy technicians perceived they were competent to manage not only straightforward minor ailments but also those requiring detailed clinical assessment. The scope of practice was an overlap in this study that in some cases, the pharmacy technicians perceived themselves as equivalent to a pharmacist. Although the interviews showed that pharmacy technicians contacted the pharmacist electronically if they needed specific assistance, there was no further investigation regarding possible increased scope of practice when a pharmacist was absent. It was a finding of this study that there was a large amount of absenteeism of the pharmacist. There did not appear to be any signals including in the interviews that there was a change in scope of practice of pharmacy technicians whether the pharmacist was present or not. Although the interviews in this study indicated that during the COVID-19, the pharmacists were available for a long times in the pharmacy, clouding any finding from the pre-COVID era of the first part of the study. Any change in the scope of practice of pharmacy technicians in the absence of the pharmacist is a potential limitation to this study findings. The impact of the absence of the pharmacist should be a separate study.

There is a possibility that there would be more requests for minor ailments on Saturdays and Sundays for the proportion of patients/customers coming into the pharmacy, where GPs are generally not available on these days. However, this specific question was not asked in the survey, thus, it is a limitation of the study. In addition, the results from the interviews showed no explanation or statement from the participants regarding more requests for minor ailments or any other complaints on Saturdays, Sundays, or public holidays, thus, there is less information regarding these activities. However, the pharmacy technicians' current views about their scope of practice would indicate that many would consider themselves able to manage any complaint that came to the pharmacy on Saturdays, Sundays, or public holidays. Since the interviews occurred during the COVID-19 pandemic events prior to this were less important. Prior to COVID-19, there were periods that the pharmacists and pharmacy technicians were

absent on Saturdays and Sundays, which raises patient safety issue that needs to be addressed by the pharmacy profession.

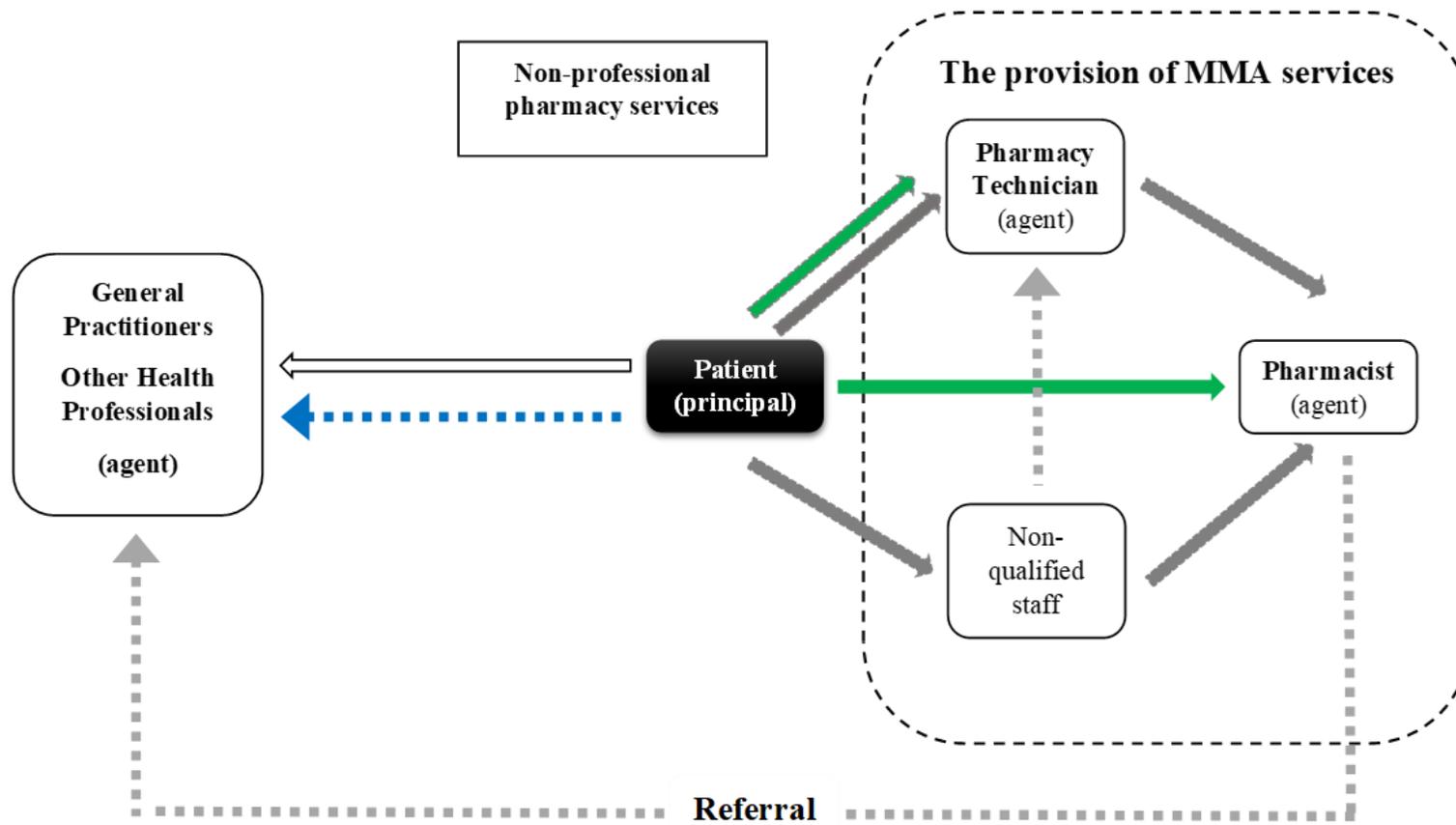


Figure 6.2. Model of the current management of minor ailments (MMA) provision during the COVID-19 outbreak.

( indicates potential disruption of the existing relationship;  indicates the patient (principal) delegate their authority to the pharmacist or pharmacy technician (agent) for the MMA services); and  indicates current provision for the MMA in community pharmacy

Chapter 7

Conclusions, Recommendations and Future Research

Chapter 7. Conclusions, Recommendations and Future Research

7.1 Conclusions and recommendations

A lack of clearly defined scopes of practice exists between pharmacists and pharmacy technicians in the MMA services. This has caused professional uncertainty and overlap, potentially leading to patient harm. The IAI (Indonesian Pharmacists Association) - and PAFI (Indonesian Pharmacy Technicians Association) should establish agreed scopes of practice for pharmacists and pharmacy technicians in the provision of MMA services. These should then be fully integrated into the pharmacy curricula.

The lack of availability of a pharmacist in many Indonesian community pharmacies during all opening hours, contributes to the lack of practice clarity and professional responsibility. Community pharmacy managers should be sanctioned if a pharmacist is not at the premises when the pharmacy is open, as this act breaches the law (community pharmacy decree 2017).¹⁰⁰

Discrepancy and inconsistency exist in the education and training for the MMA for pharmacists and pharmacy technicians in Indonesia. With ongoing community pharmacy practice transformation, there is a need for appropriate uniformity in pharmacy education that supports and delivers the MMA curricula and leads to an essential foundation of regulated community pharmacy practice in MMA. Indonesian pharmacy schools and pharmacy organisations should develop strategies for improving current education in the MMA commencing with a national MMA curriculum survey. A separate identifiable curriculum for the management of minor ailments should be developed.

It is questionable whether BPharm graduates gaining employment as pharmacy technicians in community pharmacy is professionally and economically an appropriate use of their educational level and costs. They should be encouraged wherever possible and appropriate to complete the Apothecary degree or use their BPharm in the pharmacy industry.

A current lack of professional guidelines for the MMA is a major deficiency possibly contributing to unstandardised and haphazard practices by pharmacists and pharmacy technicians. It is proposed that professional guidelines are developed and tailored for

pharmacists and pharmacy technicians, which are endorsed by the relevant professional bodies and the Indonesian government agencies.

The illegal provision of prescription-only medicines such as antibiotics for infections and other medications for chronic diseases needs urgent review by the pharmacy professional bodies and the Indonesian government. This issue is broader than pharmacy since drug stores, nurses, midwives, markets, and other outlets contribute significantly to the illegal supply of these medicines. The current pharmacist/pharmacy technician staffing of health centres and doctors' dispensing also needs review. Only a major revision of the primary healthcare system can lead to a resolution of the current intertwined situation.

Further, there is a need to review the role of drugstores as an element in the primary healthcare system and the extent of services they provide that complement existing community pharmacy services.

Regulatory enforcement related to MMA and other community pharmacy practises combining inspection and enabling sanctions when appropriate is recommended. The fact that consumers can easily obtain prescription-only medicines, including antibiotics, from many outlets, vendors, and healthcare professionals is evident that regulations are not strictly enforced, and therefore, sanctions must be implemented to create a deterrent effect. Greater enforcement of regulations should focus on implementing effective inspections to all outlets and vendors who provide illegal prescription-only medicines.

The pandemic crisis has led to an expansion of professional roles of community pharmacy staff and adaptation to models of care. The impacts inflicted on pharmacy staff by the COVID-19 in the workplace, such as an increased risk of burnout, enhanced workload, and prolonged anxiety need evaluation by health authorities. The Indonesian government should ensure pharmacy staff's ongoing safety and well-being to ensure continuity of service and treatment care in community pharmacy.

7.2 Future research

Future research should be undertaken to establish strategies to improve the provision of prescription-only medicines in Indonesia, including antibiotics. This could include community pharmacy being subsidised to dispense prescriptions from community health centres. Pharmacists' and pharmacy technicians' knowledge to provide appropriate, accurate, and reliable advice about prescription-only medicines, including antibiotics, should also be a target for future research.

The development of a formal repeat prescription scheme provided by community pharmacies in the Indonesian healthcare system would contribute to addressing the medication requirements of patients with chronic diseases, reduce the overall burden on the healthcare system through effective use of pharmacists' expertise (jointly with prescribers), and improve current practice in community pharmacies. A pilot study that incorporates a model for the provision of repeat supplies of medicines within a quality framework should be developed and funded with the aim of improving efficiency and sustainability of the Indonesian healthcare system.

Guidelines should be developed for the provision of minor ailment services and management of individual minor ailments in community pharmacies which include the scope of practice of pharmacists and pharmacy technicians. Agreed guidelines should then be evaluated to assess what changes are necessary in education and/or practice.

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Every reasonable effort has been made to acknowledge the owners of copyright material. I would be pleased to hear from any copyright owner who has been omitted or incorrectly acknowledged.

APPENDICES

Appendix A Ethics Approval

A.1 Approval from the Human Research Ethics Committee of Curtin University

A.1.1 Phase One



Research Office at Curtin

GPO Box U1987
Perth Western Australia 6845

Telephone +61 8 9266 7863
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Web research.curtin.edu.au

27-Nov-2019

Name: Jeff Hughes
Department/School: School of Pharmacy and Biomedical Sciences
Email: J.D.Hughes@curtin.edu.au

Dear Jeff Hughes

RE: Ethics Office approval
Approval number: HRE2019-0803

Thank you for submitting your application to the Human Research Ethics Office for the project **The Management and Status of Minor Ailments in Community Pharmacies in Central Indonesia: A Mixed Methods Study**.

Your application was reviewed through the Curtin University Negligible risk review process.

The review outcome is: **Approved**.

Your proposal meets the requirements described in the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007)*.

Approval is granted for a period of one year from **27-Nov-2019** to **26-Nov-2020**. Continuation of approval will be granted on an annual basis following submission of an annual report.

Personnel authorised to work on this project:

Name	Role
Hughes, Jeff	CI
Mizranita, Vinci	Student
Sunderland, Bruce	Supervisor
Sim, Tin Fei	Supervisor

Approved documents:

Document

Standard conditions of approval

1. Research must be conducted according to the approved proposal
2. Report in a timely manner anything that might warrant review of ethical approval of the project including:
 - proposed changes to the approved proposal or conduct of the study
 - unanticipated problems that might affect continued ethical acceptability of the project
 - major deviations from the approved proposal and/or regulatory guidelines
 - serious adverse events
3. Amendments to the proposal must be approved by the Human Research Ethics Office before they are implemented (except where an

- amendment is undertaken to eliminate an immediate risk to participants)
4. An annual progress report must be submitted to the Human Research Ethics Office on or before the anniversary of approval and a completion report submitted on completion of the project
 5. Personnel working on this project must be adequately qualified by education, training and experience for their role, or supervised
 6. Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, that bears on this project
 7. Changes to personnel working on this project must be reported to the Human Research Ethics Office
 8. Data and primary materials must be retained and stored in accordance with the [Western Australian University Sector Disposal Authority \(WAUSDA\)](#) and the [Curtin University Research Data and Primary Materials policy](#)
 9. Where practicable, results of the research should be made available to the research participants in a timely and clear manner
 10. Unless prohibited by contractual obligations, results of the research should be disseminated in a manner that will allow public scrutiny; the Human Research Ethics Office must be informed of any constraints on publication
 11. Approval is dependent upon ongoing compliance of the research with the [Australian Code for the Responsible Conduct of Research](#), the [National Statement on Ethical Conduct in Human Research](#), applicable legal requirements, and with Curtin University policies, procedures and governance requirements
 12. The Human Research Ethics Office may conduct audits on a portion of approved projects.

Special Conditions of Approval

COA: Please submit amendment requests for the other three phases of this project. This is approval for Phase One only.

This letter constitutes low risk/negligible risk approval only. This project may not proceed until you have met all of the Curtin University research governance requirements.

Should you have any queries regarding consideration of your project, please contact the Ethics Support Officer for your faculty or the Ethics Office at hrec@curtin.edu.au or on 9266 2784.

Yours sincerely



Amy Bowater
Ethics, Team Lead

A.1.2 Phase Two



Research Office at Curtin

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Perth Western Australia 6845

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28-Oct-2020

Name: Jeff Hughes
Department/School: School of Pharmacy and Biomedical Sciences
Email: J.D.Hughes@curtin.edu.au

Dear Jeff Hughes

RE: Amendment approval
Approval number: HRE2019-0803

Thank you for submitting an amendment request to the Human Research Ethics Office for the project **The Management and Status of Minor Ailments in Community Pharmacies in Central Indonesia: A Mixed Methods Study**.

Your amendment request has been reviewed and the review outcome is: **Approved**

The amendment approval number is HRE2019-0803-08 approved on 28-Oct-2020.

The following amendments were approved:

Due to Covid-19 and travel restrictions (as next phases of this study require further travel to Indonesia), changes were made from conducting four Phases to three Phases of the study (eliminating Phase Two which will require face-to-face attendance in Central Indonesia). Phase 1 has been expanded by an in-depth comparative statistical analysis of the data collected prior to COVID-19. This ensures the findings from this research adequately address the overall aim of the project.

In the updated Phases of this study, we redesigned the methodologies for Phases Two and Three such that they are adequate for online delivery. However, the changes made still meet the objectives of the project without compromising its depth and originality.

Phase Two - submitted as an amendment for online delivery

Condition of Approval

It is the responsibility of the Chief Investigator to ensure that any activity undertaken under this project adheres to the latest available advice from the Government or the University regarding COVID-19.

Any special conditions noted in the original approval letter still apply.

Standard conditions of approval

1. Research must be conducted according to the approved proposal
2. Report in a timely manner anything that might warrant review of ethical approval of the project including:
 - proposed changes to the approved proposal or conduct of the study
 - unanticipated problems that might affect continued ethical acceptability of the project
 - major deviations from the approved proposal and/or regulatory guidelines
 - serious adverse events
3. Amendments to the proposal must be approved by the Human Research Ethics Office before they are implemented (except where an amendment is undertaken to eliminate an immediate risk to participants)
4. An annual progress report must be submitted to the Human Research Ethics Office on or before the anniversary of approval and a completion report submitted on completion of the project

5. Personnel working on this project must be adequately qualified by education, training and experience for their role, or supervised
6. Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, that bears on this project
7. Changes to personnel working on this project must be reported to the Human Research Ethics Office
8. Data and primary materials must be retained and stored in accordance with the [Western Australian University Sector Disposal Authority \(WAUSDA\)](#) and the [Curtin University Research Data and Primary Materials policy](#)
9. Where practicable, results of the research should be made available to the research participants in a timely and clear manner
10. Unless prohibited by contractual obligations, results of the research should be disseminated in a manner that will allow public scrutiny; the Human Research Ethics Office must be informed of any constraints on publication
11. Ethics approval is dependent upon ongoing compliance of the research with the [Australian Code for the Responsible Conduct of Research](#), the [National Statement on Ethical Conduct in Human Research](#), applicable legal requirements, and with Curtin University policies, procedures and governance requirements
12. The Human Research Ethics Office may conduct audits on a portion of approved projects.

Should you have any queries regarding consideration of your project, please contact the Ethics Support Officer for your faculty or the Ethics Office at hrec@curtin.edu.au or on 9266 2784.

Yours sincerely



Amy Bowater
Ethics, Team Lead

A.1.3 Phase Three



Research Office at Curtin

GPO Box U1987
Perth Western Australia 6845

Telephone +61 8 9266 7863
Facsimile +61 8 9266 3793
Web research.curtin.edu.au

10-Jun-2021

Name: Tin Fei Sim
Department/School: School of Pharmacy and Biomedical Sciences
Email: T.Sim@curtin.edu.au

Dear Tin Fei Sim

RE: Amendment approval
Approval number: HRE2019-0803

Thank you for submitting an amendment request to the Human Research Ethics Office for the project **The Management and Status of Minor Ailments in Community Pharmacies in Central Indonesia: A Mixed Methods Study**.

Your amendment request has been reviewed and the review outcome is: **Approved**

The amendment approval number is HRE2019-0803-12 approved on 10-Jun-2021.

The following amendments were approved:

Phase 3 - In the updated phase of this study, data collection for Phase Three (Interviews) is proposed to be delivered online.

There has been a minor modification to the objectives of the Phase Three study, which are more useful and valuable to identify the scopes of practice and preparedness based on the findings in Phase One. However, the changes still meet the objective of the overall project.

Condition of Approval

It is the responsibility of the Chief Investigator to ensure that any activity undertaken under this project adheres to the latest available advice from the Government or the University regarding COVID-19.

Any special conditions noted in the original approval letter still apply.

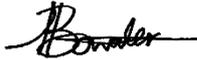
Standard conditions of approval

1. Research must be conducted according to the approved proposal
2. Report in a timely manner anything that might warrant review of ethical approval of the project including:
 - proposed changes to the approved proposal or conduct of the study
 - unanticipated problems that might affect continued ethical acceptability of the project
 - major deviations from the approved proposal and/or regulatory guidelines
 - serious adverse events
3. Amendments to the proposal must be approved by the Human Research Ethics Office before they are implemented (except where an amendment is undertaken to eliminate an immediate risk to participants)
4. An annual progress report must be submitted to the Human Research Ethics Office on or before the anniversary of approval and a completion report submitted on completion of the project
5. Personnel working on this project must be adequately qualified by education, training and experience for their role, or supervised
6. Personnel must disclose any actual or potential conflicts of interest, including any financial or other interest or affiliation, that bears on this project
7. Changes to personnel working on this project must be reported to the Human Research Ethics Office
8. Data and primary materials must be retained and stored in accordance with the [Western Australian University Sector Disposal Authority](#)

- [\(WAUSDA\)](#) and the [Curtin University Research Data and Primary Materials policy](#)
9. Where practicable, results of the research should be made available to the research participants in a timely and clear manner
 10. Unless prohibited by contractual obligations, results of the research should be disseminated in a manner that will allow public scrutiny; the Human Research Ethics Office must be informed of any constraints on publication
 11. Ethics approval is dependent upon ongoing compliance of the research with the [Australian Code for the Responsible Conduct of Research](#), the [National Statement on Ethical Conduct in Human Research](#), applicable legal requirements, and with Curtin University policies, procedures and governance requirements
 12. The Human Research Ethics Office may conduct audits on a portion of approved projects.

Should you have any queries regarding consideration of your project, please contact the Ethics Support Officer for your faculty or the Ethics Office at hrec@curtin.edu.au or on 9266 2784.

Yours sincerely



Amy Bowater
Ethics, Team Lead

A.2 Approval from the Indonesian Pharmacists Association (Ikatan Apoteker Indonesia - IAI)



Pengurus Daerah Jawa Tengah IKATAN APOTEKER INDONESIA

Sekretariat :
Jl. Abimanyu Raya No. 19 Semarang | Telp. 024-86579482 / 081215065045 |
e-Mail : pdaijawatengah@yahoo.co.id | Website : www.pdaijawatengah.id

Semarang, 20 September 2019

No : B1-064/PD-IAI/Jawa Tengah/IX/2019
Lamp : -
Hal : Pemberian Ijin Penelitian

Kepada Yth.

Vinci Mizranita, S.Farm., M.Pharm., Apt
di tempat

Dengan hormat,

Berdasarkan surat yang kami terima dari sejawat Vinci Mizranita, S.Farm., M.Pharm., Apt tanggal 12 September 2019 perihal Permohonan Ijin Penelitian untuk Penelitian Doctoral/S3, kami Pengurus Daerah Ikatan Apoteker Indonesia Jawa Tengah dengan ini memberikan ijin kepada sejawat Vinci Mizranita, S.Farm., M.Pharm., Apt untuk melakukan penelitian sesuai dengan proposal yang diajukan.

Demikian ini kami sampaikan. Atas perhatiannya, kami ucapkan terima kasih.

PENGURUS DAERAH IKATAN APOTEKER INDONESIA JAWA TENGAH

Ketua Umum

Drs. Jamahudin Al J Efendi, M.Farm., Apt.
NA. 08091963038327



Sekretaris Umum

Drs. Rosid Sujono, Apt., MM.
NA. 05101966014515

A.3 Approval from the Indonesian Pharmacy Technicians Association (Persatuan Ahli Farmasi Indonesia - PAFI)



PERSATUAN AHLI FARMASI INDONESIA (PAFI) PROVINSI JAWA TENGAH

Sekretariat Jl. Karangrejo III A No 10 B , RT 01, RW 03 Banyumanik Semarang,
HP. 081228115758, 08157711044, 08122919646
Email : pafijateng@gmail.com

Nomor : 268/PAFI-JTG/XI/2019
Lampiran : -
Perihal : Pemberian Ijin Penelitian

Semarang , 07 November 2019

Kepada Yth :
Vinci Mizranita S.Farm.,M.Pharm.,Apt.
Di

T e m p a t

Dengan hormat ,

Menindak lanjuti surat dari Sejawat saudara Vinci Mizranita S.Farm.,M.Pharm.,Apt. Tanggal 12 September 2019 perihal Permohonan Ijin Penelitian Doctoral/S3 (Curtin University Australia) , Kami Pengurus Daerah Persatuan Ahli Farmasi Indonesia Provinsi Jawa Tengah tidak keberatan memberikan Ijin Penelitian kepada sejawat saudara Vinci Mizranita S.Farm.,M.Pharm.,Apt.di Jawa Tengah , Indonesia sesuai dengan proposal yang di ajukan dan dipergunakan sebagaimana mestinya.

Demikian atas perhatiannya di ucapkan terima kasih.

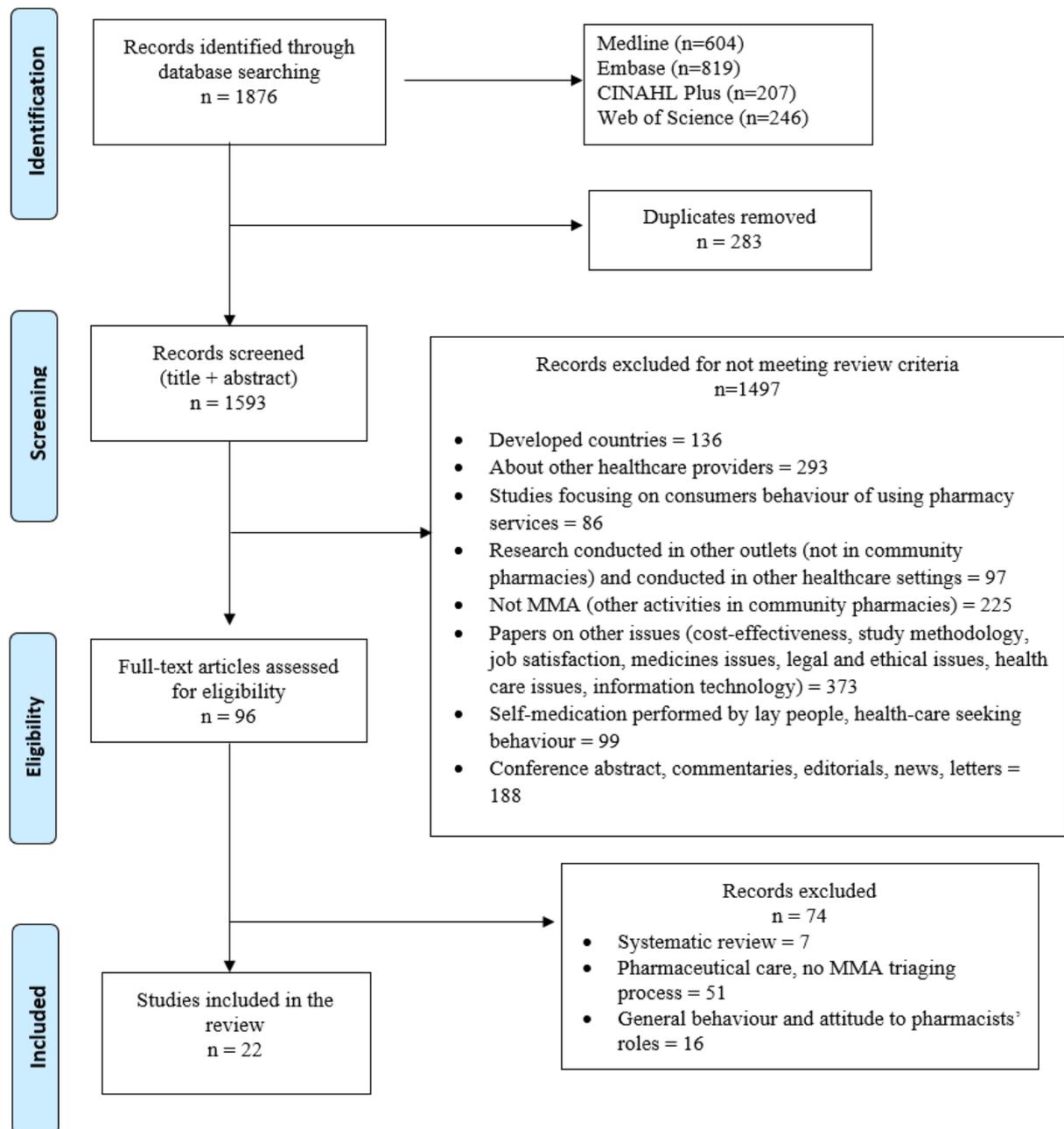
Ketua PD PAFI Provinsi Jawa Tengah



DJOKO HARJANTO,SH
NIAN.3374 0001 1722

Appendix B Search Strategy

B.1 Flow diagram of search and review process following PRISMA recommendation



B.2 Full search terms and search query

MEDLINE and EMBASE¹

Minor ailment*	Pharmacy	Developing countries [MeSH]
Minor illness	Pharmacist	Asia
Self medication		Indonesia
Self treatment		
Self care		
Non prescription medic*		
Non prescription drug*		
Practice*		
Pharmacy service*		

CINAHL Plus¹

Minor ailment*	Pharmacy	Developing countries [MeSH]
Minor illness	Pharmacist	Asia
Self medication		Indonesia
Self treatment		
Self care		
Non prescription medic*		
Non prescription drug*		
Practice*		
Pharmacy service*		

Web of Science

(minor ailments OR minor illness OR self medication OR self treatment OR self care OR non-prescription medic* OR non-prescription drug* OR practice* OR pharmacy service*) AND (pharmacy OR pharmacist) AND (Indonesia OR developin countr* OR less developed countr* OR least developed countr* OR third world countr* OR low income countr* OR middle income countr* OR low economic countr* OR middle economic countr*)

Appendix C Community Pharmacist Questionnaire

C.1 English



Community Pharmacist Questionnaire

Questionnaire - The Management of Minor Ailments in Central Indonesia

This questionnaire is part of a Doctor of Philosophy (PhD) research project at Curtin University School of Pharmacy and Biomedical Sciences which has the approval of the Indonesian Pharmacist Association – Central Java, Indonesia (No.B1-064/PD-IAI/Jawa Tengah/IX/2019). This research aims to examine the management of minor ailments in community pharmacies in Central Java, Indonesia. Minor ailments are defined by the literature as *'conditions that are often self-limiting, with symptoms easily recognized and described by the patient, which fall within the scope of pharmacist's knowledge and training to treat'*.¹ These conditions can usually be managed with the appropriate use of non-prescription products and self-care.¹ Pharmacists play a role in assessing and treating minor ailments; for example, management of cold sores, non-infectious diarrhoea, uncomplicated urinary tract infection, gastro-esophageal reflux disease (GORD) or other minor gastrointestinal disorders and skin conditions.

This questionnaire will ask you about the characteristics of your main pharmacy workplace and how prepared you are to manage patients presenting with minor ailments. Managing minor ailments requires pharmacists to appropriately triage patients. Triage encompasses asking appropriate questions, understanding the rationale of the questions and, for pharmacy technicians, when appropriate making a decision to refer patients to a pharmacist. This study will assist pharmacists in Indonesia to establish a minor ailment management profile and present pathways on how to encourage changes in community pharmacy, particularly in the Indonesian setting, as advised by the Ikatan Apoteker Indonesia (IAI).

Upon completion of the questionnaire, you can elect to be entered into a prize draw **for the chance to win one of three Rp.200.000 gift cards**, as a token of appreciation for your time.

The answers that you give will be treated confidentially and anonymously. This survey should take about **10 to 15 minutes** to complete.

¹Pharmaceutical Society of Australia (2015) Delivering Safe and Sustainable Clinical Services (Available online at https://www.dhhs.tas.gov.au/__data/assets/pdf_file/0003/194934/Pharmaceutical_Society_of_Australia.pdf)

INFORMATION SHEET

The Management of Minor Ailments in Central Indonesia

We invite you to participate in a study by Curtin University School of Pharmacy and Biomedical Sciences, to examine the management of minor ailments in community pharmacies in Central Java, Indonesia. The following statements will provide you with information about what the study involves and the potential benefits of your contribution.

Purpose of the Study

The aim of this study is to identify current community pharmacy practice (triaging, assessment and provision of advice) and investigate the perceptions of pharmacy staff regarding their preparedness to manage patients with minor ailments.

What will this study involve?

This study involves the completion of the attached questionnaire. Respondents will be invited to include their pharmacy name and pharmacy address to be entered into a draw to win a prize. This information will not be linked any way to your confidential survey responses. Upon receiving your completed questionnaire, three winners will be chosen from a random draw of entry forms and announced at the same time.

Who is doing the research?

This project is being conducted by Vinci Mizranita, PhD student from Curtin University School of Pharmacy and Biomedical Sciences, Australia. The results of this study form part of Ms Mizranita's Doctor of Philosophy (PhD) research. This research is being supervised by Professor Jeff Hughes, E/Professor Bruce Sunderland, and Dr Tin Fei Sim from Curtin University, Australia.

Participation Consent

Participation in this research is completely voluntary and completion of the questionnaire will be regarded as consent to participate. You may withdraw from the study at any time for any reason.

What will happen to the information you provide?

All information obtained from this study will be analysed as part of a doctoral thesis at Curtin University. The results of this study may be presented at conferences or published in professional journals, and related activities. You will not be identified in any publication.

Confidentiality

Your names will not be identified at any stages of this study. Electronic data will be password-protected, and hard copy data will be locked in storage. The information we collect in this study will be kept under secure conditions at Curtin University for seven years after the research is published, and then it will be destroyed. Your personal information will not be identified and not be linked any way to your confidential survey responses.

Curtin University Human Research Ethics Committee (HREC) has approved this study (HREC number HRE2019-XXXX). Should you wish to discuss the study with someone not directly involved, in particular, any matters concerning the conduct of the study or your rights as a participant, or you wish to make a confidential complaint, you may contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or email hrec@curtin.edu.au.

Should you have any queries, please find our contact details as follows:

- *Ms. Vinci Mizranita*

PhD Student, School of Pharmacy and Biomedical Sciences, Curtin University

Pharmacist, Lecturer, Department of Pharmacy Universitas Sebelas Maret, Surakarta, Indonesia

Phone: (+62271) 663 375

Email: vinci.mizranita@postgrad.curtin.edu.au

- *Professor Jeff Hughes*

- *E/Professor Bruce Sunderland*

- *Dr Tin Fei Sim*

Supervisors, School of Pharmacy and Biomedical Sciences

Curtin University, Australia

Phone: +61 8 9266 7369

Email: J.D.Hughes@curtin.edu.au

B.Sunderland@curtin.edu.au

T.Sim@curtin.edu.au

Part One: Minor Ailments

Minor ailments (for example, cold sores, non-infectious diarrhoea, uncomplicated urinary tract infections and minor gastrointestinal disorders) can usually be managed with the use of non-prescription medicines.

1. The table below lists a number of minor ailments with which a patient may present to a pharmacy.

Please tick (✓) how you think **EACH** minor ailment presentation (below) should be managed:

• **CAN** be independently managed by a pharmacy technician (without referral to a pharmacist) – tick **ONLY box A**

• **OR** must be managed by a pharmacist – tick **ONLY box B**

• **OR** whether its management is beyond the scope of a pharmacist – tick **ONLY box C**

Ailments	A	B	C
Acne	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acute pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Allergy/rash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bacterial conjunctivitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Back pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cold sores	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Constipation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contraception	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cough and cold symptoms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dandruff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dermatitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diarrhoea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Difficulty sleeping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dysmenorrhoea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eczema	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gastro-oesophageal reflux disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hayfever	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Head lice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Haemorrhoids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Indigestion/heartburn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insect bites/stings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Migraine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mild headache	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minor burns, including sunburn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nappy rash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oral thrush	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rheumatism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sore throat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Superficial wounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporary mild anxiety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toothache	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Travel sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unexplained bruising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vaginal thrush	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Warts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part Two: Pharmacist Details

Please tick (✓) the appropriate box or, where relevant, to provide your answer for the following questions. (If you work in more than one pharmacy, please answer for the main/usual pharmacy you normally work in)

2. Gender: Male Female
3. Age group (years):
 21 - 30 41 - 50 61+
 31 - 40 51 - 60
4. Years you have been registered as a pharmacist.
 < 2 years 6 – 10 years > 15 years
 2 – 5 years 11 – 15 years
5. Your years of practising as a community pharmacist.
 < 2 years 6 – 10 years > 15 years
 2 – 5 years 11 – 15 years
6. What is the highest level of education that you have completed?
 Apothecary degree (pharmacist) Doctoral degree
 Master's degree
7. What is your position in the main/usual pharmacy in which you work?
 Pharmacy manager as well as owner Employee pharmacist
 Pharmacy manager
8. How many hours on average per week do you work in your main/usual pharmacy?
 < 5 hours 11 – 20 hours > 30 hours
 5 – 10 hours 21 – 30 hours
9. Do you receive any additional remuneration other than the standard monthly salary from your main/usual pharmacy work place?
 Yes No
If **YES**, please indicate additional **remuneration** you currently receive from your main/usual pharmacy work place. Please tick (✓) all that apply:
 Dispensing fees Tunjangan Hari Raya (THR) mandatory allowance (e.g. Religious holiday allowance)
 Consultations fees
 Incentives when selling pharmacy only medicines Other, (please specify): _____
 Based on gross turnover profit
10. In the last three months, have you attended any training/continuing education/workshops regarding minor ailments (e.g. seminar, online training, e-learning)?
 Yes No (go to question 12)
If **YES**, how much time in total you have spent on training/continuing education/workshops?
 1 - 5 hours 11 - 15 hours
 6 - 10 hours > 15 hours

11. If you answered YES to Question 10, did this training/education make you feel more prepared or more confident in managing minor ailments?

- Yes No Not sure

Part Three: Pharmacy Details

Please answer for the main/usual pharmacy you normally work in

12. How would you describe the type of pharmacy you work in?

- Independent pharmacy Pharmacy co-located with a doctor's practice
 Franchise pharmacy Other: _____
 Supermarket pharmacy

13. Who owns the pharmacy?

- Pharmacist
 Non-pharmacist (if so, please specify the owner's usual occupation: _____)
 Non-pharmacy company (e.g. Guardian, Century, Watsons)
 Regional owned enterprises
 State-owned enterprises
 Other (please specify): _____

14. Please describe the staffing arrangement in the main/usual pharmacy in which you work by completing the following table.

