Individual and environmental factors that influence longevity of newcomers to nursing and midwifery: a scoping review protocol

Abstract

Objective: To identify and map the literature that describes as many individual and environmental factors and the interaction between factors that influence nurses and midwives to stay in or leave their discipline within the first three years of practice.

Introduction: The turnover rate of newcomers (within the first three years) to nursing and midwifery is higher than in later years, thus contributing to the worldwide shortage. Both individual and environmental factors, often in combination, contribute to this attrition. Many studies demonstrate the associations of factors with turnover or intention to stay however, the scope of factors has not been documented.

Inclusion criteria: Newcomers are registered nurses and registered midwives within the first three years of entering their discipline. Quantitative and qualitative studies, systematic reviews, text and opinion pieces that explore individual or environmental factors that influence the decisions to leave or to remain in nursing and midwifery in any context, will be considered. Factors may include coping, anxiety, mindfulness, practice environment or combinations such as resilience, satisfaction and burnout. Articles must have been peer reviewed and/or written by a person of standing in the field. Literature since 1974 and published in English will be considered. Newcomers who have completed vocational training will be excluded.

Methods: The Joanna Briggs Institute method for scoping reviews will be followed. An extensive search of multiple databases and the gray literature will be undertaken. Data extracted will be synthesized and results reported using a mind map, tables and narrative form.

Keywords: attrition; early career; newly graduated nurses/midwives; retention; turnover

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Introduction

The World Health Organization has estimated that the worldwide shortage of nurses and midwives will be 7.6 million by 2030.\(^1\) Within this estimate, the regions of Africa, Americas, East Mediterranean, South East Asia and Western Pacific have predicted shortages ranging from 0.5 million in the Americas to 2.8 million in Africa.\(^2\) More specifically, to avoid further shortages, the United States (US) require an additional 370,000 nurses by 2028,\(^3\) Australia requires 85,000 nurses and midwives by 2025\(^4\) and Canada requires 60,000 nurses by 2022.\(^5\) Meanwhile, in 2018, the number of new entrants onto the Nursing and Midwifery Council register to practice in the United Kingdom was exceeded by the numbers leaving.\(^6\)

To overcome this shortage there are two strategies that can be used: recruit new nurses and midwives into the workforce and retain the nurses and midwives once they are in the workforce. The latter strategy has had less focus until recently.\(^4,6\)

Across the world reported turnover rates of nurses vary and range between 5 to 60%.\(^7-10\) Specifically, a study of registered nurse (RN) turnover conducted in Western Australia (WA), New South Wales (NSW) and Australian Capital Territory in 2014 found an annual turnover of 15.1% with rates ranging from 12.6% in NSW to 16.7% in WA\(^10\) while a study in Indonesian private hospitals found turnover rates between 15-44%.\(^7\) The turnover rates for RNs are higher in the early years of nursing\(^4,5,7\) with a reported mean turnover of 22% in the first three years of practice in Indonesian hospitals,\(^7\) 28% in Canada,\(^5\) up to 55% in Australia\(^11\) and 30% in the first year of practice in the US rising as high as 57% in the second year.\(^12\)

The high turnover of nurses and midwives in the health care system has consequences for the economy, patient care and staff. A loss of productivity and costs associated with replacement of nurses and midwives often impact public funds.\(^13\) Disruption of nursing and midwifery teams and increased workloads heighten levels of stress and burnout for those that remain which contributes to job dissatisfaction.\(^13\) Further, the consequences of nurse and midwife shortages impact staff patient ratios and skill mix which adversely impact patient outcomes with lower quality of care provided.\(^14\)

