

School of Nursing and Midwifery

**Family Presence during Resuscitation in a Paediatric Hospital:
Health Professionals' Confidence and Perceptions**

Julie A McLean

**This thesis is presented for the Degree of
Master of Philosophy
of
Curtin University**

June 2013

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.”

Julie McLean

2013

ABSTRACT

Family presence during resuscitation is the attendance of family members in a location that affords visual or physical contact with the patient during resuscitation. Providing the opportunity for families to be present during resuscitation and supporting them during the event embraces the family-centred care philosophy which underpins paediatric care. The benefits and disadvantages associated with having families present has sparked much debate amongst health care professionals, including those working in paediatric settings. Research to date has mainly focused on the opinions of staff in critical care areas, with little attention given to the perceptions of those working in non-critical care. This study aimed to investigate medical and nursing staff's perceptions of, and self-confidence in facilitating family presence during resuscitation in a paediatric hospital setting using the Risk/Benefit and Self-Confidence scales developed by Twibell et al. (2008). The Risk/Benefit Scale has 26 items and the Self-Confidence Scale has 17 items. Both scales have five point Likert response options for participants to complete with 1 being 'strongly disagree' to 5 being 'strongly agree' for the Risk/Benefit Scale and 1 being 'not at all confident' to 5 being 'very confident' in the Self-Confidence Scale. Reliability has been reported as Cronbach alpha 0.96 for Risk Benefit Scale and 0.95 for Self-Confidence Scale (Twibell, 2008). Descriptive statistics, t-test and Mann-Whitney U tests were used to compare medical and nursing, and critical and non-critical care perceptions and self-confidence in a paediatric setting. A sample size of 150 participants was calculated to allow estimation of effects of moderate size at the 5% significance level with 80% power. Allowing for a 50% response rate, questionnaires were distributed to 300 randomly selected medical and nursing staff working in critical care and non-critical care areas. There were 125 returned with 123 (41%) completed questionnaires. Of the 123 respondents, 34 (27.6%) were critical care staff and 89 (72.4%) non-critical care. A total of 81 (65.8%) nursing staff and 42 (34.1%) medical staff responded. Critical care staff were found to have statistically significant higher risk/benefit scores and higher self-confidence scores than those working in non-critical care areas. Other demographic characteristics found to significantly influence the findings included having experience in paediatric resuscitation, having invited families to be present previously and greater number

of years working in paediatrics. Others that were not influential included holding a post graduate qualification, gender, membership of a professional nursing organisation and occupation. The findings highlight overall that staff working in the paediatric setting understand the needs of families although perceptions and confidence vary. The differences are between those who have experience in resuscitation, and those who do not, and between those working in critical and non-critical care areas. No significant differences were found between medical and nursing groups. Overall these findings indicated that staff working in a paediatric hospital setting understood the needs of families in a crisis, and that family-centred care appeared to have an influence on the perceptions of staff. Implications for practice and education include the need to raise awareness about family presence during resuscitation particularly amongst non-critical care staff via educational strategies. Recommendations for further research are to explore the impact of specific education about family presence during resuscitation and measure the impact on staff self-confidence and their performance during resuscitation. There is also a need to have a clearer understanding about the perceptions of non-critical care staff in their resuscitation roles.

ACKNOWLEDGEMENTS

I would firstly like to thank my supervisors Fenella Gill and Linda Shields, whose dedication and support made completing this possible. Fenella, who initially encouraged me to take on this massive task, this would not have transpired without your leadership. You have taught me invaluable nursing and research skills in critical care. The lengthy time in which I have been your student, has now come to an end! And Linda, an experienced researcher and nurse, thank you for your support and patience as I learnt the language and practise of nursing research. Your quest to improve the care of paediatric patients and families has left me with an interest in completing further research.

Thank you to my co-supervisor Elaine Pascoe. Your patience and encouragement as I struggled to understand statistics, is very much appreciated. You are a talented and kind hearted person, and I thank you for your support.

Thank you to Sally Wilson, who played an important part in this journey from beginning to end. Your kindness, support, knowledge and time, will never be forgotten. You are a great ambassador for paediatric nursing.

Thank you also to Gavin Leslie for his support during this time.

Thank you to my colleagues at Princess Margaret Hospital, in particular those in the Cardiology department, for always being there to listen to the highs and lows of this research journey! Thank you to those who participated in the review panel; from Princess Margaret Hospital, Fremantle Children's ward and the Mater Children's Hospital in Brisbane. Your time is much appreciated. Thank you to the participants who took the time to fill out my questionnaire. Without you this examination would not have been possible.

Thank you to my friends, who kept saying 'are you still studying?' your understanding when I couldn't catch up, because I was studying, is greatly appreciated.

Last but not least, thank you to my wonderful family. Thank you to my husband Dave, who always believed in me. You are a wonderful husband and an amazing Dad. I am so lucky to have you in my life. Thank you to my Mum and Dad who have

always held an interest in my studies. Dad, who encouraged me to go to university after leaving school, I wouldn't be here writing this without you. Mum, who has taught me so much about life and love, this definitely would not have been possible without the endless hours you babysat Chelsea, as I sat upstairs and typed away at the computer. I am ever-most grateful.