Type of staff member	Number of staff	Total working hours per usual week
Pharmacy manager		
Employed pharmacist(s)		
Pharmacy technician(s)		
Non-qualified assistant(s)		

15. Pharmacy trading hours of the main/usual pharmacy:

Opening days	Opening hours	Pharmacist in attendance (percentage of time) %	Technician in attendance (percentage of time) %
Monday to Friday			
Saturday			
Sunday			
Public holiday			

16. Is there any private area/room suitable for a confidential consultation in your pharmacy?

- Yes No

17. Regardless of the purpose of entry, approximately how many people come to the pharmacy on average each week?

- < 100 151 – 250 351 – 450 551 – 700
 100 – 150 251 – 350 451 – 550 > 700

18. Of these, approximately how many people on average per week present to the pharmacy seeking advice and/or management of a minor ailment?

- < 10 21 – 30 41 – 50 61 – 70
 10 – 20 31 – 40 51 – 60 > 70

19. On average in a normal week, what percentage of the staff's total time per week is spent on the following activities at your main/usual pharmacy?

Activities	Percentage
Dispensing of prescriptions medicines	
Responding to non-prescription medicines requests	
Request for recommendations of complementary medicines (including herbal medicines and supplements, e.g. vitamins, minerals)	
Management of minor ailments (a service that is provided for consumers who present with minor ailments for counselling, procurement of medication without prescription, including by a pharmacy technician and/or a pharmacist)	
Screening or point-of-care testing, such as blood glucose testing, blood pressure monitoring, and cholesterol testing	
Provision of health information and education	
Home care services	
Non-therapeutic requests (e.g. cosmetics, sunscreens)	
TOTAL (per week)	100%

Part Four: Standard Procedure for Management of Minor Ailments

20. Please indicate who normally performs these activities at your main/usual pharmacy?
(Please tick **ONE** box **ONLY** for each activity)

Activity	Normally performs by:	
	Pharmacist	Pharmacy Technician
Evaluating patient-specific information to assess medication therapy	<input type="checkbox"/>	<input type="checkbox"/>
Reviewing medication allergies	<input type="checkbox"/>	<input type="checkbox"/>
Providing minor ailments counselling	<input type="checkbox"/>	<input type="checkbox"/>
Recommending Western over-the-counter and pharmacy-only medicines	<input type="checkbox"/>	<input type="checkbox"/>
Screening or point-of-care testing recommendations	<input type="checkbox"/>	<input type="checkbox"/>
Providing advice to refer the patient to the doctor	<input type="checkbox"/>	<input type="checkbox"/>
Providing written and/or verbal communication to the doctor	<input type="checkbox"/>	<input type="checkbox"/>

21. Do you think a consultation fee should be charged by community pharmacies for minor ailment management, in addition to the cost of the medication?

Yes

No (Go to Question 22)

(a) If **Yes**, what fee would be the most appropriate?

Up to Rp.5.000

Rp.16.000 – Rp.20.000

Rp.5.000 – Rp.10.000

More than Rp.20.000

Rp.11.000 – Rp.15.000

(b) Who do you think should pay the consultation fee?

Patient

Pharmacy Company

Government

Other (please specify): _____

Health insurance

22. Please indicate your response regarding **how frequently** the following activities are performed **BY YOU** at your **main/usual** pharmacy for patients presenting with minor ailments.

Activities	Never	Rarely	Sometimes	Frequently	Always
A. Minor ailment assessment - how often are the following questions asked?					
Who has the condition or ailment?	<input type="checkbox"/>				
What are the symptoms?	<input type="checkbox"/>				
How long have the symptoms occurred?	<input type="checkbox"/>				
Has the patient tried any medications for this ailment?	<input type="checkbox"/>				
Does the patient take any regular medications?	<input type="checkbox"/>				
Does the patient have any medical conditions?	<input type="checkbox"/>				
Does the patient have any allergies?	<input type="checkbox"/>				
Is the patient pregnant or breastfeeding?	<input type="checkbox"/>				
B. Treatment proposal - how often do you provide the following activities?					
Supply of an appropriate medicine or product to treat an ailment	<input type="checkbox"/>				
Advise the patient to use a medicine from home	<input type="checkbox"/>				
Advise the patient to use Western over-the-counter medicines	<input type="checkbox"/>				
Advise the patient to use complementary medicines (including herbal, vitamins, nutritional supplements)	<input type="checkbox"/>				
Recommend the patient for point-of-care testing (e.g. blood glucose, cholesterol and blood pressure screening and monitoring)	<input type="checkbox"/>				
Advise the patient to continue or stop using current treatment(s)	<input type="checkbox"/>				
Advise the patient to use non-medical interventions	<input type="checkbox"/>				
C. Patient management - how often is information provided regarding each topic?					
Indication and presenting ailment	<input type="checkbox"/>				
Dosage and directions for use	<input type="checkbox"/>				
Treatment plan	<input type="checkbox"/>				
Medication recommended	<input type="checkbox"/>				
Side-effects	<input type="checkbox"/>				
Lifestyle advice	<input type="checkbox"/>				
Price	<input type="checkbox"/>				
D. Labelling and packaging - how often is the following information provided regarding each factor?					
Dosage schedule on the label or package	<input type="checkbox"/>				
Medication storage and expiry date on label/package	<input type="checkbox"/>				
Written drug information provided	<input type="checkbox"/>				
Pharmaceutical ingredients on label	<input type="checkbox"/>				
E. Patient follow-up - how often are the following activities offered?					
Patient follow-up after an appropriate period	<input type="checkbox"/>				
Review and updated patient medication record	<input type="checkbox"/>				
Asking if further information is needed	<input type="checkbox"/>				

23. How likely are you to take into consideration the clinical scenarios listed below when referring a patient who sought advice about minor ailments to another health care professional (e.g. doctor, physiotherapist, nurse, etc)?

1 = Definitely not; 2 = Possibly not; 3 = Neutral; 4 = Possibly yes; 5 = Definitely yes

Clinical Scenarios	1	2	3	4	5
Signs and symptoms on presentation to the pharmacy	<input type="checkbox"/>				
Patient experiencing a recurrence of symptoms	<input type="checkbox"/>				
Symptoms have not improved following previous treatment	<input type="checkbox"/>				

To avoid duplicate responses from the same pharmacy, please state the name of the main/usual pharmacy which your work.

Pharmacy Name : _____

**END OF QUESTIONNAIRE
THANK YOU FOR YOUR PARTICIPATION**



As a token of appreciation for your time involved in completing the questionnaire, you can elect to be entered into a **prize draw for the chance to win one of three Rp.200.000 gift cards**. If you would like to be entered into a prize draw, please provide your name, pharmacy name and pharmacy address. Please note this information is collected strictly for the purpose of a prize draw, and will not be linked any way to your confidential survey responses.

Name : _____

Pharmacy name and address : _____

C.2 Bahasa Indonesia

Indonesian Version



Survey Apoteker di Apotek

KUESIONER - Manajemen Pelayanan Penyakit Ringan (*minor ailments*) di Jawa Tengah, Indonesia

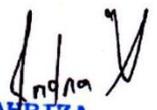
Kuesioner ini merupakan bagian dari penelitian *Doctor of Philosophy (PhD) di School of Pharmacy and Biomedical Sciences, Curtin University, Australia* dengan ijin penelitian dari Ikatan Apoteker Indonesia (IAI) – Pengurus Daerah Jawa Tengah, Indonesia (No.B1-064/PD-IAI/Jawa Tengah/IX/2019). Penelitian ini bertujuan untuk meneliti manajemen pelayanan penyakit ringan (*minor ailments*) di apotek di Jawa Tengah, Indonesia. Penyakit ringan (*minor ailments*) didefinisikan sebagai **"kondisi yang dapat sembuh sendiri, dengan gejala yang mudah dikenali dan diidentifikasi oleh pasien dan termasuk dalam ruang lingkup pengetahuan dan pengobatan apoteker"**.¹ Kondisi ini biasanya dapat diatasi dengan penggunaan obat-obatan tanpa resep yang dapat diperoleh melalui apoteker dan melalui praktek penyembuhan diri sendiri (*self-care*).¹ Apoteker berperan dalam pengobatan penyakit ringan; misalnya, pilek, diare, infeksi saluran kemih tanpa komplikasi, penyakit *gastro-esophageal reflux (GORD)* atau gangguan pencernaan lainnya dan penyakit kulit.

Kuesioner ini menanyakan tentang karakteristik apotek dan kesiapan anda untuk melayani pasien dengan penyakit ringan (*minor ailments*). Apoteker perlu melakukan *triage* yang tepat pada pasien dengan penyakit ringan (*minor ailments*). *Triage* meliputi mengajukan pertanyaan yang tepat, memahami alasan pertanyaan, dan membuat keputusan bagi tenaga teknis kefarmasian untuk merujuk pasien pada apoteker. Penelitian ini digunakan untuk membantu apoteker di Indonesia dalam mengembangkan profil pelayanan/manajemen penyakit ringan (*minor ailments*) di apotek dan mendorong perubahan di apotek sesuai anjuran Ikatan Apoteker Indonesia (IAI).

Setelah pengisian kuesioner ini, anda dapat memilih untuk mengikuti undian berhadiah untuk memenangkan salah satu dari tiga *gift cards* seharga masing-masing Rp.200.000.

Jawaban yang anda berikan akan dijaga kerahasiaannya dan bersifat anonim. Survei ini dapat diselesaikan sekitar 10 - 15 menit.

¹Pharmaceutical Society of Australia (2015) Delivering Safe and Sustainable Clinical Services (Available online at https://www.dhhs.tas.gov.au/_data/assets/pdf_file/0003/194934/Pharmaceutical_Society_of_Australia.pdf)


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Indonesian Version

Lembar Informasi

Manajemen Pelayanan Penyakit Ringan (*minor ailments*) di Jawa Tengah, Indonesia

Kami mengundang anda untuk berpartisipasi dalam penelitian yang diadakan oleh *School of Pharmacy and Biomedical Sciences, Curtin University, Australia* mengenai manajemen pelayanan penyakit ringan (*minor ailments*) di apotek di Jawa Tengah, Indonesia. Pernyataan berikut berisi informasi tentang studi ini dan manfaat dari kontribusi Anda.

Tujuan Penelitian

Tujuan dari penelitian ini adalah untuk mengidentifikasi praktik di apotek saat ini (*triage*, penilaian dan pemberian saran) dan menyelidiki persepsi pegawai apotek mengenai kesiapan mereka untuk melayani pasien dengan penyakit ringan (*minor ailments*).

Keterlibatan pada penelitian?

Terdapat kuesioner terlampir pada penelitian ini. Responden diminta untuk menuliskan nama dan alamat apotek untuk dimasukkan ke dalam undian berhadiah. Informasi ini tidak akan dikaitkan apa pun dengan respon anda. Setelah pengumpulan kuesioner, tiga pemenang undian akan dipilih dan diumumkan pada waktu yang sama.

Siapa yang melakukan penelitian?

Penelitian ini dilakukan oleh Vinci Mizranita, mahasiswa PhD *School of Pharmacy and Biomedical Sciences, Curtin University, Australia*. Hasil penelitian akan menjadi bagian dari penelitian PhD Vinci Mizranita. Penelitian ini dibimbing oleh Professor Jeff Hughes, E/Professor Bruce Sunderland, dan Dr. Tin Fei Sim dari Curtin University, Australia.

Persetujuan Partisipasi

Partisipasi dalam penelitian ini sepenuhnya sukarela dan pengisian kuesioner akan dianggap sebagai persetujuan anda untuk berpartisipasi. Anda dapat mengundurkan diri kapan saja dengan alasan apa pun.

Apa yang akan terjadi pada informasi yang anda berikan?

Semua informasi yang diperoleh dari penelitian ini akan dianalisis sebagai bagian dari tesis doctoral di *Curtin University*. Hasil penelitian ini dapat dipresentasikan di konferensi atau diterbitkan dalam jurnal, dan kegiatan terkait. **Anda tidak akan diidentifikasi dalam publikasi apapun dari riset ini.**

Kerahasiaan

Persetujuan untuk melakukan penelitian ini telah diberikan oleh *Curtin University, Australia* sesuai dengan prosedur. Nama anda tidak akan diidentifikasi pada studi ini. Data elektronik akan di-*protect* menggunakan kata sandi, dan *hardcopy* akan disimpan dengan menggunakan sistem penguncian. Informasi yang kami kumpulkan dalam penelitian ini akan disimpan di *Curtin University* selama lima tahun setelah penelitian ini dipublikasikan, dan kemudian akan dihancurkan. **Informasi pribadi Anda tidak akan diidentifikasi dan tidak akan dikaitkan dengan cara apa pun dengan jawaban anda.**

Siapa pun yang tidak puas dengan respon peneliti dapat mengajukan keluhan ke *the Curtin University Human Research Ethics Committee, Curtin University, GPO Box 1987, Perth WA 6845* atau melalui telepon +61 8 9266 2784 atau melalui email hrec@curtin.edu.au.

Bila anda memiliki pertanyaan, mohon hubungi kami:

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Bagian I: Penyakit Ringan (*minor ailments*)

Penyakit ringan (*minor ailments*) seperti pilek, diare tidak menular, infeksi saluran kemih non-komplikasi, dan gangguan pencernaan ringan dapat diatasi dengan menggunakan obat-obatan tanpa resep.

1. Tabel berikut merupakan penyakit ringan (*minor ailments*) yang menjadi alasan pasien datang ke apotek. Mohon centang (✓) bila menurut anda penyakit ringan (*minor ailments*) tersebut harus ditangani oleh:

- **Tenaga teknis kefarmasian** tanpa bantuan apoteker – centang HANYA kotak A
- **ATAU** harus ditangani oleh **APOTEKER** – centang HANYA kotak B
- **ATAU** penyakit berada **di luar pengetahuan Apoteker** – centang HANYA kotak C

Penyakit ringan	A	B	C
Jerawat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nyeri akut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alergi/ruam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Konjungtivitis bakterial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nyeri punggung	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Herpes simpleks virus 1 (herpes oral)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Konstipasi/sembelit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kontrasepsi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Batuk pilek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ketombe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dermatitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kesulitan tidur (insomnia)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dismenore (nyeri haid)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eksim	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Refluks gastroesofagus (GERD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rhinitis alergi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kutu rambut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hemoroid (ambeien)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dispepsia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gigitan serangga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Migrain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sakit kepala ringan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Luka bakar ringan, termasuk terbakar matahari (<i>sunburn</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ruam popok	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sariawan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reumatik	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Faringitis (radang tenggorokan)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Luka superfisial (luka kulit bagian luar)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cemas/anxietas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sakit gigi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mabuk perjalanan (<i>travel sickness</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Memar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kandidiasis vagina	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kutil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Bagian II: Data Apoteker

Mohon centang (✓) kotak yang sesuai dan bila relevan, mohon jawab pada tempat yang disediakan.
(Bila Anda bekerja di lebih dari satu apotek, silakan merujuk apotek utama tempat Anda bekerja)

2. Jenis kelamin: Laki – laki Perempuan

3. Usia (tahun):

21 – 30 41 – 50 61+

31 – 40 51 – 60

4. Berapa lama anda terdaftar sebagai apoteker:

< 2 tahun 6 – 10 tahun > 15 tahun

2 – 5 tahun 11 – 15 tahun

5. Berapa lama anda praktek sebagai apoteker:

< 2 tahun 6 – 10 tahun > 15 tahun

2 – 5 tahun 11 – 15 tahun

6. Pendidikan tertinggi yang telah anda tempuh:

Apoteker Master (S2) Doktor (S3)

7. Posisi anda di apotek tempat anda bekerja.

Apoteker Pengelola Apotek (APA) sekaligus pemilik
 Apoteker Pengelola Apotek (APA)
 Apoteker Pendamping

8. Rata-rata berapa jam dalam seminggu anda bekerja di apotek tersebut?

< 5 jam 11 – 20 jam > 30 jam

5 – 10 jam 21 – 30 jam

9. Apakah anda menerima remunerasi tambahan selain dari gaji bulanan dari apotek tempat anda bekerja?

Ya Tidak

Bila anda menjawab YA, mohon centang (✓) jasa/remunerasi tambahan yang anda dapat dari apotek tempat anda bekerja. Anda dapat mencentang lebih dari satu:

Jasa dispensing obat Remunerasi dari laba kotor
 Jasa konsultasi obat Tunjangan Hari Raya (THR)
 Insentif bila menjual Obat Wajib Apotek (OWA) Lainnya (mohon sebutkan: _____)

10. Dalam tiga (3) bulan terakhir, pernahkah anda mengikuti pelatihan/pendidikan berkelanjutan/seminar tentang pelayanan pada penyakit ringan (contoh: seminar, pelatihan online, e-learning)?

Ya Tidak (langsung ke pertanyaan No.12)

Bila anda menjawab YA, berapa total waktu yang anda habiskan untuk pelatihan/seminar tersebut?

1 – 5 jam 11 - 15 jam

6 – 10 jam > 15 jam

11. Bila anda menjawab YA pada pertanyaan No.10, apakah pelatihan/pendidikan tersebut membuat anda merasa lebih siap atau percaya diri dalam melakukan pelayanan penyakit ringan di apotek?

Ya Tidak Tidak yakin

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Mohon centang (✓) dengan merujuk pada apotek utama tempat anda bekerja

12. Tipe apotek tempat anda bekerja:

- Apotek yang berdiri sendiri
 Apotek waralaba
 Apotek berlokasi di pusat perbelanjaan
 Apotek bersama praktek dokter
 Lainnya (mohon disebutkan): _____

13. Pemilik apotek tempat anda bekerja:

- Apoteker
 Non-apoteker (mohon sebutkan pekerjaannya: _____)
 Perusahaan non-farmasi (contoh: Guardian, Century, Watsons)
 Badan Usaha Milik Daerah (BUMD)
 Badan Usaha Milik Negara (BUMN)
 Lainnya (mohon sebutkan): _____

14. Mohon isi pengaturan pegawai yang bekerja di apotek tempat anda bekerja pada table berikut ini:

Pegawai	Jumlah pegawai	Total jam kerja per minggu
Apoteker Pengelola Apotek (APA)		
Apoteker Pendamping (Aping)		
Tenaga Teknis Kefarmasian (TTK)		
Pegawai tanpa kualifikasi/non-TTK		

15. Jam buka apotek di tempat anda bekerja:

Hari	Jam buka	Kehadiran Apoteker (%)	Kehadiran Asisten Apoteker (%)
Senin - Jumat			
Sabtu			
Minggu			
Hari libur			

16. Apakah terdapat ruangan konseling/konsultasi di apotek anda?

- Ya
 Tidak

17. Berapa rata-rata jumlah orang per minggu yang datang ke apotek anda?

- < 100
 100 – 150
 151 – 250
 251 – 350
 351 – 450
 451 – 550
 551 – 700
 > 700

18. Dari jawaban No.17, berapa rata-rata jumlah orang per minggu yang datang ke apotek anda meminta layanan pengobatan pada penyakit ringan (*minor ailments*)?

- < 10
 10 – 20
 21 – 30
 31 – 40
 41 – 50
 51 – 60
 61 – 70
 > 70


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19. **Rata-rata** berapa persen (%) dalam **seminggu** pelayanan kefarmasian berikut disediakan di apotek anda?

<i>Pelayanan</i>	<i>Persentase (%)</i>
Pelayanan obat dengan resep	
Pelayanan obat tanpa resep	
Pelayanan obat-obatan komplementer (termasuk obat herbal dan suplemen, seperti vitamin, mineral)	
Manajemen pelayanan penyakit ringan (layanan yang disediakan di apotek untuk konseling penyakit ringan, pemberian rekomendasi obat tanpa resep/Obat Wajib Apotek, yang dilakukan oleh apoteker dan/atau asisten apoteker)	
<i>Point-of-care-testing</i> seperti tes gula darah, tekanan darah dan tes kolesterol	
Penyediaan layanan edukasi dan informasi kesehatan	
Pelayanan residensial/kunjungan ke rumah pasien	
Layanan non-terapeutik (penjualan kosmetika, sunscreen)	
Total (per minggu)	100%

Bagian IV: Standar Prosedur Pelayanan Penyakit Ringan/*minor ailments*

20. Mohon centang (v) **SIAPA** yang biasanya melakukan aktivitas berikut di apotek utama anda bekerja? (Mohon **HANYA** mencentang (v) **SATU** kotak untuk setiap aktivitas)

Aktivitas	Biasa dilakukan oleh:	
	Apoteker	TTK*
Mengevaluasi informasi pasien untuk menentukan terapi pengobatan		
Me-review alergi obat pada pasien	<input type="checkbox"/>	<input type="checkbox"/>
Memberikan konseling penyakit ringan (<i>minor ailments</i>)	<input type="checkbox"/>	<input type="checkbox"/>
Merekomendasikan obat-obatan <i>over-the-counter</i> (termasuk Obat Wajib Apotek)	<input type="checkbox"/>	<input type="checkbox"/>
Merekomendasikan <i>point-of-care testing</i> (tes gula darah, tekanan darah)	<input type="checkbox"/>	<input type="checkbox"/>
Merujuk pasien ke dokter	<input type="checkbox"/>	<input type="checkbox"/>
Memberikan saran secara tertulis dan/atau verbal kepada dokter	<input type="checkbox"/>	<input type="checkbox"/>

*TTK = Tenaga Teknis Kefarmasian

21. Apakah menurut anda apotek dapat menarik biaya konsultasi pada pelayanan penyakit ringan (*minor ailments*) diluar biaya obat?

Ya

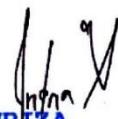
Tidak (langsung ke pertanyaan 22)

(a) Bila anda menjawab YA, berapa biaya yang sesuai menurut anda?

- Hingga Rp.5.000
 Rp.5.000 – Rp.10.000
 Rp.11.000 – Rp.15.000
 Rp.16.000 Rp.20.000
 > Rp20.000

(b) Menurut anda, siapa yang harus membayar biaya konsultasi tersebut?

- Pasien
 Pemerintah
 Asuransi kesehatan
 Perusahaan farmasi
 Lainnya (mohon sebutkan):


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22. Berilah tanda centang (v) mengenai **frekuensi ANDA** melakukan aktivitas berikut di apotek saat melayani pasien dengan penyakit ringan (*minor ailments*).

Aktivitas	Tidak pernah	Jarang	Kadang-kadang	Sering	Selalu
A. Evaluasi pada penyakit ringan/<i>minor ailments</i> - seberapa sering anda menanyakan pertanyaan berikut?					
Siapa yang sakit?	<input type="checkbox"/>				
Apa gejalanya?	<input type="checkbox"/>				
Berapa lama gejala berlangsung?	<input type="checkbox"/>				
Apakah pasien telah menggunakan obat lain?	<input type="checkbox"/>				
Apakah pasien sedang memakai obat rutin lainnya?	<input type="checkbox"/>				
Apakah pasien memiliki riwayat medis lain?	<input type="checkbox"/>				
Apakah pasien memiliki riwayat alergi?	<input type="checkbox"/>				
Apakah pasien sedang hamil atau menyusui?	<input type="checkbox"/>				
B. Saran pengobatan - seberapa sering kegiatan berikut direkomendasikan?					
Memberikan pengobatan/produk yang tepat untuk mengobati penyakit	<input type="checkbox"/>				
Menggunakan obat/produk yang tersedia dirumah	<input type="checkbox"/>				
Merekomendasikan pasien untuk menggunakan obat-obatan over-the-counter	<input type="checkbox"/>				
Merekomendasikan pasien menggunakan obat komplementer (obat herbal, suplemen, vitamin)	<input type="checkbox"/>				
Merekomendasikan <i>point-of-care testing</i> (tes gula darah, kolesterol, dan tekanan darah) pada pasien	<input type="checkbox"/>				
Menyarankan pasien untuk melanjutkan atau menghentikan pengobatan	<input type="checkbox"/>				
Menyarankan pasien untuk pengobatan non-medis	<input type="checkbox"/>				
C. Manajemen pada pasien - seberapa sering informasi berikut diberikan?					
Indikasi dan penjelasan tentang penyakit	<input type="checkbox"/>				
Dosis dan petunjuk penggunaan obat	<input type="checkbox"/>				
Saran pengobatan	<input type="checkbox"/>				
Obat-obatan yang direkomendasikan	<input type="checkbox"/>				
Efek samping	<input type="checkbox"/>				
Saran tentang gaya hidup	<input type="checkbox"/>				
Harga	<input type="checkbox"/>				
D. Label dan kemasan - seberapa sering informasi berikut diberikan?					
Aturan pakai pada label atau kemasan obat	<input type="checkbox"/>				
Penyimpanan obat dan tanggal kadaluarsa pada label/kemasan obat	<input type="checkbox"/>				
Informasi obat secara tertulis	<input type="checkbox"/>				
Komposisi obat pada label	<input type="checkbox"/>				
E. Tindak lanjut pasien - seberapa sering kegiatan berikut ditawarkan?					
Tindak lanjut pasien setelah pengobatan	<input type="checkbox"/>				
Review dan <i>update</i> kartu pengobatan pasien	<input type="checkbox"/>				
Menanyakan pasien apakah perlu informasi lanjut	<input type="checkbox"/>				

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23. Berapa besar pertimbangan anda saat **merujuk pasien** dengan penyakit ringan (*minor ailments*) ke tenaga kesehatan lain (misal: dokter, fisioterapis, perawat, dll) dengan melihat skenario dibawah ini?

1 = Sangat tidak mungkin dirujuk; 2 = Tidak mungkin dirujuk; 3 = Netral; 4 = Mungkin dirujuk;
5 = Sangat mungkin dirujuk

Skenario Klinis	1	2	3	4	5
Tanda-tanda dan gejala pasien saat datang ke apotek	<input type="checkbox"/>				
Pasien mengalami gejala kekambuhan	<input type="checkbox"/>				
Gejala tidak membaik dengan pengobatan sebelumnya	<input type="checkbox"/>				

Untuk mencegah duplikasi data pada apotek yang sama, mohon tuliskan nama apotek anda

Nama Apotek: _____

**AKHIR DARI KUESIONER
TERIMA KASIH ATAS PARTISIPASI ANDA**



Sebagai tanda terima kasih, anda dapat memilih untuk mengikuti undian berhadiah untuk **memenangkan salah satu dari tiga gift cards** seharga masing-masing Rp.200.000. Mohon tuliskan nama anda, serta nama dan alamat apotek bila anda menginginkan untuk diikutkan dalam undian. **Mohon diperhatikan bahwa informasi ini hanya ditujukan untuk pengundian hadiah dan tidak akan dikaitkan dengan cara apapun pada jawaban kuesioner anda.**

Nama : _____

Nama dan alamat Apotek : _____

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Appendix D Pharmacy Technician Questionnaire

D.1 English



Pharmacy Technician Questionnaire

Questionnaire - The Management of Minor Ailments in Central Indonesia

This questionnaire is part of a Doctor of Philosophy (PhD) research project at Curtin University School of Pharmacy and Biomedical Sciences which has the approval of the Indonesian Pharmacy Technician Association (PAFI) – Central Java, Indonesia. This research aims to examine the management of minor ailments in community pharmacies in Central Java, Indonesia. Minor ailments are defined by the literature as ‘conditions that are often *self-limiting, with symptoms easily recognized and described by the patient, which fall within the scope of pharmacist’s knowledge and training to treat*’.¹ These conditions can usually be managed with the appropriate use of non-prescription products and self-care.¹

This questionnaire will ask you about the characteristics of your main pharmacy workplace and how prepared you are to manage patients presenting with minor ailments. Managing minor ailments requires appropriate triage. Triage encompasses asking appropriate questions, understanding the rationale of the questions and, for pharmacy technicians, when appropriate making a decision to refer patients to a pharmacist. This study should assist pharmacy technician in Indonesia to establish a minor ailment management profile and present pathways on how to encourage changes in community pharmacy, particularly in the Indonesian setting as advised by the Indonesian Pharmacy Technician Association (PAFI).

Upon completion of the questionnaire, you can elect to be entered into a prize draw **for the chance to win one of three Rp.200.000 gift cards**, as a token of appreciation for your time.

The answers that you give will be treated confidentially and anonymously. This survey should take about **10 to 15 minutes** to complete.

¹Pharmaceutical Society of Australia (2015) Delivering Safe and Sustainable Clinical Services (Available online at https://www.dhhs.tas.gov.au/_data/assets/pdf_file/0003/194934/Pharmaceutical_Society_of_Australia.pdf)

INFORMATION SHEET

The Management of Minor Ailments in Central Indonesia

We invite you to participate in a study by Curtin University School of Pharmacy and Biomedical Sciences, to examine the management of minor ailments in community pharmacies in Central Java, Indonesia. The following statements will provide you with information about what the study involves and the potential benefits of your contribution.

Purpose of the Study

The aim of this study is to identify current community pharmacy practice (triaging, assessment and provision of advice) and investigate the perceptions of pharmacy staff regarding their preparedness to manage patients with minor ailments.

What will this study involve?

This study involves the completion of the attached questionnaire. Respondents will be invited to include their pharmacy name and pharmacy address to be entered into a draw to win a prize. This information will not be linked any way to your confidential survey responses. Upon receiving your completed questionnaire, three winners will be chosen from a random draw of entry forms and announced at the same time.

Who is doing the research?

This project is being conducted by Vinci Mizranita, PhD student from Curtin University School of Pharmacy and Biomedical Sciences, Australia. The results of this study form part of Ms Mizranita's Doctor of Philosophy (PhD) research. This research is being supervised by Professor Jeff Hughes, E/Professor Bruce Sunderland, and Dr Tin Fei Sim from Curtin University, Australia.

Participation Consent

Participation in this research is completely voluntary and completion of the questionnaire will be regarded as consent to participate. You may withdraw from the study at any time for any reason.

What will happen to the information you provide?

All information obtained from this study will be analysed as part of a doctoral thesis at Curtin University. The results of this study may be presented at conferences or published in professional journals, and related activities. You will not be identified in any publication.

Confidentiality

Your names will not be identified at any stages of this study. Electronic data will be password-protected, and hard copy data will be locked in storage. The information we collect in this study will be kept under secure conditions at Curtin University for seven years after the research is published, and then it will be destroyed. Your personal information will not be identified and not be linked any way to your confidential survey responses.

Curtin University Human Research Ethics Committee (HREC) has approved this study (HREC number HRE2019-XXXX). Should you wish to discuss the study with someone not directly involved, in particular, any matters concerning the conduct of the study or your rights as a participant, or you wish to make a confidential complaint, you may contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or email hrec@curtin.edu.au.

Should you have any queries, please find our contact details as follows:

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Part One: Minor Ailments

Minor ailments (for example, cold sores, non-infectious diarrhoea, uncomplicated urinary tract infections and minor gastrointestinal disorders) can usually be managed with the use of non-prescription medicines.

1. The table below lists a number of minor ailments with which a patient may present to a pharmacy. Please tick (✓) how you think **EACH** minor ailment presentation (below) should be managed:
- **CAN** be independently managed by a **pharmacy technician** (without referral to a pharmacist) – tick **ONLY box A**
 - **OR** must be managed by a **pharmacist** – tick **ONLY box B**
 - **OR** whether its management is beyond the scope of a pharmacist – tick **ONLY box C**

Ailments	A	B	C
Acne	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acute pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Allergy/rash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bacterial conjunctivitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Back pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cold sores	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Constipation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Contraception	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cough and cold symptoms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dandruff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dermatitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diarrhoea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Difficulty sleeping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dysmenorrhoea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eczema	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gastro-oesophageal reflux disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hayfever	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Head lice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Haemorrhoids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Indigestion/heartburn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insect bites/stings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Migraine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mild headache	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minor burns, including sunburn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nappy rash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oral thrush	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rheumatism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sore throat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Superficial wounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temporary mild anxiety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toothache	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Travel sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unexplained bruising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vaginal thrush	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Warts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part Two: Pharmacy Technician Details

Please tick (✓) the appropriate box or, where relevant, to provide your answer for the following questions.

2. Gender: Male Female

3. Age group (years):

- 16-20 31-40 51-60
 21-30 41-50 61+

4. Years you have been registered as a pharmacy technician.

- < 2 years 6 – 10 years > 15 years
 2 – 5 years 11 – 15 years

5. Your years of practising as a pharmacy technician.

- < 2 years 6 – 10 years > 15 years
 2 – 5 years 11 – 15 years

6. What is the highest level of education that you have completed?

- Secondary pharmacy assistant school
 Diploma graduate
 Bachelor of pharmacy
 Apothecary degree (pharmacist)
 Master's degree
 Doctoral degree

7. Do you receive any additional remuneration other than the standard monthly salary from your pharmacy work place?

- Yes No

If YES, please indicate additional remuneration you currently receive from your pharmacy work place. Please tick (✓) all that apply:

- Dispensing fees
 Incentives when selling pharmacy-only medicines
 Tunjangan Hari Raya (THR) mandatory allowance (e.g. Religious holiday allowance)
 Other, (please specify): _____

8. In the last three months, have you attended any training/continuing education/workshops on minor ailments management (e.g. seminar, online training, e-learning)?

- Yes
 No (Go to Question 10)

If YES, how much time in total you have spent on training/continuing education/workshops?

- 1-5 hours
 6-10 hours
 11 - 15 hours
 > 15 hours

9. If you answered YES to Question 8, did this training/education make you feel more prepared or more confident in managing minor ailments?

- Yes No Not sure

17. On average in a normal week, what proportion as a percentage of the staff's total time per week is spent on the following activities at your pharmacy?

Activities	Percentage
Dispensing of prescriptions medicines	
Responding to non-prescription medicines requests	
Request for recommendations of complementary medicines (including herbal medicines and supplements, e.g. vitamins, minerals)	
Management of minor ailments (a service that is provided for consumers who present with minor ailments for counselling, procurement of medication without prescription, including by a pharmacy technician and/or a pharmacist)	
Screening or point-of-care testing, such as blood glucose testing, blood pressure monitoring, and cholesterol testing	
Provision of health information, education, and self-care	
Home care services	
Non-therapeutic requests (e.g. cosmetics, sunscreens)	
TOTAL (per week)	100%

Part Four: Standard Procedure for Management of Minor Ailments

18. Please indicate who normally performs these activities at your pharmacy?
(Please tick ONE box ONLY for each activity)

Activity	Normally performs by:	
	Pharmacist	Pharmacy Technician
Evaluating patient-specific information to assess medication therapy	<input type="checkbox"/>	<input type="checkbox"/>
Reviewing medication allergies	<input type="checkbox"/>	<input type="checkbox"/>
Providing minor ailments counselling	<input type="checkbox"/>	<input type="checkbox"/>
Recommending Western over-the-counter and pharmacy-only medicines)	<input type="checkbox"/>	<input type="checkbox"/>
Screening or point-of-care testing recommendations	<input type="checkbox"/>	<input type="checkbox"/>
Providing advice to refer the patient to the doctor	<input type="checkbox"/>	<input type="checkbox"/>
Providing written and/or verbal communication to the doctor	<input type="checkbox"/>	<input type="checkbox"/>

19. Do you think a consultation fee should be charged by community pharmacies for minor ailment management, in addition to the cost of the medication?

Yes

No (Go to Question 20)

(a) If Yes, what fee would be the most appropriate?

Up to Rp.5.000

Rp.16.000 – Rp.20.000

Rp.5.000 – Rp.10.000

More than Rp.20.000

Rp.11.000 – Rp.15.000

(b) Who do you think should pay the consultation fee?

Patient

Pharmacy Company

Government

Other (please specify): _____

Health insurance

20. Please indicate your response regarding how frequently the following activities are performed **BY YOU** at your pharmacy for patients presenting with minor ailments.