The reasons for leaving the profession are complex as many personal and workplace issues can impact job satisfaction. However, we do know that nurse retention can relate strongly to the nurses’ levels of psychological resilience.\(^15\) Recent efforts have been made to understand the key individual variables that contribute to resilience in nurses. The International Consortium of Workforce Resilience posits that nurses who believe that they have the ability to solve problems at work (self-efficacy) can detach and reflect on difficult experiences (mindfulness) and use effective strategies to manage day to day stress (coping), are likely to be more resilient than nurses who don’t have or use these particular skills.\(^16\) While a low level of psychological resilience has been associated with negative outcomes such as burnout, it is also critical to consider the context or the environment in which the
nurse is working and how this impacts on their ability to build and maintain resilience. Cusack et al.\textsuperscript{17} theorize that environmental factors of support and development of nurses and midwives’ competence, professionalism and wellbeing alongside the individual’s personal and professional characteristics are necessary to build resilience. A recent paper by Rees et al.\textsuperscript{18} found that both individual factors (resilience and negative affect) and environmental factors (the practice environment) explained burnout scores when considered together. The relationship between staff retention and a positive practice environment has been established and strategies to create a positive practice environment have been identified.\textsuperscript{19} Based on these, an international research group, RN4CAST Consortium,\textsuperscript{19} aims to produce models forecasting intention to leave and find new approaches to more effectively manage nursing resources, particularly retention of nurses within the workforce.

While these studies are focused on retention of nurses at any stage of their career, due to the higher turnover rate, researchers have studied newcomers to nursing and midwifery as a specific group. Authors\textsuperscript{20} of an integrative review on negative workplace behaviour towards graduate nurses reported disrespectful, unprofessional and uncivil behaviour targeted towards them. They noted that at some workplaces the negative behaviour was as high as 57.1% and that the ‘precipitating factors included perceived lack of capability, magnifying power and hierarchy, leadership style and the influence of management’.\textsuperscript{20(p.41)} This behaviour towards graduates resulted in low job satisfaction, cynicism, burnout and intention to leave.

Further, there has been considerable research into graduate nurse transition from the student role to qualified nurse.\textsuperscript{21} Factors studied included the support provided to graduate nurses as well as the preparation of their preceptors and mentors.\textsuperscript{22} While a systematic review on effective strategies and interventions to assist transition is being updated,\textsuperscript{23} a recent systematic review synthesized the characteristics of interventions that were successful in reducing turnover and increasing retention of early career nurses.\textsuperscript{24} Although the relationship between the newcomer and the mentor or preceptor was identified as an important characteristic influencing newcomer retention, the individual characteristics of the newcomers were not identified and the remaining characteristics were environmental. Transition to different geographical locations and specific specialities have also been explored.\textsuperscript{25,26} For example, authors\textsuperscript{25} undertook a scoping review of support for new graduates’ transition to rural and remote practice. While this review only considered the first year of transition, they found that the lack of supportive programs and training for mentors; and poor resourcing impacted retention.

While these latter studies focus on environmental factors it is evident that both individual and environmental factors and the interaction between them contribute to newcomers’ decisions to remain or leave their professions in nursing and midwifery.

A search of PROSPERO, the Cochrane Library, the Joanna Briggs Institute Database of Systematic
Reviews and Implementation Reports and MEDLINE revealed a number of related systematic and integrative reviews, and individual studies. Typically, these reviews and studies focussed on a few factors that contributed to effective graduate nurse transition or retention of nurses at any stage of their career. No reviews or studies appear to have captured all the characteristics that influence the retention or turnover of newcomers or their intent to leave or stay in nursing and there are very few studies focussing on midwifery. No current or underway scoping or systematic reviews on the topic were identified. This scoping review seeks to identify and map the literature that describes as many individual and environmental factors as possible and the interaction between factors to inform a proposed mixed methods study. The future study plans to understand characteristics of newcomers who stay in nursing and midwifery, natural and induced attrition during the first three years in the nursing and midwifery professions, any differences within and between nurses and midwives to identify vulnerable groups and any context specific factors.

**Review question**

What environmental and individual factors influence nurses and midwives to stay or leave their profession within the first three years of clinical practice in their discipline?

**Inclusion criteria**

**Participants**

This review will consider studies that include RNs and registered midwives (RM) who are newcomers within the disciplines of either nursing or midwifery. Included within this, are those who became RM following being a RN as midwifery is a separate discipline to nursing (eg. nurse-midwife).

