School of Nursing and Midwifery

Nurses' Attitudes Toward Family Witnessed Resuscitation in Western Australian Emergency Departments

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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.

Signature: _____

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DEDICATION

I dedicate this thesis to my dearest parents, Mr. and Mrs. Chan. I appreciate your support in all aspects throughout this entire process. You have stood by me and always believed in me.

ABSTRACT

Since 1982, healthcare institutions and professionals have been questioning whether family members should be allowed to enter resuscitation rooms during such critical period of treatment. A self-administered questionnaire is used in this research to investigate Western Australian emergency nurses' attitudes towards family witnessed resuscitation and to explore possible factors influencing their attitudes.

The findings of this work suggest that nurses, assuming a betwixt-between position, evaluate the costs and benefits of allowing family presence in the resuscitation room from patients, families and healthcare professionals' perspectives. Nurses have an overwhelming agreement on the beneficial aspects of the practice, while also share concerns commonly reported in previous studies with an emphasis on a family member's capability to cope with and comprehend the resuscitation procedures and a healthcare professional's ability to handling pressure.

Overall, the research suggests nurses are ambivalent in their attitude. Despite the nurses' awareness of some family members' desire to witness resuscitation and their reported benefits, in doing so, they are reluctant to initiate or formally incorporate this practice as a standard procedure. There is also a lack of consensus on the management of families' presence, however, nurses agree on the need for pre-resuscitation assessment, support staff during resuscitation and post-resuscitation debriefing. Institutional factor is identified as a significant influence on nurses' attitudes. This work will provide useful input in the future development of guidelines and will help stimulate discussion on this topic in Western Australia.

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CHAPTER 1

INTRODUCTION

Background

Family witnessed resuscitation (FWR) is known as the process of actively attempting to revive a patient in cardiac arrest in the presence of a family member (Boyd, 2000). The concept of allowing family members to witness the resuscitation of a relative is relatively new, and was initially documented as a result of a pioneer Family Participation Program introduced at the Foote Hospital in the United States (U.S.) in 1982 (Doyle et al., 1987). The successful implementation of this 9-year program provoked considerable attention and debate from both clinicians and researchers.

The Emergency Nurses Association (ENA) in the U.S. was the first professional organisation to publish an evidence-based written policy endorsing the practice of permitting family members' presence during resuscitation (ENA, 1995). Other professional bodies subsequently advocated the practice through either position statements or educational programs. Support for FWR by national and international professional organisations was based on studies suggesting that patients and family members could benefit from such practice. Benefits perceived by family members included the removal of doubt that everything possible had been done for their relatives, better understanding of patients' condition, and an easier grieving process (Holzhauser, Finucane, & Vries, 2006; Meyers et al., 2000; Robinson, Machenzie-Ross, Campbell-Hewson, Egleston, & Prevost, 1998). Patients who survived resuscitation also indicated that they felt supported by their family members'

presence in the resuscitation room (Eichhorn, Meyers, Mitchell, & Guzzetta, 1996; Robinson et al., 1998).

However, the evidence that has led to professional bodies' endorsements of FWR seems to be insufficient for many healthcare institutions and professionals to remove their doubts about the practicability of this practice. It has been more than a decade since family presence was first recommended by the ENA in 1993; nevertheless, written policies are still infrequent in many healthcare institutions and research findings reveal a prevalent practice of allowing family members to witness the resuscitation on an informal basis (Badir & Sepit, 2005; Booth, Woolrich, & Kinsella, 2004; Fallis, McClement, & Pereira, 2008; MacLean et al., 2003).

Nurses are front line staff and play a significant role at the interface between institutions and families. They emphasise family-centred care and the provision of physical and emotional support to patients and family members. However, similar to other health professionals, research evidence suggested nurses had at times varying attitudes towards FWR. Nurse participants acknowledged the potential benefits of the practice to patients and families, while remaining conservative about the implementation and formalisation within nursing practice.

In Australia, the practice of allowing family members to witness resuscitation remains a relatively new concept. To the best of the researcher's knowledge, limited studies on FWR (Holzhauser & Finucane, 2007; Holzhauser et al., 2006; Redley & Hood, 1996) have been undertaken in Melbourne and Sydney; however, no studies have been completed on this topic in Western Australia.

Research Objectives

This research aims to gain insight into nurses' attitudes towards the practice of allowing family members to be present in resuscitation rooms in two Western Australian emergency departments. Specifically, the research objectives for this study are:

- to develop a valid and reliable survey questionnaire to measure nurses' attitudes about the topic;
- to examine Western Australian emergency nurses' attitudes towards FWR, including the their perceived benefits and concerns, their opinions about the resource requirements to implement the practice, their advocacy for the practice, and their preferences for the management of family presence; and
- to identify factors which have influenced nurses' attitudes.

Significance

This particular study is significant for several reasons. First, previous studies found that more nurses than doctors had been approached by family members with a request to be present during resuscitation procedures (Blundell, Rich, Watson, & Dale, 2004; Ong, Chan, Srither, & Lim, 2004; Redley & Hood, 1996). This suggests family presence is managed more often by nursing staff due to their accessibility to patients and families. Nurses' attitudes, beliefs and thoughts are therefore more likely to affect the care given to patients and families (Ewins & Bryant, 1992). Second, available studies focusing on healthcare professionals have been mainly concerned with examining the perceived benefits and complications of FWR and whether they were accepting of the practice. Participants in some studies suggested that family members' presence should be managed under controlled circumstances and urged the

establishment of proper guidelines before treating it as a standard operating procedure (Chalk, 1995; Redley & Hood, 1996). Input from healthcare professionals on the development of an appropriate guideline is thus valuable. Third, research evidence has suggested that healthcare professionals' hesitations to implement FWR stem from concerns about the potential psychological harm of witnessing the resuscitation to family members and its medical and legal risks (Ardley, 2003; Boyd, 2000; Halm, 2005; McGahey, 2002; Moreland, 2005). However, little solid evidence supporting these concerns has been identified in practice.

This study is the first one to examine the practice of allowing family members to be present during resuscitation in two Western Australian emergency departments. Specifically this study focuses on nurses' attitudes towards FWR and their preference as to how family presence should be managed. The findings will add to the body of knowledge in Western Australian healthcare sector and provide more relevant and useful input to local professional organisations and institutions in the future development of guidelines and protocols. Further, this study explores whether healthcare professionals' acceptance has been hindered by other factors, such as demographic attributes and institutional differences. The success in the implementation of FWR requires supportive personnel. Bassler (1999) found that staff attitudes towards family presence in the resuscitation room could evolve positively as a result of institutional intervention, such as education. The findings of this study may provide information on why staff members are in agreement or not in agreement of the practice, thus helping interested institutions adopt and implement the practice in an effective manner, which impacts positively the staff and families involved.

Thesis Outline

This thesis consists of five chapters, with Chapter One providing an introduction to the study, the objectives, significance of the study, and the structure of this report.

Chapter Two presents a review of relevant literature on the topic of FWR. A discussion of the development of the concept and early practice of family present in resuscitation rooms is provided. Research studies are critically reviewed, examining the practice from the perspectives of families, patients, and healthcare professionals.

Chapter Three outlines the research methodology. The chapter begins with a description of the research approach and sample size calculation. The developmental stages of the questionnaire are described next, including questionnaire formulation and validation, pilot testing, and reliability analysis. Administration of the questionnaire and data collection and analysis are also described in this chapter.

Chapter Four reports statistical results on nurses' demographic backgrounds, knowledge of FWR, experiences with and attitudes towards the practice. A comparison among nurses is conducted to explore the influence of nurses' demographic characteristics and institutional factors on their attitudes. Exploratory factor analysis is applied to summarise nurses' attitudes towards family presence during resuscitation in terms of a small, manageable number of subscales.

Chapter Five presents a discussion about findings and recommendations to flow from the research. Limitations are discussed as well as the implications for nursing practice and future research.

CHAPTER 2

LITERATURE REVIEW

This chapter presents a review of relevant literature about the topic of family witnessed resuscitation (FWR). The review begins with a discussion on the development of the concept and early practice of allowing family members to present in the resuscitation room. Studies from family members' and patients' perspectives are then presented. The chapter concludes with a critical review of the healthcare professionals' experiences, attitudes, and concerns regarding the practice.

Background Development

The concept of FWR is relatively new and was first introduced in the U.S. in the 1980s. The word, 'resuscitation', derived from the Latin 'resuscio', is defined as "the process of sustaining the vital functions of a person in respiratory or cardiac failure while reviving him or her using techniques of artificial respiration and cardiac massage, correcting acid-base imbalance, and treating the cause of failure" (Harris, Nagy, & Vardaxis, 2006; p.1498). Typically, resuscitation is performed by healthcare professionals and conducted in an emergency situation.

Historically, emergency departments have excluded family members of a critically ill or injured patient from the treatment area during resuscitation. Family members have been asked to wait in an adjacent counselling or waiting room out of a fear that they would be unable to cope with the crisis (Eichhorn et al., 1996). This practice was first challenged in 1982 on two separate occasions at the Foote Hospital in the American state of Michigan, when family members of two patients insisted on being

present while resuscitation attempts were carried out. The first incident concerned a family member who was with the patient when emergency medical technicians began resuscitation in the patient's home and who insisted on travelling in the ambulance while the medical technicians continued their work. The second incident involved the wife of a police officer who had been shot. Although hospital personnel were working frantically to save the policeman's life, his wife begged to see her husband, even if only for a few minutes.

Inspired by positive feedback from family members in these two witnessed resuscitation events, a retrospective survey was conducted to examine whether bereaved family members would have liked to have been with their relatives during the resuscitation. A total of 18 family members of relatives who had died after an unsuccessful resuscitation attempt in the Foote Hospital's emergency department during the preceding 6-month period responded. The majority, 72%, confirmed that had they been given the opportunity, they would have chosen to be present in the resuscitation room. As a result of the findings, a 9-year Family Participation Program was introduced in Foote Hospital's emergency department (Doyle et al., 1987).

In 1985, 3 years after the commencement of the Family Participation Program, Doyle and his colleagues undertook an evaluative study of family members who had been involved in this program. A questionnaire was mailed to 70 family members to examine their experiences and seek their opinions of the program. Of 47 family members who completed the questionnaire, 72% indicated that they had been adequately informed of what they would see when they entered the resuscitation room, 70% affirmed that staff communicated with them in understandable language,

and 83% reported being accompanied by a nurse or chaplain during the resuscitation. About two-thirds of the family members believed that their presence was beneficial to their dying relatives, and 76% felt that their adjustment to their relatives' death had been made easier and their grieving had been facilitated by witnessing the resuscitation process. All family members were confident that everything possible had been done to save their relatives. All but three said that they would ask to be present during the resuscitation of a relative if the situation arose again (Doyle et al., 1987).

In the evaluative study of the Foote Hospital Family Participation Program, a healthcare provider version of the questionnaire was also developed to assess emergency staff feelings about family participation and to ask whether they had been hampered in the performance of their duties by family members. Of the 21 staff members who responded, 17 reported being involved in a witnessed resuscitation during the study. Of these, six indicated that they felt anxious about the way in which their performance had been viewed by a family member and were concerned about the possibility of a family member becoming disruptive or emotional during the procedure; yet, 15 endorsed the program (Doyle et al., 1987).

Since this initial study in the Foote Hospital, repeated references to a family member's or a relative's presence have been made in the literature and research reports. Morgan (1997) suggested that witnessed resuscitation was an initiative which allows relatives to be present in the resuscitation room while their family members were being resuscitated by healthcare professionals. Boyd and White (2000), on the other hand, viewed witnessed resuscitation as the process of active

medical resuscitation in the presence of a family member, without referring to the location in which the treatment is taking place. In a review of the literature on witnessed resuscitation from 1984 to 2004, Walker (2006) concluded that if a resuscitation attempt was witnessed, it signified a family member's or a relative's presence. This conceptualisation appears to be consistent regardless of the location of studies.

Foote Hospital's introduction of the Family Participation Program provoked considerable attention and debate from both clinicians and researchers. Anecdotal and personal accounts, both endorsing and criticising the practice, have been cited in the literature (Alderman, 1992; Grandstrom, 1989; Martin, 1991; Osuagwn, 1991). On the whole, professional bodies responded proactively and positively to this emerging trend. In 1993, the ENA in the U.S. adopted a resolution in support of family members' presence during resuscitation. This resolution supported the promotion of research on the topic, the development and dissemination of educational resources on FWR-related issues to emergency healthcare professionals, and the development of guidelines in collaboration with other disciplines in the emergency healthcare field (ENA, 1993).

In 1995, following the publication of more studies in this field (Chalk, 1995; Eichhorn, Meyers, & Guzzetta, 1995), the ENA developed a written policy advocating the option to family members to be present during resuscitation. An educational booklet "Presenting the Option for Family Presence" was developed to assist interested healthcare institutions in the adoption, development, implementation, and evaluation of a FWR program. Within the booklet, guidelines,

which could be customised to meet individual institutional needs, were recommended by the ENA to help healthcare institutions to prepare, support, and accompany family members during resuscitation. In addition, the booklet contained a blueprint for assessing the readiness of the institution and staff to implement FWR and to review liability concerns (ENA, 1995). In 1996, the Resuscitation Council of the United Kingdom (U.K.) also published a report recommending allowing family presence during the resuscitation. General guidelines were developed to help nursing staff understand FWR-related issues and their implications for nursing practice.

In the 1990s, healthcare in many countries moved from a paternalistic to a family-centred care paradigm and thus further enhanced the development of the concept of FWR. The family-centred care model acknowledges family members' role in healthcare by respecting their knowledge about their relatives and their right to be involved in the decision-making and caring processes when their relatives are not competent to make these decisions (Jezlerskl, 1993; Picton, 1995). More hospitals, including the Wooster Community Hospital in Ohio (Belanger & Reed, 1997), the Parkland Memorial Hospital in Texas (Eichhorn, Meyers, & Guzzetta, 2001; Meyers et al., 2000), and the Addenbrooke's Hospital in Cambridge in the U.K. (Robinson et al., 1998), began offering family members the option of witnessing resuscitation in their emergency departments. In-house researchers from these hospitals conducted studies to report on the outcomes of the trials in their institutions and to evaluate feedback from all participants.

Positive responses from participants in these studies were similar to the earlier findings of Doyle et al. (1987), the majority of family members who had been with a

relative in the resuscitation room suggested that their presence helped them cope with the loss of their relatives and eased their grieving process. Almost all family members expressed a willingness to participate again if the situation arose (Belanger & Reed, 1997; Eichhorn et al., 2001; Meyers et al., 2000; Robinson et al., 1998). Healthcare professionals who were initially sceptical about the practice began endorsing and promoting it after participating in a FWR episode (Belanger & Reed, 1997). Surviving patients also expressed appreciation for their family members' presence in the resuscitation room (Eichhorn et al., 2001; Robinson et al., 1998).

In the new millennium, positive feedback from FWR programs has attracted greater support for the practice from various national and international healthcare organisations. In 2000, the American Heart Association (AHA), in collaboration with the International Liaison Committee on Resuscitation, released guidelines advocating family members' presence during resuscitation and emergency cardiovascular care. In 2002, the Royal College of Nursing, the British Medical Association and the Resuscitation Council (U.K.) (Royal College of Nursing, 2002) published a joint statement, recommending all hospitals in the U.K. implement a FWR policy. Other key professional bodies including the Emergency Medical Services for Children (2000), the American Academy of Pediatrics (2002), Advanced Pediatric Life Support (2004), and the American College of Emergency Physicians (2004) began to endorse this practice through specific educational programs designed by the various professional bodies (cited in Guzzetta, Clark, & Wright, 2006). In addition, the American Association of Critical-Care Nurses (AACN, 2004) published a 'Practice Alert on Family Presence' recommending that all patient care units develop a written policy on FWR and suggesting that family members of all patients be given the

option of being present during resuscitation. The Canadian Association of Critical Care Nurses (CACCA, 2005) also endorsed FWR. More recently in 2007, the European Federation of Critical Care Nursing Associations, the European Society of Paediatric and Neonatal Intensive Care and the European Society of Cardiology Council on Cardiovascular Nursing and Allied Professions jointly issued a position statement, suggesting that all patients have the right to have a family member present during resuscitation and that a family member should be informed of this right (Fulbrook et al., 2007).

Despite recommendations by national and international professional bodies since 1993, it is still uncommon to find written policies allowing family members to witness resuscitation in healthcare institutions. Studies reveal that healthcare institutions without a specific policy, consider such an option on a case-by-case basis. For example, MacLean et al. (2003) surveyed a random sample of 1500 AACN members and 1500 ENA members. They found that only 5% of the 984 respondents worked in units with a written policy allowing family presence; however, considerably more respondents (45%) reported that their units allowed family members to be present in the absence of a written policy. Similarly, in a survey of 162 emergency departments in the U.K., only 11% had written protocols covering FWR, while four-fifths allowed it for an adult patient and more than 90% for a child (Booth et al., 2004). Moreover, Badir and Sepit (2005) collected data from 279 critical care nurses from 10 Turkish hospitals. Although none of these hospitals had a protocol or policy, 36% of the nurses reported that they had been involved in a witnessed resuscitation previously. Most recently, Fallis et al. (2008) conducted an online survey of CACCN members. Of 450 members who responded to the survey,

only 8% reported that written guidelines or policies were available in their hospitals, while about one-third (33%) had taken a family member into the resuscitation room.

The development of FWR has a more recent history in Australia. Compared to the U.S. and the U.K., limited research has been undertaken in Australia. The first documented study was conducted by Redley and Hood (1996) who reported an overall positive attitude towards family presence among emergency personnel from six Melbourne hospitals. A decade later, Holzhauser, Finucane, and Vries (2006) conducted a 3-year controlled trial study in the Princess Alexandra Hospital's emergency department in Queensland and documented positive experiences of family members and staff involved. However, evidence from both studies revealed that some staff participants were apprehensive about the potential negative effects of witnessing the resuscitation on observers and about the formal incorporation of the practice into the Australian emergency healthcare system (Holzhauser et al., 2006; Redley, Botti, & Duke, 2004).

It has been almost 3 decades since the first Family Participation Program was introduced at the Foote Hospital in the U.S.; the practice of allowing family members to be present in resuscitation rooms still remains controversial and unevenly applied. In order to understand the development of FWR, it is necessary to explore attitudes and opinions of three key constituents; patients, family members and healthcare professionals. The following sections will examine relevant studies from each of these perspectives.

Family Members' Perspectives

Family Members' Experiences in the Resuscitation Room

A number of studies have reported positive experiences of family members who had participated in a FWR program. In 1997, a 2-year trial was introduced in the Wooster Community Hospital's emergency department in Ohio. During the trial, family members were asked to choose to witness resuscitation procedures being performed on their relatives or to leave the treatment area. A year after the commencement of the trial, Belanger and Reed (1997) conducted an evaluative survey of the 24 family members who had chosen to witness resuscitation efforts. All family members said that they would participate in FWR if faced with the situation again. Similar findings were reported in a Family Presence During Cardiopulmonary Resuscitation and Invasive Procedure Program trialled in the emergency department of Parkland Memorial Hospital in Texas. Of the 39 family members who participated in the program, 98% indicated that they felt they had a right to be present and all of them would do it again if the situation arose (Meyers et al., 2000).

Further positive accounts were documented in a randomised controlled study conducted in the emergency department of Princess Alexandra Hospital in Queensland. In this 3-year study, family members were randomly allocated to either a control group, in which they were required to sit in a waiting room while resuscitation procedures were carried out on their relatives, or to an experimental group, where they were invited to stay with their relatives in the treatment area with a support staff for assistance. A total of 88 family members (30 from the control group and 58 from the experimental group) were surveyed 1 month after the resuscitation. All family members from the experimental group expressed

satisfaction about their experience during the resuscitation; in the control group, two-thirds of the family members said that they would have preferred to have been present if given the option (Holzhauser et al., 2006).