Activities	Never	Rarely	Sometimes	Frequently	Always
A. Minor ailment assessment - how often are the following questions asked?					
Who has the condition or ailment?	<input type="checkbox"/>				
What are the symptoms?	<input type="checkbox"/>				
How long have the symptoms occurred?	<input type="checkbox"/>				
Has the patient tried any medications for this ailment?	<input type="checkbox"/>				
Does the patient take any regular medications?	<input type="checkbox"/>				
Does the patient have any medical conditions?	<input type="checkbox"/>				
Does the patient have any allergies?	<input type="checkbox"/>				
Is the patient pregnant or breastfeeding?	<input type="checkbox"/>				
B. Treatment proposal - how often do you provide the following activities?					
Supply of an appropriate medicine or product to treat an ailment	<input type="checkbox"/>				
Advise the patient to use a medicine from home	<input type="checkbox"/>				
Advise the patient to use Western over-the-counter medicines	<input type="checkbox"/>				
Advise the patient to use complementary medicines (including herbal, vitamins, nutritional supplements)	<input type="checkbox"/>				
Recommend the patient for point-of-care testing (e.g. blood glucose, cholesterol and blood pressure screening and monitoring)	<input type="checkbox"/>				
Advise the patient to consult with the pharmacist	<input type="checkbox"/>				
Advise the patient to continue or stop using current treatment(s)	<input type="checkbox"/>				
Advise the patient to use non-medical interventions	<input type="checkbox"/>				
C. Patient management - how often is information provided regarding each topic?					
Indication and presenting ailment	<input type="checkbox"/>				
Dosage and directions for use	<input type="checkbox"/>				
Treatment plan	<input type="checkbox"/>				
Medication recommended	<input type="checkbox"/>				
Side-effects	<input type="checkbox"/>				
Lifestyle advice	<input type="checkbox"/>				
Price	<input type="checkbox"/>				
D. Labelling and packaging - how often is the following information provided regarding each factor?					
Dosage schedule on the label or package	<input type="checkbox"/>				
Medication storage and expiry date on label/package	<input type="checkbox"/>				
Written drug information provided	<input type="checkbox"/>				
Pharmaceutical ingredients on label	<input type="checkbox"/>				
E. Patient follow-up - how often are the following activities offered?					
Patient follow-up after an appropriate period	<input type="checkbox"/>				
Review and updated patient medication record	<input type="checkbox"/>				
Asking if further information is needed	<input type="checkbox"/>				

To avoid duplicate responses from the same pharmacy, please state the name of your pharmacy

Pharmacy Name : _____

**END OF QUESTIONNAIRE
THANK YOU FOR YOUR PARTICIPATION**



As a token of appreciation for your time involved in completing the questionnaire, you can opt to be entered into a **prize draw for the chance to win one of three Rp.200.000 gift cards**. If you would like to be entered into a prize draw, please provide your name, pharmacy name and pharmacy address. Please note this information is collected strictly for the purpose of a prize draw, and will not be linked any way to your confidential survey responses.

Name : _____

Pharmacy name and address : _____

D.2 Bahasa Indonesia

Survey Tenaga Teknis Kefarmasian di Apotek

KUESIONER - Manajemen Pelayanan Penyakit Ringan (*minor ailments*) di Jawa Tengah, Indonesia

Kuesioner ini merupakan bagian dari penelitian *Doctor of Philosophy (PhD) di School of Pharmacy and Biomedical Sciences, Curtin University, Australia* dengan ijin penelitian dari Persatuan Ahli Farmasi Indonesia (PAFI) Jawa Tengah, Indonesia. Penelitian ini bertujuan untuk meneliti manajemen pelayanan penyakit ringan (*minor ailments*) di apotek di Jawa Tengah, Indonesia. Penyakit ringan (*minor ailments*) didefinisikan sebagai “kondisi yang dapat sembuh sendiri, dengan gejala yang mudah dikenali dan diidentifikasi oleh pasien dan termasuk dalam ruang lingkup pengetahuan dan pengobatan apoteker”.¹ Kondisi ini biasanya dapat diatasi dengan penggunaan obat-obatan tanpa resep dan melalui praktek penyembuhan diri sendiri (*self-care*).¹

Kuesioner ini menanyakan tentang karakteristik apotek dan kesiapan anda untuk melayani pasien dengan penyakit ringan (*minor ailments*). Pelayanan pada penyakit ringan (*minor ailments*) memerlukan *triage* yang tepat. *Triage* meliputi mengajukan pertanyaan yang tepat, memahami alasan pertanyaan, dan membuat keputusan bagi tenaga teknis kefarmasian untuk merujuk pasien pada apoteker. Penelitian ini digunakan untuk membantu tenaga teknis kefarmasian di Indonesia dalam mengembangkan profil pelayanan/manajemen penyakit ringan (*minor ailments*) di apotek dan mendorong perubahan di apotek sesuai anjuran Persatuan Ahli Farmasi Indonesia (PAFI).

Setelah pengisian kuesioner ini, anda dapat memilih untuk mengikuti undian berhadiah untuk memenangkan salah satu dari tiga *gift cards* seharga masing-masing Rp.200.000.

Jawaban yang anda berikan akan dijaga kerahasiaannya dan bersifat anonim. Survei ini dapat diselesaikan sekitar 10 - 15 menit.

¹Pharmaceutical Society of Australia (2015) Delivering Safe and Sustainable Clinical Services (Available online at https://www.dhhs.tas.gov.au/__data/assets/pdf_file/0003/194934/Pharmaceutical_Society_of_Australia.pdf)


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Survey Tenaga Teknis Kefarmasian

Diterjemahkan dari Bahasa Inggris ke Bahasa Indonesia oleh penerjemah tersumpah INDRA SYAHRIZA, SK Gubernur DKI No. 1607/2008,

Lembar Informasi

Manajemen Pelayanan Penyakit Ringan (*minor ailments*) di Jawa Tengah, Indonesia

Kami mengundang anda untuk berpartisipasi dalam penelitian yang diadakan oleh *School of Pharmacy and Biomedical Sciences, Curtin University, Australia* mengenai manajemen pelayanan penyakit ringan (*minor ailments*) di apotek di Jawa Tengah, Indonesia. Pernyataan berikut berisi informasi tentang studi ini dan manfaat dari kontribusi Anda.

Tujuan penelitian

Tujuan dari penelitian ini adalah untuk mengidentifikasi praktik di apotek saat ini (*triage*, penilaian dan pemberian saran) dan menyelidiki persepsi pegawai apotek mengenai kesiapan mereka untuk melayani pasien dengan penyakit ringan (*minor ailments*).

Keterlibatan pada penelitian?

Terdapat kuesioner terlampir pada penelitian ini. Responden diminta untuk menuliskan nama dan alamat apotek untuk dimasukkan ke dalam undian berhadiah. Informasi ini tidak akan dikaitkan apa pun dengan respon anda. Setelah pengumpulan kuesioner, tiga pemenang undian akan dipilih dan diumumkan pada waktu yang sama.

Siapa yang melakukan penelitian?

Penelitian ini dilakukan oleh Vinci Mizranita, mahasiswa PhD *School of Pharmacy and Biomedical Sciences, Curtin University, Australia*. Hasil penelitian akan menjadi bagian dari penelitian PhD Vinci Mizranita. Penelitian ini dibimbing oleh Professor Jeff Hughes, E/Professor Bruce Sunderland, dan Dr. Tin Fei Sim dari Curtin University, Australia.

Persetujuan partisipasi

Partisipasi dalam penelitian ini sepenuhnya sukarela dan pengisian kuesioner akan dianggap sebagai persetujuan anda untuk berpartisipasi. Anda dapat mengundurkan diri kapan saja dengan alasan apa pun.

Apa yang akan terjadi pada informasi yang anda berikan?

Semua informasi yang diperoleh dari penelitian ini akan dianalisis sebagai bagian dari tesis doctoral di *Curtin University*. Hasil penelitian ini dapat dipresentasikan di konferensi atau diterbitkan dalam jurnal, dan kegiatan terkait. **Anda tidak akan diidentifikasi dalam publikasi apapun dari riset ini.**

Kerahasiaan

Persetujuan untuk melakukan penelitian ini telah diberikan oleh *Curtin University, Australia* sesuai dengan prosedur. Nama anda tidak akan diidentifikasi pada studi ini. Data elektronik akan di-*protect* menggunakan kata sandi, dan *hardcopy* akan disimpan dengan menggunakan sistem penguncian. Informasi yang kami kumpulkan dalam penelitian ini akan disimpan di *Curtin University* selama lima tahun setelah penelitian ini dipublikasikan, dan kemudian akan dihancurkan. **Informasi pribadi anda tidak akan diidentifikasi dan tidak akan dikaitkan dengan cara apa pun dengan jawaban anda.**

Siapa pun yang tidak puas dengan respon peneliti dapat mengajukan keluhan ke *the Curtin University Human Research Ethics Committee, Curtin University, GPO Box 1987, Perth WA 6845* atau melalui telepon +61 8 9266 2784 atau melalui email hrec@curtin.edu.au

Bila anda memiliki pertanyaan, mohon hubungi kami:

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Survey Tenaga Teknis Kefarmasian

Diterjemahkan dari Bahasa Inggris ke Bahasa Indonesia oleh penerjemah tersumpah INDRA SYAHRIZA, SK Gubemur DKI No. 1607/2008, diterjemahkan sesuai makna aslinya.

Bagian I: Penyakit Ringan (*minor ailments*)

Penyakit ringan (*minor ailments*) seperti pilek, diare tidak menular, infeksi saluran kemih non-komplikasi, dan gangguan pencernaan ringan dapat diatasi dengan menggunakan obat-obatan tanpa resep.

1. Tabel berikut merupakan penyakit ringan (*minor ailments*) yang menjadi alasan pasien datang ke apotek.

Mohon centang (✓) bila menurut anda penyakit tersebut harus ditangani oleh:

- **Tenaga teknis kefarmasian** tanpa bantuan apoteker – centang HANYA kotak A
- **ATAU** harus ditangani oleh **APOTEKER** – centang HANYA kotak B
- **ATAU** penyakit berada **di luar pengetahuan Apoteker** – centang HANYA kotak C

Penyakit ringan	A	B	C
Jerawat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nyeri akut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alergi/ruam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Konjungtivitis bakterial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nyeri punggung	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Herpes simpleks virus 1 (herpes oral)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Konstipasi/sembelit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kontrasepsi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Batuk pilek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ketombe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dermatitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kesulitan tidur (insomnia)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dismenore (nyeri haid)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eksim	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Refluks gastroesofagus (GERD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rhinitis alergi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kutu rambut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hemoroid (ambeien)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dispepsia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gigitan serangga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Migrain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sakit kepala ringan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Luka bakar ringan, termasuk terbakar matahari (<i>sunburn</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ruam popok	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sariawan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reumatik	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Faringitis (radang tenggorokan)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Luka superfisial (luka kulit bagian luar)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cemas/anxietas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sakit gigi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mabuk perjalanan (<i>travel sickness</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Memar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kandidiasis vagina	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kutil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Survey Tenaga Teknis Kefarmasian

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Bagian II: Data Tenaga Teknis Kefarmasian

Mohon centang (v) kotak yang sesuai dan bila relevan, mohon jawab pada tempat yang disediakan.

2. Jenis kelamin: Laki – laki Perempuan

3. Usia (tahun):

16 – 20

31 – 40

51 – 60

21 – 30

41 – 50

61+

4. Berapa lama anda terdaftar sebagai tenaga teknis kefarmasian:

< 2 tahun

6 – 10 tahun

> 15 tahun

2 – 5 tahun

11 – 15 tahun

5. Berapa lama anda praktek sebagai tenaga teknis kefarmasian:

< 2 tahun

6 – 10 tahun

> 15 tahun

2 – 5 tahun

11 – 15 tahun

6. Pendidikan tertinggi yang telah anda tempuh?

Sekolah Menengah Farmasi

Diploma (D3)

Sarjana (S1) Farmasi

Apoteker

Master (S2)

Doktor (S3)

7. Apakah anda menerima remunerasi tambahan selain dari gaji bulanan dari apotek tempat anda bekerja?

Ya

Tidak

Bila anda menjawab YA, mohon centang (v) jasa/remunerasi tambahan yang anda dapat dari apotek tempat anda bekerja. Anda dapat mencentang lebih dari satu:

Jasa dispensing obat

Tunjangan Hari Raya (THR)

Insentif bila menjual Obat Wajib Apotek (OWA)

Lainnya (mohon sebutkan: _____)

8. Dalam tiga (3) bulan terakhir, pernahkah anda mengikuti pelatihan/pendidikan berkelanjutan/seminar tentang pelayanan pada penyakit ringan (contoh: seminar, pelatihan online, e-learning)?

Ya

Tidak (langsung ke pertanyaan No.10)

Bila anda menjawab YA, berapa total waktu yang anda habiskan untuk pelatihan/seminar tersebut?

1 – 5 jam

11 – 15 jam

6 – 10 jam

> 15 jam

9. Bila anda menjawab YA pada pertanyaan No.8, apakah pelatihan/pendidikan tersebut membuat anda merasa lebih siap atau percaya diri dalam melakukan pelayanan penyakit ringan di apotek?

Ya

Tidak

Tidak yakin

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Mohon centang (✓) dengan merujuk apotek tempat anda bekerja.

10. Tipe apotek tempat anda bekerja.

- Apotek yang berdiri sendiri
- Apotek waralaba
- Apotek berlokasi di pusat perbelanjaan
- Apotek bersama praktek dokter
- Lainnya: (mohon sebutkan: _____)

11. Pemilik apotek tempat anda bekerja.

- Apoteker
- Non-apoteker (mohon sebutkan pekerjaannya: _____)
- Perusahaan non-farmasi (contoh: Guardian, Watsons, Century)
- Badan Usaha Milik Daerah (BUMD)
- Badan Usaha Milik Nasional (BUMN)
- Lainnya: (mohon sebutkan: _____)

12. Mohon isi pengaturan pegawai yang bekerja di apotek anda pada tabel berikut ini:

Pegawai	Jumlah pegawai	Total jam kerja per minggu
Apoteker Pengelola Apotek (APA)		
Apoteker Pendamping (Aping)		
Tenaga Teknis Kefarmasian (TTK)		
Pegawai tanpa kualifikasi/non-TTK		

13. Jam buka apotek di tempat anda bekerja.

Hari	Jam buka	Kehadiran Apoteker (%)	Kehadiran Asisten Apoteker (%)
Senin - Jumat			
Sabtu			
Minggu			
Hari libur			

14. Apakah terdapat ruangan konseling/konsultasi di apotek anda?

- Ya
- Tidak

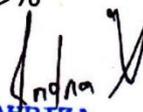
15. Berapa rata-rata jumlah orang per minggu yang datang ke apotek anda?

- < 100
- 100 – 150
- 151 – 250
- 251 – 350
- 351 – 450
- 451 – 550
- 551 – 700
- > 700

16. Dari jawaban No.15, berapa rata-rata jumlah orang per minggu yang datang ke apotek meminta layanan pengobatan pada penyakit ringan (*minor ailments*)?

- < 10
- 10 – 20
- 21 – 30
- 31 – 40
- 41 – 50
- 51 – 60
- 61 – 70
- > 70

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17. Rata-rata berapa persen (%) dalam seminggu layanan kefarmasian berikut disediakan di apotek anda?

Pelayanan	Persentase (%)
Pelayanan obat dengan resep	
Pelayanan obat tanpa resep	
Pelayanan obat-obatan komplementer (termasuk obat herbal dan suplemen, seperti vitamin, mineral)	
Manajemen pelayanan penyakit ringan (layanan yang disediakan di apotek untuk konseling penyakit ringan, pemberian rekomendasi obat tanpa resep/Obat Wajib Apotek, yang dilakukan oleh apoteker dan/atau asisten apoteker)	
<i>Point-of-care testing</i> seperti tes gula darah, tekanan darah, dan tes kolesterol	
Penyediaan layanan edukasi dan informasi kesehatan	
Pelayanan residensial/kunjungan ke rumah pasien	
Layanan non-therapeutik (penjualan kosmetika, sunscreen)	
Total (per minggu)	100%

Bagian IV: Standar Prosedur Pelayanan Penyakit Ringan (minor ailments)

18. Mohon centang (v) SIAPA yang biasanya melakukan aktivitas berikut di apotek anda?
Mohon HANYA mencentang (v) SATU kotak untuk setiap aktivitas.

Aktivitas	Biasa dilakukan oleh:	
	Apoteker	TTK*
Mengevaluasi informasi pasien untuk menentukan terapi pengobatan	<input type="checkbox"/>	<input type="checkbox"/>
Me-review alergi obat pada pasien	<input type="checkbox"/>	<input type="checkbox"/>
Memberikan konseling penyakit ringan (minor ailments)	<input type="checkbox"/>	<input type="checkbox"/>
Merekomendasikan obat-obatan <i>over-the-counter</i> (termasuk Obat Wajib Apotek)	<input type="checkbox"/>	<input type="checkbox"/>
Merekomendasikan <i>point-of-care testing</i> (tes gula darah, tekanan darah)	<input type="checkbox"/>	<input type="checkbox"/>
Merujuk pasien ke dokter	<input type="checkbox"/>	<input type="checkbox"/>
Memberikan saran secara tertulis dan atau verbal kepada dokter	<input type="checkbox"/>	<input type="checkbox"/>

*TTK = Tenaga Teknis Kefarmasian

19. Apakah menurut anda apotek dapat menarik biaya konsultasi pada pelayanan penyakit ringan (minor ailments) diluar biaya obat?

Ya Tidak (langsung ke pertanyaan 20)

(a) Bila anda menjawab YA, berapa biaya yang sesuai menurut anda?

- Hingga Rp 5.000 Rp.15.000 – Rp.20.000
 Rp.5.000 – Rp.10.000 > Rp.20.000
 Rp.11.000 – Rp.15.000

(b) Menurut anda siapa yang harus membayar biaya konsultasi tersebut?

- Pasien
 Pemerintah
 Asuransi kesehatan
 Perusahaan farmasi
 Lainnya (mohon sebutkan: _____)

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20. Berilah tanda centang (v) mengenai **frekuensi ANDA** melakukan aktivitas berikut di apotek saat melayani pasien dengan penyakit ringan (*minor ailments*).

Aktivitas	Tidak pernah	Jarang	Kadang-kadang	Sering	Selalu
A. Evaluasi pada penyakit ringan/<i>minor ailments</i> - seberapa sering anda menanyakan pertanyaan berikut?					
Siapa yang sakit?	<input type="checkbox"/>				
Apa gejalanya?	<input type="checkbox"/>				
Berapa lama gejala berlangsung?	<input type="checkbox"/>				
Apakah pasien telah menggunakan obat lain?	<input type="checkbox"/>				
Apakah pasien sedang memakai obat rutin lainnya?	<input type="checkbox"/>				
Apakah pasien memiliki riwayat medis lain?	<input type="checkbox"/>				
Apakah pasien memiliki riwayat alergi?	<input type="checkbox"/>				
Apakah pasien sedang hamil atau menyusui?	<input type="checkbox"/>				
B. Saran pengobatan - seberapa sering kegiatan berikut direkomendasikan?					
Memberikan pengobatan/produk yang tepat untuk mengobati penyakit	<input type="checkbox"/>				
Menggunakan obat/produk yang tersedia dirumah	<input type="checkbox"/>				
Merekomendasikan pasien untuk menggunakan obat-obatan over-the-counter	<input type="checkbox"/>				
Merekomendasikan pasien menggunakan obat komplementer (obat herbal, suplemen, vitamin)	<input type="checkbox"/>				
Merekomendasikan <i>point-of-care testing</i> (tes gula darah, kolesterol, dan tekanan darah) pada pasien	<input type="checkbox"/>				
Menyarankan pasien untuk konsultasi dengan apoteker	<input type="checkbox"/>				
Menyarankan pasien untuk melanjutkan atau menghentikan pengobatan	<input type="checkbox"/>				
Menyarankan pasien untuk pengobatan non-medis	<input type="checkbox"/>				
C. Manajemen pada pasien - seberapa sering informasi berikut diberikan?					
Indikasi dan penjelasan tentang penyakit	<input type="checkbox"/>				
Dosis dan petunjuk penggunaan obat	<input type="checkbox"/>				
Saran pengobatan	<input type="checkbox"/>				
Obat-obatan yang direkomendasikan	<input type="checkbox"/>				
Efek samping	<input type="checkbox"/>				
Saran tentang gaya hidup	<input type="checkbox"/>				
Harga	<input type="checkbox"/>				
D. Label dan kemasan - seberapa sering informasi berikut diberikan?					
Aturan pakai pada label atau kemasan obat	<input type="checkbox"/>				
Penyimpanan obat dan tanggal kadaluarsa pada label/kemasan obat	<input type="checkbox"/>				
Informasi obat secara tertulis	<input type="checkbox"/>				
Komposisi obat pada label	<input type="checkbox"/>				
E. Tindak lanjut pasien - seberapa sering kegiatan berikut ditawarkan?					
Tindak lanjut pasien setelah pengobatan	<input type="checkbox"/>				
Review dan <i>update</i> kartu pengobatan pasien	<input type="checkbox"/>				
Menanyakan pasien apakah perlu informasi lanjut	<input type="checkbox"/>				

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Untuk mencegah duplikasi data pada apotek yang sama, mohon tuliskan nama apotek anda

Nama Apotek: _____

**AKHIR DARI KUESIONER
TERIMA KASIH ATAS PARTISIPASI ANDA**



Sebagai tanda terima kasih, anda dapat memilih untuk mengikuti undian berhadiah untuk **memenangkan salah satu dari tiga *gift cards* seharga masing-masing Rp.200.000**. Mohon tuliskan nama anda, serta nama dan alamat apotek bila anda menginginkan untuk diikutkan dalam undian. **Mohon diperhatikan bahwa informasi ini hanya ditujukan untuk pengundian hadiah dan tidak akan dikaitkan dengan cara apapun pada jawaban kuesioner anda.**

Nama : _____

Nama dan alamat Apotek : _____

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Appendix E Datasets

E.1 Three separate IAI seminars (pharmacist respondents)

Variabel	P-value
Gender	0.169
Age	0.442
Years of registered	0.399
Years of practice	0.349

E.2 Three separate PAFI seminars (pharmacy technician respondents)

Variabel	P-value
Gender	0.887
Age	0.604
Years of registered	0.532
Years of practice	0.875

Appendix F Minor Ailments with Odds Ratio

Univariate and Multivariate analysis of factors influencing perceived scope of practice of management of minor ailments with clinical discordance as perceived by pharmacist (n=185) and pharmacy technician (n=142) respondents

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
Acne	Respondent: Technician	1 (reference)			
	Pharmacist	6.48 (2.82-14.85)	<0.0001	6.48 (2.82-14.85)	<0.0001
Acute pain	Respondent: Technician	1 (reference)			
	Pharmacist	3.05 (1.86-5.02)	<0.0001	2.33 (1.38-3.94)	<0.0016
	Pharmacist assesses medication therapy				
	No			1 (reference)	
	Yes			3.07(1.65-5.73)	
Allergy/Rash	Respondent: Technician	1 (reference)			
	Pharmacist	5.33 (3.25-8.73)	<0.0001	3.92 (2.27-6.76)	<0.0001

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Pharmacy type Not co-located Co-located			1 (reference) 0.47 (0.25-0.89)	0.0201
	Pharmacist assesses medication therapy No Yes			1 (reference) 2.15 (1.02-4.54)	0.0453
	Pharmacist provides ailment counselling No Yes			1 (reference) 1.76 (1.03-3.01)	0.0386
	Technician work hours Low High			1 (reference) 2.02 (1.19-3.42)	0.0094
Bacterial conjunctivitis	Respondent: Technician Pharmacist	1 (reference) 5.88 (2.85-12.14)	<0.0001	5.01(2.27-11.04)	<0.0001
	Gender Female Male			1 (reference) 0.41(0.18-0.98)	0.0453

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Training in MMAs No Yes			1 (reference) 0.44(0.22-0.89)	0.0231
	Consultationfee No Yes			1 (reference) 3.76 (1.04-13.62)	0.0437
Back pain	Respondent: Technician Pharmacist	1 (reference) 6.24 (3.76-10.38)	<0.0001	4.85 (2.85-8.26)	<0.0001
	Years of practice < 6 years 6 or more years			1 (reference) 1.70 (1.02-2.83)	0.0402
	Pharmacist assesses medication therapy No Yes			1 (reference) 2.19 (1.07-4.49)	0.0327
Cold sores	Respondent: Technician Pharmacist	1 (reference) 9.79 (5.65-16.95)	<0.0001	11.40 (5.96-21.80)	<0.0001

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Years of practice < 6 years 6 or more years			1 (reference) 0.37 (0.18-0.75)	0.0056
	Training in MMAs No Yes			1 (reference) 0.55 (0.30-0.99)	0.0476
	Number of technician as a staff Low High			1 (reference) 0.50 (0.26-0.95)	0.0353
	Consumers seeking advice on MMAs Low High			1 (reference) 2.06 (1.10-3.84)	0.0238
Constipation	Respondent: Technician Pharmacist	1 (reference) 3.73 (1.79-7.74)	0.0004	3.03(1.43-6.43)	0.0038
	Employee Pharmacist No Yes			1 (reference) 0.48(0.25-0.92)	0.0260

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Consumers seeking advice on MMAs Low High			1 (reference) 0.40(0.21-0.75)	0.0045
Contraception	Respondent: Technician Pharmacist	1 (reference) 4.24(2.59-6.97)	<0.0001	3.70(2.13-6.41)	<0.0001
	Gender Female Male			1 (reference) 0.28(0.13-0.60)	0.0012
	Consultation area No Yes			1 (reference) 2.02(1.06-3.86)	0.0322
	Pharmacist assesses medication therapy No Yes			1 (reference) 2.21(1.3-4.34)	0.0212
Cough and cold symptoms	Respondent: Technician Pharmacist	1 (reference) 3.34(1.65-6.77)	0.0008		

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Years of practice < 6 years 6 or more years			1 (reference) 2.28(1.21-4.32)	0.0113
	Pharmacist provides ailment counselling No Yes			1 (reference) 3.20(1.55-6.62)	0.0017
	Consumers seeking advice on MMA Low High			1 (reference) 0.33(0.18-0.64)	0.0008
Dandruff	Respondent: Technician Pharmacist	1 (reference) 1.98(1.03-3.80)	0.0398	2.66(1.33-5.31)	0.0056
	Consultation fee No Yes			1 (reference) 0.41(0.18-0.94)	0.0346
	MMA activities spent at pharmacy Low High			1 (reference) 0.44 (0.20-0.96)	0.0399

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
Dermatitis	Respondent:				
	Technician	1 (reference)			
	Pharmacist	5.20 (3.20-8.46)	<0.0001	3.68 (2.13-6.33)	<0.0001
	Years of practice				
	< 6 years			1 (reference)	
	6 or more years			2.09 (1.05-4.15)	0.0360
	Training in MMAs				
	No			1 (reference)	
	Yes			0.55 (0.32-0.95)	0.0315
	Pharmacist reviewing medication allergies				
	No			1 (reference)	
	Yes			2.40 (1.22-4.75)	0.0283
Diarrhoea	Respondent:				
	Technician	1 (reference)			
	Pharmacist	6.91 (3.99-11.95)	<0.0001	5.28 (2.92-9.57)	<0.0001
	Training in MMAs				
	No			1 (reference)	
	Yes			1.84 (1.07-3.18)	0.0283

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Pharmacy type Not co-located Co-located			1 (reference) 0.49 (0.25-0.94)	0.0318
	Consultation area No Yes			1 (reference) 2.22 (1.10-0.46)	0.0253
	MMA activities spent at pharmacy Low High			1 (reference) 0.53 (0.29-0.95)	0.0344
	Pharmacist assesses medication therapy No Yes			1 (reference) 4.00 (1.64-9.74)	0.0023
	Consumers seeking advice on MMAs Low High			1 (reference) 0.53 (0.29-0.95)	0.0344
Difficulty sleeping	Respondent: Technician Pharmacist	1 (reference) 5.26 (3.11-8.89)	<0.0001	4.22(2.38-7.49)	<0.0001

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Pharmacist reviewing medication allergies No Yes			1 (reference) 2.22 (1.09-4.50)	0.0279
	Consumers who present to a pharmacy Low High			1 (reference) 0.41 (0.24-0.71)	0.0013
Dysmenorrhoea	Respondent: Technician Pharmacist	1 (reference) 4.62(2.53-8.43)	<0.0001	4.44(2.43-8.14)	<0.0001
	Consumers seeking advice on MMAs Low High			1 (reference) 0.53 (0.32-0.90)	0.0189
Eczema	Respondent: Technician Pharmacist	1 (reference) 4.60 (2.84-7.44)	<0.0001	3.63 (2.18-6.06)	<0.0001
	Gender Female Male			1 (reference) 0.43 (0.20-0.89)	0.0238

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Pharmacist assesses medication therapy No Yes			1 (reference) 3.76 (1.86-7.61)	0.0002
Gastro-oesophageal reflux disease	Respondent: Technician Pharmacist	1 (reference) 4.52 (2.51-8.12)	<0.0001	2.57(1.34-4.910)	0.0045
	Pharmacist assesses medication therapy No Yes			1 (reference) 2.58 (1.30-4.91)	0.0065
	Pharmacist provides ailment counselling No Yes			1 (reference) 2.41(1.25-4.66)	0.0088
Hayfever	Respondent: Technician Pharmacist	1 (reference) 6.38 (3.83-10.63)	<0.0001	1 (reference) 4.19 (2.30-7.63)	<0.0001
	Employment of employee pharmacist No Yes			1 (reference) 1.96 (1.09-3.52)	0.0247

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Consultation fee No Yes			1 (reference) 2.35 (1.13-4.92)	0.0017
	Pharmacist assesses medication therapy No Yes			1 (reference) 3.43 (1.70-6.90)	0.0006
Head lice	Respondent: Technician Pharmacist	1 (reference) 1.71(0.80-3.64)	0.1640		
	MMA activities spent at pharmacy Low High			1 (reference) 0.35(0.13-0.93)	0.0343
Haemorrhoids	Respondent: Technician Pharmacist	1 (reference) 5.72 (3.47-9.41)	<0.0001	1 (reference) 4.35 (2.55-7.42)	<0.0001
	Pharmacist reviewing medication allergies No Yes			1 (reference) 2.48 (1.18-5.25)	0.0172

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Consumers who present to a pharmacy Low High			1 (reference) 0.59 (0.36-0.96)	0.0339
Indigestion/heartburn	Respondent: Technician Pharmacist	1 (reference) 3.59(2.19-5.86)	<0.0001	2.29(1.31-3.99)	0.0034
	Pharmacist Attendance No Yes			1 (reference) 1.86(1.04-3.32)	0.0371
	Pharmacist reviewing medication allergies No Yes			1 (reference) 2.17(1.08-4.35)	0.0286
	Pharmacist provides ailment counselling No Yes			1 (reference) 1.77(1.00-3.10)	0.0490
	Pharmacy manager work hours Low High			1 (reference) 0.44(0.25-0.79)	0.0061

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
Insect bites/stings	Respondent: Technician	1 (reference)			
	Pharmacist	1.86(0.98-3.51)	0.0577		
	Pharmacist Attendance				
	No			1 (reference)	
	Yes			0.45(0.23-0.86)	0.0156
	Consumers seeking advice on MMAs				
	Low			1 (reference)	
	High			0.53(0.29-0.97)	0.0406
Migraine	Respondent: Technician	1 (reference)			
	Pharmacist	5.82(3.42-9.93)	<0.0001	5.59(3.25-9.65)	<0.0001
	Additional remuneration				
	No			1 (reference)	
	Yes			0.47(0.25-0.88)	0.0187
	MMAs activities spent at pharmacy				
	Low			1 (reference)	
	High			0.48(0.28-0.84)	0.0101

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
Mild headache	Respondent:				
	Technician	1 (reference)			
	Pharmacist	3.07(2.21-7.80)	0.0181		
	MMA activities spent at pharmacy				
	Low			1 (reference)	
	High			0.25(0.07-0.87)	0.0298
	Pharmacist provides ailment counselling				
	No			1 (reference)	
	Yes			5.33(1.78-15.95)	0.0028
	Consumers seeking advice on MMAs				
	Low			1 (reference)	
	High			0.31(0.13-0.73)	0.0070
Minor burns, including sunburn	Respondent:				
	Technician	1 (reference)			
	Pharmacist	2.24(1.35-3.82)	0.0030		
	Pharmacy type				
	Not co-located			1 (reference)	
	Co-located			1.95(1.06-3.55)	0.0329

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Pharmacist assesses medication therapy No Yes			1 (reference) 3.85(1.30-11.40)	0.0151
	Pharmacist reviewing medication allergies No Yes			1 (reference) 5.93(1.75-20.51)	0.0043
Nappy rash	Respondent: Technician Pharmacist	1 (reference) 1.10(0.59-2.04)	0.7681		
	Pharmacist reviewing medication allergies No Yes			1 (reference) 2.90(1.00-8.41)	0.0498
Oral thrush	Respondent: Technician Pharmacist	1 (reference) 5.18(2.44-10.97)	0.0001	4.02(1.87-8.85)	0.0004
	Training in MMAs No Yes			1 (reference) 3.12(1.56-6.24)	0.0013

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Additional pharmacist working hours Low High			1 (reference) 0.51(0.27-0.96)	0.0366
	Consumers seeking advice on MMAs Low High			1 (reference) 0.46(0.25-0.85)	0.0137
Rheumatism	Respondent: Technician Pharmacist	1 (reference) 13.41 (7.80-23.05)	<0.0001	1 (reference) 19.52 (10.41-36.61)	<0.0001
	Gender Female Male			1 (reference) 0.26 (0.11-0.61)	0.0019
	MMAs activities spent at pharmacy Low High			1 (reference) 0.46 (0.25-0.85)	0.0126
	Pharmacy manager working hours Low High			1 (reference) 2.47 (1.34-4.52)	0.0036

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
Sore throat	Respondent:				
	Technician	1 (reference)		1 (reference)	
	Pharmacist	9.50 (5.65-15.96)	<0.0001	5.77 (3.30-10.11)	<0.0001
	Years of practice				
	< 6 years			1 (reference)	
	6 or more years			2.01 (1.15-3.53)	0.0151
	Pharmacist assesses medication therapy				
	No			1 (reference)	
	Yes			2.65 (1.23-5.71)	0.0129
	Pharmacist reviewing medication allergies				
	No			1 (reference)	
	Yes			2.46 (1.10-5.49)	0.0286
Superficial wounds	Respondent:				
	Technician	1 (reference)		1 (reference)	
	Pharmacist	3.34 (2.06-5.41)	<0.0001	2.74 (1.65-4.56)	0.0001
	Pharmacist assesses medication therapy				
	No			1 (reference)	
	Yes			2.27 (1.14-4.54)	0.0199

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
Temporary mild anxiety	Respondent:				
	Technician	1 (reference)			
	Pharmacist	6.80(2.98-15.52)	<0.0001	7.35(3.15-17.16)	<0.0001
	MMA's activities spent at pharmacy				
	Low			1 (reference)	
	High			0.34(0.61-0.71)	0.0041
Toothache	Respondent:				
	Technician	1 (reference)			
	Pharmacist	3.41(2.01-5.79)	<0.0001		
	Gender				
	Female			1 (reference)	
	Male			0.32(0.13-0.81)	0.0154
	Pharmacist reviewing medication allergies				
	No			1 (reference)	
	Yes			3.19(126-8.08)	0.0145
Travel sickness	Respondent:				
	Technician	1 (reference)			
	Pharmacist	2.93(122-7.01)	0.0158		

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Pharmacist provides ailment counselling No Yes			1 (reference) 3.87(1.54-970)	0.0040
Unexplained bruising	Respondent: Technician	1 (reference)			
	Pharmacist	5.13(2.69-9.81)	<0.0001	3.98(2.04-7.76)	<0.0001
	Pharmacist assesses medication therapy No Yes			1 (reference) 3.45(1.16-10.30)	0.0264
	Consumers seeking advice on MMAs Low High			1 (reference) 0.57(0.33-0.98)	0.0419
Vaginal thrush	Respondent: Technician Pharmacist	1 (reference) 23.64(7.02-79.62)	<0.0001	23.19(6.47-83.17)	<0.0001
	Training in MMAs No Yes			1 (reference) 0.30(0.12-0.76)	0.0109

Ailment	Variable	Univariate		Multivariate	
		OR (95% CI)	p-value	OR (95% CI)	p-value
	Consultation area No Yes			1 (reference) 0.29(0.09-0.97)	0.0446
	Pharmacist reviewing medication allergies No Yes			1 (reference) 3.29(1.29-8.41)	0.0128
Warts	Respondent: Technician Pharmacist	1 (reference) 1.14(0.70-186)	0.5947		
	Pharmacist reviewing medication allergies No Yes			1 (reference) 2.68(1.26-5.69)	0.0103
	Additional pharmacist working hours Low High			1 (reference) 1.80(1.07-3.03)	0.0265
	Consumers who present to a pharmacy Low High			1 (reference) 0.55(-0.33-0.92)	0.0215

Appendix G Pharmacy Graduates Survey

G.1 English



School of Pharmacy and Biomedical
Sciences, Curtin University, Australia

THE MANAGEMENT OF MINOR AILMENTS IN CENTRAL INDONESIA

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PHARMACY GRADUATES SURVEY

We would like to invite you to participate in a survey about academics' perceptions of the management of minor ailments.