Newcomer is defined as nurses and midwives employed in their first three years of practice in their registered discipline. Three years is chosen as evidence suggests that nurses' stress levels are higher in the first two years of practice compared to after the third year therefore influencing the decision to stay or leave the profession. Further, a recent study reported the RN turnover rate as eight times greater in the first three years of clinical practice compared to later.

Nurses and midwives whose educational preparation leads to registration on a part of the register that allows them to work only under the supervision of registered nurses, midwives or physicians will be excluded eg. enrolled, licensed practical and licensed vocational nurses. Nurses who become registered having converted from these groups that could only work under supervision, will be excluded as they are not newcomers to the discipline.

**Concept**

This review will consider studies that explore individual or environmental factors that influence the decisions to leave or to remain in nursing and midwifery within the first three years of practice. Individual
factors are defined as personal characteristics and may include but are not limited to, age, sex, marital status, psychological capital (self-efficacy, hope and optimism) anxiety, perceived preparedness, mindfulness, neuroticism and coping.

Environmental factors are structures that influence the practice environment in which care is delivered such as staffing, work load, physical and human resources, management, support (work place interventions that nurture and enable newcomers such as working relationships, leadership) and development (interventions that empower newcomers such as professional development, mentoring, explicit role expectations). 17

Combinations of both individual and environmental characteristics may contribute to nurses and midwives leaving or staying in their discipline such as resilience, job satisfaction and burnout 18,26 therefore, these factors will also be included.

Many of the individual, environmental and combination factors can be measured with reliable, validated instruments such as the Spielberger State Trait Anxiety Inventory form Y2 (STAI-Y2), the Connor-Davidson Resilience Scale, the Professional Quality of Life Scale version 5 (ProQoL5), the Positive and Negative Affect Schedule short form (PANAS-SF), the Five Facet Mindfulness Questionnaire (FFMQ) and Practice Environment Scale-Nursing Work Index (PES-NWI). These, and others, will be included.

Context

This review will consider studies that were carried out in primary, secondary or tertiary healthcare settings including the community, mental health and aged care. Articles from any country will be considered for inclusion. The newcomers will have been working clinically and provided direct patient care. Newcomers who were employed in education, research, administration or non-nursing/midwifery roles will be excluded.

Types of sources

The following research designs will be considered for inclusion: experimental and quasi-experimental study designs including randomized controlled trials, non-randomized controlled trials, before and after studies and interrupted time-series studies; analytical observational studies including prospective and retrospective cohort studies, case-control studies and analytical cross-sectional studies; descriptive observational study designs including case series, individual case reports and descriptive cross-sectional studies. Qualitative studies will also be considered, including, but not limited to, designs such as phenomenology, grounded theory, ethnography, qualitative descriptive, action research and feminist research. In addition, mixed methods studies, systematic reviews, program evaluations and quality improvement reports that meet the inclusion criteria will be considered. All research articles will only be considered if they have been peer reviewed. Factors from individual studies that have been incorporated in an included systematic review will not be counted a second time. Text and opinion papers will be considered for inclusion in this scoping review if they are
published in peer-reviewed academic journals, meet the review objective and the source of the opinion has standing in the field. Dissertations and theses will be included. Conference papers will be included when full papers are available and have undergone peer review or authors have standing in the field however, where only abstracts are available, conference papers will be excluded. Policy documents will also be excluded as they should be based on peer reviewed documents.

The earliest publication highlighting attrition in nursing and the difficulties of transition for graduate nurses was in 1974, therefore all articles since this date to present will be considered for inclusion in this review. Further, articles published in English will be included.

**Methods**

The proposed scoping review will be conducted in accordance with the Joanna Briggs Institute methodology for scoping reviews.

**Search strategy**

The search strategy will aim to locate both published and unpublished primary studies, reviews and text and opinion papers. An initial limited search of MEDLINE (Ovid) and CINAHL Plus (Ebsco) was undertaken to identify articles on the topic. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles were used to develop a full search strategy for MEDLINE (see Appendix I). This search strategy has been peer reviewed by the PRESS Forum. The peer reviewed search strategy, including all identified keywords and index terms will be adapted and translated across databases on the various platforms. The reference lists of articles included in the review will be screened for additional papers. Key studies will be checked against citation databases Scopus and Web of Science for forward citations.