On reflection, almost all family members who had participated in a FWR program felt that they had benefited from such experience. The most frequently cited benefits by family members included: witnessing resuscitation efforts enabled them to comprehend their relatives' condition, it helped them face the reality of the situation, and it facilitated their grieving process. In addition, family members believed that their presence in the resuscitation room provided spiritual and emotional support to their relatives (Belanger & Reed, 1997; Holzhauser et al., 2006; Meyers et al., 2000). Bereaved family members who had not been offered the option suggested that their presence in the resuscitation room would have helped them cope better with their relatives' death (Holzhauser et al., 2006). According to Kubler-Ross (1970), the grieving process after a death is characterised by stages of shock, denial, anger, depression, and then acceptance. Picking up on this theme, Hampe (1975) suggested that grieving family members needed to be with their relatives, to be informed of their relatives' condition, and to be aware of the impending death. Being present in the resuscitation room could therefore help meet bereaved family members' needs and provide them with a chance to see and accept that their relatives are dying, thus, facilitating the grieving process.

Research evidence supporting the notion that family members can psychologically benefit from witnessing resuscitation procedures of a relative was provided by Robinson et al. (1998), in a study conducted in the emergency department of

Addenbrooke's Hospital in Cambridge, U.K. In this randomised controlled study, patients who required resuscitation for cardiac arrest or multiple traumas were randomly assigned to either a witnessed resuscitation group or to a control group. In the witnessed resuscitation group, patients' family members were invited to stay in the resuscitation room while treatments were carried out. In the control group, family members were escorted to a waiting room and informed about the process of the resuscitation by a chaperone. Eight family members from the witnessed resuscitation group and 10 from the control group completed five questionnaires, 3 months and 9 months after the resuscitation. The five questionnaires, including the Impact of Events Scale, the Hospital Anxiety and Depression Scale, the Beck Depression Inventory, the Beck Anxiety Inventory, and the Texas Inventory of Grief, were adopted to assess family members' psychiatric and psychological morbidity. Overall, a trend towards lower degrees of intrusive imagery, post-traumatic avoidance behaviour, and symptoms of grief were found in family members from the witnessed resuscitation group than those from the control group.

The success of structured FWR programs highlights the critical role a well-designed guideline or protocol played during family members' visits to the resuscitation room. In the Wooster Community Hospital study, a protocol was established to provide both family members and staff with a sense of direction during a witnessed resuscitation episode (Belanger & Reed, 1997). In the Parkland Memorial Hospital study, the ENA guidelines were adopted to help with issues of patient and family assessment, preparation of family members, and support during and after the resuscitation (Meyers et al., 2000). In the two randomised controlled studies conducted in the Princess Alexandra Hospital (Robinson et al., 1998) and the

Addenbrooke's Hospital (Holzhauser et al., 2006), patients and family members were carefully screened for their emotional and physical suitability to participate in these studies, trained staff members were available to facilitate the process, family members were fully informed about the patients' condition and the procedures to be performed, and resuscitation teams were prepared for family members' visits. Therefore, it is not surprising that family members participated in these studies had positive experiences with and favourable attitudes towards FWR. However, not all family members have experienced such a traumatic situation and might not be ready and willing to accept this controversial practice. The next section provides a review on studies about family members' and the general public preferences for FWR.

Family Members' Preferences for Family Witnessed Resuscitation

Further studies examined family members' preferences and found family members desire to have a choice to remain in the resuscitation room. In the intensive care units of Southampton University Hospital in the U.K., Grice, Picton and Deakin (2003) surveyed 55 family members with a relative scheduled to undergo elective cardiac and major vascular surgery. Family members were asked to consider a hypothetical scenario in which their relatives required resuscitation and they were invited to be present during their relatives' resuscitation. About half of the family members wished to take up the invitation and remain in the resuscitation room in order to provide support to their relatives and to see that everything possible was being done. For the other half who did not wish to be present, the most common reasons cited were that they felt the resuscitation process would be too distressing and that their present might impede the treatment. However, almost all but 9% of the family members suggested that their views should be formally sought before the surgery.

More recently, Duran, Oman, Jordan, Koziel, and Szymanski (2007) conducted a survey of family members of patients attending the emergency department or an intensive care unit of Colorado University Hospital in the U.S. The questionnaire used in the Parkland Memorial Hospital study was adapted to collect data from 72 family members on their attitudes and beliefs of FWR. Overall, a positive attitude was reported by respondents towards being present during resuscitation. In a study conducted in Singapore General Hospital, data was collected from 145 randomly selected family members of patients waiting in the emergency department for treatment (Ong, Chung, & Mei, 2007). Slightly less than three-fourths (73%) supported FWR, primarily because they thought that witnessing resuscitation procedures could assure them that everything possible had been done for their relatives and it would help with the grieving process if their relatives did not survive. In addition, family members believed that their presence in the resuscitation room would strengthen bonds between them and healthcare personnel.

Similarly, Mazer, Cox and Capon (2006), in a random telephone survey of 408 residents conducted in rural southwest Pennsylvania, revealed public desire for the right to witness the resuscitation of a relative or a friend. Of the respondents, 47% believed that family members and friends had a right to be present in the resuscitation room and 42% expressed a wish to be with a relative or a friend if faced with such a situation. About two-fifths considered witnessing resuscitation would be beneficial to family members and friends (38%) and as much as same (39%) considered it beneficial to patients.

From the studies reviewed, it appears that many family members have positive attitudes towards witnessing the resuscitation of a relative whether after a FWR event or given a hypothetical scenario. Both the public and study participants indicate that they would like the option to be present in the resuscitation room. This can be seen as a reflection of the general movement towards a family-centred model of care. Family members perceive themselves as having a dual-role. On the one hand, they provide emotional and spiritual support to their relatives and assist with patient care using their unique knowledge about their relatives. On the other hand, they benefit from involvement in the resuscitation process, in terms of better understanding of relatives' condition, assuring that everything has been done and accelerated grieving process.

Indeed, some literature suggests that the rationale of keeping family members out of the treatment area to protect them from trauma is no longer valid (Hadfield-Law, 2000). Various television dramas and documentaries based in resuscitation rooms have become an important source of information for the public and have demystified resuscitation (van-der-Woning, 1997). In the Grice et al. (2003) study, around 90% of the family members were found to have had some exposure to resuscitation on television. Although there is little evidence to suggest that exposure to resuscitation on television would better prepare family members for events in the resuscitation room, positive experiences with and favourable attitudes towards witnessing resuscitation by family members suggest that potential psychological harm is not a reason to exclude them from such a critical moment in their lives.

Patients' Perspectives

In previous studies, family members believed that their presence in the resuscitation room provided comfort, protection and emotional support to their relatives undergoing resuscitation treatments (Doyle et al., 1987; Meyers et al., 2000). Limited studies, however, have examined FWR from the patients' perspectives, perhaps because of the high mortality rate associated with resuscitation (Axelsson, Zettergren, & Axelsson, 2005). The AHA (2000) estimates that less than 15% of all hospitalised patients receiving cardiopulmonary resuscitation survive to discharge.

There are a few anecdotal accounts suggesting a positive impact of family members' presence on patients. In the Wooster Community Hospital study, Belanger and Reed (1997) reported that a patient was very much aware of his wife's presence during the resuscitation and felt that her encouragement helped him fight to survive. Robinson et al. (1998) followed up three surviving patients involved in the FWR trial in the Addenbrooke's Hospital; all said they were content that a family member stayed with them in the resuscitation room and none of them felt their confidentiality or dignity had been compromised.

The only study that systematically documents the experiences of surviving patients was conducted by Eichhorn et al. (2001) in the Parkland Memorial Hospital. Nine surviving patients were interviewed 2 months after their resuscitation experience. During the interview, patients described feeling safe and supported when a family member was with them throughout the process. One patient said, "I was very scared…. I looked over and saw my dad and my mother. They were there to help me, to hold my hand, to give me a hug" (p.51). Patients perceived that family members

acted as their advocates during the event and assumed responsibility for interpreting and explaining information to them afterwards. In addition, they suggested that the presence of a family member helped humanise them in the eyes of healthcare staff, hence encouraging staff to work harder. Though all patients viewed having family members' presence during the resuscitation as a right, they wished for their family members to be present only under controlled circumstances so that their care would not be compromised.

Not all patients, however, would elect to have a family member witness their resuscitation. In a survey of 200 patients and their family members waiting in Minnesota's Regions Hospital's emergency department, 21% of the respondents would not consent to having a family member witness their resuscitation and 41% wanted to restrict witnessing to a specific family member (Benjamin, Holger, & Carr, 2004). Grice, Picton and Deakin (2003) collected data from 55 patients who were about to undergo elective cardiac and major vascular surgery; 29% wanted a next-of-kin to be present should a resuscitation situation arise and nearly 80% felt that they would not benefit from a family member's presence. Most of the patients worried that the resuscitation would be too distressing for family members to watch, family members might impede the resuscitation treatment, and the resuscitation process might leave long-lasting adverse psychological effects on family members. One patient considered family members' presence an invasion of privacy. Overall, almost all patients suggested that their consent and preferences should be sought formally prior to admission.

Although there have been a limited number of studies examining the patients' perspectives, evidence suggests there are a diverse range of opinions about the presence of a family member during resuscitation. Like family members, patients also subscribe to family-centred model of care. Anecdotal accounts from a small number of surviving patients confirm that family members can be supportive during a crisis. Yet, patients are worried that such support may be at costs of emotional distress and psychological harm to family members. Patients also appreciate the potential positive influences of family members' presence on the quality of care, such as humanising them in the eyes of healthcare professionals and encouraging resuscitation teams to work harder. However, they would like to have family members present only in a controlled environment so that their care will not be jeopardised. Furthermore, patients emphasise the need to protect their privacy and to respect their right to make the decision about whether or which family member should be present. Therefore, an open policy allowing FWR on all occasions may not be appropriate. It appears that prior knowledge of patients' preferences is an important consideration when deciding the appropriateness of allowing family members' presence in resuscitation rooms.

Healthcare Professionals' Perspectives

Healthcare Professionals' Attitudes Towards Family Witnessed Resuscitation

International research suggests that healthcare professionals have varying attitudes towards allowing family members to be present in the resuscitation room. Those healthcare professionals who had been involved in a FWR program indicated a more favourable attitude towards the practice (Belanger & Reed, 1997; Doyle et al., 1987; Holzhauser & Finucane, 2007; Meyers et al., 2000). In the Parkland Memorial

Hospital study, almost 90% of the 96 emergency staff members who had participated in the FWR program suggested that the program should be continued in their department (Meyers et al., 2000). In the Princess Alexandra Hospital study, Holzhauser and Finucane (2007) charted a noticeable improvement in the acceptance of family presence by emergency personnel. In this study a total of 62 staff members completed a pre-test survey before the trial of the FWR program, and 36 responded to a post-test survey 6 months into the trial. The findings revealed that about three-quarters of the pre-test survey respondents felt comfortable working with grieving family members in the resuscitation room and would like to provide family members with the opportunity to stay with their relatives during the resuscitation. In those that responded to the post-test survey 90% supported FWR. Favourable changes in staff attitudes after experiencing a witnessed resuscitation episode was also found in the Wooster Hospital study. One physician wrote, "I was very much against FWR when we started. Now that I have seen the benefits to families and staff, I endorse it strongly" (Belanger & Reed, 1997, p.249).

Additional studies have documented healthcare professionals' willingness to accept the practice. Chalk (1995) surveyed 50 randomly chosen emergency medical and nursing staff from several U.K. hospitals and found that two-thirds of them were in favour of FWR. About 80% would allow family members' presence under controlled circumstances, namely that family members would be well-informed about procedures and would be accompanied by a knowledgeable staff member. Similar opinions were reported by Redley and Hood (1996). Of 133 emergency staff from six major metropolitan hospitals in Melbourne, 62% would like to consider allowing family presence under controlled circumstances and 14% preferred an open policy

allowing the practice. In an random mailed survey conducted by MacLean et al. (2003), 984 AACN members and ENA members responded and 76% supported allowing family members to witness the resuscitation with or without a written policy. More recently, Irish and Canadian nurses that were studied were found to be overwhelmingly in favour of allowing family members to observe the resuscitation. Of 90 emergency staff working in the Cork University Hospital in the Republic of Ireland, 94% approved FWR (Madden & Condon, 2007). Fallis et al. (2008) conducted an online survey of 450 CACCN members, 92% indicated that they supported allowing family members to witness the resuscitation in critical care units.

On the other hand, healthcare professionals' opposition is equally evident in the literature. Mitchell and Lynch (1997) surveyed 81 emergency staff working in the Queen Mary's University Hospital in the U.K.; about three-fifths of the participants were found not in favour of FWR. In another study conducted in the U.K., Hallgrimsdottir (2000) surveyed 54 nurses from three emergency departments in Glasgow. Only 20% agreed that family members should be invited into the resuscitation room. In the largest study of healthcare professionals on this topic, 368 American Association for the Surgery of Trauma (AAST) members and 1261 ENA members responded to a survey. The majority of the participants from both groups were against FWR, with almost all AAST members and 80% of ENA members stating that family members' presence was inappropriate during all phases of the resuscitation (Helmer, Smith, Dort, Shapiro, & Katan, 2000).

Unfavourable attitudes towards FWR were also found to be common among Swedish and Asian study participants. Weslien and Nilstun (2003) examined 175 healthcare

professionals from departments of accident and emergency, anaesthesiology and cardiology in Sweden. Only about two-fifths of the nurses and one-third of the physicians would respect family members' wishes to be present in the resuscitation room and 73% of the physicians said they would never advise a family member to do so. Ong, Chan, Srither and Lim (2004) surveyed 132 emergency staff members working in the Singapore General Hospital and found that about 80% opposed FWR. In study by Badir and Sepit (2005), more than 80% of the 279 critical care nursing staff from 10 Turkish hospitals agreed that family members should not always be allowed to stay with a relative during the resuscitation and two-thirds were against family presence. Similarly, Yanturali et al. (2005) collected data from 239 physicians from 23 Turkish emergency departments; 83% of them did not endorse the practice.

More resistance from healthcare professionals was reported as a result of survey information obtained at international conferences. McClenathan, Torrington and Uyehara (2002) surveyed 554 delegates, including physicians and nurses, attending the international meeting of the American College of Chest Physicians in San Francisco; almost 80% opposed family members' presence in the resuscitation room for adult patients and 85% were not in favour of FWR when a child patient was involved. At the first conference of the European Federation of Critical Care Nursing Associations held in Paris, 124 representatives responded to a survey. The results indicated that approximately one-third of the respondents agreed family members should be offered the opportunity to be with a relative during the resuscitation, while half suggested that FWR should not be considered as standard practice and did not want a family member to be present in the resuscitation room (Fulbrook, Albarran, & Latour, 2005).

In some studies, nurse participants have been shown to be more open to family presence than their medical colleagues. In the study conducted by McClenathan et al. (2002), a significant difference in the attitudes was identified between medical and nursing healthcare professionals; 57% of the nurses disapproved of FWR compared to 80% of the physicians. Similar findings were reported by Meyers et al. (2000) where nurses reported significantly more positive attitudes towards FWR than did physicians. Furthermore, Chalk (1995) found in her study that 86% of the 34 respondents who supported FWR were nurses. Moreland (2005) suggested that the difference in opinions might be due to nurses' endorsement of holistic care, which emphasises a patient's role within the family system and recognises the importance of family members to the physical and emotional wellbeing of the patient. Such opinion disparity may lead to conflicts within the resuscitation team and could hinder the implementation of FWR (Madden & Condon, 2007).

Thus international research reveals that healthcare professionals have at times polarised attitudes. Many healthcare professionals acknowledge the potential benefits of FWR to patients and their families, including family members' presence provides patients with emotional and spiritual support, it helps family members understand patients' condition, it allows family members to know that everything has been done, and it facilitates family members' grieving (Belanger & Reed, 1997; Doyle et al., 1987; Holzhauser et al., 2006; Meyers et al., 2000; Robinson et al., 1998). They also recognise that allowing family members' presence can enhance bond between family members and resuscitation teams and encourage professional behaviour in the teams (Eichhorn et al., 2001; Meyers et al., 2000; Ong et al., 2004; Post, 1989; Robinson et al., 1998). However, healthcare professionals still have reservation on the

implementation of FWR, with the majority either completely against the practice or reluctant to formalise it. Healthcare professionals' concerns seem to outweigh these perceived benefits, and hinder their acceptance of the practice. The following sections will focus on the reasons why healthcare professionals are concerned about permitting family members to enter into the resuscitation room.

Healthcare Professionals' Concerns About Family Witnessed Resuscitation

Emotional and Psychological Effects on Family Members

The potential adverse emotional and psychological effects on family members as a result of witnessing resuscitation have been cited in the literature as the key rationale for excluding them from the treatment area (Ardley, 2003; Boyd & White, 2000; Halm, 2005; McGahey, 2002; Moreland, 2005). Healthcare professionals have suggested that resuscitation procedures are too traumatic and distressing for family members to watch (Badir & Sepit, 2005; Fulbrook et al., 2005; McClenathan et al., 2002; Ong et al., 2004). This concern, however, is not shared by family members who have been involved in a FWR program. In the Parkland Memorial Hospital study, all participating family members found the experience different from their expectation while 95% felt it was not overly upsetting (Meyers et al., 2000). Similarly, in the Princess Alexandra Hospital study, no family members reported feeling stressed when witnessing resuscitation (Holzhauser et al., 2006).

Healthcare professionals also expressed concern about possible long-term psychological harm to family members. As one nurse put it, "[W]itnessing a code is an experience that is non-therapeutic, regretful, and traumatic enough to haunt the surviving family as long as he or she lives" (Osuagwn, 1991, p.363). Van-der

Woning (1999), in a longitudinal phenomenological research study conducted at the New Cross Hospital in the U.K., found that five family members who had witnessed the resuscitation of a relative described their experiences as "frightening" and "offensive". During the interview, family members described the sounds of resuscitation and how they imagined it was hurting the patient. They also portrayed the visual appearance of the patient as "dreadful". Three family members regretted having witnessed the event and were still experiencing stress 6 to 12 months afterwards. However, it is unclear if these psychological reactions constituted post-traumatic stress disorder or were part of the expected grief response due to the small sample size. In a quantitative study conducted by Robinson et al. (1998), family members from the witnessed resuscitation group demonstrated lower degrees of intrusive imagery, posttraumatic avoidance behaviour, and symptoms of grief than those from the control group at both 3 months and 9 months after the resuscitation event.

However, findings in both the Van-der Woning (1999) and the Robinson et al. (1998) studies were inconclusive and open to debate. In Van-der Woning's study, there were no FWR policies or protocols in place at the New Cross Hospital during the study period. The five family members had been present at their own requests and resuscitation teams were unprepared. Therefore, it is quite possible that these family members had not been provided with sufficient support and care during the resuscitation. In the study by Robinson et al. (1998), participants' emotional capability had been assessed and a well-trained staff member was available to prepare and support them before and during the resuscitation. Such intervention might have helped mitigate the negative psychological effects of witnessing the

resuscitation. Further, although a trend towards lower degrees of negative psychological effects was identified among family members from the witnessed resuscitation group compared to those from the control group, the researchers failed to establish statistically significant differences between these two groups because of the early termination of the trial.