Minor ailments are defined as 'conditions that are often self-limiting, with symptoms easily recognised and described by the patient, which fall within the scope of a pharmacist's knowledge and training to treat'.¹ These conditions can usually be managed with the appropriate use of non-prescription products, self-care, and medicines available from the pharmacy. Pharmacists and pharmacy technicians play a role in assessing and managing minor ailments.

This part of the project will investigate academics' perceptions of how they prepare future pharmacists and pharmacy technicians for the management of minor ailments (MMA). This study will assist pharmacists and pharmacy technicians in Indonesia to establish a minor ailment management scheme and recommendations to improve the practice of community pharmacy in Indonesia.

By responding to this questionnaire, it is assumed that you have given consent to participate. Please be assured that all responses will be treated confidentially and anonymously. This questionnaire consists of 10 sections. It should take 15-20 minutes to complete.

No personal contact details will be recorded. Please refer to the **Participant Information Sheet**.

Click here to download.

¹Pharmaceutical Society of Australia (2015) Delivering Safe and Sustainable Clinical Services (Available online at https://www.dhhs.tas.gov.au/__data/assets/pdf_file/0003/194934/Pharmaceutical_Society_of_Australia.pdf)

For the purpose of this study, please read the following definitions to assist with completing the survey:

- a. **Pharmacist student graduates** are Pharmacist students who are enrolled in Bachelor of Pharmacy degree leading to Apothecary Program or enrolled in Apothecary program only.
- b. **Pharmacy technician student graduates** are Pharmacy Technician students who are enrolled in Pharmacy Diploma Award or Bachelor of Pharmacy Degree only.
- c. The term **“Pharmacy students”** include Pharmacy technician and Pharmacist student graduates

Section 1: Details

1.1 Which of the following describes your qualifications?

- Pharmacist
 Non-Pharmacist

1.2 If you are a pharmacist, are you currently registered within the Indonesian Pharmacists Association (IAI)?

- Yes No Not applicable

1.3 Which pharmacy program/degree are you currently involved in teaching? (Please tick one answer)

- Pharmacist student graduates (teaching Bachelor of Pharmacy leading to Apothecary degree)
 Pharmacy Technician student graduates (teaching Pharmacy diploma only or Bachelor of Pharmacy only, or both)
 Both (teaching Pharmacy Technician and Pharmacist student graduates)

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Link to teaching PHARMACIST STUDENT GRADUATES

In answering the following questions, please consider your views regarding how pharmacist student graduates are being prepared.

Section 2: Minor Ailments

Please tick only ONE answer for each statement

The table below lists a number of minor ailments with which a patient may present to a pharmacy. Please tick (**v**) how you think **EACH** minor ailment presentation (below) should be managed:

- **CAN** be independently managed by a pharmacy technician (without referral to a pharmacist) – tick ONLY **Box A**
- **OR** must be managed by a pharmacist – tick ONLY **Box B**
- **OR** whether its management is beyond the scope of a pharmacist – tick ONLY **Box C**

	Ailments	A (by Pharmacy Technician)	B (by Pharmacist)	C (Beyond the scope)
2.1	Acne	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Acute pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Allergy/rash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Bacterial conjunctivitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Back pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6	Cold sores	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.7	Constipation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.8	Contraception	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.9	Cough and cold symptoms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.10	Dandruff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.11	Dermatitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.12	Diarrhoea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.13	Difficulty sleeping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.14	Dysmenorrhoea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.15	Eczema	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.16	Gastro-oesophageal reflux disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.17	Hayfever	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.18	Head lice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.19	Haemorrhoids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.20	Indigestion/heartburn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.21	Insect bites/stings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.22	Migraine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.23	Mild headache	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.24	Minor burns, including sunburn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.25	Nappy rash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.26	Oral thrush	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.27	Rheumatism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.28	Sore throat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.29	Superficial wounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.30	Temporary mild anxiety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.31	Toothache	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.32	Travel sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.33	Unexplained bruising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.34	Vaginal thrush	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.35	Warts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Section 3: Management of Minor Ailments

Please tick only ONE answer

Managing patients with minor ailments requires triaging. **Triage** encompasses asking appropriate questions to elicit accurate information from a patient, understanding the rationale of the questions, and when appropriate making a decision to refer patients to a pharmacist (by a pharmacy technician) or refer to a doctor or other healthcare professional (by a pharmacist).

In relation to triaging, please tick (**v**) your responses for the following statements.

A. Minor ailment assessment (TRIAGING)				
	Do you teach your students to ask the following questions when dealing with patients presenting with minor ailments? Please tick (v) that apply.	YES	NO	If NO, do you think it should be included in the curriculum?
3.1	Who has the condition or ailment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	What are the symptoms?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	How long have the symptoms occurred?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Has the patient tried any medications for this ailment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Does the patient take any regular medications?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	Does the patient have any other medical conditions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	Does the patient have any allergies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8	Is the patient pregnant or breastfeeding?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick only ONE answer

B. Treatment proposal				
	When teaching about minor ailments do you include any of the elements below in your course(s)?	YES	NO	If NO, do you think it should be included in the curriculum?
3.9	The provision of appropriate medicines or products to treat an ailment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10	To advise the patient to use a medicine from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.11	To advise the patient to use Western/conventional over-the-counter medicines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.12	To advise the patient to use complementary medicines (e.g. herbal, vitamins, nutritional supplements)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.13	To recommend the patient for point-of-care testing (e.g. blood glucose, cholesterol and blood pressure screening and monitoring)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.14	To advise the patient to continue or stop using current treatment(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.15	To advise the patient to use non-pharmacological interventions (e.g. exercise, diet modifications)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Patient management				
	When teaching about minor ailments do you include any of the elements below in your course(s)?	YES	NO	If <u>NO</u>, do you think it should be included in the curriculum?
3.16	Clarify with the patient the indication and presenting ailment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.17	Understand and define dosages and directions for use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.18	Indicate a treatment plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.19	Indicate the medication recommended and how to use it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.20	Indicate any possible side-effects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.21	Provide lifestyle advice relevant to minor ailments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.22	Provide points for referral			
3.23	Price of the medicines/products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Labelling and packaging				
	When teaching about minor ailments do you include any of the elements below in your course(s)?	YES	NO	If <u>NO</u>, do you think it should be included in the curriculum?
3.24	Dosage schedule should be on the label or package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.25	Providing medication storage and expiry date on label/package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.26	Providing written drug information to the patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.27	Include pharmaceutical active ingredients on the label/package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Patient follow-up				
	When teaching about minor ailments do you include any of the elements below in your course(s)?	YES	NO	If <u>NO</u>, do you think it should be included in the curriculum?
3.28	Provide patient follow-up after an appropriate period	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.29	Review and update patient medication record	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.30	Seek patient understanding of advice provided and ask if any further information is needed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Section 4: What is relevant to the management of minor ailments topics?

Please tick only TWO answers for each topic

In regard to the management of minor ailments current and future practice. How relevant are the following topics in regard to the management of minor ailments?

TOPICS	Not relevant	Slightly relevant	Neutral	Moderately relevant	Very relevant	Please tick (✓) if <u>currently</u> included in the curriculum
4.1 Using a standardised approach to ask a patient (e.g. WWHAM)	<input type="checkbox"/>					
4.2 Questioning patient about presenting complaints	<input type="checkbox"/>					
4.3 Knowledge of the signs and symptoms of minor ailments	<input type="checkbox"/>					
4.4 Formulating diagnosis of minor ailments	<input type="checkbox"/>					
4.5 Type of minor ailments that reside within a pharmacist's competence	<input type="checkbox"/>					
4.6 Trigger points indicative of referral to another healthcare professional (e.g. doctor)	<input type="checkbox"/>					
4.7 Documentation of treatment plans	<input type="checkbox"/>					

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Section 5: Educator perceptions of pharmacist student graduates' preparedness to practice

Please tick only ONE answer for each statement

In regard to pharmacist student graduate's preparedness, please indicate how you would rate the statements below to best describe your opinion.

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
5.1 Students can provide advice on minor ailments and help patients to facilitate self-management of minor ailments	<input type="checkbox"/>				
5.2 Students are well prepared to supervise pharmacy technicians in the management of minor ailments to ensure positive outcomes for patients	<input type="checkbox"/>				
5.3 Students understand the scope of practice of the pharmacist regarding minor ailments	<input type="checkbox"/>				
5.4 Students understand the scope of practice of the pharmacy technician regarding minor ailments	<input type="checkbox"/>				
5.5 Students understand what medicines can and cannot be provided by pharmacists in community pharmacies for minor ailments	<input type="checkbox"/>				
5.6 Students understand the legal requirements for the provision of minor ailments	<input type="checkbox"/>				
5.7 Students understand the competency requirements/competency guidelines from the government and IAI	<input type="checkbox"/>				

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Section 6: Training and resources for pharmacist student graduates

Please tick only **ONE** answer for each statement

In regard to training and resources for pharmacist student graduates, please indicate the statements below that best describe your opinion.

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
6.1 Dedicated education training on the management of minor ailments should be delivered to students	<input type="checkbox"/>				
6.2 A range of experiential learning opportunities to provide students with first-hand experience of the current practice of the management of minor ailments	<input type="checkbox"/>				
6.3 Suitable textbooks or reference materials available for students	<input type="checkbox"/>				
6.4 Suitable range of products are available to illustrate the range of medicines use for management of minor ailments	<input type="checkbox"/>				
6.5 Opportunities are provided for students to practise their skills with simulated patients	<input type="checkbox"/>				

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Section 7: Collaboration with other healthcare professionals

Please tick only ONE answer for each statement

In regard to collaboration with other healthcare professionals for pharmacy education, please indicate the statements below that best describes your opinion.

TOPICS	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Please tick (✓) if currently included in the curriculum
7.1 Practical training or clinical placement does reinforce students' learning in the management of minor ailments	<input type="checkbox"/>					
7.2 Themes such as communication and teamwork support students to fully understand their role in managing minor ailments	<input type="checkbox"/>					
7.3 Interprofessional education has a role in assisting students to develop their skills in the management of minor ailments	<input type="checkbox"/>					

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	Duration of practice (years)					
	0	<2	2-5	6-10	11-15	>15
8.8.1 Community pharmacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.8.2 Hospital pharmacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.8.3 Pharmaceutical industry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.8.4 Other (Please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8.9 In what areas are you currently teaching? (Tick all that apply)

- | | | |
|--|--|--|
| <input type="checkbox"/> Pharmacy practice | <input type="checkbox"/> Pharmacology | <input type="checkbox"/> Pharmaceutics |
| <input type="checkbox"/> Pharmacokinetics | <input type="checkbox"/> Clinical pharmacy | <input type="checkbox"/> None |
| <input type="checkbox"/> Immunology | <input type="checkbox"/> Community pharmacy management | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Minor ailments | | |
| <input type="checkbox"/> Pharmacotherapy | | |

8.10 In what areas are you currently undertaking research? (Tick all that apply)

- | | | |
|--|--|--|
| <input type="checkbox"/> Pharmacy practice | <input type="checkbox"/> Pharmacology | <input type="checkbox"/> Pharmaceutics |
| <input type="checkbox"/> Pharmacokinetics | <input type="checkbox"/> Clinical pharmacy | <input type="checkbox"/> None |
| <input type="checkbox"/> Immunology | <input type="checkbox"/> Community pharmacy management | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Minor ailments | | |
| <input type="checkbox"/> Pharmacotherapy | | |

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Section 9: Institution Details

9.1 Please indicate the number of B.Pharm and/or Apothecary (pharmacist) students that graduated each year from your college or school of pharmacy in 2018 and 2019.

B.Pharm student graduates:

<u>9.1.1</u> 2018
<u>9.1.2</u> 2019

Apothecary graduates:

<u>9.1.3</u> 2018
<u>9.1.4</u> 2019

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Section 10: The Management of Minor Ailments Course Information

10.1 Is the concept of minor ailments management taught as a separate subject by your institution?

Yes

No

10.2 Please indicate the total number of hours **over the total course** that includes specific teaching of the management of minor ailments at your institution.

Not specifically taught

51-100 hours

201-250 hours

101-150 hours

>250 hours

1-50 hours

151-200 hours

10.3 At what stage does your institution currently deliver any minor ailment management units or courses related to minor ailments management? (Please tick (v) all relevant answers)

- Optional B.Pharm elective course/unit
- Apothecary degree
- Other (please specify) _____

10.4 At what stage do you consider that the management of minor ailments should ideally be delivered? (Please tick (v) all relevant answers)

- Year 1 B.Pharm
- Year 2 B.Pharm
- Year 3 B.Pharm
- Year 4 B.Pharm
- Optional B.Pharm elective course/unit
- Apothecary degree
- Other (please specify) _____

10.5 Please indicate which the following teaching methods do you consider have relevance and indicate if they are currently used at your institution in the management of minor ailments teaching.

Teaching method	Not relevant	Slightly relevant	Neutral	Moderately relevant	Very relevant	Please tick (v) if currently used at your institution
10.5.1 Traditional lectures (e.g. face-to-face lectures)	<input type="checkbox"/>					
10.5.2 Textbook case studies	<input type="checkbox"/>					
10.5.3 Case studies from clinical practice	<input type="checkbox"/>					
10.5.4 Expert testimonials from practice	<input type="checkbox"/>					
10.5.5 Role play	<input type="checkbox"/>					
10.5.6 Clinical placement in practice settings	<input type="checkbox"/>					
10.5.7 Group work	<input type="checkbox"/>					
10.5.8 Laboratory work	<input type="checkbox"/>					
10.5.9 Patient simulations	<input type="checkbox"/>					
10.5.10 Tutorials	<input type="checkbox"/>					
10.5.11 Seminars	<input type="checkbox"/>					
10.5.12 Workshops	<input type="checkbox"/>					
10.5.13 Other (please specify)	<input type="checkbox"/>					

10.6 What changes do you consider are necessary to the present teaching and curriculum to meet the challenges of providing management of minor ailments in the future, and why?

10.7 Please provide any additional comments and suggestions about the management of minor ailments in relation to curriculum and teaching

10.8 Please indicate your response for the statement below:

Do you agree if the appropriate amendments to the Indonesian pharmacy practice legislation are required to allow pharmacists to play a more significant role in management of minor ailments?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="checkbox"/>				

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1	2	3	4	5	6	7	8	9	10
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As a token of appreciation for your time involved in completing the questionnaire, you can elect to be entered into a prize draw for the chance to win **one of 10 vouchers (@Rp.250.000)**. If you would like to be entered into a prize draw, please provide your name and institution name. Please note this information is collected strictly for the purpose of a prize draw, and will not be linked any way to your confidential survey responses.

Name: _____

Institution name: _____

PLEASE CLICK SUBMIT TO FINISH

SUBMIT

THANK YOU FOR YOUR TIME AND PARTICIPATION

G.2 Bahasa Indonesia



School of Pharmacy and Biomedical
Sciences, Curtin University, Australia

Manajemen Pelayanan Penyakit Ringan (*minor ailments*) di Indonesia

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SURVEY LULUSAN FARMASI

Kami mengundang Anda untuk berpartisipasi dalam survei tentang persepsi akademisi pada manajemen pelayanan penyakit ringan/*minor ailments*.

Penyakit ringan (*minor ailments*) didefinisikan sebagai **“kondisi yang dapat sembuh sendiri, dengan gejala yang mudah dikenali dan diidentifikasi oleh pasien dan termasuk dalam ruang lingkup pengetahuan dan pengobatan apoteker”**.¹ Kondisi ini biasanya dapat diatasi dengan penggunaan obat-obatan tanpa resep yang dapat diperoleh melalui apoteker di apotek dan melalui praktik penyembuhan diri sendiri (*self-care*). Apoteker dan tenaga teknis kefarmasian berperan dalam menangani penyakit ringan/*minor ailments*.

Penelitian ini akan menginvestigasi persepsi akademisi tentang bagaimana mereka mempersiapkan lulusan apoteker dan lulusan tenaga teknis kefarmasian untuk pelayanan penyakit ringan. Penelitian ini akan membantu apoteker dan tenaga teknis kefarmasian di Indonesia untuk menyusun skema manajemen pelayanan penyakit ringan dan rekomendasi untuk meningkatkan pelayanan di apotek.

Dengan mengisi kuesioner ini, diasumsikan bahwa anda telah memberikan persetujuan untuk berpartisipasi. Semua jawaban akan diperlakukan secara rahasia dan anonim.

Kuesioner ini terdiri dari 10 bagian dan memakan waktu sekitar 15-20 menit.

Tidak ada data pribadi yang akan dicatat. Mohon merujuk ke **Lembar Informasi Responden**.

¹Pharmaceutical Society of Australia (2015) Delivering Safe and Sustainable Clinical Services (Available online at https://www.dhhs.tas.gov.au/_data/assets/pdf_file/0003/194934/Pharmaceutical_Society_of_Australia.pdf)

Untuk tujuan penelitian ini, mohon cermati definisi berikut untuk mengisi kuesioner:

- a. **Mahasiswa/lulusan Tenaga Teknis Kefarmasian** adalah mahasiswa tenaga teknis kefarmasian yang terdaftar sebagai mahasiswa program studi D3 Farmasi atau program studi S1 Farmasi.
- b. **Mahasiswa/lulusan Apoteker** adalah mahasiswa Apoteker yang terdaftar sebagai mahasiswa program studi S1 Farmasi menuju program studi Apoteker (S1 Farmasi + Apoteker).
- c. Definisi "**Mahasiswa Farmasi**" merujuk pada mahasiswa/lulusan **Tenaga Teknis Kefarmasian** dan mahasiswa/lulusan **Apoteker**

Bagian 1: Informasi

1.1 Dibawah ini, manakah yang menggambarkan kualifikasi anda?

- Apoteker
- Non-Apoteker

1.2 Bila anda seorang Apoteker, apakah anda terdaftar pada Ikatan Apoteker Indonesia (IAI)?

- Ya
- Tidak
- Tidak berlaku

1.3 Program studi atau jurusan apa yang saat ini sedang anda ajar? (Harap centang satu jawaban)

- Mengajar program studi D3 Farmasi saja atau S1 Farmasi saja (mengajar mahasiswa/lulusan tenaga teknis kefarmasian)
- Mengajar S1 Farmasi dan Apoteker (mengajar mahasiswa/lulusan Apoteker)
- Kedua jawaban diatas

Untuk menjawab pernyataan dibawah ini, mohon pertimbangkan pandangan anda tentang bagaimana anda mempersiapkan mahasiswa/lulusan apoteker.

Bagian 2. Penyakit ringan (*minor ailments*)

Mohon hanya centang **SATU** jawaban untuk setiap pernyataan

Tabel berikut merupakan penyakit ringan (*minor ailments*) yang menjadi alasan pasien datang ke apotek.

Mohon centang (**v**) bila menurut anda tiap penyakit ringan (*minor ailments*) dibawah ini harus ditangani oleh:

- **Tenaga teknis kefarmasian (TTK)** tanpa bantuan Apoteker – centang HANYA kotak A
- ATAU harus ditangani oleh **APOTEKER** – centang HANYA kotak B
- ATAU penyakit berada **di luar pengetahuan Apoteker** – centang HANYA kotak C

Penyakit ringan	A (TTK)	B (Apoteker)	C (di luar pengetahuan Apoteker)
Jerawat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nyeri akut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alergi/ruam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Konjungtivitis bakterial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nyeri punggung	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Herpes simpleks virus 1 (herpes oral)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Konstipasi/sembelit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kontrasepsi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Batuk pilek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ketombe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dermatitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kesulitan tidur (insomnia)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dismenore (nyeri haid)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eksim	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Refluks gastroesofagus (GERD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rhinitis alergi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kutu rambut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hemoroid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dispepsia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gigitan serangga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Migrain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sakit kepala ringan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Luka bakar ringan, termasuk terbakar matahari (<i>sunburn</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ruam popok	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sariawan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reumatik	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Faringitis (radang tenggorokan)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Luka superfisial (luka kulit bagian luar)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cemas/anxietas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sakit gigi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mabuk perjalanan (<i>travel sickness</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Memar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kandidiasis vagina	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kutil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bagian 3: Manajemen pelayanan penyakit ringan (*minor ailments*)

Mohon hanya centang **SATU** jawaban untuk setiap pernyataan

Pelayanan pasien dengan penyakit ringan (*minor ailments*) memerlukan triage. Triage meliputi mengajukan pertanyaan yang tepat, memahami alasan pertanyaan, dan membuat keputusan bagi tenaga teknis kefarmasian untuk merujuk pasien ke Apoteker atau membuat keputusan bagi Apoteker untuk merujuk pasien ke dokter atau tenaga kesehatan yang lain.

Terkait dengan **TRIAGE**, mohon centang (**√**) respon anda untuk pernyataan berikut ini.

A. Evaluasi pada penyakit ringan/<i>minor ailments</i> (TRIAGING)				
	Apakah anda mengajarkan mahasiswa untuk mengajukan pertanyaan berikut ketika menangani pasien dengan penyakit ringan/ <i>minor ailments</i> ? Mohon centang (√) yang sesuai.	YA	TIDAK	Bila anda menjawab TIDAK , mohon centang bila menurut anda elemen ini perlu dimasukkan ke dalam kurikulum
3.1	Siapa yang sakit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Apa gejala yang dialami oleh pasien?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Berapa lama gejala tersebut berlangsung?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Apakah pasien telah menggunakan obat lain?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Apakah pasien sedang memakai obat rutin lainnya?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	Apakah pasien memiliki riwayat medis lain?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	Apakah pasien memiliki riwayat alergi?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8	Apakah pasien sedang hamil atau menyusui?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Harap mencentang hanya **SATU** jawaban

B. Saran Pengobatan				
	Saat mengajar tentang penyakit ringan (<i>minor ailments</i>), apakah anda memasukkan salah satu elemen di bawah ini ke dalam materi pengajaran anda? Mohon centang (√) yang sesuai.	YA	TIDAK	Bila anda menjawab TIDAK , mohon centang bila menurut anda elemen ini perlu dimasukkan ke dalam kurikulum
3.9	Penyediaan obat atau produk yang tepat untuk mengobati suatu penyakit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10	Menyarankan pasien untuk menggunakan obat/produk yang tersedia dirumah	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.11	Menyarankan pasien untuk menggunakan obat-obatan <i>Western over-the-counter</i> (OTC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.12	Menyarankan pasien menggunakan obat-obatan komplementer (obat herbal, suplemen, vitamin)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.13	Merekomendasikan <i>point-of-care testing</i> (tes gula darah, kolesterol, dan tekanan darah) pada pasien	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.14	Menyarankan pasien untuk melanjutkan atau menghentikan pengobatan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.15	Menyarankan pasien menggunakan intervensi non-farmakologis (misal olahraga, modifikasi diet)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Manajemen pada pasien				
	Saat mengajar tentang penyakit ringan (<i>minor ailments</i>), apakah anda memasukkan salah satu elemen di bawah ini ke dalam materi pengajaran anda? Mohon centang (v) yang sesuai.	YA	TIDAK	Bila anda menjawab TIDAK , mohon centang bila menurut anda elemen ini perlu dimasukkan ke dalam kurikulum
3.16	Klarifikasi pada pasien tentang indikasi dan gejala penyakitnya	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.17	Memahami dosis dan petunjuk penggunaan obat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.18	Memberikan saran pengobatan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.19	Menyarankan obat yang direkomendasikan dan cara menggunakannya	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.20	Memberikan informasi adanya kemungkinan efek samping obat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.21	Memberikan saran tentang gaya hidup terkait penyakit ringan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.22	Merujuk pasien			
3.23	Harga obat-obatan/produk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Label dan kemasan				
	Saat mengajar tentang penyakit ringan (<i>minor ailments</i>), apakah anda memasukkan salah satu elemen di bawah ini ke dalam materi pengajaran anda? Mohon centang (v) yang sesuai.	YA	TIDAK	Bila anda menjawab TIDAK , mohon centang bila menurut anda elemen ini perlu dimasukkan ke dalam kurikulum
3.24	Aturan pakai yang harus ada pada label/kemasan obat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.25	Memberikan informasi penyimpanan obat dan tanggal kadaluarsa pada label/kemasan obat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.26	Memberikan informasi obat secara tertulis kepada pasien	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.27	Mencantumkan komposisi bahan aktif pada label/kemasan obat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Tindak lanjut pasien				
	Saat mengajar tentang penyakit ringan (<i>minor ailments</i>), apakah anda memasukkan salah satu elemen di bawah ini ke dalam materi pengajaran anda? Mohon centang (v) yang sesuai.	YA	TIDAK	Bila anda menjawab TIDAK , mohon centang bila menurut anda elemen ini perlu dimasukkan ke dalam kurikulum
3.28	Tindak lanjut pasien setelah periode pengobatan yang ditentukan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.29	Review dan <i>update</i> kartu pengobatan pasien	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.30	Melihat pemahaman pasien tentang saran yang diberikan dan menanyakan bila memerlukan informasi lebih lanjut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bagian 4:

Apa yang relevan pada topik manajemen pelayanan penyakit ringan (*minor ailments*)?

Harap centang DUA jawaban untuk setiap topik

Pernyataan berikut terkait dengan praktik manajemen pelayanan penyakit ringan (*minor ailments*) saat ini dan masa depan.

Menurut anda, seberapa relevan topik berikut terkait dengan manajemen pelayanan penyakit ringan/*minor ailments*?

TOPIK	Tidak relevan	Sedikit relevan	Netral	Cukup relevan	Sangat relevan	Mohon centang (✓) bila topik ini masuk dalam kurikulum saat ini
4.1 Menggunakan pendekatan standar untuk bertanya kepada pasien (misal WWHAM)	<input type="checkbox"/>					
4.2 Menanyakan pasien tentang keluhan yang dirasakan	<input type="checkbox"/>					
4.3 Pengetahuan tentang tanda dan gejala pada penyakit ringan	<input type="checkbox"/>					
4.4 Menentukan diagnosa penyakit ringan	<input type="checkbox"/>					
4.5 Jenis penyakit ringan yang masuk dalam kompetensi apoteker	<input type="checkbox"/>					
4.6 Faktor pemicu untuk merujuk pasien ke tenaga kesehatan yang lain (misal: dokter)	<input type="checkbox"/>					
4.7 Dokumentasi rencana pengobatan	<input type="checkbox"/>					

Bagian 5:
Persepsi pendidik tentang kesiapan mahasiswa/lulusan Apoteker untuk berpraktik

Mohon hanya centang **SATU** jawaban

Terkait dengan kesiapan mahasiswa/lulusan Apoteker, mohon centang (**v**) pernyataan yang sesuai dengan pendapat anda.

Pernyataan	Sangat tidak setuju	Tidak setuju	Netral	Setuju	Sangat setuju
5.1 Mahasiswa/lulusan dapat memberikan saran pengobatan tentang penyakit ringan dan membantu pasien untuk dapat menangani penyakit ringan itu sendiri	<input type="checkbox"/>				
5.2 Mahasiswa/lulusan dipersiapkan dengan baik untuk dapat men-supervisi tenaga teknis kefarmasian dalam pelayanan penyakit ringan untuk mendapatkan <i>positive outcomes</i>	<input type="checkbox"/>				
5.3 Mahasiswa/lulusan memahami ruang lingkup praktik Apoteker mengenai penyakit ringan	<input type="checkbox"/>				
5.4 Mahasiswa/lulusan memahami ruang lingkup praktik Tenaga Teknis Kefarmasian mengenai penyakit ringan	<input type="checkbox"/>				
5.5 Mahasiswa/lulusan memahami obat apa yang boleh dan tidak boleh diberikan oleh Apoteker di apotek untuk pengobatan penyakit ringan	<input type="checkbox"/>				
5.6 Mahasiswa/lulusan memahami Undang-Undang Kesehatan terkait dengan pelayanan penyakit ringan	<input type="checkbox"/>				
5.7 Mahasiswa/lulusan memahami persyaratan kompetensi /pedoman standar kompetensi dari pemerintah dan IAI	<input type="checkbox"/>				

Bagian 6: Pelatihan dan sumber daya bagi mahasiswa/lulusan apoteker

Mohon hanya centang SATU jawaban

Terkait dengan pelatihan dan sumber daya untuk mahasiswa/lulusan Apoteker, mohon centang (✓) pernyataan yang sesuai dengan pendapat anda.

Pernyataan	Sangat tidak setuju	Tidak setuju	Netral	Setuju	Sangat setuju
6.1 Pendidikan khusus tentang manajemen pelayanan penyakit ringan harus diberikan kepada mahasiswa	<input type="checkbox"/>				
6.2 Kesempatan belajar berdasarkan pengalaman langsung dapat memberikan pengalaman praktik pada mahasiswa dalam manajemen pelayanan penyakit ringan	<input type="checkbox"/>				
6.3 Buku teks atau bahan referensi yang sesuai tersedia untuk mahasiswa	<input type="checkbox"/>				
6.4 Tersedia beberapa produk untuk menggambarkan penggunaan obat-obatan yang diperlukan untuk melayani penyakit ringan	<input type="checkbox"/>				
6.5 Mahasiswa mendapat kesempatan untuk praktik menggunakan pasien simulasi (<i>simulated patients</i>)	<input type="checkbox"/>				

Bagian 7: Kolaborasi dengan tenaga kesehatan lain

Mohon hanya centang SATU jawaban

Terkait kolaborasi dengan tenaga kesehatan lain untuk pendidikan di bidang farmasi, mohon centang (**v**) pernyataan yang sesuai dengan pendapat anda.

TOPIK	Sangat tidak setuju	Tidak setuju	Netral	Setuju	Sangat setuju	Mohon centang (v) bila topik ini masuk dalam kurikulum saat ini
7.1 Training atau penempatan klinis/praktik kerja (<i>clinical placement</i>) memperkuat pembelajaran dalam pelayanan penyakit ringan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2 Topik seperti komunikasi dan kerjasama tim mendukung mahasiswa farmasi dalam memahami peran mereka untuk menangani penyakit ringan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3 <i>Interprofesional education</i> memiliki peran dalam mengembangkan keterampilan mahasiswa farmasi dalam menangani penyakit ringan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bagian 8: Informasi responden

8.1. Jenis kelamin

- Laki-laki
 Perempuan
 Tidak bersedia diungkap

8.2. Usia (tahun)

- 21-30 31-40 41-50 51-60 61+

8.3. Pengalaman anda mengajar di bidang farmasi _____ tahun

8.4. Tingkat pendidikan tertinggi yang telah anda tempuh.

- Diploma Master (S2) Lainnya (mohon sebutkan)
 Sarjana (S1) Doktor (S3)
 Apoteker _____

8.5. Disiplin ilmu pendidikan anda.

- Farmasi Non-Farmasi (Mohon sebutkan)

8.6. Apa status akademik anda saat ini?

	Bekerja paruh waktu	Bekerja Full-time	Emeritus (pensiun)
8.6.1 Tutor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6.2 Staf pengajar (Asisten Ahli)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6.3 Lektor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6.4 Lektor kepala	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6.5 Professor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6.6 lainnya (Mohon sebutkan) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8.7. Apakah anda pernah berpraktik di lingkungan klinik (apotek, klinik, rumah sakit, puskesmas dll) dalam 12 bulan terakhir?

- Ya (Ke pertanyaan 8.8)
 Tidak (Ke pertanyaan 8.9)
 Tidak berlaku (Ke pertanyaan 8.9)

8.8. Mohon isi pengalaman praktik anda.

	Lama praktik (tahun)					
	0	<2	2-5	6-10	11-15	>15
8.8.1 Apotek	<input type="checkbox"/>					
8.8.2 Rumah sakit	<input type="checkbox"/>					
8.8.3 Industri farmasi	<input type="checkbox"/>					
8.8.4 Lainnya (Mohon sebutkan)	<input type="checkbox"/>					

8.9. Di bidang apa anda mengajar saat ini? (Mohon centang semua yang sesuai)

- | | | |
|--|--|---|
| <input type="checkbox"/> Praktik kefarmasian | <input type="checkbox"/> Farmakoterapi | <input type="checkbox"/> Farmasetika |
| <input type="checkbox"/> Farmakokinetika | <input type="checkbox"/> Farmakologi | <input type="checkbox"/> Tidak ada |
| <input type="checkbox"/> Immunologi | <input type="checkbox"/> Farmasi Klinik | <input type="checkbox"/> Lainnya: _____ |
| <input type="checkbox"/> Penyakit ringan
(minor ailments) | <input type="checkbox"/> Manajemen perapotekan | |

8.10. Di bidang apa anda melakukan penelitian saat ini? (Mohon centang semua yang sesuai)

- | | | |
|--|--|---|
| <input type="checkbox"/> Praktik kefarmasian | <input type="checkbox"/> Farmakoterapi | <input type="checkbox"/> Farmasetika |
| <input type="checkbox"/> Farmakokinetika | <input type="checkbox"/> Farmakologi | <input type="checkbox"/> Tidak ada |
| <input type="checkbox"/> Immunologi | <input type="checkbox"/> Farmasi Klinik | <input type="checkbox"/> Lainnya: _____ |
| <input type="checkbox"/> Penyakit ringan
(minor ailments) | <input type="checkbox"/> Manajemen perapotekan | |

Bagian 9: Informasi Institusi

9.1. Mohon isi jumlah mahasiswa program studi S1 Farmasi dan/atau program studi Apoteker yang lulus dari institusi anda pada tahun 2018 dan 2019.

Mahasiswa lulusan S1 Farmasi

9.1.1 2018
9.1.2 2019

Mahasiswa Lulusan program studi Apoteker

9.1.3 2018
9.1.4 2019

Bagian 10: Informasi Pengajaran Manajemen Pelayanan Penyakit Ringan (*minor ailments*)

10.1. Apakah konsep manajemen pelayanan penyakit ringan (*minor ailments*) diajarkan sebagai mata kuliah terpisah di institusi anda?

- Ya Tidak

10.2. Mohon isi total jumlah jam sepanjang durasi program studi/kuliah (S1 Farmasi dan/atau Apoteker) terkait pemberian materi khusus tentang manajemen pelayanan penyakit ringan di institusi anda.

- Tidak diajarkan secara khusus
 1-50 jam
 51-100 jam
 101-150 jam
 151-200 jam
 201-250 jam
 >250 jam

10.3. Pada semester berapa institusi anda mengajarkan mata kuliah tentang manajemen pelayanan penyakit ringan atau mata kuliah terkait manajemen pelayanan penyakit ringan/*minor ailments*? (Harap centang (✓) semua jawaban yang relevan).

- Tahun ke-1 S1 Farmasi
 Tahun ke-2 S1 Farmasi
 Tahun ke-3 S1 Farmasi
 Tahun ke-4 S1 Farmasi
 Mata kuliah pilihan S1 Farmasi
 Program studi Apoteker
 Lainnya (Mohon sebutkan) _____

10.4. Menurut anda, pada semester berapa mata kuliah manajemen pelayanan penyakit ringan/*minor ailments* idealnya harus diberikan? (Harap centang (✓) semua jawaban yang relevan).

- | | |
|--|---|
| <input type="checkbox"/> Tahun ke-1 S1 Farmasi | <input type="checkbox"/> Mata kuliah pilihan S1 Farmasi |
| <input type="checkbox"/> Tahun ke-2 S1 Farmasi | <input type="checkbox"/> Program studi Apoteker |
| <input type="checkbox"/> Tahun ke-3 S1 Farmasi | <input type="checkbox"/> Lainnya (Mohon sebutkan) |
| <input type="checkbox"/> Tahun ke-4 S1 Farmasi | |

10.5. Mohon centang (✓) pernyataan yang sesuai dengan pendapat anda mengenai relevansi metode pengajaran berikut ini dan apakah metode tersebut digunakan oleh institusi anda saat ini terkait pengajaran manajemen pelayanan penyakit ringan/*minor ailments*.

Metode pengajaran	Tidak relevan	Sedikit relevan	Netral	Cukup relevan	Sangat relevan	Mohon centang (✓) bila metode ini digunakan oleh institusi anda saat ini
10.5.1 Kuliah tatap muka	<input type="checkbox"/>					
10.5.2 Studi kasus menggunakan <i>textbook</i>	<input type="checkbox"/>					
10.5.3 Studi kasus dari praktik klinik	<input type="checkbox"/>					
10.5.4 Kuliah pakar/testimoni dari pakar	<input type="checkbox"/>					
10.5.5 <i>Role play</i> /bermain peran	<input type="checkbox"/>					
10.5.6 Praktik kerja	<input type="checkbox"/>					
10.5.7 Kerja kelompok	<input type="checkbox"/>					
10.5.8 Praktik laboratorium	<input type="checkbox"/>					
10.5.9 Simulasi pasien	<input type="checkbox"/>					
10.5.10 Tutorial	<input type="checkbox"/>					
10.5.11 Seminar	<input type="checkbox"/>					
10.5.12 Workshop/ lokakarya	<input type="checkbox"/>					
10.5.13 lainnya (Mohon sebutkan) _____	<input type="checkbox"/>					

10.6. Menurut anda, perubahan apa yang diperlukan dalam pengajaran dan kurikulum saat ini untuk memenuhi tantangan terkait manajemen pelayanan penyakit ringan di masa depan dan mengapa?