This thesis is dedicated to my daughter, Chelsea. You have taught me patience, love and dedication. During the completion of this thesis I became a mum for the first time. Completing this research, and becoming a mum for the first time, has been two of my biggest challenges. Chelsea, your adorable smiles made it very hard for mummy to sit at the computer, as cuddling you was a much nicer option! Your beautiful nature encouraged me to complete this when I thought it was impossible.

CONTENTS

School of Nursing and Midwifery	i
DECLARATION	ii
ABSTRACT	iii
ACKNOWLEDGEMENTS	v
LIST OF TABLES	x
LIST OF ABBREVIATIONS	x
Chapter One Introduction	12
Background	12
Research Objectives	13
Significance of the Study	13
Structure of the Thesis	14
Chapter Two Literature Review	16
Literature Search	16
Keyword search	17
Search results	17
Theoretical Framework: Family-Centred Care	19
Historical background	20
The current era	22
Family Presence during Resuscitation	22
Historical background	22
Family presence during resuscitation policies and programs	31
International similarities and differences	33
Family and Patient Perspectives	34
Family Perspectives	34
Patient perspectives	39
Healthcare Professionals' Perspectives	40
1. Adult and paediatric setting	40
2. Adult setting	43
3. Paediatric setting	45
Concepts Examined in the Study Questionnaire	49

Health Professionals' Perceived Risks and Benefits of Family Presence during Resuscitation.....	49
Self-confidence of Healthcare Professionals and Resuscitation.....	50
Conclusion.....	52
Chapter Three Methodology.....	55
Study Design.....	55
Setting.....	55
Sample Size.....	56
Sample.....	57
Questionnaire.....	58
Tool Validity and Reliability.....	60
Data Collection.....	62
Data Analysis.....	63
Comparison of demographic data between critical and non-critical care staff... 64	
Comparison of risk/benefit and self-confidence and demographic data..... 64	
Ethical Considerations.....	65
Conclusion.....	66
Chapter Four Results.....	67
Responses.....	67
Demographic Characteristics of all Respondents.....	67
Demographic Characteristics of Critical Care and Non-critical Care Staff.....	68
Critical care group.....	68
Non-critical care group.....	69
Comparison of Demographic Characteristics: Critical Care and Non-critical care	70
Demographic Characteristics of Medical and Nursing staff.....	71
Medical staff.....	71
Nursing staff.....	72
Comparison of Demographic Characteristics between Medical and Nursing staff	73
Comparison of demographic characteristics and mean total scores of the risk/benefit and confidence scales.....	75
Conclusion.....	77
Chapter Five Discussion.....	79
Sample Characteristics.....	79
Influence of Demographic Characteristics.....	80

Family-Centred Care	82
Discussion of Findings of Studies that used the Risk/benefit and Confidence Scales	83
Strengths and Limitations of the Study	84
Recommendations	86
1. Implications for practice.	86
2. Implications for education.	86
3. Implications for further research.	88
Conclusion.....	90
REFERENCES.....	92
APPENDICES	102
APPENDIX A: Family-centred care articles.....	102
APPENDIX B: Family presence during resuscitation: adult articles.....	105
APPENDIX C: Family presence during resuscitation: adult and paediatric articles	110
APPENDIX D: Family presence during resuscitation: family and patient articles	113
APPENDIX E: Family presence during resuscitation: paediatric articles	116
APPENDIX F: PNPM Family Presence during Resuscitation Guideline.....	120
APPENDIX G: Letter of invitation	121
APPENDIX I: Nurses questionnaire	134
APPENDIX J: Medical questionnaire	139
APPENDIX K: Reminder poster.....	144
APPENDIX L Risk/Benefit critical care and non-critical care histogram and scatterplots.....	145
APPENDIX M: Self-Confidence Critical Care and Non-Critical Care Histograms and Scatterplots	148
APPENDIX N: Risk/Benefit Medical and Nursing Histogram and Scatterplots.	151
APPENDIX O: Self-Confidence Medical and Nursing Care Histograms and Scatterplots	154
APPENDIX P: Study site ethics approval.....	157
APPENDIX Q: Curtin University Ethics approval	159
APPENDIX R: Scale items Risk/Benefit Critical care vs Non-Critical Care	160
APPENDIX S: Scale items Risk/Benefit Medical vs Nursing.....	161
APPENDIX T: Scale items Self-Confidence Critical Care vs Non-Critical Care	162

LIST OF TABLES

Table 1	Papers identified for each keyword search	18
Table 2	Family presence during resuscitation topic breakdown	18
Table 3	Perceived risks and benefits of family presence	50
Table 4	Panel of experts	60
Table 5	Qualifications of critical care and non-critical care staff	67
Table 6	Comparison of demographic characteristics between critical care and non-critical care staff	69
Table 7	Qualifications of nursing staff	71
Table 8	Comparison of demographic characteristics between medical and nursing staff	72
Table 9	Risk/benefit and confidence mean scores and demographic characteristics	74

LIST OF ABBREVIATIONS

E.D	Emergency Department
FPR-BS	Family Presence Risk/benefit Scale
FPS-CS	Family Presence Self-confidence Scale
NICU	Neonatal Intensive Care Unit
PICU	Paediatric Intensive Care Unit

Chapter One Introduction

Background

Caring for hospitalised children and their families has evolved over time with care not only centred on the child, but also incorporating the family. Family-centred care focuses on the participation of the family in the planning and delivery of patient care (Pruitt, Johnson, Elliot, & Polley, 2008). It is a model of care which is well recognised in the paediatric environment (Shields & Nixon, 1998) and has been incorporated into the philosophy of many health settings (Curley et al., 2012). When children become critically unwell, families have requested to be present during resuscitation attempts (Davidson et al., 2007). Family presence during paediatric resuscitation gives the family the option of being present in the room while their child is being resuscitated, enabling visual and physical contact (Dingeman, Mitchell, Meyer, & Curley, 2007). Allowing and facilitating families to be present during resuscitation recognises that the family is the constant in that child's life. Information is shared between the health care team and the family, and the principles of family-centred care are therefore embraced.