Increased Pressure on the Resuscitation Team

Another frequently highlighted concern in the literature is that the presence of family members during the resuscitation process may impose pressure on staff involved, thus compromising medical treatment (Ardley, 2003; Boyd & White, 2000; Halm, 2005; McGahey, 2002; Moreland, 2005). In the Foote Hospital study, all staff who had participated in the Family Participation Program reported some increased stress during the resuscitation and about 30% felt that their activities had been hampered as a result (Doyle et al., 1987). In other studies, opponents to FWR also expressed anxiety about how their performance was viewed by a family member in the resuscitation room and refused to allow FWR as a result (McClenathan et al., 2002; Mitchell & Lynch, 1997; Ong et al., 2004).

On the contrary, in the Parkland Memorial Hospital study, Meyers et al (2000) found that 85% of the participating staff members were comfortable having a family member in the treatment area, and almost all felt that their performance was unaffected by the family member's presence. More evidence was provided by Boyd and White (2000), who assessed the stress symptoms of 114 emergency staff from two large teaching hospitals in Manchester after resuscitation. The results suggested no difference in reported incidence of stress reactions among staff; 54 respondents

reported one or more acute stress reaction symptoms, 24 with a family member's presence and 30 without. The researchers concluded that family members' presence did not affect self-reported stress symptoms of staff.

Nevertheless, the presence of family members may prove a distraction to some healthcare professionals, hence affecting their ability to concentrate on medical decisions and treatments. In the Parkland Memorial Hospital study, resident doctors were concerned about being watched during the resuscitation (Meyers et al., 2000). In addition, Healthcare professionals normally use "black humour" or "loose talk" to deal with anxiety and defuse tension. About 75% of the participants in Redley and Hood's (1996) study suggested that they had to take extra caution to monitor their language, tone, and comments when a family member was present, out of a fear that the family member might find it offensive. Terizi and Aggelidou (2008) highlighted the possibility of hindered medical care as a result of heightened awareness of family members' presence and compounded anxiety among staff members in an already tense environment.

Interference of Resuscitation by Family Members

The potential of family members to disrupt medical care is the third most cited concern by patients and staff in the literature (Ardley, 2003; Benjamin et al., 2004; Boyd, 2000; Grice et al., 2003; Halm, 2005; McGahey, 2002; Moreland, 2005). Schilling (1994) recounted a case of a distressed mother who, during resuscitation of her daughter, tried to pull the doctor performing cardiac massage off her daughter, and subsequently required three nurses to remove and comfort her, inevitably delaying defibrillation.

Research evidence demonstrates that the possibility of family members' interference with resuscitation can be minimised or prevented through proper management and adequate support facilities. In the Foote Hospital study, there were instances where family members were overwhelmed by sadness. These cases were quickly handled by a designated chaperone, who escorted them out of the resuscitation room until they could compose themselves. Other than these episodes, no actual interruptions or delays of resuscitation treatment had been reported during the 9-year program (Hanson & Strawser, 1992). Likewise, in the Parkland Memorial Hospital study, almost all staff members suggested that family members behaved appropriately in the resuscitation room, behaviour which, to a great extent, was affected by the extensive support provided to family members before, during and after the resuscitation (Meyers et al., 2000).

However, family members' presence in the resuscitation room may influence resuscitation teams in a subtle manner. In the Foote Hospital study, five family members commented that the resuscitation process seemed to be too long, perhaps extended for their benefits (Doyle et al., 1987). In the Parkland Memorial Hospital study, 15% of the participants said that they offered more aggressive treatment, extending resuscitation treatment in "futile situations" because of the presence of a family member (Meyers et al., 2000, p.41). Similar incidences were reported in a personal account of Rosenczweig (1998) and the research by McClenathan et al. (2002). It seems that allowing family members to stay with their relatives in the resuscitation room may put on extra burden on already scarce resources in terms of time, space and personnel.

Increased Legal Risk

The fourth most common concern cited in the literature is that family members' presence may pose increased legal risk to staff members and institutions (Ardley, 2003; Boyd & White, 2000; Halm, 2005; McGahey, 2002; Moreland, 2005). Goodenough and Brysiewicz (2003) interviewed six emergency staff members in South Africa and all of them shared the concern that family members would be dissatisfied with staff efforts due to a lack of understanding about the resuscitation process, which might lead to legal consequences. Similar findings were found in other studies, such as Badir and Sepit (2005), Blundell et al. (2004), Fulbrook et al. (2005), McClenathan et al. (2002), and Ong et al. (2004). However, Renzi-Brown (1989), a risk-management specialist, suggested positive legal reasons for allowing FWR, including the potential to strengthen the bond between family members and healthcare staff and to alleviate family members' doubts about medical care that would prompt a law suit. This view has found support with family members, who suggested that witnessing resuscitation would help them better understand their relatives' condition and to know that everything possible had been done to save them (Grice et al., 2003; Ong et al., 2007). Positive experiences and satisfaction reported by bereaved family members who have been present in the resuscitation room may suggest reduced legal risk (Meyers et al., 2000).

Legal risk can also stem from long-term mental anguish a family member may suffer as a result of watching a resuscitation attempt. It is plausible that a family member could sue healthcare staff or institutions for negligence and claim for damages for emotional distress if FWR is not well managed. In the case of *McLoughin vs. O'Brien*, reported by Dimond (2005), Mr. McLoughlin and three children were sent

to an emergency department after being involved in a road traffic accident. As a result of watching the pain and suffering experienced by her husband and children during resuscitation procedures, Mrs. McLoughlin suffered severe shock, organic depression and a change in personality. The House of Lords decided that she was entitled to receive compensation since she was so closely related to those injured and the nervous shock that she suffered was close to the event in both space and time. Dimond (2005) further suggested that a clear and accurate explanation of the patient's condition and resuscitation procedures to be performed and support by a designated staff member throughout the resuscitation could help a family member prepare in the resuscitation room and therefore mitigate legal risk.

The emotional costs of FWR to family members and staff during the resuscitation process seem to be the root of all concerns. Resuscitation is an extremely emotional and tense situation. Family members need to handle the traumatic scenes of the resuscitation procedures, while healthcare personnel need to overcome their own anxiety, deal with the mounting tension, as well as taking care of distressed family members in the resuscitation room. Without proper management and sufficient support, the distress and pressure imposed on family members and staff may lead to medical and legal risks.

Critiques of the Literature

The studies from healthcare professionals' perspectives reviewed above provide insight into the current practice of FWR and healthcare professionals' attitudes and perceptions toward such practice. However, methodological limitations of these studies may impair the generalisability and comparability of the findings.

First, most of the cited studies surveys. This raises questions about response rates and selection bias. The response rates were adequate for most of the studies; however, for studies in which participants were recruited through healthcare professional organisations or at international conferences, for example, Helmer et al. (2000), MacLean et al. (2003) and McClenathan et al. (2002), a lower-than-the-minimal-acceptable response rate of 50% was achieved. Further, except for Chalk (1995) and MacLean et al. (2003), where a random sampling method was adopted, most studies recruited participants on a convenience basis. Convenience sampling presents a possible source of selection bias, where only healthcare professionals with strong positive or negative opinions have chosen to participate in a study. It is therefore difficult to generalise with confidence on the basis of these studies.

Second, the validity and the reliability of questionnaires used in most of the studies are questionable. The validity and the reliability of a questionnaire need to be addressed prior to data collection to ensure that all relevant issues have been covered and questions are not phrased to reflect the point of view of the researchers. However, only a few researchers described questionnaire development, Fullbrook et al. (2005), expert panel review, MacLean et al. (2003), or pilot testing of the questionnaire, Badir and Sepit (2005) and MacLean et al. (2003). Lack of content validation and reliability testing of the survey tool in most of the studies may have undermined the usefulness of data collected.

Third, the inconsistency in measuring healthcare professionals' attitudes and perceptions towards FWR impairs the comparability of the current literature. Most of the researchers used dichotomous measurement by simply asking if a respondent

would like to allow a family member to witness the resuscitation. Other researchers adopted a Likert scale to provide a fine measurement of healthcare professionals' attitudes and perceptions towards the practice. However, Meyers, Eichhorn, and Guzzetta (1998) used a 4-point Likert scale to access staff members' attitudes; Fulbrook, Albarran and Latour (2005) developed a 5-point Likert scale, which was later modified to be 3-point and used by Badir and Sepit (2005) in their study. The lack of consistency in measurement makes it difficult to compare healthcare professionals' attitudes and perceptions towards FWR across regions and countries and over time.

Summary

It has been almost 3 decades since the pioneer Family Participation Program was introduced in the Foote Hospital in 1982; yet the practice of allowing family members to stay in the resuscitation room still remain controversial. Written policies are uncommon in hospitals despite endorsements from national and international professional bodies. Research evidence documents an ambivalent attitude of healthcare professionals towards family presence. Some study participants do not support the practice even though they recognise patients' and family members' desire for FWR and the potential benefits to those involved. Others support the practice but are reluctant to formalise it.

Patients, family members and healthcare professionals, as three key stakeholders, demonstrate disparities in opinions and expectations about FWR. Patients and family members both subscribe to family-centred care but differ in emphasis. Family members indicate a desire to support their relatives and be supported by the

healthcare system during such crisis situation. Patients would like to have family members' presence under controlled circumstances but also ask their confidentiality and autonomy to be respected. Healthcare professionals, recognising the changing face of the modern healthcare delivery, consider both emotional costs and benefits to those involved and potential medical and legal risks of allowing family members to witness the resuscitation on a relative. What to do with the differing opinions of these three parties, which party has overriding authority when all have a legitimate claim on the decision regarding FWR, and how are such competing rights to be resolved remain undetermined and debatable. Given the prevalent application of FWR on an informal basis in many healthcare institutions, the question of how to manage family presence in an effective and efficient manner requires an urgent attention.

In available literature, healthcare professionals express their concerns about psychological harm to observers, increased pressure on staff members, potential interference in medical care by family members, and legal risks to staff and institutions (Ardley, 2003; Boyd & White, 2000; Halm, 2005; McGahey, 2002; Moreland, 2005). These concerns, however, seem not to have been well substantiated in practice. There might be other factors that have hampered healthcare professionals' acceptance of FWR, such as their individual characteristics or institutional influences.

Available literature provides insight into the practice of allowing family members to witness the resuscitation on a relative, while also raising many issues to be resolved and questions to be answered. The Nurses and Midwives Board of Western Australia and the College of Emergency Nursing Australasia, have not as yet issued position

statements or guidelines on FWR. Similarly, major teaching hospitals do not have formal guidelines or policies but consider family members' requests to stay in the resuscitation room and permit family presence upon agreement by the resuscitation team (D. Langman, personal communication, September 22, 2007). This research represents a great opportunity to gain insight into the current FWR practice in Western Australia, with an emphasis on nurses' perspectives.

There are numerous studies that have been conducted from the healthcare professionals' perspective. However, most are descriptive in nature and primarily focus on examining healthcare professionals' acceptance of FWR and their perceptions of the benefits and potential complications of the practice. After almost 30 years' debates about the pros and cons of including family members in the resuscitation room, there is an apparent trend towards the acceptance of the practice, even though a written policy allowing FWR is still uncommon in many healthcare institutions (Badir & Sepit, 2005; Booth et al., 2004; MacLean et al., 2003). The practice of FWR on an informal basis as reported in the literature suggests that the question of *how* to manage the family witnessing the event is as relevant as *whether* and *why* the family should be allowed in the resuscitation site. In this study, the nurses' preferences for the management of family presence are examined in terms of policy formulation, timing issue and decision-making authority delegation. Nurses' demographic characteristics and institutional factors are also explored for their influences on nurses' attitudes.

Since no appropriate questionnaire that has been both validated and pilot tested could be identified from available literature to meet the objectives of this study, there was a

need to develop an instrument to overcome these shortcomings. In addition, the developed questionnaire allows the use of exploratory factor analysis to discover distinct factors underlying nurses' attitude and provide fine discriminations among nurses with different opinions.

This is the first documented study on FWR that has been conducted in Western Australia. The findings of this study will contribute the body of knowledge and assist to stimulate more debate and discussion of the practice. The research outcomes will also provide Western Australian healthcare organisations and institutions with useful information on the development of evidence-based guidelines and protocols to manage family presence in an effective and efficient way.

The next chapter will discuss the development of data collection instrument to be used to collect data on nurses' attitudes towards FWR in two Western Australian emergency departments.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter presents the research methodology used in the current study. First, the research approach and required sample size are described and explained. Then, the development of the questionnaire, including questionnaire formulation, questionnaire validation, pilot testing and reliability analysis are detailed. The description of the setting of the study and ethical considerations are presented next. The chapter concludes with the data collection and analysis process.

Research Design

To measure Western Australian emergency nurses' attitudes towards family witnessed resuscitation (FWR), a quantitative, descriptive research design using a survey method was chosen (Polit, Beck, & Hungler, 2001). A self-administered questionnaire was adopted as the data collection tool for three main reasons. First, a self-administered questionnaire excels in collecting information pertaining to people's knowledge, attitudes, values, beliefs and past behaviours (Polit et al., 2001). Second, the selected venues for participant recruitment and data collection were the emergency departments of two Western Australian metropolitan hospitals; this tool is a time-saving and cost-effective way to reach prospective participants (De-Vaus, 2002; Polit et al., 2001). Last, an emergency department is one of the busiest place in a hospital and nurses are normally working shift rosters; this tool provided participants with the flexibility to complete and return questionnaires at their convenience (Bryman, 2004).

A major weakness in a self-administered questionnaire, especially one structured as a rating scale, is its inability to collect data pertaining to participants' motivations and emotions (Brace, 2004; Frazer & Lawley, 2000). To address this weakness, open-ended questions were included into the questionnaire to allow participants to express themselves freely, where detailed explanations were needed. By incorporating the resultant explanatory information with quantitative data, the researcher was in a stronger position to derive meaning from the statistical findings; it also provided a means of identifying areas for future research (Polit et al., 2001).

Study Sample Size Calculation

A sample size of 93 nurses produces a 95% confidence interval equal to the sample proportion ± 10%, when the estimated proportion is 60% (S. Dhaliwal, personal communication, February 28, 2007). The estimated proportion was derived from previous studies, including Fallis et al. (2008), Fulbrook et al. (2005), Helmer et al. (2000), MacLean et al. (2003), Madden & Condon (2007), and McClenathan et al. (2002). Allowing for a response rate of 40%, a total number of 232 nurses would therefore need to be surveyed.

Questionnaire Development

Questionnaire Formulation

The questionnaire was constructed following a review of previous studies in which a self-administered questionnaire was used to examine healthcare professionals' attitudes and perceptions towards FWR (Badir & Sepit, 2005; Blundell et al., 2004; Chalk, 1995; Fulbrook et al., 2005; Grice et al., 2003; MacLean et al., 2003; Macy et al., 2006; McClenathan et al., 2002; Meyers et al., 2000; Ong et al., 2004; Redley &

Hood, 1996). The developed questionnaire consisted of four sections. Table 3.1 lists the sources of questions included in the developed questionnaire.

Table 3.1

Source of Questions

Item	Description	Source
C4	What was your initial reaction when the family member made a request to witness the resuscitation procedures?	Ong et al. 2004
C10.1	Family member appeared distressed during resuscitation procedures.	Hanson & Strawser, 1992
C10.2	Family member collapsed during resuscitation procedures.	Ong et al., 2004
C10.3	Family member provided verbal comfort to the patient.	Meyers et al., 2000
C10.5	Family member kept asking questions about resuscitation procedures.	Morse & Pooler, 2002
C10.6	Family member was calm during resuscitation procedures.	Morse & Pooler, 2002
C10.7	Family member indicated appreciation for staff members' efforts.	Meyers et al., 2000
C10.8	Family member assisted with information about patient's medical history.	Meyers et al., 2000
C10.9	Family member interfered with resuscitation efforts.	Holzhauser et al., 2006
C10.10	Family member decided to leave during resuscitation procedures.	Morse & Pooler, 2002
C10.11	Inability to perform professionally because of the family presence during resuscitation procedures.	Doyle et al., 1987
C10.12	Communication with my colleagues was changed because of the presence of family members.	Redley & Hood, 1996
C10.13	Resuscitation was initiated even in a futile situation because of the presence of family members.	Rosenczweig, 1998
C10.14	Prolonged resuscitation was performed in a futile situation because of family members' presence.	Doyle et al., 1987
C10.15	Discomfort having a family member present during resuscitation procedures.	Mitchell & Lynch, 1997
C10.16	Additional stress with a family member present during resuscitation procedures.	Doyle et al., 1987
C10.17	Inability to support family members as I would have liked to because of my involvement in the resuscitation room.	Fulbrook et al., 2005
D1a	Patient confidentiality could be compromised as a result of family members being present during resuscitation procedures.	Fullbrook et al., 2005
D1b	Family members can better understand the patient's condition by witnessing resuscitation procedures.	Redley & Hood, 1996

Table 3.1 (cont.)

Source of Questions

Item	Description	Source
D1c	Family members may suffer negative long-term psychological effects if they witness resuscitation procedures.	Badir & Sepit, 2005
D1d	Witnessing resuscitation procedures may help family members to ease their grieving process if the patient doesn't survive.	Holzhauser et al., 2006
D1e	Resuscitation procedures may be too distressing for family members.	Badir & Sepit, 2005
D1f	Witnessing resuscitation procedures can give family members a chance to know the efforts that had been made for the patient.	Redley & Hood, 1996
D1g	Family members may misinterpret treatment during resuscitation procedures.	McClenathan et al., 2002
D1h	Family members can provide relevant information about the patient's medical history at the bedside.	Meyers et al., 2000
D1i	Family members' presence may compromise the resuscitation team's performance.	Meyers et al., 2000
D1j	Having a family member present can assist in developing trust between family members and the resuscitation team.	Ong et al., 2004
D1k	Family members' presence may increase pressure for members of the resuscitation team.	Meyers et al., 2000
D1l	Presence of a family member during resuscitation procedures may result in increased litigation.	Ong et al., 2004
D1m	Family presence may encourage more professional behaviours of staff during resuscitation procedures.	Meyers et al., 2000
D1p	Allowing family presence in the resuscitation room is not beneficial to patients undergoing resuscitation procedures.	Meyers et al., 2000
D1q	Witnessing resuscitation procedures is beneficial to the patients' families.	Meyers et al., 2000
D2	How would you like the option of family witnessed resuscitation be managed in your department?	Redley & Hood, 1996
D3	If family witnessed resuscitation was allowed in your department, when do you think it is appropriate to allow family members into the resuscitation room?	Ong et al., 2004
D4	Who do you think should be responsible for the decision to allow family members to be present during resuscitation procedures?	Fulbrook, et al., 2004

Note. The remaining questions were designed by the author.

Section A established a demographic profile of participants, collecting data on participants' age, educational level, employment, and work experience. Questions in this section were a priori to be used for correlation analysis.

Section B examined participants' access to various information sources about FWR. Here, questions formulated on an a priori basis were asked about participants' attendance of educational sessions, their exposure to literature and research journals, the availability of any forms of education provided by their current employers, and their willingness to learn more about FWR. Participants were also asked to describe their understanding of the practice.

In Section C, a series of a priori conditional questions to investigate participants' experiences, including their awareness of family members' desire to witness resuscitation of a relative, their receipt of family members' requests to stay with a relative in the resuscitation room, their initiative to invite a family member into the resuscitation room, and their previous involvement in a witnessed resuscitation. Qualitative aspects of participants' experiences were derived from previous study and examined (Ong et al., 2004), such as their reactions upon receiving a FWR request and their feelings about involvement in a witnessed resuscitation. To gain insight into their experiences, participants were provided with a list of common behaviours of family members in the resuscitation room and the effects of family members' presence on resuscitation teams, summarised from previous studies (Doyle et al., 1987; Holzhauser & Finucane, 2007; Meyers et al., 2000; Morse & Pooler, 2002; Ong et al., 2004); participants were asked whether they had encountered similar situations.