10.7. Mohon berikan komentar dan saran lainnya tentang manajemen pelayanan penyakit ringan terkait dengan kurikulum dan pengajaran.

10.8. Mohon centang (**v**) pernyataan yang sesuai dengan pendapat anda

Apakah anda setuju bila perubahan terhadap Undang-Undang praktik kefarmasian di Indonesia diperlukan agar apoteker dapat berperan lebih signifikan dalam manajemen pelayanan penyakit ringan/*minor ailments*?

Sangat tidak setuju	Tidak setuju	Netral	Setuju	Sangat setuju
<input type="checkbox"/>				

Sebagai tanda terima kasih untuk waktu yang anda luangkan, anda dapat memilih untuk diikutsertakan dalam undian berhadiah untuk memenangkan **satu dari 10 gift cards (@ Rp.250.000)**. Mohon tuliskan nama dan nama institusi anda bila anda menginginkan untuk diikutkan dalam undian. Mohon diperhatikan bahwa informasi ini hanya ditujukan untuk pengundian hadiah dan tidak akan dikaitkan dengan cara apapun pada jawaban kuesioner anda

Nama: _____

Nama institusi: _____

Silakan klik selesai

SELESAI

TERIMA KASIH ATAS WAKTU DAN PARTISIPASI ANDA

Appendix H Pharmacy Technician Graduates Survey

H.1 English



School of Pharmacy and Biomedical
Sciences, Curtin University, Australia

THE MANAGEMENT OF MINOR AILMENTS IN CENTRAL INDONESIA

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Curtin University, Western Australia, Australia

PHARMACY TECHNICIAN GRADUATES SURVEY

We would like to invite you to participate in a survey about academics' perceptions of the management of minor ailments.

Minor ailments are defined as 'conditions that are often self-limiting, with symptoms easily recognised and described by the patient, which fall within the scope of a pharmacist's knowledge and training to treat'.¹ These conditions can usually be managed with the appropriate use of non-prescription products, self-care, and medicines available from the pharmacy. Pharmacists and pharmacy technicians play a role in assessing and managing minor ailments.

This part of the project will investigate academics' perceptions of how they prepare future pharmacists and pharmacy technicians for the management of minor ailments (MMA). This study will assist pharmacists and pharmacy technicians in Indonesia to establish a minor ailment management scheme and recommendations to improve the practice of community pharmacy in Indonesia.

By responding to this questionnaire, it is assumed that you have given consent to participate. Please be assured that all responses will be treated confidentially and anonymously. This questionnaire consists of 10 sections. It should take 15-20 minutes to complete.

No personal contact details will be recorded. Please refer to the **Participant Information Sheet**.

[Click here to download.](#)

¹Pharmaceutical Society of Australia (2015) Delivering Safe and Sustainable Clinical Services (Available online at https://www.dhhs.tas.gov.au/_data/assets/pdf_file/0003/194934/Pharmaceutical_Society_of_Australia.pdf)

For the purpose of this study, please read the following definitions to assist with completing the survey:

- a. **Pharmacy technician student graduates** are Pharmacy Technician students who are enrolled in Pharmacy Diploma Award or Bachelor of Pharmacy Degree only.
- b. **Pharmacist student graduates** are Pharmacist students who are enrolled in Bachelor of Pharmacy degree leading to Apothecary Program or enrolled in Apothecary program only.
- c. **The term “Pharmacy students”** include Pharmacy technician and Pharmacist student graduates

Section 1: Details

1.1 Which of the following describes your qualifications?

- Pharmacist
 Non-Pharmacist

1.2 If you are a pharmacist, are you currently registered within the Indonesian Pharmacists Association (IAI)?

- Yes No Not applicable

1.3 Which pharmacy program/degree are you currently involved in teaching? (Please tick one answer)

- Pharmacy Technician student graduates (teaching Pharmacy diploma only or Bachelor of Pharmacy only, or both)
 Pharmacist student graduates (teaching Bachelor of Pharmacy leading to Apothecary degree)
 Both (teaching Pharmacy Technician and Pharmacist student graduates)

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Link to teaching PHARMACY TECHNICIAN STUDENT GRADUATES

In answering the following questions, please consider your views regarding how pharmacy technician student graduates are being prepared.

Section 2: Minor Ailments

Please tick only ONE answer for each statement

The table below lists a number of minor ailments with which a patient may present to a pharmacy. Please tick (**v**) how you think **EACH** minor ailment presentation (below) should be managed:

- **CAN** be independently managed by a pharmacy technician (without referral to a pharmacist) – tick ONLY **Box A**
- **OR** must be managed by a pharmacist – tick ONLY **Box B**
- **OR** whether its management is beyond the scope of a pharmacist – tick ONLY **Box C**

	Ailments	A (by Pharmacy Technician)	B (by Pharmacist)	C (Beyond the scope)
2.1	Acne	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Acute pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Allergy/rash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Bacterial conjunctivitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Back pain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6	Cold sores	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.7	Constipation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.8	Contraception	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.9	Cough and cold symptoms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.10	Dandruff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.11	Dermatitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.12	Diarrhoea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.13	Difficulty sleeping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.14	Dysmenorrhoea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.15	Eczema	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.16	Gastro-oesophageal reflux disease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.17	Hayfever	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.18	Head lice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.19	Haemorrhoids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.20	Indigestion/heartburn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.21	Insect bites/stings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.22	Migraine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.23	Mild headache	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.24	Minor burns, including sunburn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.25	Nappy rash	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.26	Oral thrush	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.27	Rheumatism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.28	Sore throat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.29	Superficial wounds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.30	Temporary mild anxiety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.31	Toothache	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.32	Travel sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.33	Unexplained bruising	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.34	Vaginal thrush	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.35	Warts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Section 3: Management of Minor Ailments

Please tick only ONE answer

Managing patients with minor ailments requires triaging. **Triage** encompasses asking appropriate questions to elicit accurate information from a patient, understanding the rationale of the questions, and when appropriate making a decision to refer patients to a pharmacist (by a pharmacy technician) or refer to a doctor or other healthcare professional (by a pharmacist).

In relation to triaging, please tick (**v**) your responses for the following statements.

A. Minor ailment assessment (TRIAGING)				
	Do you teach your students to ask the following questions when dealing with patients presenting with minor ailments? Please tick (v) that apply.	YES	NO	If <u>NO</u>, do you think it should be included in the curriculum?
3.1	Who has the condition or ailment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	What are the symptoms?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	How long have the symptoms occurred?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Has the patient tried any medications for this ailment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Does the patient take any regular medications?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	Does the patient have any other medical conditions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	Does the patient have any allergies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8	Is the patient pregnant or breastfeeding?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick only ONE answer

B. Treatment proposal				
	When teaching about minor ailments do you include any of the elements below in your course(s)?	YES	NO	If <u>NO</u>, do you think it should be included in the curriculum?
3.9	The provision of appropriate medicines or products to treat an ailment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10	To advise the patient to use a medicine from home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.11	To advise the patient to use Western/conventional over-the-counter medicines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.12	To advise the patient to use complementary medicines (e.g. herbal, vitamins, nutritional supplements)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.13	To recommend the patient for point-of-care testing (e.g. blood glucose, cholesterol and blood pressure screening and monitoring)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.14	To advise the patient to consult with the pharmacist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.15	To advise the patient to continue or stop using current treatment(s)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.16	To advise the patient to use non-pharmacological interventions (e.g. exercise, diet modifications)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Patient management				
	When teaching about minor ailments do you include any of the elements below in your course(s)?	YES	NO	If NO, do you think it should be included in the curriculum?
3.17	Clarify with the patient the indication and presenting ailment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.18	Understand and define dosages and directions for use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.19	Indicate a treatment plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.20	Indicate the medication recommended and how to use it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.21	Indicate any possible side-effects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.22	Provide lifestyle advice relevant to minor ailments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.23	Provide points for referral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.24	Price of the medicines/products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Labelling and packaging				
	When teaching about minor ailments do you include any of the elements below in your course(s)?	YES	NO	If NO, do you think it should be included in the curriculum?
3.25	Dosage schedule should be on the label or package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.26	Providing medication storage and expiry date on label/package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.27	Providing written drug information to the patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.28	Include pharmaceutical active ingredients on the label/package	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Patient follow-up				
	When teaching about minor ailments do you include any of the elements below in your course(s)?	YES	NO	If NO, do you think it should be included in the curriculum?
3.29	Provide patient follow-up after an appropriate period	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.30	Review and update patient medication record	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.31	Seek patient understanding of advice provided and ask if any further information is needed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Section 4: What is relevant to the management of minor ailments topics?

Please tick only TWO answers for each topic

In regard to the management of minor ailments current and future practice. How relevant are the following topics in regard to the management of minor ailments?

TOPICS	Not relevant	Slightly relevant	Neutral	Moderately relevant	Very relevant	Please tick (✓) if currently included in the curriculum
4.1 Using a standardised approach to ask a patient (e.g. WWHAM)	<input type="checkbox"/>					
4.2 Questioning patient about presenting complaints	<input type="checkbox"/>					
4.3 Knowledge of the signs and symptoms of minor ailments	<input type="checkbox"/>					
4.4 Formulating diagnosis of minor ailments	<input type="checkbox"/>					
4.5 Type of minor ailments that reside within a pharmacy technician's competence	<input type="checkbox"/>					
4.6 Trigger points indicative of referral to a pharmacist	<input type="checkbox"/>					
4.7 Documentation of treatment plans	<input type="checkbox"/>					

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Section 5: Educator perceptions of pharmacy technician student graduates' preparedness to practice

Please tick only ONE answer for each statement

In regard to pharmacy technician student graduate's preparedness, please indicate how you would rate the statements below to best describe your opinion.

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
5.1 Students can provide advice on minor ailments and help patients to facilitate self-management of minor ailments	<input type="checkbox"/>				
5.2 Students understand the scope of practice of the pharmacist regarding minor ailments	<input type="checkbox"/>				
5.3 Students understand the scope of practice of the pharmacy technician regarding minor ailments	<input type="checkbox"/>				
5.4 Students understand what medicines can and cannot be provided by pharmacy technicians in community pharmacies for minor ailments	<input type="checkbox"/>				
5.5 Students understand the legal requirements for the provision of minor ailments	<input type="checkbox"/>				
5.6 Students understand the competency requirements/competency guidelines from the government and PAFI	<input type="checkbox"/>				

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Section 6: Training and resources for pharmacy technician student graduates

Please tick only **ONE** answer for each statement

In regard to training and resources for pharmacy technician student graduates, please indicate the statements below that best describe your opinion.

Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
6.1 Dedicated education training on the management of minor ailments should be delivered to students	<input type="checkbox"/>				
6.2 A range of experiential learning opportunities to provide students with first-hand experience of the current practices in the management of minor ailments	<input type="checkbox"/>				
6.3 Suitable textbooks or reference materials available for students	<input type="checkbox"/>				
6.4 Suitable range of products are available to illustrate the range of medicines use for management of minor ailments	<input type="checkbox"/>				
6.5 Opportunities are provided for students to practise their skills with simulated patients	<input type="checkbox"/>				

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Section 7: Collaboration with other healthcare professionals

Please tick only ONE answer for each statement

In regard to collaboration with other healthcare professionals for pharmacy education, please indicate the statements below that best describes your opinion.

TOPICS	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Please tick (✓) if currently included in the curriculum
7.1 Practical training or clinical placement does reinforce students' learning in the management of minor ailments	<input type="checkbox"/>					
7.2 Themes such as communication and teamwork support pharmacy students to fully understand their role in managing minor ailments	<input type="checkbox"/>					
7.3 Interprofessional education has a role in assisting pharmacy students to develop their skills in the management of minor ailments	<input type="checkbox"/>					

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	Duration of practice (years)					
	0	<2	2-5	6-10	11-15	>15
8.8.1 Community pharmacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.8.2 Hospital pharmacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.8.3 Pharmaceutical industry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.8.4 Other (Please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8.9 In what areas are you currently teaching? (Tick all that apply)

- | | | |
|--|--|--|
| <input type="checkbox"/> Pharmacy practice | <input type="checkbox"/> Pharmacology | <input type="checkbox"/> Pharmaceutics |
| <input type="checkbox"/> Pharmacokinetics | <input type="checkbox"/> Clinical pharmacy | <input type="checkbox"/> None |
| <input type="checkbox"/> Immunology | <input type="checkbox"/> Community pharmacy management | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Minor ailments | | |
| <input type="checkbox"/> Pharmacotherapy | | |

8.10 In what areas are you currently undertaking research? (Tick all that apply)

- | | | |
|--|--|--|
| <input type="checkbox"/> Pharmacy practice | <input type="checkbox"/> Pharmacology | <input type="checkbox"/> Pharmaceutics |
| <input type="checkbox"/> Pharmacokinetics | <input type="checkbox"/> Clinical pharmacy | <input type="checkbox"/> None |
| <input type="checkbox"/> Immunology | <input type="checkbox"/> Community pharmacy management | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Minor ailments | | |
| <input type="checkbox"/> Pharmacotherapy | | |

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9.1 Please indicate the number of Pharmacy Diploma and/or B.Pharm students that graduated each year from your college or school of pharmacy in 2018 and 2019.

Pharmacy Diploma graduates:

9.1.1 2018
9.1.2 2019

B.Pharm graduates:

9.1.3 2018
9.1.4 2019

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Section 10: The Management of Minor Ailments Course Information

10.1 Is the concept of minor ailments management taught as a separate subject by your institution?

- Yes No

10.2 Please indicate the total number of hours **over the total course** that includes specific teaching of the management of minor ailments at your institution.

- Not specifically taught
 51-100 hours
 201-250 hours
 1-50 hours
 101-150 hours
 >250 hours
 151-200 hours

10.3 At what stage does your institution currently deliver any minor ailment management units or content related to minor ailments management? (Please tick (v) all relevant answers)

- Year 1 Pharmacy Diploma
 Year 3 Pharmacy Diploma
 Year 2 B.Pharm
 Year 2 Pharmacy Diploma
 Year 1 B.Pharm
 Year 3 B.Pharm
 Year 4 B.Pharm

- Optional B.Pharm elective course/unit
- Other (please specify) _____

10.4 At what stage do you consider that the management of minor ailments should ideally be delivered? (Please tick (v) all relevant answers)

- Year 1 Pharmacy Diploma
- Year 2 Pharmacy Diploma
- Year 3 Pharmacy Diploma
- Year 4 Pharmacy Diploma
- Year 1 B.Pharm
- Year 2 B.Pharm
- Year 3 B.Pharm
- Year 4 B.Pharm
- Optional B.Pharm elective course/unit
- Other (please specify) _____

10.5 Please indicate which the following teaching methods do you consider have relevance and indicate if they are currently used at your institution in the management of minor ailments teaching.

Teaching method	Not relevant	Slightly relevant	Neutral	Moderately relevant	Very relevant	Please tick (v) if currently used at your institution
10.5.1 Traditional lectures (e.g. face-to-face lectures)	<input type="checkbox"/>					
10.5.2 Textbook case studies	<input type="checkbox"/>					
10.5.3 Case studies from clinical practice	<input type="checkbox"/>					
10.5.4 Expert testimonials from practice	<input type="checkbox"/>					
10.5.5 Role play	<input type="checkbox"/>					
10.5.6 Clinical placement in practice settings	<input type="checkbox"/>					
10.5.7 Group work	<input type="checkbox"/>					
10.5.8 Laboratory work	<input type="checkbox"/>					
10.5.9 Patient simulations	<input type="checkbox"/>					
10.5.10 Tutorials	<input type="checkbox"/>					
10.5.11 Seminars	<input type="checkbox"/>					
10.5.12 Workshops	<input type="checkbox"/>					
10.5.13 Other (please specify)	<input type="checkbox"/>					

10.6 What changes do you consider are necessary to the present teaching and curriculum to meet the challenges of providing management of minor ailments in the future, and why?

10.7 Please provide any additional comments and suggestions about the management of minor ailments in relation to curriculum and teaching

10.8 Please indicate your response for the statement below:

Do you agree if the appropriate amendments to the Indonesian pharmacy practice legislation are required to allow pharmacy technicians to play a more significant role in management of minor ailments?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
<input type="checkbox"/>				

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COMPLETE

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As a token of appreciation for your time involved in completing the questionnaire, you can elect to be entered into a prize draw for the chance to win **one of 10 vouchers (@Rp.250.000)**. If you would like to be entered into a prize draw, please provide your name and institution name. Please note this information is collected strictly for the purpose of a prize draw, and will not be linked any way to your confidential survey responses.

Name: _____

Institution name: _____

PLEASE CLICK SUBMIT TO FINISH

SUBMIT

THANK YOU FOR YOUR TIME AND PARTICIPATION

H.2 Bahasa Indonesia



School of Pharmacy and Biomedical
Sciences, Curtin University, Australia

Manajemen Pelayanan Penyakit Ringan (*minor ailments*) di Indonesia

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Sebelas Maret University

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SURVEY LULUSAN TENAGA TEKNIS KEFARMASIAN

Kami mengundang Anda untuk berpartisipasi dalam survei tentang persepsi akademisi pada manajemen pelayanan penyakit ringan/*minor ailments*.

Penyakit ringan (*minor ailments*) didefinisikan sebagai **“kondisi yang dapat sembuh sendiri, dengan gejala yang mudah dikenali dan diidentifikasi oleh pasien dan termasuk dalam ruang lingkup pengetahuan dan pengobatan apoteker”**.¹ Kondisi ini biasanya dapat diatasi dengan penggunaan obat-obatan tanpa resep yang dapat diperoleh melalui apoteker di apotek dan melalui praktik penyembuhan diri sendiri (*self-care*). Apoteker dan tenaga teknis kefarmasian berperan dalam menangani penyakit ringan/*minor ailments*.

Penelitian ini akan menginvestigasi persepsi akademisi tentang bagaimana mereka mempersiapkan lulusan apoteker dan lulusan tenaga teknis kefarmasian untuk pelayanan penyakit ringan. Penelitian ini akan membantu apoteker dan tenaga teknis kefarmasian di Indonesia untuk menyusun skema manajemen pelayanan penyakit ringan dan rekomendasi untuk meningkatkan pelayanan di apotek.

Dengan mengisi kuesioner ini, diasumsikan bahwa anda telah memberikan persetujuan untuk berpartisipasi. Semua jawaban akan diperlakukan secara rahasia dan anonim.

Kuesioner ini terdiri dari 10 bagian dan memakan waktu sekitar 15-20 menit.

Tidak ada data pribadi yang akan dicatat. Mohon merujuk ke **Lembar Informasi Responden**.

¹Pharmaceutical Society of Australia (2015) Delivering Safe and Sustainable Clinical Services (Available online at https://www.dhhs.tas.gov.au/_data/assets/pdf_file/0003/194934/Pharmaceutical_Society_of_Australia.pdf)

Untuk tujuan penelitian ini, mohon cermati definisi berikut untuk mengisi kuesioner:

- a. **Mahasiswa/lulusan Tenaga Teknis Kefarmasian** adalah mahasiswa tenaga teknis kefarmasian yang terdaftar sebagai mahasiswa program studi D3 Farmasi atau program studi S1 Farmasi.
- b. **Mahasiswa/lulusan Apoteker** adalah mahasiswa Apoteker yang terdaftar sebagai mahasiswa program studi S1 Farmasi menuju program studi Apoteker (S1 Farmasi + Apoteker).
- c. Definisi "**Mahasiswa Farmasi**" merujuk pada mahasiswa/lulusan Tenaga Teknis Kefarmasian dan mahasiswa/lulusan Apoteker

Bagian 1: Informasi

1.1 Dibawah ini, manakah yang menggambarkan kualifikasi anda?

- Apoteker
- Non-Apoteker

1.2 Bila anda seorang Apoteker, apakah anda terdaftar pada Ikatan Apoteker Indonesia (IAI)?

- Ya
- Tidak
- Tidak berlaku

1.3 Program studi atau jurusan apa yang saat ini sedang anda ajar? (Harap tandai satu jawaban)

- Mengajar program studi D3 Farmasi saja atau S1 Farmasi saja (mengajar mahasiswa/lulusan tenaga teknis kefarmasian)
- Mengajar S1 Farmasi dan Apoteker (mengajar mahasiswa/lulusan Apoteker)
- Kedua jawaban diatas

Untuk menjawab pernyataan dibawah ini, mohon pertimbangkan pandangan anda tentang bagaimana anda mempersiapkan mahasiswa/lulusan tenaga teknis kefarmasian.

Bagian 2. Penyakit ringan (*minor ailments*)

Mohon hanya tandai **SATU** jawaban untuk setiap pernyataan

Tabel berikut merupakan penyakit ringan (*minor ailments*) yang menjadi alasan pasien datang ke apotek.

Mohon tandai (**v**) bila menurut anda tiap penyakit ringan (*minor ailments*) dibawah ini harus ditangani oleh:

- Tenaga teknis kefarmasian (TTK) tanpa bantuan Apoteker – tandai HANYA kotak A
- ATAU harus ditangani oleh **APOTEKER** – tandai HANYA kotak B
- ATAU penyakit berada **di luar pengetahuan Apoteker** – tandai HANYA kotak C

Penyakit ringan	A (TTK)	B (Apoteker)	C (di luar pengetahuan Apoteker)
Jerawat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nyeri akut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alergi/ruam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Konjungtivitis bakterial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nyeri punggung	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Herpes simpleks virus 1 (herpes oral)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Konstipasi/sembelit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kontrasepsi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Batuk pilek	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ketombe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dermatitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kesulitan tidur (insomnia)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dismenore (nyeri haid)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eksim	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Refluks gastroesofagus (GERD)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rhinitis alergi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kutu rambut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hemoroid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dispepsia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gigitan serangga	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Migrain	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sakit kepala ringan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Luka bakar ringan, termasuk terbakar matahari (<i>sunburn</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ruam popok	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sariawan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reumatik	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Faringitis (radang tenggorokan)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Luka superfisial (luka kulit bagian luar)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cemas/anxietas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sakit gigi	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mabuk perjalanan (<i>travel sickness</i>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Memar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kandidiasis vagina	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kutil	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bagian 3: Manajemen pelayanan penyakit ringan (*minor ailments*)

Mohon hanya tandai SATU jawaban untuk setiap pernyataan

Pelayanan pasien dengan penyakit ringan (*minor ailments*) memerlukan triage. Triage meliputi mengajukan pertanyaan yang tepat, memahami alasan pertanyaan, dan membuat keputusan bagi tenaga teknis kefarmasian untuk merujuk pasien ke Apoteker atau membuat keputusan bagi Apoteker untuk merujuk pasien ke dokter atau tenaga kesehatan yang lain.

Terkait dengan **TRIAGE**, mohon tandai (**v**) respon anda untuk pernyataan berikut ini.

A. Evaluasi pada penyakit ringan/<i>minor ailments</i> (TRIAGING)				
	Apakah anda mengajarkan mahasiswa untuk mengajukan pertanyaan berikut ketika menangani pasien dengan penyakit ringan/<i>minor ailments</i>? Mohon tandai (v) yang sesuai.	YA	TIDAK	Bila anda menjawab <u>TIDAK</u>, mohon tandai bila menurut anda elemen ini perlu dimasukkan ke dalam kurikulum
3.1	Siapa yang sakit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Apa gejala yang dialami oleh pasien?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Berapa lama gejala tersebut berlangsung?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Apakah pasien telah menggunakan obat lain untuk mengatasi keluhan/penyakitnya?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Apakah pasien sedang memakai obat rutin lainnya?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	Apakah pasien memiliki riwayat medis lain?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	Apakah pasien memiliki riwayat alergi?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8	Apakah pasien sedang hamil atau menyusui?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Harap menandai hanya SATU jawaban

B. Saran Pengobatan				
	Saat mengajar tentang penyakit ringan (<i>minor ailments</i>), apakah anda memasukkan salah satu elemen di bawah ini ke dalam materi pengajaran anda? Mohon tandai (v) yang sesuai.	YA	TIDAK	Bila anda menjawab <u>TIDAK</u>, mohon tandai bila menurut anda elemen ini perlu dimasukkan ke dalam kurikulum
3.9	Penyediaan obat atau produk yang tepat untuk mengobati suatu penyakit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10	Menyarankan pasien untuk menggunakan obat/produk yang dimiliki di rumah	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.11	Menyarankan pasien untuk menggunakan obat-obatan bebas/konvensional (<i>Western/Conventional over-the-counter</i> (OTC))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.12	Menyarankan pasien untuk menggunakan obat-obatan komplementer (obat herbal, suplemen, vitamin)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.13	Merekomendasikan pasien untuk melakukan <i>point-of-care testing</i> (tes gula darah, tes kolesterol, dan tes tekanan darah)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.14	Menyarankan pasien untuk melakukan konsultasi dengan Apoteker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.15	Menyarankan pasien untuk melanjutkan atau menghentikan pengobatan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.16	Menyarankan pasien untuk menggunakan intervensi non-farmakologis (misal olahraga, modifikasi diet)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Manajemen pada pasien				
	Saat mengajar tentang penyakit ringan (<i>minor ailments</i>), apakah anda memasukkan salah satu elemen di bawah ini ke dalam materi pengajaran anda? Mohon tandai (v) yang sesuai.	YA	TIDAK	Bila anda menjawab TIDAK , mohon tandai bila menurut anda elemen ini perlu dimasukkan ke dalam kurikulum
3.17	Mengklarifikasi dan menanyakan pasien tentang indikasi dan gejala penyakitnya	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.18	Memahami dosis dan petunjuk penggunaan obat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.19	Menunjukkan rencana pengobatan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.20	Menunjukkan obat yang direkomendasikan dan cara menggunakannya	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.21	Memberikan informasi adanya kemungkinan efek samping obat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.22	Memberikan saran tentang gaya hidup terkait penyakit ringan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.23	Memberikan referensi untuk merujuk pasien	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.24	Memberikan informasi harga obat-obatan/produk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Label dan kemasan				
	Saat mengajar tentang penyakit ringan (<i>minor ailments</i>), apakah anda memasukkan salah satu elemen di bawah ini ke dalam materi pengajaran anda? Mohon tandai (v) yang sesuai.	YA	TIDAK	Bila anda menjawab TIDAK , mohon tandai bila menurut anda elemen ini perlu dimasukkan ke dalam kurikulum
3.25	Aturan pakai yang harus ada pada label/kemasan obat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.26	Memberikan informasi penyimpanan obat dan tanggal kadaluarsa pada label/kemasan obat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.27	Memberikan informasi obat secara tertulis kepada pasien	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.28	Mencantumkan komposisi bahan aktif pada label/kemasan obat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E. Tindak lanjut pasien				
	Saat mengajar tentang penyakit ringan (<i>minor ailments</i>), apakah anda memasukkan salah satu elemen di bawah ini ke dalam materi pengajaran anda?	YA	TIDAK	Bila anda menjawab TIDAK , mohon tandai bila menurut anda elemen ini

	Mohon tandai (✓) yang sesuai.			perlu dimasukkan ke dalam kurikulum
3.29	Tindak lanjut pasien setelah periode pengobatan yang ditentukan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.30	Me-Review dan meng-update kartu pengobatan pasien	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.31	Melihat pemahaman pasien tentang saran yang diberikan dan menanyakan bila memerlukan informasi lebih lanjut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Bagian 4:

Apa yang relevan pada topik manajemen pelayanan penyakit ringan (*minor ailments*)?

Harap tandai DUA jawaban untuk setiap topik

Pernyataan berikut terkait dengan praktik manajemen pelayanan penyakit ringan (*minor ailments*) saat ini dan masa depan.

Menurut anda, seberapa relevan topik berikut terkait dengan manajemen pelayanan penyakit ringan/*minor ailments*?

TOPIK	Tidak relevan	Sedikit relevan	Netral	Cukup relevan	Sangat relevan	Mohon tandai (✓) bila topik ini masuk dalam kurikulum saat ini. Apakah topik ini masuk dalam kurikulum institusi anda saat ini? Mohon tandai jawaban yang sesuai
4.1 Menggunakan pendekatan standar untuk bertanya kepada pasien (misal WWHAM: Who (untuk siapa?), What (apa gejalanya?), How long (berapa lama gejala berlangsung?),	<input type="checkbox"/>					

Medication being used (obat yang sedang digunakan saat ini), dan Other medication (obat lain yang telah digunakan)						
4.2 Menanyakan pasien tentang keluhan yang dirasakan	<input type="checkbox"/>					
4.3 Pengetahuan tentang tanda dan gejala pada penyakit ringan/minor ailments	<input type="checkbox"/>					
4.4 Menentukan diagnosa penyakit ringan/minor ailments	<input type="checkbox"/>					
4.5 Jenis penyakit ringan yang masuk dalam kompetensi tenaga teknis kefarmasian	<input type="checkbox"/>					
4.6 Faktor pemicu untuk merujuk pasien ke Apoteker	<input type="checkbox"/>					
4.7 Dokumentasi rencana pengobatan	<input type="checkbox"/>					

Bagian 5:
Persepsi pendidik tentang kesiapan mahasiswa/lulusan Tenaga Teknis Kefarmasian untuk berpraktik

Mohon tandai jawaban yang sesuai

Terkait dengan kesiapan mahasiswa/lulusan Tenaga Teknis Kefarmasian, mohon tandai (v) pernyataan yang sesuai dengan pendapat anda.

Pernyataan	Sangat tidak setuju	Tidak setuju	Netral	Setuju	Sangat setuju
5.1 Mahasiswa/lulusan dapat memberikan saran pengobatan	<input type="checkbox"/>				

tentang penyakit ringan dan membantu pasien untuk dapat menangani penyakit ringan itu sendiri					
5.2 Mahasiswa/lulusan memahami ruang lingkup praktik Apoteker mengenai penyakit ringan	<input type="checkbox"/>				
5.3 Mahasiswa/lulusan memahami ruang lingkup praktik Tenaga Teknis Kefarmasian mengenai penyakit ringan	<input type="checkbox"/>				
5.4 Mahasiswa/lulusan memahami obat apa yang dapat dan tidak dapat diberikan oleh Tenaga Teknis Kefarmasian di apotek untuk pengobatan penyakit ringan	<input type="checkbox"/>				
5.5 Mahasiswa/lulusan memahami Undang-Undang Kesehatan terkait dengan pelayanan penyakit ringan	<input type="checkbox"/>				
5.6 Mahasiswa/lulusan memahami persyaratan kompetensi /pedoman standar kompetensi dari pemerintah dan PAFI	<input type="checkbox"/>				

Bagian 6: Pelatihan dan sumber daya bagi mahasiswa/lulusan Tenaga Teknis Kefarmasian

Mohon hanya tandai **SATU** jawaban

Terkait dengan pelatihan dan sumber daya untuk mahasiswa/lulusan Tenaga Teknis Kefarmasian, mohon tandai (✓) pernyataan yang sesuai dengan pendapat anda.

Pernyataan	Sangat tidak setuju	Tidak setuju	Netral	Setuju	Sangat setuju
6.1 Pelatihan pendidikan khusus tentang manajemen pelayanan penyakit ringan/minor ailments harus diberikan kepada mahasiswa	<input type="checkbox"/>				
6.2 Kesempatan belajar berdasarkan pengalaman langsung dapat memberikan pengalaman praktik pada	<input type="checkbox"/>				

mahasiswa pada manajemen pelayanan penyakit ringan/minor ailments					
6.3 Buku teks atau bahan referensi yang sesuai tersedia untuk mahasiswa	<input type="checkbox"/>				
6.4 Tersedia contoh produk sediaan farmasi untuk menggambarkan penggunaan obat-obatan yang diperlukan untuk melayani penyakit ringan/minor ailments	<input type="checkbox"/>				
6.5 Mahasiswa mendapat kesempatan untuk praktik menggunakan pasien simulasi (<i>simulated patients</i>)	<input type="checkbox"/>				

Bagian 7: Kolaborasi dengan tenaga kesehatan lain

Mohon hanya tandai **SATU** jawaban

Terkait kolaborasi dengan tenaga kesehatan lain untuk pendidikan di bidang farmasi, mohon tandai (**√**) pernyataan yang sesuai dengan pendapat anda.

TOPIK	Sangat tidak setuju	Tidak setuju	Netral	Setuju	Sangat setuju	Mohon tandai (√) bila topik ini masuk dalam kurikulum saat ini. Apakah topik ini masuk ke dalam kurikulum institusi anda saat ini? Mohon tandai jawaban yang sesuai
7.1 Training atau penempatan klinis/praktik kerja (<i>clinical placement</i>) memperkuat pembelajaran dalam	<input type="checkbox"/>					

	Bekerja paruh waktu	Bekerja Full-time	Emeritus (pensiun)
8.6.1 Tutor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6.2 Staf pengajar (Asisten Ahli)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6.3 Lektor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6.4 Lektor kepala	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6.5 Professor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6.6 lainnya (Mohon sebutkan)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8.7. Apakah anda pernah berpraktik di lingkungan klinik (apotek, klinik, rumah sakit, puskesmas dll) dalam 12 bulan terakhir?

- Ya (Ke pertanyaan 8.8)
 Tidak (Ke pertanyaan 8.9)
 Tidak berlaku (Ke pertanyaan 8.9)

8.8. Mohon isi pengalaman praktik anda.

	Lama praktik (tahun)					
	0	<2	2-5	6-10	11-15	>15
8.8.1 Apotek	<input type="checkbox"/>					
8.8.2 Rumah sakit	<input type="checkbox"/>					
8.8.3 Industri farmasi	<input type="checkbox"/>					
8.8.4 Lainnya (Mohon sebutkan)	<input type="checkbox"/>					

8.9. Di bidang apa anda mengajar saat ini? (Mohon tandai semua yang sesuai)

- | | | |
|---|---|--------------------------------------|
| <input type="checkbox"/> Praktik kefarmasian | <input type="checkbox"/> Farmakoterapi | <input type="checkbox"/> Farmasetika |
| <input type="checkbox"/> Farmakokinetika | <input type="checkbox"/> Farmakologi | <input type="checkbox"/> Tidak ada |
| <input type="checkbox"/> Immunologi | <input type="checkbox"/> Farmasi Klinik | <input type="checkbox"/> Lainnya: |
| <input type="checkbox"/> Penyakit ringan
(<i>minor ailments</i>) | <input type="checkbox"/> Manajemen
perapotekan | _____ |

8.10. Di bidang apa anda melakukan penelitian saat ini? (Mohon tandai semua yang sesuai)

- | | | |
|---|---|---|
| <input type="checkbox"/> Praktik kefarmasian | <input type="checkbox"/> Farmakoterapi | <input type="checkbox"/> Farmasetika |
| <input type="checkbox"/> Farmakokinetika | <input type="checkbox"/> Farmakologi | <input type="checkbox"/> Tidak ada |
| <input type="checkbox"/> Immunologi | <input type="checkbox"/> Farmasi Klinik | <input type="checkbox"/> Lainnya: _____ |
| <input type="checkbox"/> Penyakit ringan
(<i>minor ailments</i>) | <input type="checkbox"/> Manajemen
perapotekan | |

Bagian 9: Informasi Institusi

9.1. Mohon isi jumlah mahasiswa program studi D3 Farmasi dan/atau program studi S-1 Farmasi yang lulus dari institusi anda pada tahun 2018 dan 2019.

Mahasiswa lulusan D3 Farmasi

9.1.1 2018
9.1.2 2019

Mahasiswa Lulusan S1 Farmasi

9.1.3 2018
9.1.4 2019

Bagian 10: Informasi Pengajaran Manajemen Pelayanan Penyakit Ringan (*minor ailments*)

10.1. Apakah konsep manajemen pelayanan penyakit ringan (*minor ailments*) diajarkan sebagai mata kuliah terpisah di institusi anda?

- Ya Tidak

10.2. Mohon isi **total jumlah jam** sepanjang durasi program studi/kuliah (D3 Farmasi dan/atau S1 Farmasi) terkait pemberian materi khusus tentang manajemen pelayanan penyakit ringan di institusi anda.