Family presence during resuscitation was first introduced in the 1980s (Doyle et al., 1987). Since this time, it has been a controversial subject with the focus of dispute being placed on the perceived trauma that families may experience, perceived legal implications, and perceived interruptions by family members to the resuscitation process. This has resulted in health professionals being divided in their opinion (Duran, Oman, Koziel, & Szymanski, 2007). However many organisations have embraced the concept, endorsing the practise through policy, guideline, position statements and education (Fulbrook, Latour, Albarran, et al., 2007). Equally in favour, families who have witnessed the resuscitation of family members, have provided positive feedback of the experience, suggesting that being present was beneficial to their child, and that it helped them to understand their child's condition (Mangurten et al., 2006). If given a choice, the majority of families would want to be present again if in similar circumstances (Halm, 2005).

The varying opinions between health professionals have been attributed to a number of factors. These have included the area in which one works (critical care or non-critical care), the type of role held (medical or nursing) and previous experience

with having families present during resuscitation attempts. Critical care areas have typically included the emergency department and intensive care unit, while non-critical care areas have included settings such as medical and surgical wards. These demographic factors have influenced health professionals' perceptions towards the benefits and risks of having families present, and resulted in either acceptance or disapproval of having families present (Twibell et al., 2008). The ability of the health professional to confidently perform resuscitative efforts in front of families has also been associated with health professionals' acceptance of family presence, a concept that has not been investigated in depth.

Research Objectives

The aim of this research was to investigate health care professionals' perceptions of, and self-confidence in facilitating family presence during the resuscitation of a paediatric patient.

The primary objectives were to:

1. Measure medical and nursing staff's perceptions towards family presence during resuscitation
2. Measure self-confidence in facilitating family presence
3. Compare differences in perceptions and self-confidence between critical care and non-critical care staff.

The secondary objectives were to:

1. Compare differences in perceptions towards family presence and self-confidence in facilitating family presence between medical and nursing staff
2. Examine the influence of demographic characteristics on participants' perceptions of risk-benefit and confidence in facilitation of family presence during resuscitation.

Significance of the Study

This study is significant as it is the first study to explore the perceptions and self-confidence of medical and nursing staff in an Australian paediatric setting. This study included participants from both the critical care and non-critical care setting.

The majority of studies in Australia and internationally have focused on the opinions of nursing staff in the adult emergency setting. The results of this study add to the limited body of knowledge concerning family presence during paediatric resuscitation in Australia. The results will further aid educators, researchers and managers to understand factors which may influence health professionals' decision to invite families to witness resuscitation. Further the study will have implications for education, resources, policy formation and further research.

Structure of the Thesis

This thesis is presented in five chapters. The first chapter provides the background, the aims and significance of the study. Chapter two presents a review of the literature, providing an understanding of the key concepts explored in the thesis. Firstly, the search strategy is provided and articles of significance are presented for each theme. The theoretical framework for this study; family-centred care is then discussed, followed by family presence during resuscitation. The historical background is presented, followed by the perspectives of the family and patient. The perspectives of the health professional are then presented, divided into the following sections; adult and paediatric setting, adult setting and paediatric setting. The chapter concludes by addressing the concepts examined in the study questionnaire.

Chapter three describes the study methodology. This details the design and the instruments chosen to evaluate participants' perceptions and self-confidence; the risk/benefit and confidence scale. The process of assessing for content validity and reliability is explained. The process of data collection and analysis is described. The chapter concludes by addressing the ethical considerations.

In chapter four the results of this study are presented in order of the response rate and descriptive analysis of demographic characteristics. This is firstly described for all participants, followed by the critical care and non-critical care groups. Comparison is then made between critical care and non-critical care groups, outlining any significant differences. Following this the demographic characteristics of medical and nursing staff are described, and comparison is made to identify any significant differences. Lastly, comparison is made between the demographic

characteristics and mean total scores of the risk/benefit and confidence scales, to address the main objectives of the study.

Lastly, chapter five discusses and summarises the main findings of this study. These findings are interpreted in relation to the influence of demographic characteristics and reference to the current literature surrounding family presence. The influence of family-centred care is examined in relation to the study findings. The strengths and limitations of this study are then identified. Recommendations for practise, education and research are then outlined. Finally, the conclusion to the thesis is then presented.

Chapter Two Literature Review

This chapter critically reviews the literature surrounding the concept of family presence during resuscitation. The search strategy and main themes generated from the literature search are presented. The theoretical framework underpinning this study is the concept of family-centred care, which is addressed first. To place the literature review in context, a historical overview of family presence during resuscitation is provided. The main focus of this chapter is a critical review of family presence during resuscitation from the perspectives of the family, patient and health professionals' views and practices in the paediatric and adult setting. The final section of this chapter addresses the concepts examined in the study questionnaire, that being health professionals perceived risks and benefits of family presence and self-confidence of health professionals during the resuscitation of patients and the attendance of families.