Section D captured participants' attitudes in terms of three themes emerged from the review of literature. The first theme was the potential benefits of the family's presence to the family members, the patients, and the resuscitation teams. Positive aspects included: the possibility that the family presence could help them understand the patient's condition and resuscitation efforts (Redley & Hood, 1996), assisting family members in grieving process if the patient did not survive (Holzhauser et al., 2006), allowing family members to provide patient's medical history information (Meyers et al., 2000), enhancing trust between family members and staff members (Ong et al., 2004), and encouraging professional behaviours of staff members during resuscitation (Meyers et al., 2000).

The second theme referred to the concerns expressed by healthcare professionals regarding family presence in the resuscitation room. Those concerns included possible adverse emotional and psychological effects on family members (Badir & Sepit, 2005), violation of patients' privacy and confidentiality (Fulbrook et al., 2005), additional pressure imposed on resuscitation teams (Meyers et al., 2000), possibility of families' misinterpreting resuscitation treatment (McClenathan et al., 2002), potential litigation issues (Ong et al., 2004), and additional burden put on healthcare institution' resources (Meyers et al., 2000).

The third theme centred on healthcare professionals' preferences for the management of family presence during resuscitation, including: whether family presence option should be formally incorporated into nursing practice (Redley & Hood, 1996), the appropriate time to let family members enter the resuscitation area (Ong et al., 2004),

and who should approve a FWR request (Badir & Sepit, 2005; Fulbrook et al., 2005; Ong et al., 2004).

In sections A, B, C and D, two main types of response formats were used to collect quantitative data, including structured close-ended and scaled responses (Frazer & Lawley, 2000). Structured closed-ended responses reduced the variety of responses, making data easier to code and analyse (Brace, 2004; Frazer & Lawley, 2000). A Likert scale was used in Question D1, allowing participants to express and quantify their opinions, beliefs and attitudes regarding various aspects of FWR (Harris, 1995; Tabachnick & Fidell, 2001). Question D1 included 19 items; each consists of a statement and a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree". The neutral rating at the centre of the scale represented a legitimate opinion. Using an even-numbered scale without a middle value might introduce response bias, forcing respondents to chose a more positive or negative response (Brace, 2004; Frazer & Lawley, 2000; Harris, 1995; Tabachnick & Fidell, 2001). To reduce response-set bias, approximately one-half of the statements were worded positively and the other half are worded negatively (Brace, 2004).

Open-ended questions were included in each section of the questionnaire to allow nurses to express themselves freely. The use of open-ended questions enabled the researcher to explore the qualitative aspects of the participants' views and opinions and also allowed the participants to raise issues not been covered in the questionnaire or available literature (Neuman, 2000). In some close-ended questions, an open-ended option "other" was included to serve as an acceptable alternative, allowing participants to elaborate any options and views that not been provided in the

questions (Brace, 2004; Frazer & Lawley, 2000). The use of open-ended questions and options was limited because the researcher wanted to ensure that the time required to complete the questionnaire would not deter people from participating.

Questionnaire Validation

Content validity involves the examination of a questionnaire to determine whether it covers a representative sample of the behaviour domain to be measured (Anastasi & Urbina, 1997, p.114). The content validity of the developed questionnaire was established through expert panel review (Czaja & Blair, 1996; Rosenthal & Rosnow, 2008). In Western Australian, the topic of family witnessed resuscitation remains relative new and few research studies have been conducted in this area. It is difficult to identify FWR experts. Therefore, experts in emergency nursing were chosen due to their extensive patient care experience in emergency department where resuscitation is most likely to occur.

The panel consisted of six experts from a large healthcare facility in a northern suburb of Perth, including one staff development nurse, one clinical nurse manager, one nurse educator, one nurse manager, one clinical nurse, and one registered nurse. As a group, the panel had extensive clinical experience, ranging from 20 to 33 years, as well as knowledge in various issues relating to emergency nurses, including family witnessed resuscitation. Several panel members held Master's degrees and had considerable clinical research experience. As a group, the panel possessed a mix of expert knowledge and experience needed for the panel to understand, analyse and draw sound conclusions about the content validity of the developed questionnaire.

The primary purpose of the panel review was to evaluate the relevance and representativeness of selected questions to the study objectives. The panel also provided comments on the design of the questionnaire in terms of length, layout, sequencing, and understandability and clarity of the language. Panel members had 2 weeks to review the questionnaire and to provide written feedback; a face-to-face meeting was then organised at the selected healthcare facility. A nursing research consultant working at the facility served as host for the meeting. At the meeting, the researcher discussed with each member their feedback and synthesised the results of all members' reviews.

The panel concluded that the questionnaire was comprehensive and relevant to the study objectives. The incorporation of open-ended questions was perceived by all panel members as an opportunity for participants to elaborate upon their responses and to provide comments. All panel members felt that the length of the questionnaire was appropriate and the flow of questions was smooth and clear.

In Section A, regarding demographic information of respondents, the panel helped to tailor the questionnaire to the Western Australian healthcare context. Options of 'casual' and 'agency' employment status were included in Question A4 due to their relevance in Western Australian healthcare setting. In addition, employment positions in Question A6 were reclassified.

Pilot Study

The revised questionnaire was pilot tested in the emergency department of a peripheral hospital south of Perth. The purpose of the pilot test was to assess the

feasibility of data collection procedure, the clarity of questions in the questionnaire, and their applicability to current nursing practice in Western Australia (Jacobson, 1997; Lackey & Wingate, 1998; Rosenthal & Rosnow, 2008). The clinical nurse manager in the selected emergency department agreed to coordinate data collection. An information session was organised in the emergency department, where the researcher introduced the objectives of the study and explained how the pilot study would be conducted. Questionnaires were distributed to a convenience sample of 20 nursing staff members, along with an information sheet, a feedback form, and a self-addressed envelope. The staff members were asked to return the forms in a sealed envelope to the clinical nurse manager.

Nineteen staff members completed and returned the questionnaires and feedback forms within a week. The pilot questionnaire took nurses less than 20 minutes to complete on average and nearly all nurses considered the length to be appropriate. Overall, the nurses indicated a high degree of user-friendliness in terms of layout, instruction and clarity. The content of the questionnaire was perceived by almost all participants to be comprehensive and relevant. Two nurses suggested that for some questions, additional options should be included to cover additional circumstances. The finalised questionnaire and a participant information sheet were provided in Appendices A and B, respectively.

Reliability Analysis

Reliability refers to the consistency of a set of measurements or a measuring instrument. The reliability of the developed questionnaire was estimated using split-half coefficient, the Spearman-Brown coefficient, and Cronbach's alpha (Cortina,

1993; Rudner & Schafer, 2001). The coefficients were calculated on nine selected questions, using the data set collected from the first emergency department. Open-ended, conditional and demographic questions were excluded from reliability analysis because they were not measured on an interval or ratio scale.

For split-half reliability, the Spearman-Brown coefficient is 0.87; alpha for the split-half part 1 is 0.72 and for part 2, 0.80. The Cronbach's alpha is 0.87 and the standardised Cronbach's alpha is 0.94. The developed questionnaire had reliability coefficients higher than the cut-off coefficient of 0.60 for an exploratory research recommended by literature (Cortina, 1993).

Questionnaire Administration

Setting

The emergency departments of two Western Australian metropolitan hospitals were selected as the venues for the recruitment of participants and the collection of data, because the emergency department is where resuscitation is most likely to occur (Fulde, 1995).

The first hospital was an 855-bed tertiary teaching hospital in Western Australian, providing full range of emergency services for adults, except for obstetrics. Its emergency department is one of the busiest in Australia, with more than 54,000 presentations a year. The second hospital was a 450-bed major acute-care teaching hospital with a 24-hour emergency department. Its emergency department has 45,000 presentations a year, providing emergency services for both adults and children.

Ethics Approval

This research was conducted in accordance with the National Health and Medical Research Council's National Statement on Ethical Conduct in Research Involving Humans (National Health and Medical Research Council, 2007). Form C Application for Approval of Research with Minimal Risk was granted by the Human Research Ethics Committee of the Curtin University of Technology (Appendix C). The Department of Health Western Australia and a major teaching hospital in Perth jointly issued an approval to conduct the study at the hospital, subsequently (Appendix D). The other hospital then approved the study based upon the reciprocal agreement between these two hospitals (Appendix E).

Participation in this study was entirely voluntary and anonymous. A participant information sheet introducing the background of the researcher and explaining the objectives of the research was used to seek consent from prospective participants. The return of a completed questionnaire was deemed to be informed consent by a participant. Confidentiality was maintained by not requiring prospective participants to identify themselves on the questionnaire. Counselling services offered by Curtin University of Technology were made available to prospective participants, should they request it or appear distressed as a result of the research process. Raw data will be held securely with the researcher for 7 years, after which they will be destroyed safely.

Data Collection and Analysis

Data collection proceeded following ethical approval from both hospitals. At the time of data collection, 182 nursing staff members in total, including enrolled and

registered nurses, were employed by the two selected emergency departments. All nurses working in the two emergency departments were eligible to participate. Contacts were established to facilitate the distribution of survey packages and the collection of completed questionnaires.

In the first emergency department (ED1), a Staff Development Nurse agreed to coordinate the data collection. The researcher was granted access to a common room during the meal breaks between the 12-hour shifts of a day. For 5 weeks, 3 days a week, the researcher conducts information sessions, provided a brief overview of the study, and invited nurses to participate. Survey packages, consisting of a participant information sheet and a copy of the questionnaire, were distributed at the information sessions. Nurses could choose to return the completed questionnaire to the researcher during the information sessions or return it to a collection box set up in the common room afterwards.

In the second emergency department (ED2), a clinical nurse manager acted as the data collection coordinator. Because of hospital policy restrictions, contact with nurses on duty was arranged during the hand-over times between three 8-hour shifts over a day. The researcher visited the emergency department three times a day and 3 days a week for a period of 5 weeks. Given the time restraint of the contact, after a brief introduction, nurses were asked to take a survey package and return the completed questionnaire into a collection box set up in the hand-over room.

In both emergency departments, additional survey packages were made available in the common area for interested nurses who had not been contacted by the researcher

in person. To ensure a good response rate, a poster was used to promote the study and to remind nurses to return their completed questionnaires.

The Statistical Package for Social Science (SPSS, 2008) Version 17 was used for quantitative data analysis. Data on participants' demographic background, knowledge of FWR, experience with and attitudes towards the practice were summarised using descriptive analysis. The cross tabulation technique was employed to explore statistically significant associations between participants' attitudes and their demographic attributes and institutional factor. Further, exploratory factor analysis was applied on Question D1, a 19-item attitude scale, with an attempt to summarise nurses' attitude towards family presence in terms of two or three subscales. Data derived from open-ended questions were analysed using content analysis. Responses and comments from participants were broken-down and scrutinised for frequently emerging words and phrases. Key themes were summarised and presented with related quantitative data.

Summary

This chapter presented the research methodology used for this study. A self-administered questionnaire was developed and used to collect data on nurses' demographic background, knowledge of FWR, experiences with FWR, and attitudes towards the practice. Prior to the administration of the study, an expert panel review was conducted to establish the content validity of the developed questionnaire. The revised questionnaire was then pilot tested for the feasibility of data collection method, the clarity of questions, and their applicability to the current nursing practice. Questionnaire reliability was then estimated using split-half coefficient, the

Spearman-Brown coefficient, and Cronbach's alpha. Following the ethical approvals from Curtin University of Technology and two Western Australian metropolitan hospitals, data collection was conducted in the emergency departments of these two hospitals over a 5-week period. Quantitative and qualitative data were analysed using SPSS and content analysis, respectively. The results of the statistical analysis will be presented in the next chapter.

CHAPTER 4

RESULTS

This chapter provides statistical analysis of the data collected using the Questionnaire described in Chapter Three. The chapter starts with a discussion on the response rate, followed by an overview of participating nurses' demographic profile, their knowledge of family witnessed resuscitation (FWR), and their experiences with the practice. Nurses' attitudes are examined next, with a focus on nurses' evaluation on various aspects of FWR and their preferences for the management of the practice. Then, a cross tabulation analysis is applied to explore significant influences of nurses' demographic characteristics and institutional difference on their attitudes. Finally, exploratory factor analysis was conducted with an aim to measure nurses' attitudes in terms of a small, manageable number of subscales.

Response Rate

The target population consists of all nurses who were employed by the two selected Western Australian emergency departments during the data collection period. A total of 182 questionnaires were distributed and 119 were returned over a period for 5 weeks, exceeding the calculated required sample size of 93. Of the total responses, 18 questionnaires contained incomplete information for one or two questions. All 119 questionnaires were included in the following descriptive analysis.

The response rate in the second emergency department (ED2) was 51%, which was lower than 78% in the first emergency department (ED1) as shown in Table 4.1. Overall, a response rate of 65% was achieved.

Table 4.1

Response Rate

Emergency Departments	Number of Questionnaires Distributed	Number of Questionnaires Returned	Response Rate (Percent)
ED1	97	76	78
ED2	85	43	51
Total	182	119	65

Nurses' Demographic Information

A demographic profile of the response population is summarised in Table 4.2. The distribution of the nurses' ages shows that participants were rather equally spread across the three groupings within their category. Of them, 86% obtained qualifications through tertiary education, 69% held Bachelor's degrees or higher qualifications, and 56% had completed their first nursing qualification within the past 10 years. Furthermore, 6% of the participating nurses also held diplomas or degrees in areas other than nursing, such as Bible and Missions, Education, and Commerce; 13% were involved in studies towards postgraduate certificates in emergency nursing, cardiothoracic nursing, sexual health or midwifery. The missing data include six enrolled nurses who possess a qualification lower than a hospital diploma.

The majority of the respondents were employed by the participating emergency departments either on a full-time basis (68%) or on a part-time basis (21%) as indicated in Table 4.2. Full-time employment is considered to be working for more than 75 hours per fortnight. Level 1 registered nurses and Level 2 clinical nurses accounted for 68% and 17% of the participants, respectively. Six enrolled nurses and one nurse posting a managerial role participated in the current study. Nearly 60% of

the nurses had less than 10 years' clinical experience and 71% had less than five years' experience in emergency nursing.

Table 4.2

Nurses' Demographic Information

		Frequency	Percent
A5	Age groups		
	Between 20 and 29 years old	40	34
	Between 30 and 39 years old	38	31
	40 years and above	40	34
	Missing data	1	1
	Total	119	100
A1	Years since completion of initial nursing qualification		
	Less than 10 years	67	56
	Between 10 and 19 years	24	20
	Between 20 and 29 years	19	16
	30 years and above	8	7
	Missing data	1	1
	Total	119	100
A7	Educational level		
	Hospital based diploma	13	11
	Tertiary based diploma	17	14
	Undergraduate bachelor's degree	57	48
	Postgraduate diploma	22	19
	Master's degree	3	2
	Doctorate/Doctor of Philosophy	0	0
	Missing data	7	6
	Total	119	100
A8	Possession of other qualification		
	Hold qualification other than nursing	7	6
	Undergoing further study in nursing	15	13
	None	97	81
	Total	119	100

Table 4.2 (cont.)

Nurses' Demographic Information

		Frequency	Percent
A4	Employment status		
	Full time	81	68
	Part time	25	21
	Casual	7	6
	Agency	6	5
	Total	119	100
A6	Employment position		
	Registered nurse level 1	81	68
	Clinical nurse level 2	20	17
	Enrolled nurses (Grade 1 – 5)	6	5
	Clinical nurse specialist level 3/Senior registered nurse	4	3
	Other senior registered nurse	3	2
	Staff development nurse level 2	2	2
	Nurse practitioner level 7/Senior registered nurse	2	2
	Nurse manager level 3/Senior registered nurse	1	1
	Total	119	100
A2	Length of clinical working experience		
	Less than 10 years	70	59
	Between 10 and 19 years	22	18
	Between 20 and 29 years	16	13
	30 years and above	9	8
	Missing data	2	2
	Total	119	100
A3	Length of emergency nursing working experience		
	Less than 5 years	85	71
	Between 5 and 9 years	14	12
	Between 10 and 19 years	13	11
	30 years and above	5	4
	Missing data	2	2
	Total	119	100

Nurses' Knowledge of Family Witnessed Resuscitation

Most of the participants had not been exposed to material about the practice of allowing family members to witness resuscitation from either educational sessions (82%) or research literature (65%), as shown in Table 4.3. Only 14% indicated that their current employer had provided some forms of education, such as department-based discussions about the concept and its potential benefits of the practice. Five nurses had attended a course related to understanding death and dying. Only 6% said that they had been actively searching for information about FWR.

Table 4.3

Nurses' Knowledge of Family Witnessed Resuscitation (FWR)

	Yes		No	
Item	Frequency	Percent	Frequency	Percent
B1 Attendance of FWR educational sessions	21	18	98	82
B2 Availability of education on FWR from current employer	17	14	102	86
B3 Access to scientific reports or journals on FWR	42	35	77	65
B4 Actively search for information about FWR[a]	7	6	111	93

Note. [a] Missing data = 1

When asked in an open-ended question to indicate their understanding of FRW, a total of 100 participants answered as shown in Table 4.4. Of the 100, 64 described what they understood family witnessed resuscitation to mean. A further 24 suggested potential benefits of allowing family members to witness a relative's resuscitation. The perceived benefits include witnessing resuscitation can help with family members' grieving process, it can increase family members' awareness of their relatives' conditions, it can allow family members to be aware of the resuscitation efforts, and it could provide family members with a chance to support their relatives.

The final 12 nurses raised concerns about the practice, including a lack of resources, in terms of room space, support staff and time, to accommodate family members during the resuscitation process, stress imposed on staff members, and the possible interference of the treatment by distressed family members.

Table 4.4

Nurses' Understanding of Family Witnessed Resuscitation (FWR)

		Frequency
B5	Describe what they understand FWR to mean	64
	Suggest potential benefits of FWR	24
	Raise concerns about FWR	12
	Total	100

Nurses' Experiences With Family Witnessed Resuscitation

Of the nurses who responded to the survey, 54% indicated an awareness that family members had wanted to stay with a relative during the resuscitation procedures, as shown in Table 4.5, but failed to come forward with the request. Further, 43% had been approached by a family member requesting to stay in the resuscitation room. Of these, 70% had received less than five requests and 8% had received more than 10.

The nurses' responses, summarised in Table 4.5, reveal that when they received a FWR request, 21% reported feeling anxious about the fact that their performance would be observed by family members and 10% described themselves as being in a dilemma. For the remaining, 43% said that they had shown their support and understanding to the family members. For instance, "[I am] more than happy with the request." "I am happy to assist families as long as [the] team of doctors and nurses are happy." Other nurses expressed concerns about a family member's capacity to

cope with the distressing scenes of resuscitation process (10%) and the availability of support resources from the hospital (8%). Only one nurse indicated they had turned down a family member's request to stay in the resuscitation room.

Table 4.5

Nurses' Experiences With Family Witnessed Resuscitation (FWR)

		Frequency	Percent
C1	Awareness of family members' desire for FWR		
	No	50	42
	Yes	64	54
	Missing data	5	4
	Total	119	100
C2	Receipt of FWR request from family members		
	No	68	57
	Yes	51	43
	Total	119	100
C3	Number of FWR requests received[b]		
	Less than 5 times	36	70
	Between 5 and 9 times	10	20
	10 times and above	4	8
	Missing data	1	2
	Total	51	100
C4	Initial reaction when received FWR request[b]		
	Anxious	11	21
	In a dilemma	5	10
	Frustrated	0	0
	Support and understand	22	43
	Concern about family members' ability to cope	5	10
	Concern about the availability of supporting staff	4	8
	Refuse family members' requests	1	2
	Missing data	3	6
	Total	51	100

Note. [b] Only participants who responded 'Yes' to conditional Question C2 proceeded to Questions C3 to C4.