**Information sources**

The databases to be searched include:

- Cochrane Library.
- On the Ebsco Platform: CINAHL Plus with full text.
- On the Informit Platform: Health Collection, APAIS Health, AMI.
- Citation databases: Scopus and Web of Science.
Sources of unpublished studies and gray literature to be searched include: OpenGrey, Google Scholar, ProQuest Dissertations and Theses, CORE, BASE, OpenDOAR.

**Study selection**

Following the search, all identified records will be collated and uploaded into EndNote version X9 (Clarivate Analytics, PA, USA) and duplicates removed. Each title and abstract will then be screened by two reviewers independently for assessment against the inclusion criteria for the review. Potentially relevant papers will be retrieved in full and their citation details imported into the Joanna Briggs Institute’s System for the Unified Management, Assessment and Review of Information (JBI SUMARI) (The Joanna Briggs Institute, Adelaide, Australia). The full text of selected citations will be assessed in detail against the inclusion criteria by two independent reviewers. Reasons for exclusion of full text papers that do not meet the inclusion criteria will be recorded and reported in the scoping review. Any disagreements that arise between the reviewers at each stage of the selection process will be resolved through discussion, or with a third reviewer. The results of the search will be reported in full in the final scoping review and presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) flow diagram

**Data extraction**

Data will be extracted from papers included in the scoping review by independent reviewers using a data extraction tool developed by the reviewers. The data extracted will include specific details about the population, concept, context, methods and key findings relevant to the review question. Psychometric properties and details of the instruments used to measure the individual and environmental factors identified will be extracted. The data extraction tool will be modified and revised as necessary during the process of extracting data from each included paper. Modifications will be detailed in the full scoping review. Any disagreements that arise between the reviewers will be resolved through discussion, or with a third reviewer. Authors of papers will be contacted to request missing or additional data, where required.

**Data presentation**

The extracted data will be presented in diagrammatic and tabular form in a manner that aligns with the objective of this scoping review. Mind maps maybe used to demonstrate the associations between factors. A narrative summary will accompany the tabulated and diagrammatic results and will describe how the results relate to the review’s question.

**References**


Appendix I: Search strategy

Database: Ovid MEDLINE(R) ALL <1946 to January 10, 2020>

Search conducted on 13th January 2020

1. (new graduate nurs* or new graduate midwi* or new nurs* or new midwi* or graduate nurs* or graduate midwi* or novice nurs* or novice midwi* or neophyte nurs* or neophyte midwi*).ti,ab,kf. (4294)
2. (early career adj3 (nurs* or midwi*)).ti,ab,kf. (66)
3. (newcomer* adj5 (nurs* or midwi*)).ti,ab,kf. (16)
4. (recent* graduate* adj3 (nurs* or midwi*)).ti,ab,kf. (57)
5. (newly hired adj3 (nurs* or midwi*)).ti,ab,kf. (69)
6. (newly qualified adj3 (nurs* or midwi*)).ti,ab,kf. (336)
7. nursing staff/ or nursing staff, hospital/ (65294)
8. *Nurses/ (28529)
9. *Nurse Midwives/ (5443)
10. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 (101415)
11. (intent* adj3 (stay* or remain* or resign* or leav* or quit*)).ti,ab,kf. (2522)
12. (Retention adj3 (staff or Nurs* or midwi*)).ti,ab,kf. (1932)
13. (Attrition adj3 (staff or nurs* or midwi*)).ti,ab,kf. (234)
14. (Turnover adj3 (staff or nurs* or midwi*)).ti,ab,kf. (1753)
15. Career intention*.ti,ab,kf. (281)
16. Personnel turnover.ti,ab,kf. (99)
17. exp Personnel Turnover/ (5067)
18. 11 or 12 or 13 or 14 or 15 or 16 or 17 (9890)
19. 10 and 18 (3150)
20. limit 19 to english language (3031)
21. limit 20 to yr="1974 -Current" (3021)