Literature Search

A systematic approach to the literature search was undertaken to enable a comprehensive review of the literature. This was conducted with the assistance of librarians from the Curtin University library. Keyword searches of databases were conducted to generate a list of articles presenting appropriate and relevant evidence. Individual database searches were initially conducted in the following databases relating to nursing and midwifery: OVID, Informit, CINAHL, Informa Health care, Internurse, Medline, ProQuest, PubMed, Wiley online Library and ScienceDirect. Following this the Curtin University Library Discovery Catalogue search was conducted to ensure that no information was missed in the individual database search. The discovery library catalogue advanced search provides a search across many databases and collections including: thesis collections, e-books and online journal articles. This method is a comprehensive search of all electronic resources in order of relevance and provides increased search capabilities over search engines (Yang & Hoffman, 2011). All articles were limited to English language (due to lack of funding for translation), and peer-reviewed articles. In addition to this, reference lists from selected key articles were reviewed to cross check for articles not identified by the database searches. Articles which were recommended by the supervisory team were reviewed. An internet search using the search engine Google

Scholar was used to locate institutes relating to family-centred care and position statements regarding family presence. Government and nursing organisations were contacted for documents and position statements relating to family presence during resuscitation and these were reviewed.

Keyword search.

Keywords used to search for articles relating to family-centred care included: family-centred care and partnership in care. The topic of family presence during resuscitation was searched with the following keywords: family presence during resuscitation, family presence during paediatric resuscitation and family presence during cardiopulmonary resuscitation. Confidence of health professionals was searched with the terms: self-confidence and resuscitation. No limit to year was set on searches relating to family-centred care and family presence during resuscitation, to ensure that all historical and current information was captured. Articles relating to the advantages and disadvantages of questionnaire use as a research tool were sourced by using the following keywords: questionnaire development and questionnaire design, the limits set to this searched those papers published after 2005.

Search results.

The search resulted in a total of 158 relevant articles relating to: family-centred care (27), partnership in care (7) family presence during resuscitation (112), self-confidence (5) and questionnaire design, development and administration (7), and are summarised in Table 1. The library advanced catalogue search for family presence during resuscitation, cardiopulmonary and nursing generated the most articles. Common themes were found. Table 2 shows the breakdown of themes generated from this search and the number of articles categorised into each theme. Internet sites also accessed included: the Australian Institute of Patients and Family-Centred Care (Crock, 2013), the Australian Institute of Health and Welfare (M. AIHW, 2009; N. AIHW, 2009) for characteristics of nursing and medical labour workforce; the American Emergency Nurses Association (Wolf et al., 2012) and the Australian Resuscitation Council (ARC, 2011) for information pertaining to policy and guidelines in Australia.

Table 1

Papers identified for each keyword search

<u>Keyword</u>	<u>Refinements</u>	<u>Result</u>	<u>Articles</u>
Family-centred care	Peer reviewed	402	27
Partnership in care	Peer reviewed	240	7
Family presence during resuscitation	Peer reviewed	1283	112
Self-confidence resuscitation	Peer reviewed	200	5
Questionnaire development & administration	Peer reviewed	200	7

Table 2

Family presence during resuscitation topic breakdown

	<u>Nurse opinion</u>	<u>Dr opinion</u>	<u>Nurse/Dr opinion</u>	<u>Family opinion</u>	<u>Literature review</u>	<u>Invasive procedures</u>	<u>Policy Education/ Position statement</u>
Paediatric	2	2	12	7	7	3	6
Adult	10	-	12	5	15	1	4
Mixed	1	-	9	2	5	-	9

Note. The use of a dash in this table indicates no articles found.

Research articles of significance to the development of the concept of family-centred care and family presence during resuscitation are tabulated according to theme: Family-centred care (Appendix A), family presence during resuscitation: adult studies (Appendix B), family presence during resuscitation: adult and paediatric studies (Appendix C), family presence during resuscitation: family and patient studies (Appendix D), and family presence during resuscitation: paediatric studies (Appendix E). Most studies reviewed provided evidence at level IV (NHMRC, 2009). Reference is made to these tables throughout the review, as a summation of findings.

Theoretical Framework: Family-Centred Care

The Australian Institute for Patient and Family-Centred Care supports a patient-centred philosophy of care. In this paradigm, patients and their families are treated as partners in the provision of health care. They have a significant role in the health team. This includes a central role in their own health-care management so that they have a real voice in planning and implementing their own care. It also includes involvement in hospital decision making. Information is shared so that families can make informed choices. Patient, family and professional partnerships and collaborations are implemented at every level.

“This model of care is very different from the traditional systems in place in hospitals where patients can end up as the relatively passive recipients of care. Patient-centred care means that the patient gets a place at the table”. (AIPFCC, 2013).