Table 4.5 (cont.)

Nurses' Experiences With Family Witnessed Resuscitation (FWR)

		Frequency	Percent
C5	Initiative to implement FWR		
	No	74	62
	Yes	44	37
	Missing data	1	1
	Total	119	100
C6	Presence of previous experience with FWR		
	No	33	28
	Yes	86	72
	Total	119	100
C7	Availability of support staff during a FWR[c]		
	No	6	7
	Yes	78	91
	Missing data	2	2
	Total	86	100
C8	Opportunity to debrief after a FWR[c]		
	No	39	46
	Yes	44	51
	Missing data	3	3
	Total	86	100
C9	Overall feelings about experience with FWR[c]		
	Positive	65	76
	Negative	6	7
	Mixed	13	15
	Missing data	2	2
	Total	86	100

Note. [c] Only participants who responded 'Yes' to conditional Question C6 proceeded to Questions C7 to C9.

Although neither of the participating emergency departments had a written policy permitting family presence, 37% of the nurses had invited family members into the resuscitation room and 72% reported previous involvement in FWR as shown in Table 4.5. Of those with experience with dealing family members in the resuscitation room, 91% indicated that a designated staff member was available to accompany the family members throughout the event and 51% said that they were provided with post-resuscitation debriefing with other team members.

Overall, participating nurses expressed favourable feelings about the practice of FWR, with 76% characterising their experiences as positive and only 7% negative as shown in Table 4.5. The remaining 15% reported mixed feelings. For instance, one nurse described it as a "totally different experience". This nurse wrote that they felt quite emotional, distressed, and sad at the time, but they believed that witnessing the resuscitation was good for family members. Another nurse wrote that while it was sad when a patient died, they still felt good about the way family members were involved with the patient during the resuscitation process.

Table 4.6 lists family members' common behaviours and the effects of family presence on resuscitation teams. Based on their observations in the resuscitation room, participating nurses with previous FWR experience reported reasonably appropriate behaviours by family members. Frequently family members were described as being distressed (77%), remaining calm (56%) and leaving once they felt uncomfortable (49%). About 28% had experienced a situation where a family member had an outburst and 13% had seen a family member collapsed. Although 45% of the nurses reported occasions where family members kept asking questions

about the resuscitation treatments, only had 5% experienced actual interference by family members during the resuscitation process. The results also suggest that family members were more cooperative than disruptive in the resuscitation room; 72% of the participants reported that family members actually assisted staff members by providing information about the patients' medical history and 49% found family members comforting patients during the resuscitation. Further, 64% of the participants described family members as appreciative of the teams' efforts.

Table 4.6

Family Members' Behaviours in the Resuscitation Room and Effects of Family Members' Presence on Resuscitation Teams

Item number	Description	Frequency	Percent
Family Members' Behaviours in the Resuscitation Room			
C10.1	Family member appeared distressed.	66	77
C10.2	Family member collapsed.	11	13
C10.3	Family member provided verbal comfort to the patient.	42	49
C10.4	Family member had an outburst.	24	28
C10.5	Family member kept asking questions.	39	45
C10.6	Family member was calm.	48	56
C10.7	Family member indicated appreciation for staff members' effort.	55	64
C10.8	Family member provided patient's medical history information.	62	72
C10.9	Family member interfered with resuscitation efforts.	4	5
C10.10	Family member decided to leave.	42	49
Effects of Family Members' Presence on the Resuscitation Teams			
C10.11	Inability to perform professionally.	2	2
C10.12	Communication with my colleagues was changed.	33	38
C10.13	Resuscitation was initiated even in a futile situation.	13	15
C10.14	Prolonged resuscitation was performed in a futile situation.	31	36
C10.15	Discomfort at having a family member present.	16	19
C10.16	Additional stress due to a family member present.	23	27
C10.17	Inability to support family members as I would have liked to.	21	24

In terms of the effects of family members' presence on resuscitation teams (Table 4.6), 38% of the nurses agreed that they had to change their communication with colleagues out of a fear that some conversations or remarks might offend grieving family members. There were instances where the resuscitation attempt was prolonged (36%) or initiated even in a futile situation (15%). In addition, respondents indicated that they had experienced additional stress (27%), discomfort (19%), and inability to take care of the family members (24%).

There are 11 nurses that shared further information about how their performance had been influenced by the presence of a family member (Table 4.7). Five participants reported that they had to be more careful and mindful when talking in front of family members. Three participants felt anxious being watched by family members. Two participants had experienced family members that collapsed during resuscitation and interfered with resuscitation treatment, respectively. One nurses felt being distracted by family members in the resuscitation room.

Table 4.7

How Nurses' Performance has been Influenced by Family Presence

		Frequency
C11	Affect the way communicating with colleague and families	5
	Feel anxious about being watched by families	3
	Families collapse during resuscitation	1
	Being distracted by families	1
	Families interfere with resuscitation treatment	1
	Total	11

Nurses' Attitudes Towards Family Witnessed Resuscitation

Evaluation of Family Witnessed Resuscitation

Nurses' opinions about various aspects of FWR are summarised in Table 4.8. Overall, participating nurses had agreement with the potential benefits of the practice, including that witnessing resuscitation can let family members know everything possible has been done for their relatives (92%), it can allow them to provide relevant information about their relatives' medical histories (81%), it can ease their grieving process (80%), and it can help them better understand their relatives' conditions (79%). Most of the participants also supported the likely positive influences of family members' presence on resuscitation teams; 61% agreed that allowing family members to witness a relative's resuscitation would help develop trust between the family members and the staff and 52% believed that it would encourage more professional behaviour in the resuscitation teams. Moreover, 51% of the nurses felt that patients would benefit from their family members' presence and 61% considered it beneficial to the observers.

Participants held diverse opinions about the potential negative consequences of allowing family presence. As shown in Table 4.8, 67% of the participants concerned that family members might misinterpret resuscitation treatments, 65% felt that the resuscitation process was too distressing, and 65% worried that family members' presence might increase pressure on resuscitation teams. However, far fewer nurses actually believed that these issues would result in psychological harm to family members in long term (39%), increased litigation (32%), and compromised performance of the resuscitation team (27%). About one-third (30%) of the nurses considered family presence a violation of patient confidentiality.

Table 4.8

Evaluation of Family Witnessed Resuscitation (FWR)

Item	Description	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Missing	
Perceived Benefits and Complications of FWR		F	%	F	%	F	%	F	%	F	%	F	%
D1a	Patient confidentiality will be compromised.	24	20	31	26	27	23	27	23	9	7	1	1
D1b	Families can better understand the patient's condition.	4	3	9	8	11	9	56	47	38	32	1	1
D1c	Families may suffer negative long-term psychological effects.	5	4	29	24	38	32	37	31	9	8	1	1
D1d	FWR can ease families' grieving process if the patient doesn't survive.	1	1	3	2	19	16	68	57	27	23	1	1
D1e	Resuscitation procedures are too distressing for family members.	4	3	14	12	23	19	57	48	20	17	1	1
D1f	FWR can let families know the resuscitation efforts.	2	1	2	2	5	4	65	55	44	37	1	1
D1g	Families may misinterpret resuscitation treatments.	3	3	10	8	25	21	73	61	7	6	1	1
D1h	Families can provide patients' medical history information.	2	2	3	2	17	14	77	65	19	16	1	1
D1i	Family presence may compromise the resuscitation team's performance.	10	8	42	36	34	28	25	21	7	6	1	1
D1j	Family presence can help develop trust between families and staff.	3	2	2	2	41	34	60	51	12	10	1	1
D1k	Family presence may increase pressure on staff.	5	4	15	13	20	17	66	55	12	10	1	1
D1l	Family presence may result in increased litigation.	6	5	33	28	41	34	29	25	9	7	1	1
D1m	Family presence can encourage more professional behaviour in staff.	10	8	20	17	26	22	45	38	17	14	1	1
D1n	FWR is not beneficial to patients undergoing resuscitation procedures.	17	15	43	36	36	30	16	14	5	4	1	1
D1o	FWR is beneficial to the patients' families.	1	1	9	7	36	30	55	46	17	15	1	1

Table 4.8 (cont.)

Evaluation of Family Witnessed Resuscitation (FWR)

Item	Description	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree		Missing	
Resource Requirements		F	%	F	%	F	%	F	%	F	%	F	%
D1p	FWR requires extra space in the resuscitation room.	1	1	12	10	10	8	69	58	26	22	1	1
D1q	Family members should always be supported by a designated person.	1	1	0	0	5	4	24	20	88	74	1	1
Advocacy for FWR													
D1r	Family members should never be invited into the resuscitation room.	43	35	46	39	19	16	8	7	3	2	1	1
D1s	Family members should be offered the opportunity to witness the resuscitation.	3	3	16	13	33	28	39	32	27	23	1	1

In terms of resource requirements, results presented in Table 4.8 show almost uniform agreement with 94% of the nurses believed that a designated staff member should be available to facilitate a witnessed resuscitation and to support family members, and 80% suggested that extra room space was needed to accommodate the family members in the resuscitation room.

Overall, nurses indicated positive attitudes towards FWR as show in Table 4.8; 74% disagreed that family members should never be invited into the resuscitation room but only 55% agreed that family members should always be provided with the option of presenting during the resuscitation of a relative.

Management of Family Witnessed Resuscitation

Nurses' preferences for the management of FWR are summarised in Table 4.9. In agreement with their overall positive attitudes towards family presence, the majority of nurses would like to grant family members access to the resuscitation room, either with (51%) or without (30%) a written policy. Only 4% implicitly indicated that family presence should not be allowed and 11% were uncertain about this issue. Two nurses suggested that patients' condition should be assessed on an individual basis in order to make this decision.

The results presented in Table 4.9 shows that nurses have diverse opinions about when is the appropriate time for family members to enter the resuscitation room. Many participants recommended that family members should be allowed to observe all phases of the resuscitation process, with 36% not considering timing to be an issue and 7% choosing to let family members enter immediately after the patient is

brought into the resuscitation room. Thirty-seven percent believed that family members should not be brought in until all invasive procedures have been completed. Two nurses considered it a family members' decision and another two, were

Table 4.9

Management of Family Witnessed Resuscitation (FWR)

Item		Frequency	Percent
D2	Policy Formulation		
	A written policy allowing FWR	61	51
	A written policy prohibiting FWR	3	2
	No written policy but want the department to allow FWR	36	30
	No written policy but want the department to prohibit FWR	2	2
	Unsure about this issue	13	11
	Depends on patients' condition	2	2
	Missing data	2	2
	Total	119	100
D3	Timing Issue		
	Any time	43	36
	Immediately after the patient is brought into resuscitation area	9	7
	After all invasive procedures, before all resuscitation attempts are stopp	44	37
	Let family members decide	2	2
	Consider factors other than timing	14	12
	Not appropriate to allow FWR	2	2
	Missing data	5	4
	Total	119	100
D4	Decision-Making Authority Delegation		
	Senior doctor	24	20
	Coordinating nurse in the emergency department	9	8
	Multi-disciplinary team	59	49
	Not sure	6	5
	Depends on the availability of supporting staff	2	2
	Triage nurse	1	1
	Missing data	18	15
	Total	119	100

completely against the practice. The remaining 12% suggested that patients' condition, family members' ability to cope, availability of a support staff member, and resuscitation teams' readiness should be assessed before approving FWR.

In terms of decision-making authority delegation, the results shown in Table 4.9 reveal that 49% of the nurses believed that it was a collective decision and that all team members should be consulted before family members are invited into the resuscitation room. The next ranked choice is the doctor in charge (20%). Some nurses chose to delegate the responsibility to a coordinating nurse (8%) or to a triage nurse (1%). For the remaining participants, four suggested that all staff involved should agree on this issue and two were concerned about the availability of support staff.

In an open-ended question, participants suggested that under certain circumstances a policy on family presence during resuscitation might not be appropriate (Table 4.10). Patients' condition was highlighted by 17 respondents when considering the appropriateness of allowing family members to witness resuscitation. Situations where multiple-trauma, severe disfigurement, criminal, and self-harm patients were present, nurses did not recommend that family members should be involved. Another 9 respondents suggested that family members' emotional status and ability to cope should be assessed before they were allowed to enter the resuscitation room. One nurse wrote "Family members who appear to be aggressive or over-protective should be kept out [of the resuscitation area]." The availability of a staff member to facilitate a FWR event was recommended by one nurse as the precondition for approving family presence.

Table 4.10

Circumstances where a Family Witnessed Resuscitation Policy is Inappropriate

		Frequency
D5	Patients' condition	17
	Families' emotional status and ability to cope	9
	Availability of a support staff member	1
	Total	27

Participating nurses provided further comments on the practice of allowing family presence during resuscitation in the final open-ended question. The themes emerged from nurses' responses concentrate on how family presence should be managed (Table 4.11). Some respondents recommended that a guideline, allowing FWR to be considered on a case-by-case basis, might be more appropriate than a policy. Other respondents identified several issues that needed to be addressed in the implementation of FWR. First, an experienced staff member should be available to provide support to family members during the event. Second, debriefing after a witnessed resuscitation was highly recommended. Third, the number of family members that were allowed to enter resuscitation room should be limited. Last, the approval of a FWR should be a team decision. One nurse said that whether and how family presence should be allowed was not a short-term decision and formalisation of a standard policy should be implemented with caution.

Influencing Factors of Nurses' Attitudes

The results of cross tabulation analysis show that there are no significant associations between nurses' demographical attributes and their attitudes towards the practice of allowing family members' presence in the resuscitation room. However, a

comparison between participants from two emergency departments reveal that, despite their similar demographic background and knowledge, nurses differ in experience with FWR and attitudes towards the practice. Significant characteristics with a computed *p*-value smaller than 0.05 are presented in Tables 4.12 and 4.13 and are addressed in the following discussion.

Table 4.11

Nurses' Further Views about Family Witnessed Resuscitation (FWR)

		Frequency
Final Q	FWR policy formulation	5
	Experienced support staff should be made available	5
	Debrief after resuscitation should be provided	2
	Number of families to witness resuscitation should be limited	2
	Approval of FWR should be a team decision	1
	Total	15

Participants from ED1, as shown in Table 4.12, appear to be more experienced with family presence than those from ED2 (p = 0.03); almost 80% of the participating nurses from ED1 had been involved in a witnessed resuscitation compared to 60% from ED2. However, significantly more nurses with FWR experiences from ED2 reported that they were provided with an opportunity to debrief than those from ED1 (p = 0.01).

Compared to their peers from ED2, nurses from ED1 tended to view FWR favourably as shown in Table 4.13. More participants from ED1 (88%) than those from ED2 (70%) agreed that family members were able to provide relevant information about their relatives' medical history during resuscitation (p = 0.01).

Almost 70% of the participants from ED1 believed that family members' presence could help establish trust between them and resuscitation teams, compared to 49% from ED2 (p = 0.04). Further, 71% of the participants from ED1 agreed that family members could benefit from witnessing resuscitation, compared to 44% from ED2 (p = 0.01). On the other hand nurses from ED2 were more likely to view FWR a potential litigation risk, compared to their counterparts from ED1 (p = 0.03). Overall, nurses from ED2 tended to agree that family members should be prohibited from entering the resuscitation room.

Table 4.12

Cross Tabulation of Emergency Departments and Nurses' Experiences With Family Witnessed Resuscitation (FWR)

	Emergency Departments		
	ED1	ED2	
Item	Frequency (%)	Frequency (%)	*p*-value
C6 Possession of FWR experience			
No	16 (21)	17 (40)	0.03
Yes	60 (79)	26 (60)	
C8 Opportunity to debrief after a FWR			
No	32 (56)	7 (27)	0.01
Yes	25 (44)	19 (73)	

Consistent with their scepticism about the beneficial aspects of the practice of allowing family members' presence in the resuscitation room and their concerns about its legal risk, nurses from ED2 were found to be less supportive to FWR; 73% of the participants from ED2 would like to allow family presence with or without a written policy, compared to 90% from ED1 (p = 0.01). The findings, therefore, suggest that institutional setting may be an influencing factor of nurses' attitudes.

Table 4.13

Cross Tabulation of Emergency Departments and Nurses' Attitudes Towards Family Witnessed Resuscitation (FWR)

		Emergency Departments		
		ED1	ED2	
Item		Frequency (%)	Frequency (%)	*p*-value
Evaluation of FWR				
D1h	Family can provide relevant information during FWR			
	Disagree	9 (12)	13 (30)	0.01
	Agree	66 (88)	30 (70)	
D1j	FWR can develop trust between family and resuscitation team			
	Disagree	24 (32)	22 (51)	0.04
	Agree	51 (68)	21 (49)	
D1o	FWR is beneficial to the patients' families			
	Disagree	22 (29)	24 (56)	0.01
	Agree	53 (71)	19 (44)	
D1l	FWR may result in increased litigation			
	Disagree	31 (41)	8 (19)	0.01
	Agree	44 (59)	35 (81)	
D1r	Family should never be invited into resuscitation room			
	Disagree	61 (81)	27 (63)	0.03
	Agree	14 (19)	16 (37)	
Management of FWR				
D2	Policy Formulation			
	Prohibit	7 (10)	11 (27)	0.01
	Allow	67 (90)	30 (73)	

Exploratory Factor Analysis

Preliminary Analysis

Initially, the factorability of the 19- items Question D1 was examined. For meaningful results to be obtained in factor analysis, correlations between variables

should be from 0.30 to 0.70 (Munro, 2005). The correlation matrix presented in Table 4.14 shows that the 19 items have correlation greater than 0.30 with at least one other item, suggesting reasonable factorability. The estimated Bartlett's test of sphericity shown in Table 4.15 is significant (χ^2 (171) = 1081.66, p = 0.00), supporting the inclusion of each item in the factor analysis. The following items have a correlation coefficient equal to and greater than 0.65:

1. Items D1c and D1e appear to be correlated (r = 0.68, p = 0.00). Nurses who agreed that resuscitation procedures were distressing for family members to watch tended to believed that witnessing resuscitation might leave long-term negative psychological effects on family members;

2. Items D1b and D1o appear to be correlated (r = 0.69, p = 0.00). Nurses who agreed that family members could better understand the patients condition by witnessing resuscitation were more likely to consider family presence beneficial to family members;

3. Items D1d and D1o appear to be correlated (r = 0.66, p = 0.00). Nurses who agreed that witnessing resuscitation might help family members ease their grieving process if the patient did not survive were more likely to consider family presence beneficial to family members; and

4. Items D1n and D1o appear to be correlated (r = 0.66, p = 0.00). Nurses who did not consider family presence beneficial to patients undergoing resuscitation tended to agree that it would benefit patients' family members.