- | | | |
|--|--------------------------------------|--------------------------------------|
| <input type="checkbox"/> Tidak diajarkan secara khusus | <input type="checkbox"/> 51-100 jam | <input type="checkbox"/> 201-250 jam |
| <input type="checkbox"/> 1-50 jam | <input type="checkbox"/> 101-150 jam | <input type="checkbox"/> >250 jam |
| | <input type="checkbox"/> 151-200 jam | |

10.3. Pada semester berapa institusi anda mengajarkan mata kuliah tentang manajemen pelayanan penyakit ringan atau mata kuliah terkait manajemen pelayanan penyakit ringan/*minor ailments*? (Harap tandai **(v)** semua jawaban yang relevan).

- Tahun ke-1 D3 Farmasi
- Tahun ke-2 D3 Farmasi
- Tahun ke-3 D3 Farmasi
- Tahun ke-1 S1 Farmasi
- Tahun ke-2 S1 Farmasi
- Tahun ke-3 S1 Farmasi
- Tahun ke-4 S1 Farmasi
- Mata kuliah pilihan S1 Farmasi
- Lainnya (Mohon sebutkan) _____

10.4. Menurut anda, pada semester berapa mata kuliah manajemen pelayanan penyakit ringan/*minor ailments* idealnya harus diberikan? (Harap tandai **(v)** semua jawaban yang relevan).

- Tahun ke-1 D3 Farmasi
- Tahun ke-2 D3 Farmasi
- Tahun ke-3 D3 Farmasi
- Tahun ke-1 S1 Farmasi
- Tahun ke-2 S1 Farmasi
- Tahun ke-3 S1 Farmasi
- Tahun ke-4 S1 Farmasi
- Mata kuliah pilihan S1 Farmasi
- Lainnya (Mohon sebutkan) _____

10.5. Mohon tandai **(v)** pernyataan yang sesuai dengan pendapat anda mengenai relevansi metode pengajaran berikut ini dan apakah metode tersebut digunakan oleh institusi anda saat ini terkait pengajaran manajemen pelayanan penyakit ringan/*minor ailments*.

Metode pengajaran	Tidak relevan	Sedikit relevan	Netral	Cukup relevan	Sangat relevan	Mohon tandai (v) bila metode ini digunakan oleh institusi anda saat ini
10.5.1 Kuliah tatap muka	<input type="checkbox"/>					
10.5.2 Studi kasus menggunakan <i>textbook</i>	<input type="checkbox"/>					
10.5.3 Studi kasus dari praktik klinik	<input type="checkbox"/>					
10.5.4 Kuliah pakar/testimoni dari pakar	<input type="checkbox"/>					
10.5.5 <i>Role play</i> /bermain peran	<input type="checkbox"/>					
10.5.6 Praktik kerja di lingkungan klinis (<i>clinical placement</i>)	<input type="checkbox"/>					
10.5.7 Kerja kelompok	<input type="checkbox"/>					
10.5.8 Praktik laboratorium	<input type="checkbox"/>					
10.5.9 Simulasi pasien	<input type="checkbox"/>					
10.5.10 Tutorial	<input type="checkbox"/>					
10.5.11 Seminar	<input type="checkbox"/>					

10.5.12 Workshops/ lokakarya	<input type="checkbox"/>					
10.5.13 lainnya (Mohon sebutkan) _____	<input type="checkbox"/>					

10.6. Menurut anda, perubahan apa yang diperlukan dalam pengajaran dan kurikulum saat ini untuk memenuhi tantangan terkait manajemen pelayanan penyakit ringan di masa depan dan mengapa?

10.7. Mohon berikan komentar dan saran lainnya tentang manajemen pelayanan penyakit ringan terkait dengan kurikulum dan pengajaran.

10.8. Mohon tandai (**v**) pernyataan yang sesuai dengan pendapat anda

Apakah anda setuju bila perubahan terhadap Undang-Undang praktik kefarmasian di Indonesia diperlukan agar apoteker dapat berperan lebih signifikan dalam manajemen pelayanan penyakit ringan/*minor ailments*?

Sangat tidak setuju	Tidak setuju	Netral	Setuju	Sangat setuju
<input type="checkbox"/>				

Sebagai tanda terima kasih untuk waktu yang anda luangkan, anda dapat memilih untuk diikutsertakan dalam undian berhadiah untuk memenangkan **satu dari 10 gift cards (@ Rp.250.000)**. Mohon tuliskan nama dan nama institusi anda bila anda menginginkan untuk diikuti dalam undian. Mohon diperhatikan bahwa informasi ini hanya ditujukan untuk pengundian hadiah dan tidak akan dikaitkan dengan cara apapun pada jawaban kuesioner anda

Nama: _____

Nama institusi: _____

Silakan klik selesai

SELESAI

TERIMA KASIH ATAS WAKTU DAN PARTISIPASI ANDA

Appendix I Pharmacist Interview Guide

I.1 English



INFORMATION SHEET

The Management of Minor Ailments in Community Pharmacies in Central Indonesia

You are invited to participate in a study conducted by the Discipline of Pharmacy, Curtin Medical School, Curtin University, Australia to evaluate the preparedness and procedures followed by pharmacy staff in the management of minor ailments in community pharmacies in Central Java, Indonesia. The following statements provide information about what the study involves and the potential benefits of your contribution. This study has received approval of the Indonesian Pharmacist Association – Central Java, Indonesia (No.B1-064/PD-IAI/Jawa Tengah/IX/2019) and the Indonesian Pharmacy Technician Association – Central Java, Indonesia (No.268/PAFI-JTG/XI/2019).

Purpose of the study

The aim of this study is to explore pharmacists' and pharmacy technicians' perceived scopes of practice and factors influencing the preparedness to deliver minor ailment services in community pharmacies in Central Indonesia.

Who is doing the research?

This project is being conducted by Ms Vinci Mizranita, PhD Candidate from the Discipline of Pharmacy, Curtin Medical School, Curtin University, Australia. The results of this study will form part of Ms Mizranita's Doctor of Philosophy (PhD) program of research. This research is being supervised by Dr Tin Fei Sim, Emeritus Professor Bruce Sunderland, and Emeritus Professor Jeff Hughes from Curtin University, Australia.

When and where will the study take place?

The interview will be scheduled for a time that suits your convenience. Data will be collected through your participation in an online interview face-to-face (video call). Demographic data regarding your pharmacy information will be collected pre-interview.

Who can take part in this study, and what will they have to do?

Community pharmacists and pharmacy technicians currently working in community pharmacies in Central Java, Indonesia are eligible to participate in the study.

There are no right or wrong answers regarding the interview topics. We would like to discuss your perceptions and expectations regarding community pharmacists' and pharmacy technicians' preparedness and community pharmacy procedures to deliver services in the management of minor ailments. The findings from this study will help guide future development regarding the management of minor ailments in community pharmacies in Indonesia.

This interview will take up to 45 minutes and will be audio- and video-recorded so that the interviewer can focus on what you have to say. After the discussion, we will produce an anonymous transcript. There is no cost for you to take part in the research. Your participation will not have any effect on your professional or personal life. You will be offered a small gift (**AUD \$10 gift card**) in recognition of your time and participation in this project.

Are there any risks involved?

Your participation in this study is voluntary, and you may choose to leave at any time. If you choose to withdraw from the study, the audio-visual recording of the interview will be erased.

What will happen to the information you provide?

All information as anonymous transcripts obtained from this study will be analysed as part of a doctoral thesis at Curtin University. The results of this study may be presented at conferences or published in professional journals, and related activities. You will not be identified or identifiable in any publication or thesis.

Confidentiality

After transcription, your name will be replaced by a unique code to protect your identity. Electronic data will be password-protected, and hard copy data will be locked in storage. The information we collect in this study will be kept under secure conditions at Curtin University for seven years after the research is published, and then it will be destroyed. Your personal information will not be identified and not be linked in any way to your confidential responses.

Curtin University Human Research Ethics Committee (HREC) has approved this study (HREC number HRE2019-XXXX). Should you wish to discuss the study with someone not directly involved, in particular, any matters concerning the conduct of the study or your rights as a participant, or you wish to make a confidential complaint, you may contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or email hrec@curtin.edu.au

Should you have any queries, please find our contact details as follows:

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J.D.Hughes@curtin.edu.au
B.Sunderland@curtin.edu.au

Consent Form

The Management of Minor Ailments in Community Pharmacies in Central Indonesia

1. I have read the information sheet and had the nature of the study explained to me, and I agree to participate in the study described.
2. I understand that the interview will be audio and video recorded. All my questions have been answered to my satisfaction.
3. I understand that any personal information will be kept private and confidential. All data will be securely stored and will not be disclosed to any person other than a person authorised for the project.
4. I understand that my participation in this study is voluntary and that I have the right to withdraw at any time.

Name of participant :

Signature of participant :

Date : _____ / _____ / _____ (to be dated by participant)



Demographic Data

Community Pharmacist

Interview Number : _____

Date : ___/___/___

Interviewer : _____

Time commenced : _____

Time finished : _____

Location : _____

Interviewee : _____

Pharmacy name : _____

Respondent Details

(Will be provided to participants for completion prior to the interviews)

1. Gender: Male Female

2. Age (years):
 - 21-30 41-50 61+
 - 31-40 51-60

3. Years you have been registered as a pharmacist.
 - < 2years 6-10 years >15 years
 - 2-5 years 11-15 years

4. Years of practice as a community pharmacist.
 - < 2years 6-10 years >15 years
 - 2-5 years 11-15 years

5. What is the highest level of education that you have completed?
 - Apothecary degree (pharmacist)
 - Master degree
 - Doctoral degree

6. What is your position in the main/usual pharmacy in which you work?
 - Pharmacy manager as well as owner
 - Pharmacy manager
 - Employee pharmacist



7. How many hours on average per week do you work in your main/usual pharmacy?

- | | | |
|-------------------------------------|--------------------------------------|--------------------------------------|
| <input type="checkbox"/> < 5 hours | <input type="checkbox"/> 11-20 hours | <input type="checkbox"/> 41-50 hours |
| <input type="checkbox"/> 5-10 hours | <input type="checkbox"/> 21-30 hours | <input type="checkbox"/> 51+ hours |

8. Do you have any other job/employment elsewhere?

- Yes (Please tick: In pharmacy or non-pharmacy work)
- No

Pharmacy Details

9. How would you describe the type of pharmacy you mainly work in?

- | | |
|---|--|
| <input type="checkbox"/> Independent pharmacy | <input type="checkbox"/> Pharmacy co-located with a
doctor's practice |
| <input type="checkbox"/> Franchise pharmacy | |
| <input type="checkbox"/> Supermarket pharmacy | <input type="checkbox"/> Other: _____ |

10. Who owns the pharmacy?

- | | |
|---|---|
| <input type="checkbox"/> Pharmacist | <input type="checkbox"/> Regional owned enterprises |
| <input type="checkbox"/> Non-pharmacist | <input type="checkbox"/> State-owned enterprises |
| <input type="checkbox"/> Non-pharmacy company | <input type="checkbox"/> Other: _____ |

11. Is there any private area/room suitable for a confidential consultation in your pharmacy?

- Yes No

12. Regardless of the purpose of entry, how many customers come to the pharmacy on average each week?

- | | | |
|----------------------------------|----------------------------------|----------------------------------|
| <input type="checkbox"/> <100 | <input type="checkbox"/> 251-350 | <input type="checkbox"/> 551-700 |
| <input type="checkbox"/> 100-150 | <input type="checkbox"/> 351-450 | <input type="checkbox"/> >700 |
| <input type="checkbox"/> 151-250 | <input type="checkbox"/> 451-550 | |

13. Of these, approximately how many people on average per week present to the pharmacy seeking advice/and or management of minor ailments?

- <10 31-40 61-70
 10-20 41-50 >70
 21-30 51-60

14. Total number of pharmacy staff =

- a. Owner pharmacist (s) = _____
 b. Employee pharmacist (s) = _____
 c. Pharmacy technician (s) = _____
 d. Other staff = _____

15. Staffing and pharmacy trading hours

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Opening hours							
Actual time in attendance on each day of the following staff (hours):							
Pharmacy Manager							
Employee pharmacist (A)							
Employee pharmacist (B)							
Employee pharmacist (C)							
Employee pharmacist (D)							
Pharmacy technician (A)							
Pharmacy technician (B)							
Pharmacy technician (C)							
Pharmacy technician (D)							
Non-qualified assistant (A)							
Non-qualified assistant (B)							
Non-qualified assistant (C)							

Interview Guide

Community Pharmacists

Opening

Minor ailments are defined as ‘conditions that are often self-limiting, with symptoms easily recognised and described by the patient, which fall within the scope of pharmacist’s knowledge and training to treat’. We are interested in understanding the scopes of practice of pharmacists and pharmacy technicians and their preparedness regarding MMAs in community pharmacies in Central Indonesia.

(1) Objective 1: To describe preparedness and factors influencing the delivery of minor ailments services

1. Training and education:

- *Tell me about your pharmacy education, including which university you went to?*
- *How did the university prepare you to deliver minor ailment services?*

Probe:

- ✓ Particular lectures on minor ailments
- ✓ Experiential learning (via university learning, simulation activities, clinical placements, internship, or during employment)
- ✓ Deficiencies and gaps for delivering minor ailments course

- *How well do you consider the university prepared you to deliver minor ailment services?*

Probe:

- ✓ When you graduated how confident did you feel that you could manage the minor ailments that patients present with?

- ✓ What additional education/training do you think would have help with your preparedness (i.e. deficiencies and gaps for delivering minor ailments services)
- *Do you think pharmacists are well prepared to manage minor ailments in the pharmacy? If yes, why? If no, why?*

Probe:

- ✓ How often are you involved in delivering minor ailment services
 - ✓ How confident were you that you could decide which patients with minor ailments you should manage?
 - ✓ Are there common minor ailments that you would refer to a doctor? If they say YES, can you give me some examples (i.e. what is your scope of practice)?
- *Since you graduated from the university, what activities have you undertaken to ensure you are able to deliver minor ailments?*

Probe:

- ✓ Seminars or workshops in the last two years, the usefulness of the seminars.
 - ✓ Activity to broaden pharmacist scope of practice
 - ✓ Changes in professional practice after attending the seminars (work experience/being mentored by another more experienced pharmacist mentor, self-directed learning, online reading)
- *Would you like to deliver a greater range of minor ailment services? If they answer YES, ask how could this occur? If they answer NO, ask do you feel that you are able to manage minor ailments complaint that coming to your pharmacy?*

Probe:

- ✓ Further education
- ✓ The expansion of guidelines about minor ailments



- ✓ Required guidelines for practice (support from the pharmacy owners/employers, demand from local consumers/public for services expansion).
- ✓ Down-scheduled of more medicines

2. Authority

- *Do you know any legislations in Indonesia regarding pharmacist management of MMAs?*

Probe:

- ✓ Current legislation to meet contemporary needs of the community/public
- ✓ How pharmacists are better utilised to meet the needs of the community

- *Are you aware of any limits that might restrict minor ailments that can be managed in community pharmacy in the Indonesian pharmacy services guidelines?*

Probe:

- ✓ Any regulations and legal requirements for the provision of minor ailments (barriers)
- ✓ The Pharmacist association - IAI (how do you see IAI involvement in relation to MMAs? Are you happy with that?)

(2) Objective 2: To investigate the scope of practice of pharmacists

3. Scope of practice (competence and accountability) of the pharmacists.

Opening: "I would like to ask who is normally involved in the process of providing minor ailment services in your pharmacy."

- *What is the normal process when a customer comes into the pharmacy?*
- *Who would initially serve the costumers who come into the pharmacy?*

Probe:

- ✓ If a customer is asking for a medicine to treat their minor ailment
- ✓ The presence of a pharmacist (or if not in the pharmacy) and a pharmacy technician

- ✓ Can you tell me non-qualified staff in the pharmacy and their involvement in the MMAs (when does the non-qualified staff ask for a pharmacist or a technician)?
 - ✓ Range of minor ailments would non-qualified, pharmacy technicians, and pharmacists manage.
 - ✓ Do you feel that there are clearly boundaries around which minor ailments should only be managed by the pharmacists?
- *Have you been able to manage patients using the recent down-scheduled of medicines (Minister of Health Regulation No.3/2021)?*
Probe:
 - ✓ Opinion on other medicines that should be down-scheduled

(3) Objective 3: To explore the future practice of the MMAs in community pharmacies in Central Java, Indonesia

4. Are you satisfied with the current practice of MMAs? If they say YES, would you like to see any changes?

Probe:

- ✓ Facilitators and barriers (difficulties and limitation) in providing the services
- ✓ Delivering services that not within the guidelines of the scope of practice
- ✓ Customer feedback and expectations
- ✓ Opinions on how to change the future practice (type of minor ailments to deliver in the future practice)

5. The impact of COVID-19 on the MMAs

- *Has the presence of Covid-19 changed your practice in relation to MMAs?*

Probe:

- ✓ Requests for the provision of minor ailments in the community pharmacy (volume, types of inquiry).
- ✓ Has your scope of practice with minor ailments changed due to COVID-19?

- ✓ COVID-19 safe practices introduced in the pharmacy or changes to practice settings (hand sanitizer, face shields, masks, distancing, restriction on the number of customers that come to the pharmacy in one time, restrictions on customers to enter the pharmacy if they had signs and symptoms of cough and cold, sign-in or writing any contact details before entering the pharmacy, tracing)
- ✓ The availability of medicines used for minor ailments and any shortages for medicines that commonly used for minor ailments
- ✓ Long-term impact on pharmacist scope of practice

In closing

6. Our project is about the scope of practice and factors influencing the preparedness of staff to deliver minor ailment services in community pharmacies in Central Java, Indonesia. Do you have further comments that come to mind that I have not asked about?

THANK YOU FOR YOUR PARTICIPATION

I.2 Bahasa Indonesia



LEMBAR INFORMASI

Manajemen Pelayanan Penyakit Ringan (minor ailments) di Jawa Tengah, Indonesia

Kami mengundang anda untuk berpartisipasi dalam penelitian yang diadakan oleh Pharmacy, Curtin Medical School, Curtin University, Australia untuk mengevaluasi kesiapan dan prosedur yang dilakukan oleh tenaga kefarmasian dalam pengelolaan penyakit ringan di apotek di Jawa Tengah, Indonesia. Informasi berikut menjelaskan tentang penelitian dan manfaat potensial dari kontribusi anda. Penelitian ini telah mendapat persetujuan dari Ikatan Apoteker Indonesia – Jawa Tengah, Indonesia (No.B1-064/PD-IAI/Jawa Tengah/IX/2019) dan Persatuan Ahli Farmasi Indonesia – Jawa Tengah, Indonesia (No.268/PAFI -JTG/XI/2019).

Tujuan Penelitian

Tujuan dari penelitian ini adalah untuk mengeksplor persepsi apoteker dan tenaga teknis kefarmasian dan faktor-faktor yang mempengaruhi kesiapan untuk memberikan pelayanan penyakit ringan (minor ailments) di apotek di Jawa Tengah, Indonesia.

Siapa yang melakukan penelitian?

Penelitian ini dilakukan oleh Vinci Mizranita, Kandidat PhD dari Pharmacy, Curtin Medical School, Curtin University, Australia. Hasil penelitian ini akan menjadi bagian dari program penelitian Doctor of Philosophy (PhD) Vinci Mizranita. Penelitian ini disupervisi oleh Dr Tin Fei Sim, Emeritus Professor Bruce Sunderland, dan Emeritus Professor Jeff Hughes dari Curtin University, Australia.

Kapan dan dimana penelitian akan dilakukan?

Interview akan disesuaikan dengan waktu anda. Data akan dikumpulkan melalui interview online tatap muka (video call). Data demografik mengenai apotek anda akan dikirimkan sebelum wawancara.

Siapa yang dapat mengambil bagian dalam penelitian ini dan apa yang harus mereka lakukan?

Apoteker dan tenaga teknis kefarmasian yang saat ini bekerja di apotek di Jawa Tengah, Indonesia merupakan responden yang memenuhi syarat untuk berpartisipasi dalam penelitian ini.

Tidak ada jawaban benar atau salah mengenai topik interview ini. Kami ingin mendiskusikan persepsi dan ekspektas di anda mengenai kesiapan apoteker dan tenaga teknis kefarmasian dan prosedur di apotek untuk memberikan pelayanan penyakit ringan (minor ailments). Hasil dari penelitian ini diharapkan akan membantu perkembangan pengelolaan penyakit ringan di apotek di Indonesia.

Interview ini akan memakan waktu hingga 45 menit dan akan direkam secara audio dan video sehingga pewawancara dapat fokus pada apa yang anda katakan. Setelah diskusi, kami akan memproduksi transkrip anonim. Anda tidak dipungut biaya untuk penelitian ini. Partisipasi anda tidak akan berpengaruh pada praktik profesional atau pribadi anda. Anda akan mendapatkan voucher gift @Rp.100.000 atas waktu dan partisipasi anda pada penelitian ini.

Apakah ada resiko pada penelitian ini?

Partisipasi anda dalam penelitian ini bersifat sukarela, dan anda dapat memilih untuk mengundurkan diri kapan saja. Jika anda memilih untuk mengundurkan diri dari penelitian ini, rekaman audio-visual interview anda akan dihapus.

Apa yang akan terjadi dengan informasi yang anda berikan?

Semua informasi diperlakukan sebagai anonim dan akan dianalisis sebagai bagian dari tesis doktoral di Curtin University. Hasil penelitian ini dapat dipresentasikan pada konferensi atau diterbitkan dalam jurnal profesional, dan kegiatan terkait. Anda tidak akan diidentifikasi atau teridentifikasi dalam publikasi atau tesis apa pun.

Kerahasiaan

Setelah transkripsi, nama anda akan diganti dengan kode untuk melindungi identitas anda. Data elektronik akan dilindungi dengan kata sandi, dan data hard copy akan dikunci dalam tempat penyimpanan di Curtin University. Informasi yang dikumpulkan dalam penelitian ini akan disimpan dalam kondisi aman di Universitas Curtin selama tujuh tahun setelah penelitian ini dipublikasikan, dan kemudian akan dimusnahkan. Informasi pribadi anda tidak akan diidentifikasi dan tidak ditautkan dengan cara apa pun ke tanggapan survei rahasia Anda.

Curtin University Human Research Ethics Committee (HREC) telah menyetujui penelitian ini (nomor HREC HRE2019-XXXX). Jika anda ingin mendiskusikan penelitian ini dengan seseorang yang tidak terlibat langsung, khususnya, dalam segala hal yang berkaitan dengan pelaksanaan penelitian atau anda ingin mengajukan keluhan, anda dapat menghubungi Ethics Officer di nomor (08) 9266 9223 atau Manager, Research Integrity di nomor (08) 9266 7093 atau email hrec@curtin.edu.au

Jika Anda memiliki pertanyaan, silakan menghubungi kontak kami:

- *Vinci Mizranita*
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B.Sunderland@curtin.edu.au



Lembar Persetujuan

Manajemen Pelayanan Penyakit Ringan (minor ailments) di Jawa Tengah, Indonesia

1. Saya telah membaca lembar informasi tentang penelitian ini dan saya setuju untuk berpartisipasi dalam penelitian yang telah dijelaskan.
2. Saya mengerti bahwa interview akan direkam secara audio dan video. Semua pertanyaan saya telah dijawab sesuai dengan kepuasan saya.
3. Saya mengerti bahwa setiap informasi pribadi akan dijaga kerahasiaannya. Semua data akan disimpan dengan aman dan tidak akan diungkapkan kepada orang lain selain orang yang berwenang untuk penelitian tersebut.
4. Saya memahami bahwa keikutsertaan saya dalam penelitian ini bersifat sukarela dan saya berhak untuk mengundurkan diri setiap saat.

Nama :

Tanda tangan :

Tanggal : _____/_____/_____ (diisi oleh responden)

Data Demografis

Apoteker di apotek

Nomor Interview : _____

Tanggal : ____/____/____

Interviewer : _____

Waktu mulai : _____

Waktu selesai : _____

Lokasi : _____

Nama responden : _____

Nama apotek : _____

Data Responden

(Akan dikirim kepada peserta untuk diselesaikan sebelum interview)

1. Jenis kelamin: Laki-laki Perempuan

2. Usia (tahun):
 21-30 41-50 61+
 31-40 51-60

3. Berapa lama anda terdaftar sebagai apoteker?
 < 2years 6-10 years >15 years
 2-5 years 11-15 years

4. Berapa lama anda praktik sebagai apoteker di apotek?
 < 2years 6-10 years >15 years
 2-5 years 11-15 years

5. Pendidikan tertinggi yang telah anda tempuh.
 Apoteker
 Master (S2)
 Doktor (S3)

6. Posisi anda di tempat kerja.
 Apoteker pengelola apotek (APA) sekaligus pemilik
 Apoteker pengelola apotek (APA)
 Apoteker pendamping



7. Rata-rata berapa jam dalam seminggu anda bekerja di apotek tersebut?

- | | | |
|-------------------------------------|--------------------------------------|--------------------------------------|
| <input type="checkbox"/> < 5 hours | <input type="checkbox"/> 11-20 hours | <input type="checkbox"/> 41-50 hours |
| <input type="checkbox"/> 5-10 hours | <input type="checkbox"/> 21-30 hours | <input type="checkbox"/> 51+ hours |

8. Apakah anda bekerja di tempat lain?

- Ya (mohon centang bila anda bekerja di: sektor farmasi atau non-farmasi)
- Tidak

Data Apotek

9. Tipe apotek tempat anda bekerja.

- | | |
|---|---|
| <input type="checkbox"/> Apotek yang berdiri sendiri | <input type="checkbox"/> Apotek bersama praktik dokter |
| <input type="checkbox"/> Apotek waralaba | <input type="checkbox"/> Lainnya (mohon sebutkan):
_____ |
| <input type="checkbox"/> Apotek berlokasi di pusat perbelanjaan | |

10. Pemilik apotek tempat anda bekerja.

- | | |
|--|---|
| <input type="checkbox"/> Apoteker | <input type="checkbox"/> Badan Usaha Milik Negara (BUMN) |
| <input type="checkbox"/> Non-apoteker | <input type="checkbox"/> Lainnya (mohon sebutkan):
_____ |
| <input type="checkbox"/> Perusahaan non-farmasi (Gurdian, Century, Watson) | |
| <input type="checkbox"/> Badan Usaha Milik Daerah (BUMD) | |



11. Apakah terdapat ruangan konseling/konsultasi di apotek anda?

Ya

Tidak

12. Berapa rata-rata jumlah pengunjung yang datang ke apotek anda perminggu?

<100

251-350

551-700

100-150

351-450

>700

151-250

451-550

13. Dari jawaban No.12, berapa rata-rata jumlah pengunjung per minggu yang datang ke apotek anda meminta pelayanan pengobatan penyakit ringan (minor ailments)?

<10

31-40

61-70

10-20

41-50

>70

21-30

51-60

14. Jumlah total staf di apotek =

a. Apoteker pengelola apotek (APA) = _____

b. Apoteker pendamping = _____

c. Tenaga teknis kefarmasian = _____

d. Staf lainnya = _____

15. Pegawai dan jam buka apotek

	Senin	Selasa	Rabu	Kamis	Jumat	Sabtu	Minggu
Jam buka apotek							
Jam kehadiran tiap hari di apotek untuk staf berikut:							
APA							
Apoteker pendamping (A)							
Apoteker pendamping (B)							
Apoteker pendamping (C)							
Apoteker pendamping (D)							
Tenaga teknis kefarmasian (A)							
Tenaga teknis kefarmasian (B)							
Tenaga teknis kefarmasian (C)							
Tenaga teknis kefarmasian (D)							
Staf lain (A)							
Staf lain (B)							
Staf lain (C)							

Panduan Interview

Apoteker di Apotek

Pembukaan

Minor ailments (penyakit ringan) didefinisikan sebagai ‘kondisi yang dapat sembuh sendiri, dengan gejala yang mudah dikenali dan diidentifikasi oleh pasien dan termasuk dalam ruang lingkup pengetahuan dan pengobatan apoteker’. Kami tertarik untuk memahami ruang lingkup praktik apoteker dan tenaga teknis kefarmasian serta kesiapan mereka terkait pelayanan penyakit ringan di apotek di Jawa Tengah, Indonesia.

(1) Objective 1: Menggambarkan kesiapan dan faktor-faktor yang mempengaruhi pemberian pelayanan penyakit ringan.

1. Pelatihan dan pendidikan:

- *Ceritakan tentang pendidikan anda, termasuk di universitas mana anda kuliah?*
- *Bagaimana universitas mempersiapkan anda untuk memberikan pelayanan penyakit ringan?*

Probe:

- ✓ Kuliah khusus tentang penyakit ringan
- ✓ Pembelajaran berdasarkan pengalaman (pembelajaran di universitas, aktivitas dengan simulasi, magang, atau selama bekerja)
- ✓ Kekurangan dalam memberikan kuliah penyakit ringan di universitas

- *Bagaimana anda menilai universitas tempat anda kuliah untuk mempersiapkan anda memberikan pelayanan penyakit ringan?*

Probe:

- ✓ Setelah anda lulus, seberapa percaya dirikah anda untuk menangani penyakit ringan yang dialami oleh pasien?

- ✓ Pendidikan/pelatihan tambahan apa yang menurut anda akan membantu kesiapan anda (kekurangan untuk memberikan pelayanan penyakit ringan)
- *Apakah menurut anda, apoteker sudah siap menangani penyakit ringan di apotek? Bila ya, mengapa? Bila tidak, mengapa?*
Probe:
 - ✓ Seberapa sering anda terlibat dalam memberikan layanan penyakit ringan
 - ✓ Seberapa yakin anda dapat memutuskan pasien dengan penyakit ringan mana yang harus anda tangani?
 - ✓ Apakah ada penyakit ringan yang menurut anda perlu dirujuk ke dokter? Bila mereka mengatakan YA, dapatkah anda memberi saya beberapa contoh (apa ruang lingkup praktik anda)?
- *Setelah anda lulus dari universitas, kegiatan apa yang telah anda lakukan untuk memastikan anda dapat memberikan pelayanan penyakit ringan?*
Probe:
 - ✓ Seminar atau workshop dalam dua tahun terakhir dan manfaatnya.
 - ✓ Kegiatan untuk memperluas ruang lingkup praktik apoteker.
 - ✓ Perubahan praktik secara profesional setelah mengikuti seminar (pengalaman kerja/dibimbing oleh mentor apoteker lain yang lebih berpengalaman, pembelajaran mandiri secara online).
- *Apakah anda ingin memberikan pelayanan penyakit ringan yang lebih luas? Jika mereka menjawab YA, tanyakan bagaimana menurut anda ini bisa dilakukan? Jika mereka menjawab TIDAK, tanyakan apakah anda merasa mampu menangani keluhan pasien dengan penyakit ringan yang datang ke apotek anda?*
Probe:
 - ✓ Pendidikan lanjut
 - ✓ Pedoman penyakit ringan



- ✓ Pedoman praktik yang diperlukan (dukungan dari pemilik/staff di apotek, permintaan dari konsumen/masyarakat setempat untuk perluasan layanan).
- ✓ Perubahan penggolongan obat-obatan (dari kategori Obat Keras ke Obat Bebas Terbatas atau Obat Wajib Apotek)

2. Otoritas

- *Apakah anda mengetahui peraturan perundang-undangan di Indonesia tentang pengelolaan penyakit ringan oleh apoteker?*

Probe:

- ✓ Perundang-undangan saat ini untuk memenuhi kebutuhan komunitas/publik
- ✓ Bagaimana kerja apoteker untuk dapat memenuhi kebutuhan masyarakat

- *Apakah anda mengetahui batasan-batasan pelayanan penyakit ringan yang dapat ditangani di apotek sesuai pedoman pelayanan kefarmasian Indonesia?*

Probe:

- ✓ Peraturan dan persyaratan untuk melakukan pelayanan penyakit ringan (hambatan)
- ✓ Keterlibatan organisasi profesi IAI dan kaitannya dengan pelayanan penyakit ringan, apakah sudah memuaskan menurut anda?

(2) Objective 2: Mengetahui ruang lingkup apoteker

3. Ruang lingkup praktik (kompetensi dan akuntabilitas) apoteker.

Pembukaan: “Saya ingin bertanya siapa yang biasanya terlibat dalam proses pelayanan penyakit ringan di apotek anda.”

- *Bagaimana proses pelanggan datang ke apotek?*
- *Siapa yang di depan akan melayani pelanggan yang datang ke apotek?*

Probe:

- ✓ Jika pelanggan meminta obat untuk mengobati penyakit ringannya
- ✓ Kehadiran apoteker (atau jika tidak di apotek) dan tenaga teknis kefarmasian

- ✓ Dapatkah anda memberi tahu saya staf lain (non-kefarmasian) di apotek dan keterlibatan mereka dalam pelayanan penyakit ringan (kapan staf tersebut akan bertanya ke apoteker atau tenaga teknis kefarmasian)?
 - ✓ Macam penyakit ringan yang dapat ditangani oleh apoteker dan tenaga teknis kefarmasian.
 - ✓ Apakah Anda merasa bahwa ada batasan yang jelas tentang penyakit ringan yang hanya boleh ditangani oleh apoteker?
- *Apakah anda sudah menangani pasien dengan menggunakan obat-obatan yang telah diubah penggolongannya seusai Permenkes No.3/2021?*

Probe:

- ✓ Pendapat tentang obat-obatan lain yang harus diubah penggolongannya

(3) Objective 3: Mengeksplorasi praktik pelayanan penyakit ringan di masa depan di apotek di Jawa Tengah, Indonesia

4. Apakah anda sudah puas dengan praktik pelayanan penyakit ringan saat ini? Jika mereka mengatakan YA, apakah anda ingin melihat adanya perubahan?

Probe:

- ✓ Fasilitator dan hambatan (kesulitan dan keterbatasan) dalam memberikan layanan
- ✓ Memberikan pelayanan diluar pedoman ruang lingkup praktik apoteker
- ✓ Saran dan harapan dari pelanggan
- ✓ Pendapat tentang cara mengubah praktik di masa depan (jenis pelayanan penyakit ringan di apotek di masa depan)

5. Dampak COVID-19 pada pelayanan penyakit ringan

- *Apakah Covid-19 mengubah praktik anda terkait pelayanan penyakit ringan di apotek?*

Probe:

- ✓ Permintaan untuk pelayanan penyakit ringan di apotek (volume, jenis permintaan/pelayanan).

- ✓ Apakah ruang lingkup praktik anda dengan penyakit ringan berubah karena COVID-19?
- ✓ Penerapan praktik dengan adanya COVID-19 di apotek atau perubahan pengaturan praktik (hand sanitizer, face shield, masker, jaga jarak, pembatasan jumlah pelanggan yang datang ke apotek dalam satu waktu, pembatasan pelanggan masuk apotek bila memiliki tanda dan gejala batuk dan pilek, sign-in atau menulis kontak sebelum memasuki apotek, tracing).
- ✓ Ketersediaan obat-obatan yang digunakan untuk penyakit ringan dan bila ada kekurangan obat-obatan yang biasa digunakan untuk penyakit ringan.
- ✓ Dampak jangka panjang pada ruang lingkup praktik apoteker.

Sebagai penutup

6. Penelitian kami adalah ruang lingkup praktik tenaga kefarmasian dan faktor-faktor yang mempengaruhi kesiapan tenaga kefarmasian untuk memberikan pelayanan penyakit ringan di apotek di Jawa Tengah, Indonesia. Apakah anda memiliki komentar lebih lanjut yang belum saya tanyakan?

TERIMA KASIH ATAS PARTISIPASI ANDA

Appendix J Pharmacy Technician Interview Guide

J.1 English



INFORMATION SHEET

The Management of Minor Ailments in Community Pharmacies in Central Indonesia

You are invited to participate in a study conducted by the Discipline of Pharmacy, Curtin Medical School, Curtin University, Australia to evaluate the preparedness and procedures followed by pharmacy staff in the management of minor ailments in community pharmacies in Central Java, Indonesia. The following statements provide information about what the study involves and the potential benefits of your contribution. This study has received approval of the Indonesian Pharmacist Association – Central Java, Indonesia (No.B1-064/PD-IAI/Jawa Tengah/IX/2019) and the Indonesian Pharmacy Technician Association – Central Java, Indonesia (No.268/PAFI-JTG/XI/2019).

Purpose of the study

The aim of this study is to explore pharmacists' and pharmacy technicians' perceived scopes of practice and factors influencing the preparedness to deliver minor ailment services in community pharmacies in Central Indonesia.

Who is doing the research?

This project is being conducted by Ms Vinci Mizranita, PhD Candidate from the Discipline of Pharmacy, Curtin Medical School, Curtin University, Australia. The results of this study will form part of Ms Mizranita's Doctor of Philosophy (PhD) program of research. This research is being supervised by Dr Tin Fei Sim, Emeritus Professor Bruce Sunderland, and Emeritus Professor Jeff Hughes from Curtin University, Australia.