Family-centred care is a recognised model of care that is commonly encouraged in paediatric settings (Shields, 2010). Family-centred care is defined as “a way of caring for children and their families within health services which ensures that care is planned around the whole family, not just the individual child/person, and in which all the family members are recognised as care recipients” (Shields, Pratt, & Hunter, 2006), p 1318). Family-centred care within the paediatric healthcare setting is an accepted standard of practice, and recognised as one of the best ways to provide care to children (Bergom, 2008; Corlett & Twycross, 2006; Dingeman et al., 2007; Shields, Pratt, Davis, & Hunter, 2008).

Historical background.

Prior to the 1960s, family members were largely prevented from visiting their children in hospital, due to infection directives, the belief that visiting would cause psychological trauma to the child, maintenance of staff paternalism and inhibition of effective care (Jefferson & Paterson, 2001; Jolley & Shields, 2009; Shields et al., 2008). Parental presence was perceived to increase the anxiety felt by children. From the 1920s, several health care professionals started to question the exclusion of parents from paediatric wards, reporting that the benefits of parental presence resulted in the improved recovery of children. Children who were accompanied by their parents suffered less emotional trauma. Despite these reports, many nurses and doctors were still not convinced that parental presence aided the care and recovery of children in hospital (Shields, 2010).

It was not until the 1950s, when research in England by John Bowlby, a child psychiatrist and James Robertson, a social worker, investigated separation of the child and parent, did resistance to this exclusion occur. Bowlby based his theoretical work on the original work by Anna Freud and Dorothy Burlingham, theorists who examined the effects of separation of children from their parents during World War II (Shields & Nixon, 1998). Following the work of Bowlby and Robertson, the British government were alarmed at the adverse effect of hospital stay on children's wellbeing, and set up a parliamentary committee to investigate this issue. The committee headed by Sir Harry Platt released its report in 1959 titled 'The Welfare of Sick Children in Hospital' and recommended the inclusion of parents in hospital. Recommendations following this report included the inclusion of parents in hospital, and encouraged parents to accompany their children to hospital (Platt, 1959).

This enquiry set the way for improved care of children in hospital, and the inclusion of parents in hospital. Gradually this concept was accepted in Australia. Models of care started to emerge, for example 'Partnership in care' first introduced by Anne Casey in 1988, a nurse educator in New Zealand. Anne Casey's 'Partnership in Care' model proposes that nursing care of the hospitalised child can be given by the parents with support and education from the nurse, and when parents are absent, parental care can be given by the nurse (Casey, 1988). This model of care helps the parent to care for the child, by creating a supportive and educative

environment, enabling the parent to acquire skills necessary in caring for their child (Casey, 1988). Casey (1988) also applied this model of care to a variety of nursing specialities, therefore providing flexibility across many fields of nursing. The clinical scenario dictated the level of involvement with the child and family [that is the family has a greater involvement in the outpatient setting, as opposed to that of the intensive care unit] [Casey, 1988].

Although Casey's model of care has much merit and benefitted the child during hospitalisation, it has been criticized for the unclear meaning of 'participation' and definitions of terms that have been used interchangeably, such as 'partners in care' and 'mutual participation' (Coyne, 1996). Coyne (1995) investigated the main reasons why parents chose to participate in the care of their hospitalised child. The findings of this small qualitative study found that parents chose to stay as they were concerned for their child. In addition, Coyne found that there was a lack of information about negotiation with parents, resulting in confusion regarding roles of the parent and expectations placed upon them. This confusion regarding expectations, led to parents feeling that they were expected to be resident at all times during their child's hospital stay, and expected to undertake physical tasks such as bathing and feeding (Coyne, 1995; Darbyshire, 1994). In addition to this, other studies have found that the increased need to involve parents has also come about because of nursing staff shortages, rather than incorporating the meaning of a partnership in care (Evans, 1994). Parents have also been left to feel that their parenting skills are often questioned, further hindering effective negotiation of care and a partnership approach (Darbyshire, 1994). Negotiation of care is another model of care based on partnership in care. Both partnership in care and negotiated care, have lacked the total approach to the family, however both concepts have contributed to the progression of developing family-centred care (Shields, 2010).

The current era.

Like partnership in care and negotiated care, family-centred care acknowledges the participation of the caregiver/parent in the planning and delivery of patient care (Pruitt et al., 2008). Caregivers are defined as the provider of continued care to a child and who the child recognises as their social support (Pruitt et al., 2008). Unlike partnership in care and negotiated care, family-centred care places the child at the centre of the model of care as anything that occurs to the child has an effect on the whole family. Therefore the whole family should be taken into account when care is planned (Shields, 2010).

The concept of family-centred care has been well accepted throughout paediatric health care settings, being found in many policies and guidelines dictating care of children (Shields, 2010). Medical models have also embraced this concept, associating family-centred care with better patient outcomes, by ensuring that parents and families are actively involved in medical decision making and kept well informed about patient progress (Davidson et al., 2007).

Family presence during resuscitation is part of the philosophy of family-centred care (Dill & Gance-Cleveland, 2005; Jones, Parker-Raley, Maxson, & Brown, 2011; Linder, Suddaby, & Mowery, 2004). The core principles that govern family-centred care are embraced when families are able to be present during resuscitation, that being; recognition that the family is a constant in the child's life, collaboration in health care delivery; sharing of information with families and partnership between the health care team and family (Corlett & Twycross, 2006; Dill & Gance-Cleveland, 2005; Jefferson & Paterson, 2001; Shields et al., 2008). Therefore family-centred care has been adopted as the theoretical framework for this study.