Table 4.14

Correlation Matrix

Item	D1a	D1b	D1c	D1d	D1e	D1f	D1g	D1h	D1i	D1j	D1k	D1l	D1m	D1n	D1o	D1p	D1q	D1r	D1s
Correlation																			
D1a	1.00	0.19	0.44	0.10	0.40	-0.05	0.40	0.18	0.51	0.04	0.43	0.50	0.07	0.28	0.17	-0.22	0.05	0.22	0.11
D1b		1.00	0.27	0.58	0.15	0.56	0.09	0.57	0.43	0.56	0.21	0.35	0.32	0.54	**0.69**	-0.13	0.44	0.59	0.47
D1c			1.00	0.30	**0.68**	0.10	0.45	0.26	0.55	0.16	0.53	0.54	0.06	0.44	0.40	-0.26	0.13	0.39	0.32
D1d				1.00	0.19	0.58	0.10	0.32	0.36	0.41	0.24	0.25	0.14	0.55	**0.66**	-0.04	0.15	0.40	0.40
D1e					1.00	-0.02	0.40	0.19	0.39	0.04	0.32	0.40	0.12	0.36	0.30	-0.10	0.04	0.21	0.22
D1f						1.00	-0.04	0.31	0.25	0.52	0.08	0.20	0.13	0.41	0.50	0.02	0.43	0.45	0.31
D1g							1.00	0.07	0.46	0.09	0.46	0.43	0.09	0.20	0.23	-0.29	0.10	0.13	0.29
D1h								1.00	0.34	0.47	0.16	0.27	0.29	0.47	0.52	-0.09	0.36	0.53	0.41
D1i									1.00	0.24	0.54	0.60	0.06	0.52	0.50	-0.34	0.28	0.53	0.37
D1j										1.00	0.14	0.23	0.38	0.38	0.49	-0.07	0.38	0.47	0.41
D1k											1.00	0.57	-0.12	0.31	0.27	-0.44	0.18	0.34	0.28
D1l												1.00	0.03	0.47	0.43	-0.30	0.27	0.50	0.31
D1m													1.00	0.17	0.22	0.04	0.21	0.14	0.22
D1n														1.00	**0.66**	-0.20	0.35	0.56	0.38
D1o															1.00	0.03	0.41	0.63	0.51
D1p																1.00	0.02	-0.24	-0.19
D1q																	1.00	0.47	0.35
D1r																		1.00	0.51
D1s																			1.00

Table 4.14 (cont.)

Correlation Matrix

Item	D1a	D1b	D1c	D1d	D1e	D1f	D1g	D1h	D1i	D1j	D1k	D1l	D1m	D1n	D1o	D1p	D1q	D1r	D1s
p-values of the correlation																			
D1a		0.02	0.00	0.13	0.00	0.30	0.00	0.02	0.00	0.32	0.00	0.00	0.23	0.00	0.04	0.01	0.28	0.01	0.12
D1b			0.00	0.00	0.05	0.00	0.16	0.00	0.00	0.00	0.01	0.00	0.00	0.00	**0.00**	0.09	0.00	0.00	0.00
D1c				0.00	**0.00**	0.14	0.00	0.00	0.00	0.04	0.00	0.00	0.26	0.00	0.00	0.00	0.08	0.00	0.00
D1d					0.02	0.00	0.14	0.00	0.00	0.00	0.01	0.00	0.07	0.00	**0.00**	0.34	0.05	0.00	0.00
D1e						0.43	0.00	0.02	0.00	0.35	0.00	0.00	0.10	0.00	0.00	0.15	0.34	0.01	0.01
D1f							0.36	0.00	0.00	0.00	0.20	0.01	0.08	0.00	0.00	0.41	0.00	0.00	0.00
D1g								0.23	0.00	0.17	0.00	0.00	0.16	0.02	0.01	0.00	0.14	0.08	0.00
D1h									0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00
D1i										0.01	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00
D1j											0.06	0.01	0.00	0.00	0.00	0.22	0.00	0.00	0.00
D1k												0.00	0.09	0.00	0.00	0.00	0.23	0.00	0.00
D1l													0.39	0.00	0.00	0.00	0.00	0.00	0.00
D1m														0.04	0.01	0.34	0.01	0.07	0.01
D1n															**0.00**	0.01	0.00	0.00	0.00
D1o																0.39	0.00	0.00	0.00
D1p																	0.41	0.00	0.02
D1q																		0.00	0.00
D1r																			0.00
D1s																			

Factor Analysis Sampling Adequacy

In exploratory factor analysis, Gorsuch (1983) suggested that sample size should be five subjects per item, with a minimum of 100 subjects, regardless of the number of items. Field (2009) recommended having between 5 and 10 subjects per item up to a total of 300. In this study, a total of 118 participants were recruited, providing six subjects per item. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for this factor analysis is 0.88 as shown in Table 4.15. This value is well above the acceptable limit of 0.5 and is considered to be good as per Hutcheson & Sofroniou (1999).

Table 4.15

Kaiser-Meyer-Olkin and Bartlett's Test

Kaiser-Meyer-Olkin measure of sampling adequacy		0.88
Bartlett's test of sphericity	χ^2 (171)	1081.66
	p-value	0.00

Results of Exploratory Factor Analysis

Exploratory factor analysis was applied to the 19 items, with an attempt to summarise nurses' attitudes towards family presence in terms of two or three subscales. The initial eigenvalues (Table 4.16) show that the value of the first four factors is greater than 1, fulfilling the Kaiser's criterion (Kaiser, 1974). The scree plot presented in Figure 4.1 shows a 'cliff' around factors 3 and 4, suggesting the first four factors are relevant. The first factor explains 36.39% of the variance, the second factor 14.89% of the variance, the third factor 6.39% of the variance, and the

fourth factor 5.84% of the variance. In combination, these four factors can explain 63.48% of the overall variance between items.

Table 4.16

Component Matrixd

		Component[e]			
Item		1	2	3	4
D1o	FWR is beneficial to families	0.80	0.27	0.08	0.25
D1r	Families should not be invited to witness resuscitation	0.77	0.16	-0.20	-0.09
D1n	FWR is not beneficial to patients	0.76	0.07	-0.01	0.21
D1b	Families can better understand patients' condition	0.75	0.38	-0.01	-0.02
D1i	Families may compromise resuscitation treatment	0.74	-0.33	-0.11	0.05
D1l	FWR may increase litigation	0.68	-0.39	-0.12	-0.02
D1c	Families may suffer long-term psychological harm	0.64	-0.48	0.20	0.19
D1s	Families should be offered to witness resuscitation	0.64	0.13	0.11	-0.20
D1d	FWR can ease families' grieving process	0.63	0.29	-0.06	0.47
D1h	FWR allows families to provide patients' information	0.62	0.28	0.15	-0.20
D1j	FWR can develop trust between families and staff	0.59	0.45	0.04	-0.24
D1k	FWR may increase pressure on staff	0.55	-0.52	-0.33	-0.07
D1f	FWR allows families to know resuscitation efforts	0.54	0.53	-0.24	0.21
D1q	Families should be supported by designated staff	0.50	0.32	-0.09	-0.30
D1g	Families may misinterpret resuscitation treatment	0.43	-0.54	0.15	-0.18
D1a	FWR may compromise patient confidentiality	0.44	-0.54	0.17	-0.05
D1m	FWR can encourage professional behaviours of staff	0.27	0.30	0.64	-0.44
D1e	Resuscitation is too distressing for families to witness	0.47	-0.47	0.49	0.27
D1p	FWR requires extra space	-0.30	0.41	0.44	0.41
Eigenvalues		6.91	2.83	1.21	1.11
% of variance		36.39	14.89	3.37	5.84

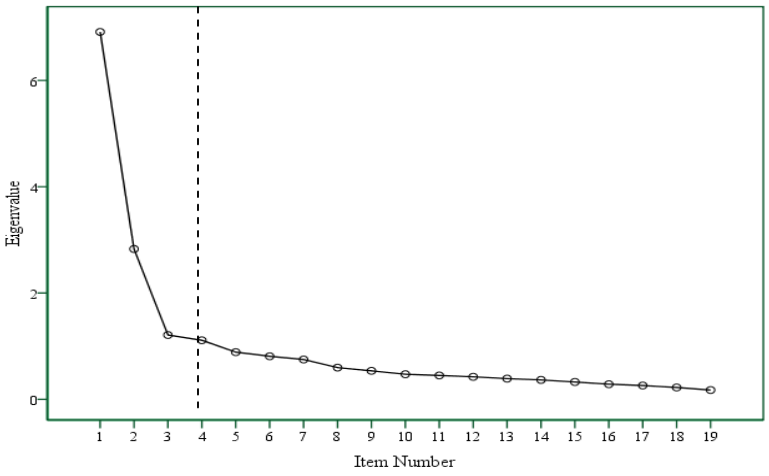
Note. Extraction method: principal component analysis.

[d] 4 components extracted.

[e] The negative loadings are caused by items that are inversely oriented to the factor

Figure 4.1

Scree plot



Varimax rotation method was used to reorient the factor loadings so that the factors could be more clinically interpretable. The results presented in Table 4.17 show that after rotation, the first four factors can explain 25.98%, 18.79%, 9.93% and 8.79% of the variance, respectively. The cumulative variance explained by these factors after rotation remains the same as before rotation, i.e. 63.48%.

Both the convergence of the scree plot and Kaiser's criterion on the four factors suggest that the 19-item attitude scale can be summarised into four subscales. Factors loadings lower than 0.40 are suppressed from the analysis. This cut-off point was recommended by Field (2009) for interpretative purposes. The primary loadings for each item are in bolt as shown in Table 4.17. The primary loading of all items, except for Items D1s and D1q, is above the significance threshold of 0.51 recommended by Stevens (2002), given the sample size of 118.

Table 4.17

Rotated Component Matrix

Item		Component 1	2	3	4
D1o	FWR is beneficial to families	**0.82**			
D1f	FWR allows families to know resuscitation efforts	**0.80**			
D1d	FWR can ease families' grieving process	**0.80**			
D1b	Families can better understand patients' condition	**0.77**			
D1r	Families should not be invited to witness resuscitation	**0.68**			
D1n	FWR is not beneficial to patients	**0.68**			
D1j	FWR can develop trust between families and staff	**0.60**			0.49
D1h	FWR allows families to provide patients' information	**0.52**			0.47
D1s	Families should be offered to witness resuscitation	**0.49**			
D1q	Families should be supported by designated staff	**0.47**			
D1e	Resuscitation is too distressing for families to witness		**0.84**		
D1c	Families may suffer long-term psychological harm		**0.80**		
D1a	FWR may compromise patient confidentiality		**0.67**		
D1g	Families may misinterpret resuscitation treatment		**0.63**		
D1i	Families may compromise resuscitation treatment	0.41	**0.58**	0.41	
D1l	FWR may increase litigation		**0.57**	0.43	
D1p	FWR requires extra space			**-0.76**	
D1k	FWR may increase pressure on staff		0.51	**0.61**	
D1m	FWR can encourage professional behaviours of staff				**0.84**
Eigenvalues		4.94	3.51	1.89	1.67
% of variance		25.98	18.79	9.93	8.79
Cronbach's alpha		0.90	0.84	-1.57[f]	na[g]

Note. Extraction method: principal component analysis.

Rotation method: varimax with Kaiser normalisation

[f] Reliability assumption is violated due to a negative average covariance among items.

[g] Reliability is not conducted due to one variable only.

Ten items primarily load on Subscale 1. Seven of them represent possible beneficial aspects of family presence during resuscitation, including: (D1o) FWR is beneficial to families, (D1f) FWR allows families to know resuscitation efforts, (D1d) FWR

can ease families' grieving process, (D1b) Families can better understand patients' condition, (D1n) FWR is not beneficial to patients, (D1j) FWR can develop trust between families and staff, and (D1s) FWR allows families to provide patients' information. However, the other three items are related to the management of family presence. They are, (D1r) Families should not be invited to witness resuscitation, (D1s) Families should be offered to witness resuscitation, and (D1q) Families should be supported by designated staff. Since Subscale 1 appears to have high loading on possible beneficial aspects of FWR, it could be referred as 'Perceived benefits of FWR'.

Subscale 2 appears to have high loading on items describing concerns about the potential complications of FWR. Those concerns include: (D1e) Resuscitation is too distressing for families to witness, (D1c) Families may suffer long-term psychological harm, (D1a) FWR may compromise patient confidentiality, (D1g) Families may misinterpret resuscitation treatment, and (D1i) Families may compromise resuscitation treatment. Therefore, Subscale 2 could be labelled as 'Concerns about FWR'.

Subscale 3 has a mixed loading on two items, i.e. D1p 'FWR requires extra space and D1k 'FWR may increase pressure on staff'. Item D1p is regarding the management of family presence, while Item D1k is describing the concerns about the practice. Therefore, it is not possible to derive a clear intention of this subscale. This subscale could be called 'Mixed subscale'.

Only Item D1m ‘FWR can encourage professional behaviour of staff’ highly loads on Subscale 4. This subscale could be labelled as ‘Encouragement’.

The internal consistency for the first two subscales was examined using Cronbach’s alpha. The alpha for Subscale 1 ‘Perceived benefits of FWR’ is 0.90 and 0.84 for Subscale 2 ‘Concerns about FWR’, suggesting these two subscales were highly consistent according to Field (2009). Overall, results of the exploratory analysis indicated that at least two distinct factors, i.e. perceived benefits of and concerns about FWR, were underlying nurses’ attitudes.

Summary

This chapter presented descriptive statistics of nurses’ responses. Participants primarily consisted of registered nurses and were of similar demographical background. They demonstrated consistent but limited knowledge of the practice of allowing family members to witness the resuscitation of a relative. With regard to the absence of written policies, the majority of the participants from both emergence departments reported experience of dealing with family members in resuscitation rooms and felt positive about it. Nurses showed a strong agreement on the beneficial aspects of the practice, while had diverse opinions about its potential complications. Their primary concerns were about a family’s ability to cope with and comprehend the resuscitation procedures and staff members’ ability to handle the mounting tension in the resuscitation room. Overall, participants supported the practice of FWR but had no consensus on how the practice should be managed. Hospital setting

was found that might have influenced nurses' attitudes towards family presence and their acceptance of the practice.

Nurses' behaviours and attitudes, however, were at times contradictory and warrant further discussion.

- First, nurses showed a strong agreement with the positive aspects of FWR, yet, they were not convinced that patients and family members would actually benefit from the practice in real situations.

- Second, nurses recognised the distressing nature of the resuscitation procedures to both family members and resuscitation team members and were aware of the possibility of family members' misunderstanding the treatment; yet, far less of them showed concern that these issues might result in potential legal and medical risks.

- Last, despite their positive experiences with FWR and strong agreement on the beneficial aspects of the practice, nurses seemed to be reluctant to practice FWR and to formalise it as a standard process.

In terms of questionnaire design, two main themes relating to healthcare professionals' attitudes towards family presence, i.e. perceived benefits and concerns about the potential implications of the practice, were successfully explained by Subscales 1 and 2 identified by the exploratory factor analysis, respectively. However, Subscales 3 and 4 appear to not have a straightforward clinical

interpretation. The next chapter will further explore nurses' knowledge and experience, with an attempt to understand their behaviour and attitudes.

CHAPTER 5

DISCUSSION AND RECOMMENDATIONS

This chapter presents a discussion based on the findings and provides recommendations to flow from the research. Limitations of the study are discussed as well as the implications for nursing practice and future research.

Discussion

Nurses' Demographic Information

The participants from both emergency departments were demographically similar. The majority were registered nurses, less than 40 years old, held a degree or higher qualification, and worked as Level 1 Registered Nurse on a part or full-time basis. They were educated in the past 10 years and had maintained continuous employment since they completed their education and received registration as nurses. Most had less than 5 years' experience in emergency nursing. Enrolled nurses only accounted for a very small portion of the participants.

The demographic characteristics of the participants in the current study did not appear to be factors influencing their attitudes, as no statistically significant associations were identified. These findings are similar to those of Fulbrook et al. (2005). In a FWR study of European critical care nurses, Fulbrook and colleagues found participants undifferentiated in their attitudes towards family presence, with respect to their age, gender, area of practice, clinical experience, and experience in their speciality.

Nurses' Knowledge of Family Witnessed Resuscitation

Nurses in the current study had limited knowledge of FWR. According to the responses, only 18% of the participants had attended educational sessions about FWR. Most had been involved in peer discussions about the concept and possible benefits and risks of the practice. The majority had not received any education on this issue nor kept up to date with the research findings in this field.

To the best of the researcher's knowledge, Western Australian professional nursing organisations have not issued any recommendations endorsing family presence and no academic research on FWR has been published to date. There appears to be limited discussion of this topic in Western Australian when compared with other states. The two participating emergency departments play significant roles in Western Australian healthcare system, attending more than 100,000 presentations in combined each year. Both emergency departments have been practicing FWR on an informal basis, with 72% of the participants reported previous involvement in a witnessed resuscitation in the absence of specific guidelines and protocols. There may be a need to address FWR-related issues and to provide systematic information about this topic in interested hospitals, if the management decide to incorporate FWR into the nursing practice.

Nurses' Experiences With Family Witnessed Resuscitation

Similar to the research evidence of other studies cited in this thesis, the two participating emergency departments were found to have embarked on the practice of FWR on an informal basis. Although there were no policies, 43% of the participants had received requests by family members to witness the resuscitation of a relative

and 72% had participated in a witnessed resuscitation. This suggests that in the absence of written policy on FWR, these two Western Australian hospitals are open to the practice.

The prevalence of experience with FWR found among the participants in this study is consistent with Melbourne healthcare staff' high involvement found in the Redley and Hood (1996) study in which 70% of the emergency personnel had received a FWR request and nearly as many reported experience with the practice. Based on these finding, it appears the Australian healthcare personnel have had more involvement with FWR than their peers in the U.S., the U.K., Canada and Ireland. Studies in the U.S. (Helmer et al., 2000; MacLean et al., 2003; McClenathan et al., 2002), Canada (Fallis et al., 2008), the U.K. (Fulbrook et al., 2007), and Ireland (Madden & Condon, 2007) found 50% to 65% of the participants had been involved in a witnessed resuscitation. In studies undertaken in Turkey (Badir & Sepit, 2005) and Singapore (Ong et al., 2004), participants reported even lower exposure, with less than 40% having had such experience. One possible explanation of the different experience with family presence may be because of the passage of time. The concept of allowing family members to witness resuscitation may have become more common than it was when the other studies were conducted. Such varying rates of exposure of participants to FWR in different countries also draws attention to the possible influencing cultural factors, religious beliefs and customs surrounding death may have on the practice of FWR.

As mentioned, only 43% participants said that they had received a request from family members to witness the resuscitation. This in part might be due to the fact that

participating nurses in this study were reluctant to inform family members of the options of staying with their relatives during treatment, with just 37% having extended an invitation. Beside from the relative newness of this practice across Australia, one explanation for this reluctance may be a lack of confidence in managing family presence in the resuscitation room. The identified limited knowledge of FWR suggests that participants in this study might not have been sufficiently prepared handling various FWR-related issues.

The other factor possibly explaining nurses' reluctance to invite families into the resuscitation room is their lack of decision-making authority. In this study, although the presence of family members in the resuscitation room was found to be frequently occurring, neither hospital had a written policy explicitly allowing or prohibiting FWR. In the absence of a formal policy, the doctor, who is ultimately responsible for the resuscitation, normally assumes the decision-making role. Nurses, as supporting team members, would be unlikely to suggest that a family member stay without first consulting the doctor in charge.

Nurses' Attitudes: Evaluation of Family Witnessed Resuscitation

Perceived Benefits of Family Witnessed Resuscitation

There is an overwhelming agreement among nurses on potential positive impacts of family members' presence on those involved in the resuscitation room. Nurses suggested that better patient care would be provided with the assistance of family members' knowledge about their relatives' medical histories (81%) and improved professionalism among staff members (52%). Family members would be supported emotionally, helping them understand the patients' condition (79%), assuring them

that everything possible has been done (92%), therefore assisting the grieving process (80%). Nurses (61%) also acknowledged the enhanced trust and bond between family members and resuscitation teams by including family members in the resuscitation room during such critical, and most of the time, final stage of their relatives' lives.