When and where will the study take place?

The interview will be scheduled for a time that suits your convenience. Data will be collected through your participation in an online interview face-to-face (video call). Demographic data regarding your pharmacy information will be collected pre-interview.

Who can take part in this study, and what will they have to do?

Community pharmacists and pharmacy technicians currently working in community pharmacies in Central Java, Indonesia are eligible to participate in the study.

There are no right or wrong answers regarding the interview topics. We would like to discuss your perceptions and expectations regarding community pharmacists' and pharmacy technicians' preparedness and community pharmacy procedures to deliver services in the management of minor ailments. The findings from this study will help guide future development regarding the management of minor ailments in community pharmacies in Indonesia.

This interview will take up to 45 minutes and will be audio- and video-recorded so that the interviewer can focus on what you have to say. After the discussion, we will produce an anonymous transcript. There is no cost for you to take part in the research. Your participation will not have any effect on your professional or personal life. You will be offered a small gift (**AUD \$10 gift card**) in recognition of your time and participation in this project.

Are there any risks involved?

Your participation in this study is voluntary, and you may choose to leave at any time. If you choose to withdraw from the study, the audio-visual recording of the interview will be erased.

What will happen to the information you provide?

All information as anonymous transcripts obtained from this study will be analysed as part of a doctoral thesis at Curtin University. The results of this study may be presented at conferences or published in professional journals, and related activities. You will not be identified or identifiable in any publication or thesis.

Confidentiality

After transcription, your name will be replaced by a unique code to protect your identity. Electronic data will be password-protected, and hard copy data will be locked in storage. The information we collect in this study will be kept under secure conditions at Curtin University for seven years after the research is published, and then it will be destroyed. Your personal information will not be identified and not be linked in any way to your confidential responses.

Curtin University Human Research Ethics Committee (HREC) has approved this study (HREC number HRE2019-XXXX). Should you wish to discuss the study with someone not directly involved, in particular, any matters concerning the conduct of the study or your rights as a participant, or you wish to make a confidential complaint, you may contact the Ethics Officer on (08) 9266 9223 or the Manager, Research Integrity on (08) 9266 7093 or email hrec@curtin.edu.au

Should you have any queries, please find our contact details as follows:

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Consent Form

The Management of Minor Ailments in Community Pharmacies in Central Indonesia

1. I have read the information sheet and had the nature of the study explained to me, and I agree to participate in the study described.
2. I understand that the interview will be audio and video recorded. All my questions have been answered to my satisfaction.
3. I understand that any personal information will be kept private and confidential. All data will be securely stored and will not be disclosed to any person other than a person authorised for the project.
4. I understand that my participation in this study is voluntary and that I have the right to withdraw at any time.

Name of participant :

Signature of participant :

Date : _____ / _____ / _____ (to be dated by participant)

Demographic Data

Pharmacy Technician

Interview Number : _____

Date : ___/___/___

Interviewer : _____

Time commenced : _____

Time finished : _____

Location : _____

Interviewee : _____

Pharmacy name : _____

Respondent Details

(Will be provided to participants for completion prior to the interviews)

1. Gender: Male Female

2. Age (years):

<input type="checkbox"/> 16-20	<input type="checkbox"/> 31-40	<input type="checkbox"/> 51-60
<input type="checkbox"/> 21-30	<input type="checkbox"/> 41-50	<input type="checkbox"/> 61+

3. Years you have been registered as a pharmacy technician.

<input type="checkbox"/> < 2years	<input type="checkbox"/> 6-10 years	<input type="checkbox"/> >15 years
<input type="checkbox"/> 2-5 years	<input type="checkbox"/> 11-15 years	

4. Years of practice as a pharmacy technician in community pharmacy.

<input type="checkbox"/> < 2years	<input type="checkbox"/> 6-10 years	<input type="checkbox"/> >15 years
<input type="checkbox"/> 2-5 years	<input type="checkbox"/> 11-15 years	

5. What is the highest level of education that you have completed?

<input type="checkbox"/> Secondary pharmacy assistant school
<input type="checkbox"/> Diploma graduate
<input type="checkbox"/> Bachelor of pharmacy
<input type="checkbox"/> Apothecary degree (pharmacist)
<input type="checkbox"/> Master degree
<input type="checkbox"/> Doctoral degree

6. How many hours on average per week do you work in your main pharmacy?

<input type="checkbox"/> < 5 hours	<input type="checkbox"/> 5-10 hours	<input type="checkbox"/> 11-20 hours
------------------------------------	-------------------------------------	--------------------------------------

12. Of these, approximately how many people on average per week present to the pharmacy seeking advice/and or management of minor ailments?

- <10 31-40 61-70
 10-20 41-50 >70
 21-30 51-60

13. Total number of pharmacy staff =

- a. Owner pharmacist (s) = _____
 b. Employee pharmacist (s) = _____
 c. Pharmacy technician (s) = _____
 d. Other staff = _____

14. Staffing and pharmacy trading hours

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Opening hours							
Actual time in attendance on each day of the following staff (hours):							
Pharmacy Manager							
Employee pharmacist (A)							
Employee pharmacist (B)							
Employee pharmacist (C)							
Employee pharmacist (D)							
Pharmacy technician (A)							
Pharmacy technician (B)							
Pharmacy technician (C)							
Pharmacy technician (D)							
Non-qualified assistant (A)							
Non-qualified assistant (B)							
Non-qualified assistant (C)							

Interview Guide

Pharmacy Technician

Opening

Minor ailments are defined as ‘conditions that are often self-limiting, with symptoms easily recognised and described by the patient, which fall within the scope of pharmacist’s knowledge and training to treat’. We are interested in understanding the scopes of practice of pharmacists and pharmacy technicians and their preparedness regarding MMAs in community pharmacies in Central Indonesia.

(1) Objective 1: To describe preparedness and factors influencing the delivery of minor ailments services

1. Training and education:

- *Tell me about your pharmacy education, including which university you went to?*
- *How did the university prepare you to deliver minor ailment services?*

Probe:

- ✓ Particular lectures on minor ailments
- ✓ Experiential learning (via university learning, simulation activities, clinical placements, internship, or during employment)
- ✓ Deficiencies and gaps for delivering minor ailments course

- *How well do you consider the university prepared you to deliver minor ailment services?*

Probe:

- ✓ When you graduated how confident did you feel that you could manage the minor ailments that patients present with?

- ✓ What additional education/training do you think would have help with your preparedness (i.e. deficiencies and gaps for delivering minor ailments services)

- *Do you think pharmacy technicians are well prepared to manage minor ailments in the pharmacy? If yes, why? If no, why?*
Probe:
 - ✓ How often are you involved in delivering minor ailment services
 - ✓ How confident were you that you could decide which patients with minor ailments you should manage?
 - ✓ Are there common minor ailments that you would refer to a pharmacist or a doctor? If they say YES, can you give me some examples (i.e. what is your scope of practice)?

- *Since you graduated from the university, what activities have you undertaken to ensure you are able to deliver minor ailments?*
Probe:
 - ✓ Seminars or workshops in the last two years, the usefulness of the seminars.
 - ✓ Activity to broaden pharmacy technician scope of practice
 - ✓ Changes in professional practice after attending the seminars (work experience/being mentored by another more experienced pharmacist/pharmacy technician mentor, self-directed learning, online reading)

- *Would you like to deliver a greater range of minor ailment services? If they answer YES, ask how could this occur? If they answer NO, ask do you feel that you are able to manage minor ailments complaint that coming to your pharmacy?*
Probe:
 - ✓ Further education
 - ✓ The expansion of guidelines about minor ailments

- ✓ Required guidelines for practice (support from the pharmacy owners/employers, demand from local consumers/public for services expansion).
- ✓ Down-scheduled of more medicines

2. Authority

- *Do you know any legislations in Indonesia regarding pharmacy technician management of MMAs?*

Probe:

- ✓ Current legislation to meet contemporary needs of the community/public
 - ✓ How pharmacy technicians are better utilised to meet the needs of the community
-
- *Are you aware of any limits that might restrict minor ailments that can be managed in community pharmacy in the Indonesian pharmacy services guidelines?*

Probe:

- ✓ Any regulations and legal requirements for the provision of minor ailments (barriers)
- ✓ The pharmacy technician association - PAFI (how do you see PAFI involvement in relation to MMAs? Are you happy with that?)

(2) Objective 2: To investigate the scope of practice of pharmacy technicians

3. Scope of practice (competence and accountability) of the pharmacy technicians.

Opening: "I would like to ask who is normally involved in the process of providing minor ailment services in your pharmacy."

- *What is the normal process when a customer comes into the pharmacy?*
- *Who would initially serve the costumers who come into the pharmacy?*

Probe:

- ✓ If a customer is asking for a medicine to treat their minor ailment
- ✓ The presence of a pharmacist (or if not in the pharmacy) and a pharmacy technician



- ✓ Can you tell me non-qualified staff in the pharmacy and their involvement in the MMAs (when does the non-qualified staff ask for a pharmacist or a technician)?
 - ✓ Range of minor ailments would non-qualified, pharmacy technicians, and pharmacists manage.
 - ✓ Do you feel that there are clearly boundaries around which minor ailments should only be managed by the pharmacy technicians?
- *Have you been able to manage patients using the recent down-scheduled of medicines (Minister of Health Regulation No.3/2021)?*
Probe:
 - ✓ Opinion on other medicines that should be down-scheduled

(3) Objective 3: To explore the future practice of the MMAs in community pharmacies in Central Java, Indonesia

4. *Are you satisfied with the current practice of MMAs? If they say YES, would you like to see any changes?*

Probe:

- ✓ Facilitators and barriers (difficulties and limitation) in providing the services
- ✓ Delivering services that not within the guidelines of the scope of practice
- ✓ Customer feedback and expectations
- ✓ Opinions on how to change the future practice (type of minor ailments to deliver in the future practice)

5. The impact of COVID-19 on the MMAs

- *Has the presence of Covid-19 changed your practice in relation to MMAs?*

Probe:

- ✓ Requests for the provision of minor ailments in the community pharmacy (volume, types of inquiry).
- ✓ Has your scope of practice with minor ailments changed due to COVID-19?

- ✓ COVID-19 safe practices introduced in the pharmacy or changes to practice settings (hand sanitizer, face shields, masks, distancing, restriction on the number of customers that come to the pharmacy in one time, restrictions on customers to enter the pharmacy if they had signs and symptoms of cough and cold, sign-in or writing any contact details before entering the pharmacy, tracing)
- ✓ The availability of medicines used for minor ailments and any shortages for medicines that commonly used for minor ailments
- ✓ Long-term impact on pharmacy technician scope of practice

In closing

6. Our project is about the scope of practice and factors influencing the preparedness of staff to deliver minor ailment services in community pharmacies in Central Java, Indonesia. Do you have further comments that come to mind that I have not asked about?

THANK YOU FOR YOUR PARTICIPATION

J.2 Bahasa Indonesia



LEMBAR INFORMASI

Manajemen Pelayanan Penyakit Ringan (minor ailments) di Jawa Tengah, Indonesia

Kami mengundang anda untuk berpartisipasi dalam penelitian yang diadakan oleh Pharmacy, Curtin Medical School, Curtin University, Australia untuk mengevaluasi kesiapan dan prosedur yang dilakukan oleh tenaga kefarmasian dalam pengelolaan penyakit ringan di apotek di Jawa Tengah, Indonesia. Informasi berikut menjelaskan tentang penelitian dan manfaat potensial dari kontribusi anda. Penelitian ini telah mendapat persetujuan dari Ikatan Apoteker Indonesia – Jawa Tengah, Indonesia (No.B1-064/PD-IAI/Jawa Tengah/IX/2019) dan Persatuan Ahli Farmasi Indonesia – Jawa Tengah, Indonesia (No.268/PAFI -JTG/XI/2019).

Tujuan Penelitian

Tujuan dari penelitian ini adalah untuk mengeksplor persepsi apoteker dan tenaga teknis kefarmasian dan faktor-faktor yang mempengaruhi kesiapan untuk memberikan pelayanan penyakit ringan (minor ailments) di apotek di Jawa Tengah, Indonesia.

Siapa yang melakukan penelitian?

Penelitian ini dilakukan oleh Vinci Mizranita, Kandidat PhD dari Pharmacy, Curtin Medical School, Curtin University, Australia. Hasil penelitian ini akan menjadi bagian dari program penelitian Doctor of Philosophy (PhD) Vinci Mizranita. Penelitian ini disupervisi oleh Dr Tin Fei Sim, Emeritus Professor Bruce Sunderland, dan Emeritus Professor Jeff Hughes dari Curtin University, Australia.

Kapan dan dimana penelitian akan dilakukan?

Interview akan disesuaikan dengan waktu anda. Data akan dikumpulkan melalui interview online tatap muka (video call). Data demografik mengenai apotek anda akan dikirimkan sebelum wawancara.

Siapa yang dapat mengambil bagian dalam penelitian ini dan apa yang harus mereka lakukan?

Apoteker dan tenaga teknis kefarmasian yang saat ini bekerja di apotek di Jawa Tengah, Indonesia merupakan responden yang memenuhi syarat untuk berpartisipasi dalam penelitian ini.

Tidak ada jawaban benar atau salah mengenai topik interview ini. Kami ingin mendiskusikan persepsi dan ekspektasdi anda mengenai kesiapan apoteker dan tenaga teknis kefarmasian dan prosedur di apotek untuk memberikan pelayanan penyakit ringan (minor ailments). Hasil dari penelitian ini diharapkan akan membantu perkembangan pengelolaan penyakit ringan di apotek di Indonesia.

Interview ini akan memakan waktu hingga 45 menit dan akan direkam secara audio dan video sehingga pewawancara dapat fokus pada apa yang anda katakan. Setelah diskusi, kami akan memproduksi transkrip anonim. Anda tidak dipungut biaya untuk penelitian ini. Partisipasi anda tidak akan berpengaruh pada praktik profesional atau pribadi anda. Anda akan mendapatkan voucher gift @Rp.100.000 atas waktu dan partisipasi anda pada penelitian ini.

Apakah ada resiko pada penelitian ini?

Partisipasi anda dalam penelitian ini bersifat sukarela, dan anda dapat memilih untuk mengundurkan diri kapan saja. Jika anda memilih untuk mengundurkan diri dari penelitian ini, rekaman audio-visual interview anda akan dihapus.

Apa yang akan terjadi dengan informasi yang anda berikan?

Semua informasi diperlakukan sebagai anonim dan akan dianalisis sebagai bagian dari tesis doctoral di Curtin University. Hasil penelitian ini dapat dipresentasikan pada konferensi atau diterbitkan dalam jurnal profesional, dan kegiatan terkait. Anda tidak akan diidentifikasi atau teridentifikasi dalam publikasi atau tesis apa pun.

Kerahasiaan

Setelah transkripsi, nama anda akan diganti dengan kode untuk melindungi identitas anda. Data elektronik akan dilindungi dengan kata sandi, dan data hard copy akan dikunci dalam tempat penyimpanan di Curtin University. Informasi yang dikumpulkan dalam penelitian ini akan disimpan dalam kondisi aman di Universitas Curtin selama tujuh tahun setelah penelitian ini dipublikasikan, dan kemudian akan dimusnahkan. Informasi pribadi anda tidak akan diidentifikasi dan tidak ditautkan dengan cara apa pun ke tanggapan survei rahasia Anda.

Curtin University Human Research Ethics Committee (HREC)) telah menyetujui penelitian ini (nomor HREC HRE2019-XXXX). Jika anda ingin mendiskusikan penelitian ini dengan seseorang yang tidak terlibat langsung, khususnya, dalam segala hal yang berkaitan dengan pelaksanaan penelitian atau anda ingin mengajukan keluhan, anda dapat menghubungi Ethics Officer di nomor (08) 9266 9223 atau Manager, Research Integrity di nomor (08) 9266 7093 atau email hrec@curtin.edu.au

Jika Anda memiliki pertanyaan, silakan menghubungi kontak kami:

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Lembar Persetujuan

Manajemen Pelayanan Penyakit Ringan (minor ailments) di Jawa Tengah, Indonesia

1. Saya telah membaca lembar informasi tentang penelitian ini dan saya setuju untuk berpartisipasi dalam penelitian yang telah dijelaskan.
2. Saya mengerti bahwa interview akan direkam secara audio dan video. Semua pertanyaan saya telah dijawab sesuai dengan kepuasan saya.
3. Saya mengerti bahwa setiap informasi pribadi akan dijaga kerahasiaannya. Semua data akan disimpan dengan aman dan tidak akan diungkapkan kepada orang lain selain orang yang berwenang untuk penelitian tersebut.
4. Saya memahami bahwa keikutsertaan saya dalam penelitian ini bersifat sukarela dan saya berhak untuk mengundurkan diri setiap saat.

Nama :

Tanda tangan :

Tanggal : _____/_____/_____ (diisi oleh responden)



Data Demografis

Tenaga Teknis Kefarmasian di apotek

Nomor Interview : _____

Tanggal : ___ / ___ / ___

Interviewer : _____

Waktu mulai : _____

Waktu selesai : _____

Lokasi : _____

Nama responden : _____

Nama apotek : _____

Data Responden

(Akan dikirim kepada peserta untuk diselesaikan sebelum interview)

1. Jenis kelamin: Laki-laki Perempuan

2. Usia (tahun):

<input type="checkbox"/> 16-20	<input type="checkbox"/> 31-40	<input type="checkbox"/> 51-60
<input type="checkbox"/> 21-30	<input type="checkbox"/> 41-50	<input type="checkbox"/> 61+

3. Berapa lama anda terdaftar sebagai tenaga teknis kefarmasian?

<input type="checkbox"/> < 2years	<input type="checkbox"/> 6-10 years	<input type="checkbox"/> >15 years
<input type="checkbox"/> 2-5 years	<input type="checkbox"/> 11-15 years	

4. Berapa lama anda praktik sebagai tenaga teknis kefarmasian di apotek?

<input type="checkbox"/> < 2years	<input type="checkbox"/> 6-10 years	<input type="checkbox"/> >15 years
<input type="checkbox"/> 2-5 years	<input type="checkbox"/> 11-15 years	

5. Pendidikan tertinggi yang telah anda tempuh.

<input type="checkbox"/> Sekolah Menengah Farmasi/Sekolah Menengah Kejuruan Farmasi
<input type="checkbox"/> Diploma Farmasi (D3)
<input type="checkbox"/> Sarjana Farmasi (S1)
<input type="checkbox"/> Apoteker
<input type="checkbox"/> Master (S2)
<input type="checkbox"/> Doktor (S3)

6. Rata-rata berapa jam dalam seminggu anda bekerja di apotek tersebut?

<input type="checkbox"/> < 5 hours	<input type="checkbox"/> 5-10 hours	<input type="checkbox"/> 11-20 hours
------------------------------------	-------------------------------------	--------------------------------------

- 21-30 hours 41-50 hours 51+ hours

7. Apakah anda bekerja di tempat lain?

- Ya (mohon centang bila anda bekerja di: sektor farmasi atau non-farmasi)
- Tidak

Data Apotek

8. Tipe apotek tempat anda bekerja.

- | | |
|--|--|
| <input type="checkbox"/> Apotek yang berdiri sendiri | <input type="checkbox"/> Apotek bersama praktik dokter |
| <input type="checkbox"/> Apotek waralaba | <input type="checkbox"/> Lainnya (mohon sebutkan): |
| <input type="checkbox"/> Apotek berlokasi di pusat
perbelanjaan | _____ |

9. Pemilik apotek tempat anda bekerja.

- | | |
|--|---|
| <input type="checkbox"/> Apoteker | <input type="checkbox"/> Badan Usaha Milik Negara
(BUMN) |
| <input type="checkbox"/> Non-apoteker | <input type="checkbox"/> Lainnya (mohon sebutkan): |
| <input type="checkbox"/> Perusahaan non-farmasi
(Guardian, Century, Watson) | _____ |
| <input type="checkbox"/> Badan Usaha Milik Daerah
(BUMD) | |

10. Apakah terdapat ruangan konseling/konsultasi di apotek anda?

- Ya Tidak

11. Berapa rata-rata jumlah pengunjung yang datang ke apotek anda perminggu?

- <100 100-150 151-250

- 251-350 451-550 >700
 351-450 551-700

12. Dari jawaban No.11, berapa rata-rata jumlah pengunjung per minggu yang datang ke apotek anda meminta pelayanan pengobatan penyakit ringan (minor ailments)?

- <10 31-40 61-70
 10-20 41-50 >70
 21-30 51-60

13. Jumlah total staf di apotek =

- a. Apoteker pengelola apotek (APA) = _____
 b. Apoteker pendamping = _____
 c. Tenaga teknis kefarmasian = _____
 d. Staf lainnya = _____

14. Pegawai dan jam buka apotek

	Senin	Selasa	Rabu	Kamis	Jumat	Sabtu	Minggu
Jam buka apotek							
Jam kehadiran tiap hari di apotek untuk staf berikut:							
APA							
Apoteker pendamping (A)							
Apoteker pendamping (B)							
Apoteker pendamping (C)							
Apoteker pendamping (D)							
Tenaga teknis kefarmasian (A)							
Tenaga teknis kefarmasian (B)							
Tenaga teknis kefarmasian (C)							
Tenaga teknis kefarmasian (D)							
Staf lain (A)							
Staf lain (B)							
Staf lain (C)							

Panduan Interview

Tenaga Teknis Kefarmasian di Apotek

Pembukaan

Minor ailments (penyakit ringan) didefinisikan sebagai ‘kondisi yang dapat sembuh sendiri, dengan gejala yang mudah dikenali dan diidentifikasi oleh pasien dan termasuk dalam ruang lingkup pengetahuan dan pengobatan apoteker’. Kami tertarik untuk memahami ruang lingkup praktik apoteker dan tenaga teknis kefarmasian serta kesiapan mereka terkait pelayanan penyakit ringan di apotek di Jawa Tengah, Indonesia.

(1) Objective 1: Menggambarkan kesiapan dan faktor-faktor yang mempengaruhi pemberian pelayanan penyakit ringan

1. Pelatihan dan pendidikan:

- *Ceritakan tentang pendidikan anda, termasuk di universitas mana anda kuliah?*
- *Bagaimana universitas mempersiapkan anda untuk bisa memberikan pelayanan penyakit ringan?*

Probe:

- ✓ Apakah ada Kuliah khusus tentang penyakit ringan
- ✓ Apakah ada Pembelajaran berdasarkan pengalaman (pembelajaran di universitas, aktivitas dengan simulasi, magang, atau selama bekerja)
- ✓ Menurut anda apa ada Kekurangan dalam memberikan kuliah penyakit ringan di universitas?

- *Bagaimana anda menilai universitas tempat anda kuliah dulu untuk mempersiapkan anda bisa memberikan pelayanan penyakit ringan?*

Probe:

- ✓ Setelah anda lulus, seberapa percaya dirikah anda untuk menangani penyakit ringan yang dialami oleh pasien yang datang ke apotek?



- ✓ Menurut anda Pendidikan/pelatihan tambahan seperti apa yang bisa membantu kesiapan anda (kekurangan untuk memberikan pelayanan penyakit ringan)

- *Apakah menurut anda, tenaga teknis kefarmasian sudah siap menangani pasien dgn penyakit ringan di apotek? Bila ya, mengapa? Bila tidak, mengapa?*

Probe:

- ✓ Seberapa sering anda terlibat dalam memberikan layanan penyakit ringan
- ✓ Seberapa yakin anda dapat memutuskan pasien dengan penyakit ringan mana yang harus anda tangani?
- ✓ Apakah ada penyakit ringan yang menurut anda perlu dirujuk ke apoteker atau ke dokter? Bila mereka mengatakan YA, bisa anda memberikan beberapa contoh (apa ruang lingkup praktik anda)?

- *Setelah anda lulus dari universitas tempat kuliah, kegiatan apa yang telah anda ikuti/pernah dilakukan untuk memastikan anda bisa memberikan pelayanan penyakit ringan?*

Probe:

- ✓ Apakah mengikuti Seminar atau workshop dalam dua tahun terakhir dan manfaatnya.
- ✓ Apakah ada Kegiatan yang sifatnya memperluas ruang lingkup praktik tenaga teknis kefarmasian?
- ✓ Apakah ada Perubahan praktik secara profesional setelah mengikuti seminar tersebut? (pengalaman kerja/dibimbing oleh mentor apoteker/tenaga teknis kefarmasian lain yang lebih berpengalaman, pembelajaran mandiri secara online).

- *Apa anda ingin bisa memberikan pelayanan penyakit ringan yang lebih luas lagi? Jika mereka menjawab YA, menurut anda bagaimana itu bisa dilakukan? Jika mereka menjawab TIDAK, tapakah anda merasa mampu bisa menangani keluhan pasien dengan penyakit ringan yang datang ke apotek anda?*

Probe:

- ✓ Bagaimana dengan melanjutkan Pendidikan?
- ✓ Bagaimana dengan Perluasan Pedoman penyakit ringan
- ✓ Apakah diperlukan Pedoman praktik? (dukungan dari pemilik/staff di apotek, permintaan dari konsumen/masyarakat setempat untuk perluasan layanan).
- ✓ Apakah diperlukan Perubahan penggolongan obat-obatan (dari kategori Obat Keras ke Obat Bebas Terbatas atau Obat Wajib Apotek)

2. Otoritas

- *Apa anda mengetahui peraturan perundang-undangan di Indonesia terkait bagaimana menangani penyakit ringan oleh tenaga teknis kefarmasian/tenaga kefarmasian di apotek?*

Probe:

- ✓ Bagaimana dengan Perundang-undangan yang berlaku saat ini? Apakah sudah memenuhi kebutuhan masyarakat/publik.
 - ✓ Menurut anda Bagaimana peran/kerja tenaga teknis kefarmasian untuk bisa memenuhi kebutuhan masyarakat.
- *Apakah anda mengetahui batasan-batasan untuk bisa memberikan pelayanan penyakit ringan di apotek sesuai pedoman pelayanan kefarmasian Indonesia?*

Probe:

- ✓ Bagaimana menurut anda Peraturan dan persyaratan untuk melakukan pelayanan penyakit ringan (apakah ada hambatan yang anda alami?)
- ✓ Bagaimana Keterlibatan organisasi profesi PAFI terkait dengan pelayanan penyakit ringan, apakah sudah memuaskan menurut anda?

(2) Objective 2: Mengetahui ruang lingkup tenaga teknis kefarmasian

3. Ruang lingkup praktik (kompetensi dan akuntabilitas) tenaga teknis kefarmasian.

Pembukaan: “Saya ingin bertanya siapa yang biasanya terlibat dalam proses pelayanan penyakit ringan di apotek anda.”

- *Bagaimana proses pelanggan datang ke apotek?*
 - *Siapa yang di depan akan melayani pelanggan yang datang ke apotek?*
- Probe:
- ✓ Jika pelanggan meminta obat untuk mengobati penyakit ringannya
 - ✓ Bagaimana dengan Kehadiran apoteker (atau jika tidak di apotek) dan tenaga teknis kefarmasian
 - ✓ Apakah ada staf lain (non-kefarmasian) di apotek dan keterlibatan mereka dalam pelayanan penyakit ringan (kapan staf tersebut akan bertanya ke apoteker atau tenaga teknis kefarmasian)?
 - ✓ Apakah ada Macam penyakit ringan yang dapat ditangani oleh apoteker dan tenaga teknis kefarmasian.
 - ✓ Apakah Anda merasa bahwa ada batasan yang jelas tentang penyakit ringan yang hanya boleh ditangani oleh tenaga teknis kefarmasian?
- *Apakah anda sudah pernah menangani pasien dengan menggunakan obat-obatan yang telah diubah penggolongannya sesuai Permenkes No.3/2021?*

Probe:

- ✓ Pendapat tentang obat-obatan lain yang harus diubah penggolongannya

(3) Objective 3: Mengeksplorasi praktik pelayanan penyakit ringan di masa depan di apotek di Jawa Tengah, Indonesia

4. *Apakah anda sudah puas dengan praktik pelayanan penyakit ringan saat ini? Jika mereka mengatakan YA, apakah anda ingin melihat adanya perubahan?*

Probe:

- ✓ Fasilitator dan hambatan (kesulitan dan keterbatasan) dalam memberikan layanan
- ✓ Bagaiman pendapat anda untuk Memberikan pelayanan diluar pedoman ruang lingkup praktik tenaga teknis kefarmasian

- ✓ Saran dan harapan dari pelanggan
- ✓ Pendapat tentang cara mengubah praktik di masa depan (jenis pelayanan penyakit ringan yang lebih banyak di apotek di masa depan)

5. Dampak COVID-19 pada pelayanan penyakit ringan

- *Apakah Covid-19 mengubah praktik anda terkait pelayanan penyakit ringan di apotek?*

Probe:

- ✓ Permintaan untuk pelayanan penyakit ringan di apotek (volume, jenis permintaan/pelayanan).
- ✓ Apakah ruang lingkup praktik anda dengan penyakit ringan berubah karena COVID-19?
- ✓ Penerapan praktik dengan adanya COVID-19 di apotek atau perubahan pengaturan praktik (hand sanitizer, face shield, masker, jaga jarak, pembatasan jumlah pelanggan yang datang ke apotek dalam satu waktu, pembatasan pelanggan masuk apotek bila memiliki tanda dan gejala batuk dan pilek, sign-in atau menulis kontak sebelum memasuki apotek, tracing).
- ✓ Ketersediaan obat-obatan yang digunakan untuk penyakit ringan dan bila ada kekurangan obat-obatan yang biasa digunakan untuk penyakit ringan.
- ✓ Dampak jangka panjang pada ruang lingkup praktik tenaga teknis kefarmasian.

Sebagai penutup

6. Penelitian kami adalah ruang lingkup praktik tenaga kefarmasian dan faktor-faktor yang mempengaruhi kesiapan tenaga kefarmasian untuk memberikan pelayanan penyakit ringan di apotek di Jawa Tengah, Indonesia. Apakah anda memiliki komentar lebih lanjut yang belum saya tanyakan?

TERIMA KASIH ATAS PARTISIPASI ANDA

Appendix K COREQ Checklist

Title:

MMA services: A qualitative study of pharmacists' and pharmacy technicians' responses

Consolidated criteria for reporting qualitative studies (COREQ): 32-item checklist

Developed from:

Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (coreq): A 32-item checklist for interviews and focus groups. *Int J Qual Health Care.* 2007;19(6):349-357.

No. Item	Guide questions/description	Reported on Page #
Domain 1: Research team and reflexivity		
<i>Personal Characteristics</i>		
1. Inter viewer/facilitator	Which author/s conducted the interview or focus group?	Vinci Mizranita (VM-investigator) – p.218
2. Credentials	What were the researcher's credentials? e.g. PhD, MD	MPharm - p.218
3. Occupation	What was their occupation at the time of the study?	a PhD student - p.218
4. Gender	Was the researcher male or female?	Female - p.218

No. Item	Guide questions/description	Reported on Page #
5. Experience and training	What experience or training did the researcher have?	NVIVO training - p.218
<i>Relationship with participants</i>		
6. Relationship established	Was a relationship established prior to study commencement?	VM had not met the participants prior to the study start - p.218
7. Participant knowledge of the interviewer	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	Participants knew VM reasons for doing the research as they were provided with brief information about the research prior to the interview - p.218
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	Participants knew that VM was interested in the management of minor ailments in community pharmacies - p.218
Domain 2: Study design		
<i>Theoretical framework</i>		

No. Item	Guide questions/description	Reported on Page #
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Inductive thematic analysis – p.220
<i>Participant selection</i>		
10. Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	Participants were recruited purposively – p.218
11. Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Participants were recruited by phone - p.208
12. Sample size	How many participants were in the study?	12 community pharmacists and 12 pharmacy technicians - p.218
13. Non-participation	How many people refused to participate or dropped out? Reasons?	One pharmacist due to other commitments - p.221
<i>Setting</i>		
14. Setting of data collection	Where was the data collected? e.g. home, clinic, workplace	Data was collected online at either their home or workplace – p.219
15. Presence of non-participants	Was anyone else present besides the participants and researchers?	No - p.218

No. Item	Guide questions/description	Reported on Page #
16. Description of sample	What are the important characteristics of the sample? e.g. demographic data, date	Age, gender, type of pharmacy, years of practice, average working hours, average MMA patients per week - p.201
<i>Data collection</i>		
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Interview guide was not shared with the participants. The interview was pilot tested to two community pharmacists and two pharmacy technicians - p.219
18. Repeat interviews	Were repeat interviews carried out? If yes, how many?	No - p.218
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Data were audio- and video-recorded – p.219
20. Field notes	Were field notes made during and/or after the interview or focus group?	Yes - p.219
21. Duration	What was the duration of the inter views or focus group?	45-60 minutes - p.219
22. Data saturation	Was data saturation discussed?	Yes - p.218

No. Item	Guide questions/description	Reported on Page #
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	No - p.218
Domain 3: Analysis and findings		
<i>Data analysis</i>		
24. Number of data coders	How many data coders coded the data?	One - p.218
25. Description of the coding tree	Did authors provide a description of the coding tree?	No, however coding was constantly refined - p.220
26. Derivation of themes	Were themes identified in advance or derived from the data?	Themes were derived from the data - p.220
27. Software	What software, if applicable, was used to manage the data?	NVivo (QSR NVivo version 20, QSR International) - p.220
28. Participant checking	Did participants provide feedback on the findings?	No, however one pharmacy academic (from Indonesian University) provided feedback on the final themes - p.221

No. Item	Guide questions/description	Reported on Page #
<i>Reporting</i>		
29. Quotations presented	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	Yes - p.220
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Yes - p.220
31. Clarity of major themes	Were major themes clearly presented in the findings?	Yes - p.220
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Yes - p.220

Appendix L Publication in Pharmacy Practice Journal

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Original Research

Pharmacists' and pharmacy technicians' scopes of practice in the management of minor ailments at community pharmacies in Indonesia: a cross-sectional study

Vinci MIZRANITA , Tin F. SIM , Bruce SUNDERLAND , Richard PARSONS , Jeffery D. HUGHES .
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Abstract

Background: Managing minor ailments in community pharmacy is an evolving pharmacy service in developing countries. Defined scopes of practice for pharmacy staff are essential for the safe management of minor ailments. Limited research exists regarding the perceptions of Indonesian pharmacists' and pharmacy technicians' scopes of practice in providing minor ailments management services.

Objective: To evaluate pharmacists' and pharmacy technicians' understanding of their scopes of practice, perceived competency and factors influencing the delivery of minor ailments services in Indonesian community pharmacies.

Methods: Cross-sectional surveys were conducted during January-February 2020 of pharmacists and pharmacy technicians attending seminars conducted by relevant Indonesian Associations in Central Java, Indonesia. Percentage of common responses (PCR) described similarity of perceived scopes of practice for pharmacists and pharmacy technicians. Univariate and multivariate analyses identified associations of scopes of practice with pharmacy characteristics.

Results: A total of 185 pharmacists and 142 pharmacy technicians participated. Pharmacy technicians performed minor ailment consultations, however, if considered beyond their scope of practice, they referred the patient to the pharmacist (T=120/142, 84.5%). Vaginal thrush, bacterial conjunctivitis, gastro-oesophageal reflux disease, and acute pain were minor ailments perceived only within a pharmacist's scope (PCR above 60%). Of 34 minor ailments, 11 showed PCR values between 40-60% overlapping pharmacists and pharmacy technicians perceived scopes of practice (allergy/rash, back pain, cold sores, dermatitis, diarrhoea, eczema, hayfever, haemorrhoids, rheumatism, sore throat, and superficial wounds). Back pain, cold sores, dermatitis, and sore throat associated pharmacists' scope of practice with years of practice experience (p -value<0.05). Pharmacy technicians perceived their scopes of practice to be wider than perceived by pharmacists.

Conclusions: Discordance between pharmacists' and pharmacy technicians' perceived scopes of minor ailments management highlights the need for clearly defined scopes of practice for each professional group. Each professional group must practise within their competence to ensure safe pharmacy practices.