Family Presence during Resuscitation Historical background.

Prior to the 1980s, family presence during resuscitation was not standard practice. It has only been since the early nineties that family presence has been an

option for families. Before this, it was standard practice to exclude family members from witnessing resuscitation of their loved ones (Doyle et al., 1987).

The concept of family presence during resuscitation was first introduced in 1982, in the American state of Michigan, at the Foote Hospital's emergency department. Staff members gathered to contest the hospital's opposition to a standard policy of family presence, after two families challenged staff's request to ask them to leave during the resuscitation of their family member. Both incidents included the care of adults, in which one family member refused to leave the side of their loved one in an ambulance, and the other a wife of a policeman who had been shot. In both occurrences the hospital chaplain accompanied the families while they were present, and found that both family members had described this as a positive experience (Hanson & Strawser, 1992).

Following this, hospital staff retrospectively evaluated the experiences of bereaved families to see if they had wanted to be present during resuscitation. Eighteen families were surveyed and 13 (72%) indicated that they wished that they had been present during resuscitation (Doyle et al., 1987). As a result of this survey, a nine year program called the 'The Family Participation Program' was commenced in the emergency department, allowing family members to be present during resuscitation (Doyle et al., 1987). The structured program allowed families to be present during resuscitation, with the support of a chaplain or nurse. Families were briefed as to what to expect before entering the room, in terms of equipment and medication. It is interesting to note that families were not present during the insertion of invasive procedures, and were often asked to leave if additional invasive equipment was needed. In conjunction, families were often asked to leave if the decision to end resuscitation was made by the treating physician. From the study by Doyle and colleagues, it is not clear as to the length of time that families were allowed to be present during resuscitation (Doyle et al., 1987).

When the program had been implemented for three years and during the first six months of 1985, families who had been present during resuscitation resulting in the patient's death were surveyed to determine if the program had enabled them to adjust to the death of their family member. Doyle et al. (1987) found positive

responses from families (n=47), revealing that 94% said that they would want to be present again and 76% believed that the adjustment to death and grieving was made easier by being present. In addition to this, 72% believed that they had been adequately prepared before entering the resuscitation room, 70% felt well informed about what was happening during the resuscitation and 83% remember being supported by a chaplain or nurse. Families also commented that they felt that everything was done for their family member (the patient) and 64% felt that their presence was beneficial to their family member throughout the resuscitation. Only 11% of family members felt that perhaps too much was done and that the resuscitation was longer than needed.

Medical and nursing staff were also asked to complete a survey, to assess their views on family presence and whether the inclusion of family members hindered their performance in the resuscitation room. Anecdotal reports from nursing staff showed that by having family members present, they felt unable to emotionally detach themselves from the situation, and the patient was viewed as being part of a family, and not a clinical task. As a result of the 21 responses from staff, 30% reported that they felt hampered in their duties due to being anxious about family members assessing their performance, and possible disruptive behaviour of families. However, 70% of staff concluded that they supported the presence of family members in the resuscitation room (Doyle et al., 1987).

Although the study by Doyle and colleagues portrayed a positive experience by families, and there was overall support from medical and nursing staff, this study is limited by the small sample size of families (n=47) and staff (n=21) and minimal description of the validity and reliability of the survey used and inadequate description of the methodology used in the study to rule out potential bias. Furthermore, anxieties experienced by staff seemed to be ignored in this study, with only little support offered to nursing staff by way of “informal support networks among clinical nurses” and debrief with the chaplain, as a way of dealing with traumatic resuscitation events. Prior to the implementation of the program, staff were worried about the possible disruption by emotionally uncontrollable family members to the resuscitation, fear that the staff’s emotions could be triggered by family presence and that there may be legal implications. However, none of these incidents

were ever reported by Doyle and colleagues or in the publication by Hanson and Strawser (1992) following the commencement of this program.

After the Foote Hospital's program and publication by (Doyle et al., 1987) and Hanson and Strawser (1992), other publications have argued the case for and against family presence. Osuagwn (1991) argued against family presence following results from a small survey of eight doctors and 12 nurses at a United States emergency department. She concluded that relatives should be kept out of resuscitation rooms, due to the traumatic experience of witnessing resuscitation and subsequent trauma, as well as the possibility that families may hinder the resuscitation process and distract the team. Osuagwn (1991) also commented that families may also become part of the code, further confusing the resuscitation team. These results have to be interpreted with caution, due to the small sample size and lack of description of the method used.

Schilling (1994) also opposed the presence of families in his letter to the editor of the British Medical Journal, in response to the publication by Adams, Whitlock, Higgs, Bloomfield, and Baskett (1994). Dr Schilling reported that family members would be offended at his relaxed composure and humorous remarks during resuscitation, meant to create a relaxed atmosphere for the resuscitation team. He also argued that there was 'simply no room for the presence of spectators' (Schilling, 1994, p1687). Adams et al. (1994) also wrote to the editor of the British Medical Journal, arguing the case for family presence, following one family member's personal account of being present while her brother was being resuscitated, stating that it helped her to grieve for his death. This letter included the views of several medical practitioners, whose opinions regarding family presence were still negative, despite the sister's positive outcome (Adams et al., 1994).