These findings correlate with the potential beneficial aspects of FWR identified by family members and healthcare personnel who had participated in a structured FWR program (Belanger & Reed, 1997; Holzhauser et al., 2006; Meyers et al., 2000; Robinson et al., 1998). Although it is debatable whether family members would normally possess knowledge of their relatives' medical histories, they might be able to offer general information or translate their relatives' needs at the bedside, especially for geriatric, paediatric, unconscious, incompetent patients, and patients whose first language is not English. However, it is unlikely that untrained families would be able to evaluate patient care and judge that "everything possible has been done" for their relatives.

Study participants from the U.K. and Singapore emergency departments showed less support to the potential benefits of FWR compared with the respondents in this study. In the survey of 162 U.K. emergency departments, Booth et al. (2004) found that less than half of the respondents agreed that witnessing resuscitation could help family members understand resuscitation effort (48%) and ease family members' grieving process (38%). Ong and his colleagues (2004) reported that 67% of the respondents from the Singapore General Hospital emergency department believed that witnessing resuscitation would provide family members with assurance that

everything possible had been done. A much lower percent of the respondents (36%) agreed that family presence could aid grieving process. The availability of a support staff reported by almost all participants that had FWR experience in this study might have helped facilitate a witnessed resuscitation, allowing staff members to discover the beneficial aspects of the practice.

Despite their agreement, participants in the current study were not so convinced that patients and families would actually benefit from the practice in real situations, with 51% felt that patients would benefit from their family members' presence and 61% considered it beneficial to the observers. Participating nurses indicated that they had acquired their knowledge of the potential benefits of family presence mainly from peer discussion and available literature. Considering the relatively brief interaction with family members and the extremely tense atmosphere in the resuscitation room, it is not possible for them to assess whether those perceived benefits had eventuated.

Concerns About Family Witnessed Resuscitation

Nurses in the current study were primarily concerned about each family's capacity to cope with and comprehend the resuscitation procedures and a staff member's ability to handle the additional stress in the resuscitation room. About two-thirds of the participants were concerned that family members could not be able to deal with the traumatic scenes during resuscitation and might misunderstand the treatments. Nearly as many (65%) felt that staff members might not be able to handle the mounting tension in the resuscitation room caused by the families' presence and 27% were concerned that patient care might be compromised as a result.

Compared with respondents in this study, Singapore participants seemed to be more apprehensive about these issues. Ong et al. (2004) reported that 88% of the respondents felt that resuscitation was too distressing to family members to watch, 85% worried about additional stress imposed on resuscitation teams, and 86% thought family members might interfere with resuscitation. Their strong concerns may be due to their lower exposure to FWR. Another reason may be cultural factors. Although both are multi-cultural counties, unlike Australia, the population in Singapore primarily consists of Chinese, indigenous Malays and Indians (Ong et al., 2004), who are more conservative than Westerners. Their beliefs in death and dying might have influenced their views about family presence during resuscitation.

The findings in this study, however, do not seem to reflect the positive experience reported by the participants who had been involved in a witnessed resuscitation. According to the responses of the participating nurses with FWR experience, family members were frequently found to be cooperative, supportive and appreciative during the resuscitation process. Only one-fifth of the nurses indicated additional stress and discomfort at having family members present, and merely 2% reported their performance had actually been compromised.

Such opposing findings between the expected and the actual may suggest the unexperienced nurses' lack of knowledge and understanding of supporting distressed family members in the resuscitation room. According to Weiten and Lloyd (2008), during a crisis, individuals tend to employ one or a mixture of the following coping strategies: appraisal focused, problem focused, and emotion focused. For instance, family members may adopt appraisal focused strategy by denying or distancing

themselves from the situation, or they may use emotion focused strategy to release their pent-up emotions. As per the responses of nurses who had participated in a witnessed resuscitation, family members were frequently described as being upset and anxious, and that a high proportion of family members left during the resuscitation process. The display of emotions is normal in a difficult situation and leaving is an option under distress. It should be appreciated that family members can benefit from witnessing the resuscitation procedures despite being upset.

It also seems that participating nurses had not been sufficiently equipped with skills to manage the additional stress as a consequence of the families' presence in the resuscitation room. Two-thirds (65%) of the participants indicated that family members' presence would increase pressure on them. The pressure mainly stems from nurses' concerns about communication in front of family members. As one participant wrote, "[I need to] be mindful of tone and use of language and to be respectful. Even though I feel this is done anyway, the presence of relatives does make you take a step back and think before you speak and act." Resuscitation is an extremely emotional and tense event, associated with a high mortality rate. Using "black humour" or "loose talk" to deal with anxiety and to defuse tension is seen as part of the generally accepted resuscitation-room culture, which can be found in emergency departments, intensive care units, operating theatres and other stressful healthcare settings (Critchell & Marik, 2007; Terzi & Aggelidou, 2008). Nurses in this study realised that these tension reducing strategies were inappropriate when family members were present but found it difficult to alter their behaviours.

There is valid reason to be concerned about the appropriateness of using "black humour" in front of family members. During emergency or critical situations, family members may become very sensitive and feel that staff members do not take patient care seriously if they make joke about the patient's condition. Healthcare professionals need to consider family members' feeling when using "black humour" in the resuscitation room. It is easy to suggest that healthcare professionals should abolish the "black humour" approach and adopt a more socially acceptable style to accommodate family presence in resuscitation rooms. However, the potential emotional and psychological impacts this may have on staff members need to be taken into consideration when advocate such change. Nurses and other medical staff often deal with the whole spectrum of health and illness, while, frequent exposure to illness and death does not make them immune from being emotional and anxious. Sheldon (2009) suggests that black humour provides a psychological escape from the harsh realities and may even strengthen staff relationships.

Another concern of the participants was the potential negative psychological effect and legal risks of FWR, although they appear to be secondary considerations of nurses in this study. The majority of the participants were concerned about the traumatic nature of the resuscitation procedures, the possibility of family members' misinterpreting treatments and the increased pressure on resuscitation teams. Only 32 - 39%, however, believed that those concerns would lead to psychological harm to family members and would result in legal actions against staff and institutions. These percentages are much lower compared to findings in previous studies, where 80 – 90% of respondents expressed concerns of potential psychological harm to family members (Badir & Sepit, 2005; McClenathan et al., 2002; Ong et al., 2004; Yanturali

et al., 2005) and 50 - 72% expressed potential legal consequences of allowing family members to witness the resuscitation (Ong et al., 2004; Yanturali et al., 2005).

In the current study, neither participating emergency department had been managing family presence on a formal and systematic basis. Follow-up with bereaved family members had not been put in place to obtain feedback and to evaluate the effects of witnessing the resuscitation. Furthermore, no research that has been published on this topic in Western Australia and it appears little discussion and debate on the implications of allowing family presence in resuscitation rooms has been initiated in local hospitals. Nurses' lack of awareness of any psychological harm and any legal risks may be due to limited empirical information and evidence from follow-up studies of FWR-related issues.

Concern about violating patient confidentiality during a witnessed resuscitation was raised by one-third of the respondents in the current study, which is much lower compared to finings in previous studies, where 63 – 88% of study participants considered allowing family members to witness the resuscitation to be a potential violation of the patient's privacy (Badir & Sepit, 2005; Fulbrook et al., 2005; Helmer et al., 2000). Healthcare professionals hold a moral obligation to protect patient confidentiality. There is always the possibility that medical information previously not know by family members may be revealed in the chaos of resuscitation. Further, certain medical information and procedures are of high personal nature, allowing family presence may compromise patient dignity, physical or otherwise. Such potential breach of patient confidentiality could have broader implications relating to

the public's trust in the healthcare profession or even lead to litigation issues (Critchell & Marik, 2007).

Despite limited research evidence, participating patients in previous studies expressed the need to respect their right to have family members present in the resuscitation room and their autonomy in making decisions about their resuscitations. Nowadays, it has become common for healthcare institutions to obtain a patient consent on forms such as Do Not Resuscitate or advanced directive. However, patient's preference of FWR is not routinely sought. In emergency departments, the chances that patients are unconscious or incapable to make decision upon admission are high, a patients' consent and preference are paramount and should be sought formally whenever possible.

In previous study, some participating patients stipulated that they wanted to restrict witnessing to specific family members (Benjamin et al., 2004; Grice et al., 2003). In modern society, the ever broader definition of family makes it increasingly difficult to determine who should be considered family members or next-of-kin, especially when unconventional relationships, such as de facto and same-sex, are involved. During resuscitation, due to the limited staff and space resources, it is not realistic and practical if all family members are allowed to stay with the patient. Therefore, the age, gender, relationship to patient, and religious and cultural beliefs of family members may need to be taken into account when considering FWR.

Demand on Resources

Almost all participants expressed an agreement that the practice of FWR would

necessitate additional personnel to support family members in the resuscitation room. The importance of having a well-trained staff member to facilitate a witnessed resuscitation has been highlighted in available literature (Blundell et al., 2004; Meyers et al., 2000; Ong et al., 2004) and by healthcare professional bodies (ENA, 1995; RCUK, 1996). In the current study, the availability of a support staff reported by almost all participants with FWR experience might have contributed to their positive accounts in the resuscitation room. According to their responses, the majority of the participants with FWR experience described family members as being cooperative, supportive and appreciative in the resuscitation room. Although most of the time family members were found to be distressed, and occasionally family members kept asking questions, or had an outburst or even collapsed during the resuscitation process, only four actual interferences had incurred. It seems, in most instances, the designated staff member was able to manage the family members sufficiently so that it did not impact the resuscitation effort.

The majority of the participants in this study suggested that extra space would be necessary to accommodate family members in the resuscitation room. During the resuscitation, it is often difficult to fit even the most essential staff and equipment into the area around the bed (Schilling, 1994). The participating hospitals in the current study are major teaching hospitals; junior staff may also need to squeeze in for learning purposes. In such an over-crowded and highly tense environment, the pressure may build on everyone involved. If no adequate support can be provided, both families and patients might be better served if family members remained out of the treatment area.

Nurses' Attitudes: Management of Family Witnessed Resuscitation

Policy Formulation

The majority of nurses were supportive of the implementation of FWR, with 51% suggesting it be permitted with a written policy and 30% would like to practice it on an ad hoc basis. It seems that the acceptance of family presence among the current study participants is lower than Canadian and Irish study participants. In the study conducted by Fallis et al. (2008), 92% of the Canadian critical care nurses responded to the survey indicated that they would like to allow family presence, either with (61%) or without (31%) a written policy. Similarly, Madden and Condon (2007) found that 74% of the participating emergency nurses would prefer an open policy permitting FWR and 20% would like to practice it on an informal basis.

It is worth noting that 30% of the current study participants were reluctant about the formal incorporation of FWR into the nursing practice. Concern about resource constrain was one of the possible reasons. In this study, participants reported some observed deviations from the normal practice when a family member was present in the resuscitation room, including prolonging (36%) and initiating (15%) resuscitation even in futile situations. One nurse wrote, "The resuscitation continued due to family members' request but stopped 5 to 10 minutes after. Family [kept] pleading with the doctor in charge of resuscitation despite the [doctor] fully explained [that there would be] no change in outcome even we continued." It seems that allowing FWR might put on extra burden on available resources, in terms of time, space and personnel, in Western Australian healthcare system.

In addition, participants raised concerns about unusual situations where patients were seriously disfigured when brought into the emergency department or family members were emotionally unstable. It would be difficult to decline a family member's request to be present if FWR were governed by written policies. Patients, family members and healthcare professionals affect and can be affected by the implementation of FWR. All three groups believe that they have a legitimate claim to make decision on FWR-related issues. Participants' hesitation to formalise the practice found in the current study may signify their belief that the overriding authority and the final say should remain with healthcare professionals.

The fact that almost one-third of the participants would like to keep the practice of FWR on an informal basis also reflects the decision dilemma faced by nursing staff. Nurses often find themselves in the midst of challenging ethical situations that involve conflicts between the needs of patients, family members and the preferences of healthcare professionals. In the context of FWR, a patient's autonomy should be respected at all time. However, if a patient is unconscious and there is no advanced directive where the patient's preference can be obtained, use of a family member as a proxy is a widely accepted practice and supported by the majority of patients (Redley et al., 2004). Despite the testimonials from family members who had been involved in FWR programs, researchers and healthcare providers suggested that psychological harms of family members was plausible. In addition, participants in previous and the current studies recognised the potential medical implications that patients might benefit or be harmed by offering or denying family presence. Opinion disparity among nursing staff and strong opposition from physicians further complicate the

decision regarding FWR. In order to make an appropriate decision, nurses may have to find a balance between ‘do good’ and ‘do no harm’.

Timing Issue

The participants had diverse opinions about the issue of timing of when a family member might witness the resuscitation treatments. Some advocates of FWR, including those who pioneered the idea, recommended that family members be brought into the resuscitation room only after all invasive lines and tubes, such as central venous catheters, arterial lines, and endotracheal tubes, had been placed (Hanson & Strawser, 1992; Ong et al., 2004). In Ong et al.’s (2004) study, 96% of the respondents suggested after invasive procedures were performed but before resuscitation attempts were stopped and 3% agreed to be immediate after admission. In the current study, slightly more than one-third of the participants supported this recommendation, while another one-third would allow family members’ presence at any stage of the resuscitation process.

The intention to bring family members into resuscitation rooms only after invasive procedures is to mitigate the traumatic and distressing impression that the resuscitation process may leave with family members. However, in reality, it is almost impossible to segregate invasive procedures from resuscitation. Also, it is possible that after all anticipated invasive procedures have been completed and a family member is let into the resuscitation room, there is an unexpected need for further invasive procedures. Therefore, if the practice of allowing family presence during the resuscitation was accepted by healthcare institutions, a carefully-designed guideline or protocol to cover various contingencies during the resuscitation process,

as well as a well-trained support staff member who can respond immediately to unexpected situations and regain control, might be more appropriate and realistic than setting a rigid time for family members to enter the resuscitation room.

Decision-Making Authority Delegation

Similar to their peers in previous studies (Badir & Sepit, 2005; Fulbrook et al., 2005), 49% of the participants in the current study considered the decision to permit FWR should be a collective decision made by the multi-disciplinary resuscitation team. However, Ong and his colleagues (2004) found that doctors were less likely to view it as a team decision than nurse participants. In the absence of a written policy, doctors normally assume the decision-making role because of their ultimate responsibility for the care provided to patients. Nurses, who emphasise holistic care, also consider themselves to be advocates for patients and family members (Hallgrimsdottir, 2000; Twedell, 2008). Nurses' desire for a shared authority reflects their perceived responsibility for both the physical and emotional well-being of patients and family members.

Nevertheless, there may be difficulties with implementing the collective decision-making procedure advocated by many study participants. First, medical and nursing staff vary in their opinions and preferences about FWR as suggested by research evidence (Chalk, 1995; McClenathan et al., 2002; Meyers et al., 2000). Findings in some studies also suggested that doctors with less amount of experience in dealing with resuscitation and distressed relatives were more likely to be opposed to family presence (Mitchell & Lynch, 1997; Yanturali et al., 2005). Unless objective criteria are developed for patient and family assessment, adding more people into the

decision-making process has the potential to intensify the existing conflicts within the resuscitation room. Further, resuscitation normally happens in an emergency and tense situation, it may be unrealistic for the resuscitation team to make a collective decision on such controversial issue within such short time frame. Therefore, a centralised decision making procedure may be more appropriate.

Institutional Differences

Significant differences in attitudes were identified among participants from the two emergency departments. Participants from ED1 tended to view FWR favourably and were more likely to support the implementation of the practice, formally or informally, in their department, compared to the participants form ED2. Given the nurses' similar demographic profile and knowledge of FWR in both emergency departments, institutional culture might have influenced nurses' attitudes towards the practice. More participants from ED1 tended to agree with the potential positive impacts of FWR on care delivery and their willingness to participate in the current study, compared to those from ED2, may suggest that one hospital is more open to new concepts than the other.

In addition, previous studies suggest that healthcare professionals' attitudes towards FWR can evolve positively as a result of hands-on experience with the practice (Belanger & Reed, 1997; Holzhauser & Finucane, 2007). Similar findings were reported in the Yanturali et al. (2005) study, where participants with FWR experiences were more likely to support the practice than those without. Results of the current study also suggest significantly more participants from ED1 had been involved in a witnessed resuscitation than those from ED2; higher exposure to FWR

among nurses from ED1 might have contributed to their more favourable attitudes towards the practice, compared to those from ED2.

Furthermore, the availability of support from the institution may also help improve staff members' confidence in dealing with distressed family members in the resuscitation room. In the current study, it appears that participants from ED1 felt safer than their peers from ED2, with more nurses from ED2 tending to view FWR as potential legal risk than those from ED1. There might be sufficient support, such as legal advice and employee protection, provided to staff members in ED1. Although inconclusive, this finding sheds light on what hospitals with heavy traffic in emergency departments might do differently to change or manage staff attitudes towards FWR.

Limitations

Although this study provides useful insight into the Western Australian emergency nursing staff attitudes towards the practice, several methodological limitations need to be considered. First, the voluntary nature of the data collection instrument and the convenience sampling method might have limited the representativeness of the sample. It is possible that only nurses with a strong opinion for or against FWR had taken part. The overall response rate in this study exceeded the minimal acceptable response rate of 50% (Bryman, 2004), however, the much lower response rate in ED2 might be due to the reduced personal contacts with prospective participants (Barriball & While, 1999). Because of the policy restrictions in ED2, meetings with nurses on duty were limited to the hand-over time between shifts. This arrangement greatly reduced the amount of personal contact with the nurses in ED2, compared to

the 30-minute information sessions held in ED1. Also, there was no measure in place to prevent participants from completing the questionnaire more than once, however, the likelihood of this happening was remote.

Second, to avoid possible response bias by which the nurses might have been forced to choose a more positive or negative response, a central point labelled "neutral" was included on the Likert scale. However, in the data collection process, a few participants raised the question of whether they should choose "neutral" if they were unsure about an issue. For some items, there were as many as one-third of the participants who selected "neutral"; the possibility that mixed opinions might have been captured by this option made it difficult to interpret the results of these items.

Third, the reliability analysis of the questionnaire was limited in this research. The reliability analysis was conducted using split-half coefficient, the Spearman-Brown coefficient, and Cronbach's alpha. However, the test-retest coefficient had not been calculated because of the design of the study. An extension of the current study would be to modify the design to allow test and re-test the questionnaire.

Last, although the exploratory factor analysis succeeded in identifying two subscales, i.e. perceived benefits of and concerns about family presence during resuscitation, from the 19-item attitude scale, the clinical interpretations of the other two subscales were not straightforward. In addition, some items regarding the management of family presence were incorrectly loaded to Subscale 1 'Perceived benefits of FWR'. In future study, the attitude scale needs to be re-designed, tested and re-tested on a larger sample in order to provide more structured subscales.

Recommendations

Although family presence in resuscitation rooms is not a standard practice in Western Australian healthcare institutions, findings of this study reveal a prevalence of exposure to family presence among participants. For those interested institutions, there may be a need to address FWR-related issues and to provide systematic information about this topic. Findings in this study also suggest that a guideline is more appropriate and realistic than an open policy for interested institutions to provide staff members with ways to deal with family members' requests to witness resuscitation and manage family presence in the resuscitation room when needed. In particular, it is recommended that the guidelines address the following issues:

- A support staff member is allocated within the resuscitation team. Ideally, there is a permanent role of a FWR coordinator. This staff member should be an experienced registered nurse who is able to provide a full and accurate explanation of resuscitation procedures and answer families' questions promptly. Also, this staff member needs to be educated on stress management and bereavement counselling so that he/she can provide adequate support.