Keywords

Nonprescription Drugs; Self Care; Professional Practice; Professional Role; Scope of Practice; Community Pharmacy Services; Pharmacies; Pharmacists; Pharmacy Technicians; Multivariate Analysis; Cross-Sectional Studies; Indonesia

INTRODUCTION

Minor ailments are often self-limiting conditions, with symptoms easily recognised and described by the patient and within the scope of a pharmacist's knowledge and training to manage.¹ They can usually be managed with the appropriate use of non-prescription medicines and self-care.²⁻⁴ Developed countries such as Australia, Canada, and the United Kingdom (UK) have developed models of care for the management of minor ailments (MMAs) by community pharmacists.⁵⁻⁹

Pharmacists have a responsibility to ascertain the services they offer for the MMAs leads to the appropriate use of medication and management of the ailment. Pharmacy technicians may also provide MMAs, and the pharmacy is often the first point of contact for consumers presenting with minor ailments.¹⁰

Community pharmacies in Indonesia range from small stand-alone to corporate pharmacies. In 2018, Indonesia had 24,874 community pharmacies, mainly located on Java Island.¹¹ They open daily for extended hours and are owned by pharmacists and non-pharmacists. Legislation requires, non-pharmacist owners to employ a pharmacist.^{12,13} Community pharmacist and pharmacy technician consultations and advice on MMAs are common practice. The Indonesian Ministry of Health lists 10 minor ailments as manageable by community pharmacies and provides technical guidelines.^{14,15} Only 17% of community pharmacists in Jakarta, Indonesia, reported providing counselling and advice on MMAs, while 65% were provided by pharmacist assistants, 13% by non-pharmacist staff, and 5% by the pharmacy owner.¹⁶ Indonesian pharmacists also provide where appropriate referrals to another health care

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professional. Central Java (population 39 million) is one of 34 provinces located on Java Island in Indonesia.¹⁷ This study informs the development of pathways for implementing MMAs as an integral part of community pharmacy in Indonesia.

This research aimed to evaluate pharmacists' and pharmacy technicians' understanding of their scopes of practice, perceived competency and factors influencing the delivery of minor ailments services in Indonesian community pharmacies.

METHODS

Ethical approval

Ethical approval was obtained from Curtin University, Human Research Ethics Committee, Australia (Approval number: HRE2019-0803); Indonesian Pharmacists Association (IAI) Central Java Regional Board, Indonesia (Approval number: B1-064/PD-IAI/Jawa-Tengah/IX/2019); Indonesian Pharmacy Technicians Association (PAFI) Central Java Regional Board, Indonesia (Approval number: 268/PAFI-JTG/XI/2019). Permission was obtained from the IAI and PAFI to approach attendees at their seminars to participate in the study.

The IAI and PAFI seminars

Pharmacists and pharmacy technicians were surveyed at IAI and PAFI seminars which they attend to gain credits (SKP) towards their competency certificates which are mandatory to practise in a community pharmacy, requiring renewal every five years.

Inclusion criteria: pharmacists and pharmacy technicians attending IAI and PAFI seminars from Central Java currently working in a community pharmacy. Exclusion criteria: pharmacists and pharmacy technicians who practised in a dispensing-only pharmacy or practised within a doctor's clinic where the patients consulted the doctor prior to entering the pharmacy; working in the same pharmacy; and from pharmacies not located in Central Java.

Setting and sample size

The study populations were community pharmacists attending IAI and community pharmacy technicians attending PAFI individual seminars. A sample size of approximately 120 community pharmacists and 120 pharmacy technicians provided adequate precision and enabled statistical analyses to be performed (with $\alpha=0.05$, this sample size has 80% power to identify differences in responses between pharmacists and technicians; prevalence estimates accurate to within $\pm 7\%$).

Questionnaire development

The community pharmacist's and pharmacy technician's questionnaires were developed based on current practice data and related literature in the community pharmacy setting in Indonesia, the Indonesian Ministry of Health technical guidelines on pharmacy services, Pharmaceutical Society of Australia (PSA) Professional Practice Standards for MMAs, the UK pharmacy scheme for minor ailments studies and guidelines, Canadian minor ailments scheme

guidelines, and previous Indonesian studies addressing community pharmacy triage services.^{1,5,7,18-26}

The questionnaires were developed taking into consideration the Indonesian Pharmacy Service (IPS) standards, which describe minimum standards for pharmacy services in Indonesian community pharmacies.^{22,27} The types of minor ailments were developed based on the same sources.^{1,5,7,22,28} The questionnaire consisted of four parts: (1) The list of minor ailments developed for this study requiring perceived scope of practice responses by pharmacists and pharmacy technicians (one question), (2) Community pharmacist/pharmacy technician characteristics (10 questions), (3) Pharmacy demographics (eight questions), and (4) MMAs standard procedures (four questions). Pharmacy demographics included the type of pharmacy (independent/supermarket/co-located with a medical centre), pharmacy ownership, number of pharmacists, presence of consultation area, number of consumers seeking advice on MMAs; and pharmacist and pharmacy technician characteristics including gender, age, years of practice and MMAs training. If there were duplicate responses from the same pharmacy (identified from the questionnaire), the respondent with responsibility to manage or was senior in the pharmacy was chosen.

Questionnaire validation

The community pharmacist's and pharmacy technician's questionnaires were reviewed by three members of the pharmacy research team, five academic pharmacists with community pharmacy experience from Curtin University, eight Indonesian community pharmacists (pharmacist's questionnaire), and eight community pharmacy technicians (pharmacy technician's questionnaire) who were practising in pharmacies with varying business and practice models in Central Java, Indonesia for face and content validity. Their feedback was reviewed by the research team and the questionnaires were amended accordingly.

The questionnaires were prepared in English, then translated to Bahasa Indonesia by the investigator whose first language is Indonesian (forward translation); then back-translated to English by a sworn translator (back translation), which was then compared to the original version by three of the researchers whose first language was English. The Indonesian versions were pre-tested by community pharmacists or pharmacy technicians for appropriateness, and issues regarding clarity of the questions and the time to complete the survey.²⁹ The pre-testing resulted in minor changes in the questionnaires. Both questionnaires were administered twice with a 10 day interval to the same community pharmacists and pharmacy technicians to assess test-retest reliability. Kappa scores measured the agreement between raters, where the MMAs services were grouped for Likert scale ratings of 1-3 and 4-5 for test-retest reliability. The Kappa scores ranged between 0.41 to 1.00, which was acceptable for health research studies.³⁰

Questionnaire distribution

The questionnaires were distributed to pharmacists and pharmacy technicians at separate seminars. IAI seminars: Pekalongan region, Surakarta city, Semarang city, on 5, 12,



and 19 January 2020. PAFI seminars: Brebes city, Semarang city, Surakarta city, on 29 December 2019, 26 January and 2 February 2020. The investigator attended the seminar and distributed the questionnaires at the registration desk prior to the seminar. Attending pharmacists or pharmacy technicians were encouraged to participate. Completed questionnaires were submitted at the registration desk (anonymous). Participants could provide their name and contact details on a separate form when submitting their completed questionnaire for a draw to win a cash prize. These contact details were collected only for the draw, and were separate to the survey responses and kept confidential, as approved by the Ethics Committee.

Data analysis

Ordinal variables such as age group, and years of practice were dichotomised based on the distribution of responses, and analysed using non-parametric tests. Descriptive statistics summarised demographics and characteristics. Respondents age were categorised based on the median values.

Percentage of Common Responses (PCR) described similarity of perceived scopes of practice for pharmacists and pharmacy technicians. PCR was determined as the mean sum of percentages of combined pharmacists' and pharmacy technicians' responses data.³¹ Binary logistic regression compared perceptions of scope of practice competence of MMAs between pharmacists and pharmacy

technicians. For the purpose of this analysis, the scope of minor ailment management was coded into: within scope of pharmacy technician and only within scope of pharmacist. Responses where the ailment was considered beyond the scope of a pharmacist (or a pharmacy technician) were described graphically, but excluded from the logistic regression analysis. Multivariate logistic regression evaluated characteristics independently associated with the scope of practice competence of MMAs. Demographic, pharmacy, and practice variables were initially included in the logistic regression, and the least significant variables were dropped sequentially until only factors with a p-value <0.05 remained in the model. The Kruskal Wallis-test analysed differences between demographic/characteristics and MMAs standard procedures responses between the three seminars datasets for IAI and PAFI. The data from the three seminars were to be collapsed and aggregated if no statistically significant differences in factors occurred (p>0.05). A p-value of <0.05 was considered statistically significant. The comparative results or percentage (%) values were presented as P=data from community pharmacist survey; T=data from pharmacy technician survey.

RESULTS

The demographic characteristics (age, gender, and level of education) of the respondent pharmacists and pharmacy

Pharmacists (n=185)			Pharmacy Technicians (n=142)		
Characteristics	n (%)		Characteristics	n (%)	
Gender	Male	24 (13.0)	Gender	Male	20 (14.1)
	Female	161 (87.0)		Female	122 (85.9)
Age (years)	21-30	89 (48.1)	Age (years)	16-20	12 (8.5)
	31-40	76 (41.1)		21-30	113 (79.6)
	41-50	13 (7.0)		31-40	15 (10.6)
	>50	7 (3.8)		41-50	2 (1.4)
Years of registered	<2 years	37 (20.0)	Years of registered	<2 years	24 (16.9)
	2-5 years	46 (24.9)		2-5 years	76 (53.5)
	6-10 years	52 (28.1)		6-10 years	32 (22.5)
	11-15 years	35 (18.9)		11-15 years	9 (6.3)
	>15 years	15 (8.1)		>15 years	1 (0.7)
Years of practice	<2 years	44 (23.8)	Years of practice	<2 years	23 (16.2)
	2-5 years	47 (25.4)		2-5 years	79 (55.6)
	6-10 years	47 (25.4)		6-10 years	28 (19.7)
	11-15 years	38 (20.5)		11-15 years	11 (7.7)
	>15 years	9 (4.9)		>15 years	1 (0.7)
Level of education	Apothecary Degree	168 (90.8)	Level of education	Pharmacy assistant school	36 (25.4)
	Master's Degree	17 (9.2)		Diploma	89 (62.7)
Position in the pharmacy	Pharmacy Manager and Owner	53 (28.6)		Bachelor of pharmacy	13 (9.2)
	Pharmacy Manager	102 (55.1)		Apothecary degree	4 (2.8)
	Employee Pharmacist	30 (16.2)			
MMAs training in the last 3 months	Yes	113 (61.1)	MMAs training in the last 3 months	Yes	69 (48.6)
	No	72 (38.9)		No	73 (51.4)
Total time on MMAs training (n=113)	1-5 hours	56 (49.6)	Total time on MMAs training (n=69)	1-5 hours	52 (75.4)
	6-10 hours	43 (38.1)		6-10 hours	17 (24.6)
	11-15 hours	2 (1.8)		>10 hours	0 (0.0)
	>15 hours	12 (10.6)			



Pharmacists (n=185)		Pharmacy Technicians (n=142)	
Characteristics	n (%)	Characteristics	n (%)
Type of pharmacy		Type of pharmacy	
Independent	110 (59.5)	Independent	91 (64.1)
Franchise	25 (13.5)	Franchise	19 (13.4)
Supermarket	3 (1.6)	Supermarket	0 (0.0)
Co-located with a medical centre	40 (21.6)	Co-located with a medical centre	27 (19.0)
Other	7 (3.8)	Other	5 (3.5)
Pharmacy ownership		Pharmacy ownership	
Pharmacist	72 (38.9)	Pharmacist	51 (35.9)
Non-pharmacist	68 (36.8)	Non-pharmacist	67 (47.2)
Non-pharmacy company	8 (4.3)	Non-pharmacy company	0 (0.0)
Regional owned	5 (2.7)	Regional owned	2 (1.4)
State-owned	17 (9.2)	State-owned	21 (14.8)
Other	14 (7.6)	Other	1 (0.7)
Missing	1 (0.5)		
Private room for consultation		Private room for consultation	
Yes	149 (80.5)	Yes	108 (76.1)
No	35 (18.9)	No	34 (23.9)
Missing	1 (0.5)		
Average consumers per week		Average consumers per week	
<100	23 (12.4)	<100	5 (3.5)
100-150	28 (15.1)	100-150	29 (20.4)
151-250	32 (17.3)	151-250	18 (12.7)
251-350	24 (13.0)	251-350	16 (11.3)
351-450	14 (7.6)	351-450	15 (10.6)
451-550	15 (8.1)	451-550	21 (14.8)
551-700	20 (10.8)	551-700	16 (11.3)
>700	28 (15.1)	>700	22 (15.5)
Missing	1 (0.5)		
Average MMAs patients per week		Average MMAs patients per week	
<10	7 (3.8)	<10	3 (2.1)
10-20	20 (10.8)	10-20	10 (7.0)
21-30	27 (14.6)	21-30	9 (6.3)
31-40	10 (5.4)	31-40	12 (8.5)
41-50	24 (13.0)	41-50	17 (12.0)
51-60	13 (7.0)	51-60	18 (12.7)
61-70	16 (8.6)	61-70	19 (13.4)
>70	67 (36.2)	>70	54 (38.0)
Missing	1 (0.5)		
Employed pharmacist		Employed pharmacist	
0	98 (53.0)	0	41 (28.9)
1	67 (36.2)	1	86 (60.6)
2	19 (10.3)	2	15 (10.6)
>2	1 (0.5)	>2	0 (0.0)
Pharmacy technician		Pharmacy technician	
0	11 (5.9)	0	0 (0.0)
1-2	137 (74.1)	1-2	59 (41.6)
3-4	30 (16.2)	3-4	66 (46.5)
5-6	3 (1.6)	5-6	13 (9.1)
>6	4 (2.2)	>6	4 (2.8)

technicians were not significantly different between the first, second, and third seminars (p-values >0.05). These data were aggregated for subsequent analyses.

In total, 234 pharmacists attended three separate IAI seminars (59 pharmacists the first, 37 the second, and 138 the third seminar). Seven declined to participate, leaving 227 questionnaires distributed. Nine pharmacists had registered to attend but were absent. Of those distributed, 196 were returned. Eleven were excluded: two pharmacies located within a doctor's clinic, two located in a medical skincare clinic, one pharmacist from a different province, two duplicates, and four incompletes. The response rate was 81.5% (185/227) of useable questionnaires.

In total, 216 pharmacy technicians attended the three PAFI seminars (54 technicians the first, 99 the second, and 63 the third seminar). Five declined to participate, leaving 211 questionnaires distributed, of which 151 were returned. Nine questionnaires were excluded: two pharmacies were within a doctor's clinic and seven were incomplete. The response rate was 67.3% (142/211) of useable questionnaires.

Table 1 provides the demographic profiles of 185 pharmacist and 142 pharmacy technician respondents. Most pharmacist and pharmacy technician respondents were female (P=161/185, 87.0%; T=122/142, 85.9%), under the age of 40 years for pharmacists (165/185, 89.2%), and under the age of 30 years for pharmacy technicians (125/142, 88.1%). Most pharmacist respondents held an



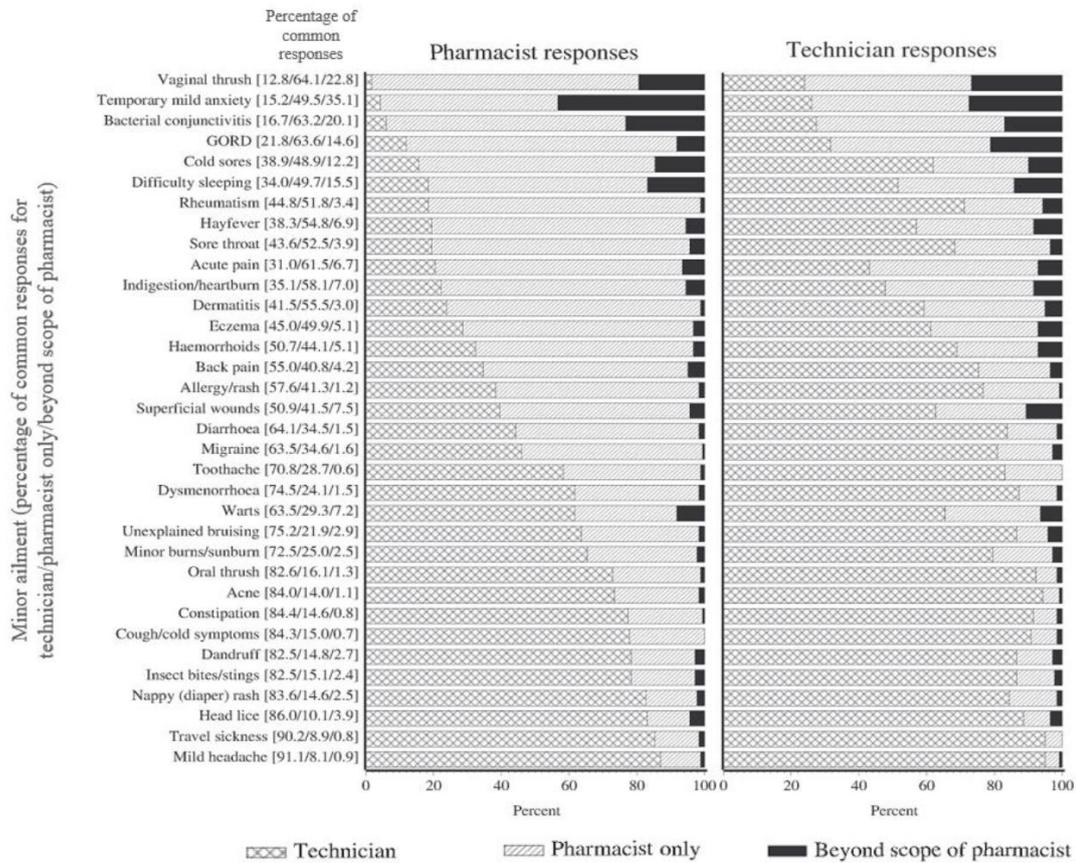


Figure 1. The responses of pharmacists and pharmacy technicians to 34 proffered minor ailments asking their perceptions of scope of practice for pharmacy technicians (and therefore pharmacists), pharmacists or beyond the scope of pharmacists and therefore both

Apothecary/Pharmacist professional degree (168/185, 91%) and more than half of the pharmacy technician respondents held a diploma degree (89/142, 63%). Almost half of the pharmacist respondents worked on average more than 30 hours per week (90/185, 48.6%).

Table 3. Pharmacists' (n=185) and pharmacy technicians' (n=142) responses regarding who normally performs the management of minor ailments functions in their pharmacy			
MMA activities; n (%)	Pharmacist	Technician	P-value
Evaluating patient-specific information to assess medication therapy			<0.001
By a pharmacist	171 (92.4)	93 (65.5)	
By a pharmacy technician	14 (7.6)	49 (34.5)	
Reviewing medication allergies			<0.001
By a pharmacist	175 (94.6)	89 (62.7)	
By a pharmacy technician	10 (5.4)	53 (37.3)	
Providing minor ailments counselling			<0.001
By a pharmacist	132 (71.4)	47 (33.1)	
By a pharmacy technician	53 (28.6)	95 (66.9)	
Recommending Western over-the-counter and pharmacy-only medicines			<0.001
By a pharmacist	138 (74.6)	62 (43.7)	
By a pharmacy technician	47 (25.4)	80 (56.3)	
Screening or point-of-care testing recommendations			<0.001
By a pharmacist	141 (76.2)	64 (45.1)	
By a technician	44 (23.8)	78 (54.9)	
Providing advice to refer the patient to the doctor			<0.001
By a pharmacist	175 (94.6)	107 (75.4)	
By a pharmacy technician	10 (5.4)	35 (24.6)	
Providing written and/or verbal communication to the doctor			<0.001
By a pharmacist	178 (96.2)	120 (84.5)	
By a pharmacy technician	7 (3.8)	22 (15.5)	

p-value <0.05 indicates that pharmacists and technicians differed in their responses



Independently owned pharmacies (P=110/185, 59.5%; T=91/142, 64.1%) were the highest proportions of community pharmacies where pharmacist and pharmacy technician respondents worked (Table 2). Almost two-fifths of the pharmacist (72/185, 38.9%) and pharmacy technician (51/142, 35.9%) respondents worked in pharmacies with a pharmacist owner, while the remainder had non-pharmacist owners. More than half of the pharmacies

operated for seven days per week with an average working day of 15 hours (median 13.5 hours). Only one pharmacy (1/142, 0.7%) did not have a pharmacy manager as reported in the pharmacy technician survey.

The responses of pharmacist and pharmacy technician respondents to 34 proffered minor ailments asking their perceptions of scopes of practice for pharmacy technicians

Table 4. Univariate and Multivariate analysis of factors influencing perceived scope of practice of management of minor ailments with PCR values between 40%-60% as perceived by pharmacist (n=185) and pharmacy technician (n=142) respondents. The Odds Ratio (OR) shows the odds of responding that the ailment is within the scope of practice of the pharmacist only

Variable	Univariate		Multivariate	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Allergy/Rash				
Respondent:		<0.0001		<0.0001
Technician	1 (reference)		1 (reference)	
Pharmacist	5.33 (3.25-8.73)		3.92 (2.27-6.76)	
Pharmacy type				0.0201
Not co-located			1 (reference)	
Co-located			0.47 (0.25-0.89)	
Pharmacist assesses medication therapy				0.0453
No			1 (reference)	
Yes			2.15 (1.02-4.54)	
Pharmacist provides ailment counselling				0.0386
No			1 (reference)	
Yes			1.76 (1.03-3.01)	
Technician work hours				0.0094
Low			1 (reference)	
High			2.02 (1.19-3.42)	
Back pain				
Respondent:		<0.0001		<0.0001
Technician	1 (reference)		1 (reference)	
Pharmacist	6.24 (3.76-10.38)		4.85 (2.85-8.26)	
Years of practice				0.0402
< 6 years			1 (reference)	
6 or more years			1.70 (1.02-2.83)	
Pharmacist assesses medication therapy				0.0327
No			1 (reference)	
Yes			2.19 (1.07-4.49)	
Cold sores				
Respondent:		<0.0001		<0.0001
Technician	1 (reference)		1 (reference)	
Pharmacist	9.79 (5.65-16.95)		11.40 (5.96-21.80)	
Years of practice				0.0056
< 6 years			1 (reference)	
6 or more years			0.37 (0.18-0.75)	
Training in MMAs				0.0476
No			1 (reference)	
Yes			0.55 (0.30-0.99)	
Number of technicians as staff				0.0353
Low			1 (reference)	
High			0.50 (0.26-0.95)	
Consumers seeking advice on MMAs				0.0238
Low			1 (reference)	
High			2.06 (1.10-3.84)	
Dermatitis				
Respondent:		<0.0001		<0.0001
Technician	1 (reference)		1 (reference)	
Pharmacist	5.20 (3.20-8.46)		3.68 (2.13-6.33)	
Years of practice				0.0360
< 6 years			1 (reference)	
6 or more years			2.09 (1.05-4.15)	
Training in MMAs				0.0315
No			1 (reference)	
Yes			0.55 (0.32-0.95)	
Pharmacist reviewing medication allergies				0.0283
No			1 (reference)	
Yes			2.40 (1.22-4.75)	



Table 4 (cont). Univariate and Multivariate analysis of factors influencing perceived scope of practice of management of minor ailments with PCR values between 40%-60% as perceived by pharmacist (n=185) and pharmacy technician (n=142) respondents. The Odds Ratio (OR) shows the odds of responding that the ailment is within the scope of practice of the pharmacist only (cont.)

Variable	Univariate		Multivariate	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Diarrhoea				
Respondent:		<0.0001		<0.0001
Technician	1 (reference)		1 (reference)	
Pharmacist	6.91 (3.99-11.95)		5.28 (2.92-9.57)	
Training in MMAs			1 (reference)	0.0283
No				
Yes			1.84 (1.07-3.18)	
Pharmacy type			1 (reference)	0.0318
Not co-located				
Co-located			0.49 (0.25-0.94)	
Consultation area			1 (reference)	0.0253
No				
Yes			2.22 (1.10-0.46)	
MMAs activities spent at pharmacy			1 (reference)	0.0344
Low				
High			0.53 (0.29-0.95)	
Pharmacist assesses medication therapy			1 (reference)	0.0023
No				
Yes			4.00 (1.64-9.74)	
Consumers seeking advice on MMAs			1 (reference)	0.0344
Low				
High			0.53 (0.29-0.95)	
Eczema				
Respondent:		<0.0001		<0.0001
Technician	1 (reference)		1 (reference)	
Pharmacist	4.60 (2.84-7.44)		3.63 (2.18-6.06)	
Gender			1 (reference)	0.0238
Female				
Male			0.43 (0.20-0.89)	
Pharmacist assesses medication therapy			1 (reference)	0.0002
No				
Yes			3.76 (1.86-7.61)	
Hayfever				
Respondent:		<0.0001		<0.0001
Technician	1 (reference)		1 (reference)	
Pharmacist	6.38 (3.83-10.63)		4.19 (2.30-7.63)	
Employment of employee pharmacist			1 (reference)	0.0247
No				
Yes			1.96 (1.09-3.52)	
Consultation fee			1 (reference)	0.0017
No				
Yes			2.35 (1.13-4.92)	
Pharmacist assesses medication therapy			1 (reference)	0.0006
No				
Yes			3.43 (1.70-6.90)	
Haemorrhoids				
Respondent:		<0.0001		<0.0001
Technician	1 (reference)		1 (reference)	
Pharmacist	5.72 (3.47-9.41)		4.35 (2.55-7.42)	
Pharmacist reviewing medication allergies			1 (reference)	0.0172
No				
Yes			2.48 (1.18-5.25)	
Consumers who present to a pharmacy			1 (reference)	0.0339
Low				
High			0.59 (0.36-0.96)	

(and therefore pharmacists), pharmacists or beyond the scope of pharmacists (and therefore both) is reported in Figure 1. PCR values for combined pharmacist and pharmacy technician responses to manage each of the ailments or if it reported beyond the scope of both are also provided. Notably pharmacists and pharmacy technicians responded similarly that the following ailments were generally managed by pharmacists: vaginal thrush,

bacterial conjunctivitis, gastro-oesophageal reflux disease (GORD), and acute pain. Overall, there is a discordance in the perceived scopes of practice where the responses of pharmacists indicated a lower scope than pharmacy technicians as shown in Figure 1.

A majority of pharmacy technicians reported performing minor ailments consultations (Table 3). However, where



Table 4 (cont). Univariate and Multivariate analysis of factors influencing perceived scope of practice of management of minor ailments with PCR values between 40%-60% as perceived by pharmacist (n=185) and pharmacy technician (n=142) respondents. The Odds Ratio (OR) shows the odds of responding that the ailment is within the scope of practice of the pharmacist only					
Variable	Univariate		Multivariate		
	OR (95% CI)	p-value	OR (95% CI)	p-value	
Rheumatism					
Respondent:	Technician Pharmacist	1 (reference) 13.41 (7.80-23.05)	<0.0001	1 (reference) 19.52 (10.41-36.61)	<0.0001
Gender	Female Male			1 (reference) 0.26 (0.11-0.61)	0.0019
MMA activities spent at pharmacy	Low High			1 (reference) 0.46 (0.25-0.85)	0.0126
Pharmacy manager working hours	Low High			1 (reference) 2.47 (1.34-4.52)	0.0036
Sore throat					
Respondent:	Technician Pharmacist	1 (reference) 9.50 (5.65-15.96)	<0.0001	1 (reference) 5.77 (3.30-10.11)	<0.0001
Years of practice	< 6 years 6 or more years			1 (reference) 2.01 (1.15-3.53)	0.0151
Pharmacist assesses medication therapy	No Yes			1 (reference) 2.65 (1.23-5.71)	0.0129
Pharmacist reviewing medication allergies	No Yes			1 (reference) 2.46 (1.10-5.49)	0.0286
Superficial wounds					
Respondent:	Technician Pharmacist	1 (reference) 3.34 (2.06-5.41)	<0.0001	1 (reference) 2.74 (1.65-4.56)	0.0001
Pharmacist assesses medication therapy	No Yes			1 (reference) 2.27 (1.14-4.54)	0.0199

they considered the minor ailment was not within their scope of practice, they referred the patient to the pharmacist (T=120/142, 84.5%).

Table 4 shows eleven minor ailments with PCR values between 40-60%, reported by pharmacist and pharmacy technician respondents. However, the odds of each being within the perceived scope of practice of a pharmacist differed significantly between respondents (p<0.0001). Other factors more often independently associated with the ailment being within the scope of the pharmacist included practising for more than 6 years and the pharmacist assessing medication therapy. Where the pharmacy was co-located with a medical centre, the odds of the scope of practice being within that of a pharmacist were significantly lower.

DISCUSSION

This study has evaluated the perceived competence of current community pharmacists and pharmacy technicians to manage selected MMAs in Central Java. To our knowledge, this is the first study to evaluate Indonesian pharmacists' and pharmacy technicians' perceived scopes of practice and competency regarding their pharmacy-based services for the MMAs.

Typical response rates for paper-based surveys range from 30%-55%.³² This study had response rates of 81.5% for pharmacists and 69.8% the pharmacy technicians. This higher response rate minimised bias of non-participants affecting the results.³² Pharmacies located within a doctor's clinic where the patients were required to see the doctor prior to visiting the pharmacy were excluded from this study because the initial assessment and consultation for minor ailments were with the doctor and not the pharmacist.

A high proportion of younger female respondents was found in both pharmacist and pharmacy technician groups compared with data for all registered pharmacists and pharmacy technicians in Central Java (p<0.001). However, it is not possible to ascertain the representativeness of the samples because the register does not include employment category such as community, hospital, industry. The pharmacy characteristics reported in this study are comparable with gender, type of pharmacy, and pharmacy ownership reported in studies conducted in community pharmacies in Bandung and Jakarta, Indonesia.³³⁻³⁵

Scope and competence of minor ailment management

The Indonesian Ministry of Health's technical guidelines for pharmacy practice lists 10 minor ailments as manageable by community pharmacies. However, the majority of pharmacists and pharmacy technicians reported perceived



competency in a wider range of MMAs. This list is dated and these findings indicate a need to review the Indonesian pharmacy practice technical guidelines for MMAs. Minor ailments are commonly classified as non-complicated and may be managed within a community pharmacy setting. Our findings have suggested that pharmacist's perceived competence to manage certain ailments was much broader than the 10 listed by the Ministry and embraced the 34 included in this study. Discordance is evident where pharmacy technician's perceptions of their scope was wider than that ascribed by community pharmacists. Vaginal thrush, bacterial conjunctivitis, GORD, and acute pain were minor ailments that were perceived as limited to a pharmacist. Minor ailments such as toothache, oral thrush, and constipation were clearly within the scope of a pharmacy technician. Temporary mild anxiety and difficulty sleeping had higher levels reported beyond the scope of a pharmacist to manage in the community pharmacy (PCR 35.1% and 15.5%), which also implies beyond the scope of a pharmacy technician.

Pharmacy technician respondents indicated that they felt competent to manage not only straightforward minor ailments but also those requiring detailed assessment and treatment requiring pharmacist-only medicines. Notably migraine was included in pharmacy technicians perceived competence to manage. This was a surprising finding but possibly indicated confusion with headaches. Competence to manage MMAs needs to be evaluated in a future study.

There appears to be a discordance and similarities between pharmacists' and pharmacy technicians' perceptions of their scopes of practice and those of each other. This highlights that the pharmacists' and pharmacy technicians' perspectives toward a minor ailment may differ or that one might not be fully cognizant of the scopes of practice of the other group. Inadequate understanding of each other's capabilities may pose a problem for some MMAs, raising safety concerns, and contributing to inconsistent practice.^{10,36}

Factors that influenced perceived scope of practice of MMAs associated with pharmacy characteristics

This study found that where a pharmacist assessed patients' medication therapy, provided minor ailment counselling, and had six or more years of practice experience, were associated with these MMAs being within a pharmacist's scope of practice. Co-location with a medical practice was associated with ailments being less likely within a pharmacist's scope and presumably were referred more often for medical consultation due to the accessibility to a doctor. Pharmacists assess patients' medication therapy to gain patient information related to safety and appropriate use. Allergy/rash is a common skin condition in which patients sought advice from pharmacists. Thus, pharmacist's clinical decision making is essential to identify if the management of the rash was within their scope of practice or required referral.³⁷

Pharmacists and pharmacy technicians should adhere to codes of practices that ensure they manage ailments within their areas of competence and health authorities must support them through the development of appropriate regulations. However, these regulations must not restrict

pharmacies in the provision of guidance and support where they have the expertise. Future research should evaluate the expertise of community pharmacists and pharmacy technicians and their influence upon consumers when providing MMAs services. Pharmacy education and training might also contribute to differences in perceptions of professional competency between community pharmacists and pharmacy technicians regarding MMAs.

Limitations

Limitations of this study include its reliance on participants' perceptions and self-reports of scopes of MMA services in Indonesian community pharmacies. Recruiting samples attending IAI and PAFI seminars may not be representative of all community practitioners. No suitable sampling frames are available to enable this evaluation. However, all pharmacists and pharmacy technicians are required to attend a range of seminars used in this study, for re-registration. Therefore, some caution should be exercised in generalising these findings.

CONCLUSIONS

The scope of provision of MMA services by pharmacists and pharmacy technicians needs to be more broadly established. Importantly, given the discordant perceptions to MMAs by pharmacists and pharmacy technicians, a strong need exists to ensure that each professional practises within their scope of practice to achieve safe pharmacy practices. Professional experience, patient counselling and pharmacy location influence perceived scope of practice. Professional and government reviews of the scopes of MMA practice is essential to enhancing primary health care in Indonesia.

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CONFLICT OF INTEREST

No conflict of interest to disclose.

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Appendix M Attribution of Research Outputs

The nature and extent of the intellectual input by the candidate and co-authors have been validated by all authors below:

1. **Mizranita V, Sim TF, Sunderland B, Parsons R, Hughes JD. The pharmacists' and pharmacy technicians' scopes of practice in the management of minor ailments at community pharmacies in Indonesia: A cross-sectional study. Pharm Pract (Granada). 2021;19(2):2295.**

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	Vinci Mizranita	Jeff Hughes	Bruce Sunderland	Tin Fei Sim	Richard Parsons
Conceptualization	V	V	V	V	
Data curation	V				
Formal analysis	V				V
Investigation	V				
Methodology	V	V	V	V	V
Supervision		V	V	V	

Validation		V	V	V	
Writing – original draft	V				
Writing – review & editing	V	V	V	V	V
I, acknowledge that these represent my contribution to the above research output, and I have approved the final version.					
Signed:					

2. Mizranita V, Hughes JD, Sunderland B, Sim TF. The impact of COVID-19 on community pharmacy practice and management of minor ailments in Indonesia: A qualitative study of pharmacists' and pharmacy technicians' experiences

Under revision for publication to Asia Pacific Journal of Public Health. 2022.

	Vinci Mizranita	Jeff Hughes	Bruce Sunderland	Tin Fei Sim
Conceptualization	V	V	V	V
Data curation	V			
Formal analysis	V			
Investigation	V			
Methodology	V	V	V	V
Supervision		V	V	V
Validation		V	V	V
Writing – original draft	V			
Writing – review & editing	V	V	V	V
I, acknowledge that these represent my contribution to the above research output, and I have approved the final version.				

Signed:				
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3. Mizranita V, Hughes JD, Sunderland B, Sim TF. The Management of Minor Ailments in Community Pharmacies in Indonesia: Application of Agency Theory

Accepted for publication to Qualitative Health Research. 2022

	Vinci Mizranita	Jeff Hughes	Bruce Sunderland	Tin Fei Sim
Conceptualization	V	V	V	V
Data curation	V			
Formal analysis	V			
Investigation	V			
Methodology	V	V	V	V
Supervision		V	V	V
Validation		V	V	V
Writing – original draft	V			

Writing – review & editing	V	V	V	V
I, acknowledge that these represent my contribution to the above research output, and I have approved the final version.				
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Cc: Jeff Hughes <j.d.hughes@curtin.edu.au>; Bruce Sunderland <B.Sunderland@curtin.edu.au>; Tin Fei Sim <T.Sim@curtin.edu.au>

Dear Dr. Vinci,

Thank you for your email.

Yes, you can include the article entitled-'The pharmacists' and pharmacy technicians' scopes of practice in the management of minor ailments at community pharmacies in Indonesia: A cross-sectional study' in your thesis.

Please feel free to contact us for further queries.

Regards,
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Sent: Tuesday, June 7, 2022 3:35 PM

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Dear Pharmacy Practice

Editor-in-chief

My name is Vinci Mizranita and I am studying for a PhD at Pharmacy, Curtin Medical School, Curtin University, Australia.

I am the author and corresponding author of the following article:

- **Mizranita V, Sim TF, Sunderland B, Parsons R, Hughes JD. The pharmacists' and pharmacy technicians' scopes of practice in the management of minor ailments at community pharmacies in Indonesia: A cross-sectional study. Pharm Pract (Granada). 2021;19(2):2295**

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