There was clearly some strong opposition to family presence at resuscitation yet others have argued a positive case. Chalk (1995) found positive results for family presence in a retrospective review of 50 nursing and medical staff in emergency departments in several hospitals in the United Kingdom. Sixty-eight per cent felt that relatives should be given a choice and 64% would allow relatives to be present. A further 76% would allow families to be present if they were well informed and

accompanied by a knowledgeable member of staff, however only 20% would ask if the relative wanted to be present. Chalk (1995) concluded that this practice was ‘not new or unique’ to the participants of the study as 60% of participants had already experienced family presence during resuscitation. Chalk (1995) did not report the ratio of nursing staff to medical staff in her study, but did conclude that nursing staff were more supportive of family presence than medical staff. A higher ratio of nursing staff may have skewed the overall positive responses from both health professionals in this study, depicting a false level of overall support for family presence by medical staff.

The argument for the case of family presence included a publication by Eichhorn, Meyers, and Guzzetta (1995) in which the authors stated that family presence was implemented in their hospital, although not supported by formal guideline or policy. They argued that a ‘new precedent’ had been set, following the decision of one nurse who permitted a family member to be present during resuscitation. This decision was considered to be “unquestionable as it seemed to be the right thing to do at the time” (Eichhorn, Meyers & Guzzetta, p 60, 1995). Other authors have recommended that families be supported by chaplain or nurse when witnessing events so that families can cope with the situation (Eichhorn et al., 1995; Perry, 2009).

In 1993 the Emergency Nurses Association (ENA) in America responded positively to publications supporting family presence by releasing a resolution in support of family presence during invasive procedures and resuscitation (ENA, 1993). In 1995 the ENA subsequently released a written policy advocating for families to be present during invasive procedures and resuscitation. As an adjunct to this policy, a booklet was developed to assist staff in implementing educational programs, research and evaluation of family presence during invasive procedures and resuscitation in health care facilities. The ENA has since updated the policy (2012) and have a similar educational booklet (3rd edition) available for institutions to implement family presence at resuscitation accessed via the web-link: https://admin.ena.org/store/item.asp?ITEM_ID=429&DEPARTMENT_ID=26.

Perspectives of family members who had lost a loved one, were examined by Meyers, Eichhorn, and Guzzetta (1998), duplicating the study by Hanson and Strawser (1992) at the Foote Hospital. Following a similar situation that was experienced at the Foote Hospital, in which a family member demanded to be present during resuscitation, medical and nursing staff at Parkland Hospital in Dallas Texas implemented a family resuscitation program with much resistance from other nursing and medical staff. A retrospective survey was undertaken to justify implementation of the program. This survey echoed similar results to the study by Hanson and Strawser (1992). Of the 25 families surveyed, 80% of relatives would have wanted to be present; 64% believed it would have helped them in the grieving process and 96% believed that all families had a right to be present if they wished. This survey provided similar results to the Foote Hospital's review, however did not include any review of health professionals' views (Meyers et al., 1998).

Family presence programs were implemented in other U.S emergency departments, following endorsement by the ENA in 1993. A quasi-experimental study by Belanger and Reed (1997) resulted in the implementation of a family presence program in an Ohio hospital. Staff perceptions were supportive of the care so protocols were introduced to guide families and staff during witnessed resuscitation. Staff perceptions remained positive following one year of the interventions. Families also supported, with 100% (n=24) of families wanting to be present again if given the option. Although the numbers of families were small, the results contributed to the implementation of a family presence program in their hospital.

A study in England was undertaken to investigate whether relatives of patients wanted to be with their family member during resuscitation, and if there was any psychological effect on family members (Robinson, Mackenzie-Ross, Campbell Hewson, Egleston, & Prevost, 1998). This was the first study to investigate families' perceptions of their presence. The authors contacted bereaved families within one month of attempted resuscitation and again at six months, assessing their opinion of witnessing the resuscitation as well as the psychological impact. Psychological impact was assessed by validated questionnaires assessing psychiatric and psychological morbidity in 18 family members. Families were divided into those

who witnessed resuscitation (n= 8) and those who were in the control group, and had not witnessed resuscitation (n=10). Robinson et al. (1998) found no adverse psychological effects in any of the family members, in either the witnessed or control group. In those that witnessed resuscitation, the authors found that these families displayed less post-traumatic stress and grief than those who were not present. Based on these findings, the authors recommended that a family presence policy be implemented in their hospital.

Although this study found no adverse psychological harm to those who witnessed resuscitation, the numbers of families assessed was small (n=18) as it was a pilot study. In addition, the study was stopped because the randomisation of patients was at risk of being affected by those staff members who were supportive of the benefits of family presence. The authors had estimated 64 participants in each group were required to achieve sufficient power and stated that ‘although they did not find any significant adverse psychological effects, positive effects should be interpreted with caution’ (p 617). Robinson et al. (1998) recommended that their study be repeated in a larger sample size, however no study of its kind has been published since. Early cessation of this study may have prevented the authors from finding any adverse psychological effects of family witnessed resuscitation, although it appears that attitudes were becoming more supportive of families being present during resuscitation and practices were changing as a consequence in this particular setting.