- Decision-making authority is clearly delegated, so that all parties know what to do when urgent decisions need to be made. Collective decision-marking is favoured by nurses in the current study. However, if it is unlikely to work out this option in a practical manner, the FWR coordinator might be the next best person to make the decision. In either case, it is highly recommended to involve nursing staff in the decision process due to their complementary knowledge and critical role at the interface between institutions and families.

- Patients and family members are assessed beforehand for suitability for FWR. Consistent and clear assessment criteria need to be developed based on input from members within the multi-disciplinary resuscitation team. Advice on potential psychological, ethical and legal implications needs to be sought from related experts and incorporated into the assessment process.

- Support facilities are provided to medical and nursing staff members who are involved in a FWR event. Trainings on crisis and coping theory, stress management and bereavement counselling can be provided to nurses, helping them understand family members' behaviours and assist them in assessing their emotional status and ability to cope. Provision of counselling service and debriefing opportunity after a FWR event should be made available.

In terms of further research, given the prevalence of the practice of allowing FWR in these two participating emergency departments, there is a definite need for follow-up empirical studies on family members, surviving patients and staff members to examine their experiences in the resuscitation room and to evaluate both short and long-term effects as a result of family members' presence.

An extension of the current study would be to refine the measurement of nurses' attitudes towards FWR. A larger pilot sample can be recruited to test and re-test the internal-consistency of the questionnaire, so that exploratory factor analysis can be used to summarise the attitudes into several factors to provide fine discriminations among nurses with different opinions. Also, additional personal characteristics,

institutional and cultural factors can be included to examine their influences on nurses' attitudes.

Last but not least, the study had relied strongly on quantitative methodology. The inherent limitations of quantitative studies constrained the types of data which could be collected and the interpretation of findings. A qualitative study, due to its inductive and interactive nature, is advantageous in gaining knowledge of people's motivations and intentions (Morse, 1994; Parahoo, 2006). For example, an interview with family members can help clarify why they behave in a certain way in the resuscitation room. A focus group of staff members could explore the possible reasons or influencing factors behind their attitudes. Further, an observation of the interaction between patients, family members and healthcare professionals in the resuscitation could reveal great insight into the effects of FWR, hence providing more solid evidence to support this evidence-based practice.

Conclusion

To the best of the researcher's knowledge, this is the first time that a formalised study of the practice of FWR in Western Australian emergency departments and emergency nurses' attitudes towards the practice has been examined. The findings reported in this study was largely the same as that provided by healthcare professionals in general in previous studies.

Nurses had an agreement with the positive impacts of family presence on the biomedical, spiritual and personal aspects of healthcare in the resuscitation room. On the other hand, they were concerned about the potential negative effects of the

practice, with an emphasis on a family member's capability to cope with and comprehend the resuscitation procedures and a healthcare professional's ability to handling pressure. Overall, nurses demonstrated an ambivalence attitude towards FWR. Despite their awareness of family members' desire to witness resuscitation, their positive experiences with FWR, and their strong agreement with its benefits to those involved, nurses were reluctant to initiate the practice and were conservative about the formal incorporation of FWR into the patient care. There was also a lack of consensus on the management of family presence; however, nurses agreed on the need for pre-resuscitation assessment, support staff during resuscitation, and post-resuscitation debriefing. Hospital setting was identified as a significant influence on nurses' attitudes towards the practice.

Resuscitation is an important and often final stage in a person's life. Allowing family members to witness the resuscitation may affect all parties involved, emotionally and physically, in both short-term and long-run. Family presence in resuscitation rooms may also put on extra burden on available resources, in terms of time, space and personnel, in Western Australian healthcare system. It should become a central issue of debate and planning in Western Australia and elsewhere. Focusing on nurses, who play a significant role at the interface between family members and institutions, the findings of this study are expected to provide valuable input in the development of FWR policies and guidelines by healthcare professional bodies and institutions and stimulate more studies of FWR in Western Australia.

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APPENDIX A

FAMILY WITNESSED RESUSCITATION ATTITUDES QUESTIONNAIRE

□□□

FAMILY WITNESSED RESUSCITATION ATTITUDES QUESTIONNAIRE[1]

Instructions:

Please indicate your response to each of the following questions by ticking the appropriate box(es), or completing your response in the space provided. The questionnaire will take about 20 – 30 minutes to complete. Please return the completed questionnaire using the attached self-addressed envelope.

SECTION A – DEMOGRAPHIC INFORMATION

A1. When did you complete your initial nursing qualification?

19 □□ or 20 □□

A2. How long have you been working as a nurse? (Round to the nearest month.)

□□ Years □□ Months

A3. How long have you been working as an emergency nurse? (Round to the nearest months.)

□□ Years □□ Months

A4. What is your current employment status at this hospital?

□1 Full-time □2 Part-time □3 Casual □4 Agency

A5. Please indicate the age group you belong to?

□1 20 – 24 □2 25 – 29 □3 30 – 39 □4 40 – 49 □5 50 – over

A6. In what position are you currently employed?

□1 Enrolled Nurse (Grade 1 –5)
□2 Registered Nurse Level 1
□3 Clinical Nurse Level 2
□4 Staff Development Nurse Level 2
□5 Nurse Manager Level 3/Senior Registered Nurse
□6 Clinical Nurse Specialist Level 3/Senior Registered Nurse
□7 Nurse Practitioner Level 7/Senior Registered Nurse
□8 Other Senior Registered Nurse

A7. What is the HIGHEST nursing educational qualification you have obtained?

□1 Hospital based diploma
□2 Tertiary based diploma
□3 Undergraduate bachelor degree
□4 Postgraduate diploma
□5 Master degree
□6 Doctorate/Doctor of Philosophy

A8. Please identify below any OTHER qualification you hold.

[1] The original questionnaire was titled "Family Witnessed Resuscitation Perceptions Questionnaire".

SECTION B – KNOWLEDGE OF FAMILY WITNESSED RESUSCITATION

B1. Have you completed any educational sessions about family witnessed resuscitation?

☐1 Yes ► If yes, please specify how many times. ☐ times

☐2 No

B2. Has your current employer provided any form of education about family witnessed resuscitation?

☐1 Yes ► If yes, please specify what kind of education has been provided.

☐2 No

B3. Have you read any scientific reports or journal articles on family witnessed resuscitation?

☐1 Yes ☐2 No

B4. Do you actively search for information regarding family witnessed resuscitation?

☐1 Yes ☐2 No

B5. What do you understand of family witnessed resuscitation? Please indicate in the space provided below.

SECTION C – EXPERIENCE WITH FAMILY WITNESSED RESUSCITATION

C1. In your experience as an emergency nurse, have you ever thought a family member wanted to be present during resuscitation procedures but did not request to be?

☐1 Yes ☐2 No

C2. Have you been requested by a family member to witness resuscitation procedures?

☐1 Yes ► If yes, please continue with the next question.

☐2 No ► If no, please go to Question C5.

C3. How many such requests have you received?

☐1 < 5 ☐2 5 – 9 ☐3 10 – 14 ☐4 ≥ 15 times ☐5 Other **(Please indicate.)** ☐

C4. What was your initial reaction when the family member made a request to witness the resuscitation procedures?

☐1 Anxious

☐2 In a dilemma

☐3 Frustrated

☐4 Other **(Please illustrate in the space provided below.)**

C5. Have you ever suggested to family members that they could be present during resuscitation procedures?

☐1 Yes ☐2 No

C6. Have you ever experienced a situation in the emergency department when a family member was present during resuscitation procedures?

☐1 Yes ► **If yes, please continue with the next question.**

☐2 No ► **If no, please go to Section D.**

C7. Was there a supporting staff member designated to accompany the family members during the resuscitation procedures?

☐1 Yes ☐2 No

C8. Was there any opportunity for you to debrief with other staff within the resuscitation team following your participation in a family witnessed resuscitation event?

☐1 Yes ☐2 No

C9. How would you describe your experience with family witnessed resuscitation?

☐1 Positive

☐2 Negative

☐3 Other **(Please describe in the space provided below.)**

C10. During resuscitation procedures, did you experience one or more of the following situations? (More than one box may be ticked.)

- ☐1 Family member appeared distressed during resuscitation procedures.
- ☐2 Family member collapsed during resuscitation procedures.
- ☐3 Family member provided verbal comfort to the patient.
- ☐4 Family member had an outburst during resuscitation procedures.
- ☐5 Family member kept asking questions about resuscitation procedures.
- ☐6 Family member was calm during resuscitation procedures.
- ☐7 Family member indicated appreciation for staff members' efforts.
- ☐8 Family member assisted with information about patient's medical history.
- ☐9 Family member interfered with resuscitation efforts.
- ☐10 Family member decided to leave during resuscitation procedures.
- ☐11 Inability to perform professionally because of the family presence during resuscitation procedures.
- ☐12 Communication with my colleagues was changed because of the presence of family members.
- ☐13 Resuscitation was initiated even in a futile situation because of the presence of family members.
- ☐14 Prolonged resuscitation was performed in a futile situation because of family members' presence.
- ☐15 Discomfort having a family member present during resuscitation procedures.
- ☐16 Additional stress with a family member present during resuscitation procedures.
- ☐17 Inability to support family members as I would have liked to because of my involvement in the resuscitation room.
- ☐18 Other. **(Please describe in the space provided below.)**

C11. If you felt your performance was affected because of the presence of a family member in Question C10, can you share more information about it?

SECTION D – ATTITUDE TOWARDS FAMILY WITNESSED RESUSCITATION

D1. For each of the following statements, please tick the box which best describes your opinion regarding allowing family members to witness resuscitation procedures on their relatives. (Please rate your agreement or disagreement using the following scale.)

1 = Strongly disagree ---------- SD
2 = Disagree ---------- D
3 = Neutral ---------- N
4 = Agree ---------- A
5 = Strongly agree ---------- SA

		SD	D	N	A	SA
(a)	Patient confidentiality could be compromised as a result of family members being present during resuscitation procedures.	☐5	☐4	☐3	☐2	☐1
(b)	Family members can better understand the patient's condition by witnessing resuscitation procedures.	☐1	☐2	☐3	☐4	☐5
(c)	Family members may suffer negative long-term psychological effects if they witness resuscitation procedures.	☐5	☐4	☐3	☐2	☐1
(d)	Witnessing resuscitation procedures may help family members to ease their grieving process if the patient doesn't survive.	☐1	☐2	☐3	☐4	☐5
(e)	Resuscitation procedures may be too distressing for family members.	☐5	☐4	☐3	☐2	☐1
(f)	Witnessing resuscitation procedures can give family members a chance to know the efforts that had been made for the patient.	☐1	☐2	☐3	☐4	☐5
(g)	Family members may misinterpret treatment during resuscitation procedures.	☐5	☐4	☐3	☐2	☐1
(h)	Family members can provide relevant information about the patient's medical history at the bedside.	☐1	☐2	☐3	☐4	☐5
(i)	Family members' presence may compromise the resuscitation team's performance.	☐5	☐4	☐3	☐2	☐1
(j)	Having a family member present can assist in developing trust between family members and the resuscitation team.	☐1	☐2	☐3	☐4	☐5
(k)	Family members' presence may increase pressure for members of the resuscitation team.	☐5	☐4	☐3	☐2	☐1
(l)	Presence of a family member during resuscitation procedures may result in increased litigation.	☐5	☐4	☐3	☐2	☐1
(m)	Family presence may encourage more professional behaviours of staff during resuscitation procedures.	☐1	☐2	☐3	☐4	☐5
(n)	Allowing family presence in the resuscitation room is not beneficial to patients undergoing resuscitation procedures.	☐5	☐4	☐3	☐2	☐1
(o)	Witnessing resuscitation procedures is beneficial to the patients' families.	☐1	☐2	☐3	☐4	☐5
(p)	Allowing family witnessed resuscitation requires extra space in resuscitation room to accommodate family members.	☐1	☐2	☐3	☐4	☐5
(q)	Family members should always be supported by a designated person during resuscitation procedures.	☐1	☐2	☐3	☐4	☐5
(r)	Family members should never be invited into the resuscitation room.	☐5	☐4	☐3	☐2	☐1
(s)	Family members should always be offered the opportunity to be present during resuscitation procedures.	☐1	☐2	☐3	☐4	☐5

D2. How would you like the option of family witnessed resuscitation be managed in your department? (Please choose one option from the following.)

- ☐1 A written policy allowing the option of family witnessed resuscitation.
- ☐2 A written policy prohibiting the option of family witnessed resuscitation.
- ☐3 No written policy but want the department to allow the option of family witnessed resuscitation.
- ☐4 No written policy but want the department to prohibit the option of family witnessed resuscitation.
- ☐5 Unsure about this issue.
- ☐6 Other **(Please describe in the space provided below.)**

D3. If family witnessed resuscitation was allowed in your department, when do you think it is appropriate to allow family members into the resuscitation room?

- ☐1 Anytime.
- ☐2 Immediately after the patient is brought into resuscitation area.
- ☐3 After all invasive procedures, but before all resuscitation attempts are stopped.
- ☐4 Other. **(Please identify in the space provided below.)**

D4. Who do you think should be responsible for the decision to allow family members to be present during resuscitation procedures?

- ☐1 Senior doctor
- ☐2 Co-ordinating nurse in the emergency department
- ☐3 Multi-disciplinary team
- ☐4 Not sure
- ☐5 Other. **(Please identify in the space provided below.)**

D5. Please indicate below if there are any circumstances when you consider a policy on family witnessed resuscitation would be inappropriate.

If you have any further views you would like to make about family witnessed resuscitation, please share with me in the space provided below.

THANK YOU VERY MUCH FOR YOUR PARTICIPATION

END OF QUESTIONNAIRE

APPENDIX B

PARTICIPANT INFORMATION SHEET

Your opinion is valuable, please assist this research.

Dear Colleague,

My name is Kent Chan Cheuk Bun and I am a Master student in the School of Nursing and Midwifery at Curtin University of Technology. As part of the requirements for this Degree, I am conducting a study, which is titled "An Investigation of Nurses' Perceptions towards Family Witnessed Resuscitation in the Emergency Department of Two Western Australian Hospitals".

The aim of the main study is to investigate emergency nursing staff's perceptions towards allowing family members to be present during resuscitation efforts of their loved one, and to identify possible factors influencing nurses' perceptions. The findings of this study will contribute to the knowledge and understanding of family witnessed resuscitation from an emergency nurses' perspective in Western Australia. It is also hoped that the findings will be useful for organisations considering introducing this initiative and who may need to develop policies and protocols in relation to this practice.

You are invited to take part in this study by completing the enclosed questionnaire. This should take no more than 30 minutes. Please answer every question unless stated otherwise. Enclosed is a reply paid envelope to enable you to return the completed questionnaire. Your involvement in the research is entirely voluntary. You have the right to withdraw at any stage without it affecting your rights. Completion and return of the questionnaire will be taken as your consent to participate.

The information you provide will be kept on computer with password protection at the School of Nursing and Midwifery of Curtin University of Technology, and only my supervisors and myself will have access to the data. The results of the pilot study as well as the completed research will be reported in a thesis and submitted to the School of Nursing and Midwifery of Curtin University of Technology as part of the course requirement. Articles from this study will be submitted to high impact nursing research journals for publication.

This research has been reviewed and given approval by Curtin University of Technology Human Research Ethics Committee. Your enquiries can be directed to Mrs Sinead Darley within the Office of Research and Development on 92662784. If you would like further information about the study, you can contact me on 0433092838 or my supervisors Ms Louise Horgan on 92662213 and Ms. Pamela Roberts on 92662096. Counselling service offered by Curtin University of Technology will be available.

I look forward to your participation in the research and thank you for your consideration.

Yours sincerely,

Kent Chan Cheuk Bun

APPENDIX C

ETHICAL APPROVAL FROM CURTIN UNIVERSITY OF TECHNOLOGY

memorandum

Curtin University of Technology

To	Chan Cheuk Bun, Nursing and Midwifery
From	A/Professor Stephan Millett, Executive Officer, Human Research Ethics Committee
Subject	Protocol Approval **RD-15-07**
Date	19 April 2007
Copy	Pamela Roberts Nursing and Midwifery

Office of Research and Development

Human Research Ethics Committee

TELEPHONE 9266 2784
FACSIMILE 9266 3793
EMAIL hrec@curtin.edu.au

Thank you for your "Form C Application for Approval of Research with Minimal Risk (Ethical Requirements)" for the project titled *"An Investigation Of Nurses' Perceptions Towards Allowing Family Witnessed Resuscitation In The Emergency Department At Two Western Australian Hospital"*. On behalf of the Human Research Ethics Committee I am authorised to inform you that the project is approved.

Approval of this project is for a period of twelve months **17 April 2007** to **17 April 2008**.

If at any time during the twelve months changes/amendments occur, or if a serious or unexpected adverse event occurs, please advise me immediately. The approval number for your project is **RD-15-07**. *Please quote this number in any future correspondence.*

A/Professor Stephan Millett
Executive Officer
Human Research Ethics Committee

Please Note: The following standard statement must be included in the information sheet to participants:
This study has been approved by the Curtin University Human Research Ethics Committee (Approval Number RD-15-07. If needed, verification of approval can be obtained either by writing to the Curtin University Human Research Ethics Committee, c/- Office of Research and Development, Curtin University of Technology, GPO Box U1987, Perth, 6845 or by telephoning 9266 2784 or hrec@curtin.edu.au

APPENDIX D

ETHICAL APPROVAL FROM ROYAL PERTH HOSPITAL

Department of Health
Government of Western Australia
South Metropolitan Area Health Service

Royal Perth Hospital

The Education Centre
'WASON' Block,
Royal Perth Hospital
Box X2213 GPO, PERTH WA 6847
Main Reception Telephone: (08) 9224-2498
Facsimile: (08) 9224-1958

22 November, 2007

Mr Kent Chan Cheuk Bun
Nursing Research Student
School of Nursing & Midwifery
Curtin University

Re: Research Proposal: An investigation of nurses' perceptions towards family witnessed resuscitation in the emergency department of two Western Australia hospitals.

Dear Kent,

The above research proposal has now been approved in the re-submitted form which has substantially addressed the required amendments requested in our letter of November 6, 2007. We would suggest that your proposal should explicitly indicate that no exclusion criteria are to be used and justify this as you have in your response to the committee.

I would remind you that this approval covers only permission to proceed to undertake your research at the hospital. Access to the emergency department staff must still be negotiated through the Divisional Nursing Director, Ms Linda Brearley and the senior nursing staff of the ED.

We wish you well with the proposal and remind you of the committee requirements for an annual single page progress report (Due June 2008) and a report on completion of the study.

Regards

Dr Gavin Leslie
Chair
Nursing Research Review Committee
Director
Nursing Professional Development Unit

cc. Ms Linda Brearley – Nurse Director Critical Care Division.
A/Prof Frank Van Bockxmeer, Chair RPH Ethics Committee
Ms Patricia Tibbett – Director of Nursing

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APPENDIX E

ETHICAL APPROVAL FROM FREMANTLE HOSPITAL

From: McGowan, Sunita [mailto:Sunita.McGowan@health.wa.gov.au]
Sent: Monday, 25 February 2008 12:01 PM
To: Louise Horgan
Cc: Pamela Roberts; Watters, Tamara
Subject: RE: Access for research in Emergency Department

Hi Louise,

Thank you for your prompt response to my queries.

I have discussed the project with the Acting Nursing Director Critical Care Services and I am now happy to approve Kent's research project based upon the reciprocal agreement between RPH and Fremantle. He will however need to contact Sue Halliday, Clinical Nurse Manager in the Emergency Department to arrange suitable times to discuss the project with ED nursing staff and to provide them with written information.

Kind regards,
Sunita
Sunita McGowan

Director Nursing Research & Evaluation

Fremantle Hospital & Health Service

Adjunct Research Fellow
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