Support for family presence during resuscitation in Australia was endorsed by the Australian and New Zealand Resuscitation Council Guidelines in 2006 (Carol Casey, personal communication, April 25, 2012). Unlike published research from the U.S. and U.K., there has been little Australian research published about family presence during resuscitation (Hodge & Marshall, 2009). Three studies were identified. The first was by Redley and Hood (1996) who surveyed attitudes and concerns regarding family presence during resuscitation of nursing and medical staff in the emergency department in Victoria. The aim was to determine whether staff were willing to give families the option of being present and to identify concerns staff may have about family presence. One-hundred-and-thirty-three staff from six major metropolitan hospitals took part, revealing that; 62% of staff would consider

family presence 'at predetermined times under controlled circumstances', 14% indicated that families should always be given the option of being present and a further 11% indicated that families should never be given the option. However 70% indicated that they would like to be given the opportunity to be present if their own loved one was being resuscitated. The survey also identified that more nursing staff than medical staff had been approached by families requesting to be present, given that nursing staff made up the majority of this study (74%), this finding may not have been a true reflection of opinions.

Redley and Hood (1996) revealed the main concerns by staff regarding the presence of family members: 76% of staff felt that procedures during resuscitation would offend family members, 61% felt that staff's emotional stress would be increased, 48% thought that families members would be disruptive to staff members, 46% felt that families would interfere with treatment and 33% felt that staff behaviour would offend families. Compared to international studies, this Australian study did not indicate that families may be traumatised as a result of witnessing resuscitation, only suggesting that they would be 'offended'. Interestingly this study did find similarities to the original study by Hanson and Strawser (1992), in that staff felt stressed by the presence of family members, as the presence of family members made the situation more emotional, 'bringing out the human aspect of the situation' (Redley & Hood, 1996, p149). In addition, Redley and Hood (1996) found that staff suffered increased anxiety about their performance during resuscitation, if families were present. However Redley and Hood (1996) offered more practical advice, suggesting that staff require practical and theoretical support, as well as incident debriefing as resources for support.

The second Australian study by Holzhauser, Finucane, and DeVries (2006) aimed to assess the difference between staff and relatives' attitudes towards family presence, immediately post-resuscitation in an emergency department in Queensland. This study was conducted as a randomised control trial. Relatives were either not invited (control group) or invited to be present (experimental). Eighty-eight families responded positively to being present, with 100% being glad that they were present, and 67% of the control group indicating that they would have preferred to be present. Staff also responded positively to having families present, indicating that it was

quicker to get a history about the patient, the family were able to be better managed, the patient was comforted by the presence of relatives and the relatives could see that everything was done. The reported disadvantages were similar to the Redley and Hood (1996) findings in that staff felt that families disrupted the running of the resuscitation and that staff performance suffered as a result of family presence.

The third Australian study, was undertaken in New South Wales by Maxton (2008), who assessed the lived experiences of parents who were present or absent during the resuscitation of their child in the Paediatric Intensive Care Unit. This qualitative study included 14 parents of children who required resuscitation. This was sufficient to achieve data saturation. Parents of those children who survived were contacted one week following resuscitation; and those who did not were contacted three months following resuscitation. In-depth interviews were held with one or both parents. Four main themes were derived from this study:

Theme 1: 'being there for the child'. Providing support and comfort for the child, which therefore also provided comfort for the parent. In addition to this parents wanted to be there in case their child died.

Theme 2: 'making sense of a nightmare'. This meant that parents wanted to understand the medical jargon, the procedures and terminology used by staff. In addition to this, they wanted to see that everything was done for their child. Parents also commented that they did not want to watch, but 'you look past the distressing scene as you are more focused on whether your child will survive' (Maxton, 2008, p3171).

Theme 3: 'maintaining hope in the face of reality'. Parents remained hopeful and positive of a good outcome. Parents also felt that they were unable to show their true feelings, in that crying was a sign of an inability to cope.

Theme 4: 'living in a relationship with staff'. Parents sought physical and emotional support from staff during the resuscitation, from experienced members of staff such as nurses. Parents were also aware of how their presence may have increased the stress levels of staff, as they may be scrutinising their performance. Parents also commented that this was not true, that they in fact just wanted to be close to their child.

Maxton (2008) concluded that parents' greatest stress was being separated from their child. Parents had a compelling need to be with their child during resuscitation, therefore overriding any fears about the trauma associated with witnessing resuscitation.

In conclusion, limited research shows no harm to families and that parents want to be present during the resuscitation of their child. Further, staff are in favour of parents being present, however have reservations about the psychological harm to families and interfering with the resuscitation process. These results have contributed to policies or institutional guidelines being implemented.

Family presence during resuscitation policies and programs.

The growing body of evidence supporting family presence during resuscitation led to international support from healthcare organisations, which then produced similar guidelines to those released by the ENA in 1993. The Resuscitation Council U.K. formulated guidelines in 1996 supporting family presence, as did the; American Heart Association (2000), the National Association of Emergency Medical Technicians (2000), the National Association of Social Workers (2001), the American Association of Critical Care Nurses (2004), the Canadian Association of Critical Care Nurses (2005), the American Academy of Pediatrics Committee on Pediatric Emergency Medicine (2006), the European Federation of Critical Care Nursing Associations (2007), the European Society of Paediatric and Neonatal Intensive Care (2007), the European Society of Cardiology Council on Cardiovascular Nursing and Allied health (2007), and the American College of Critical Care Medicine Task Force (2007) (Davidson et al., 2007; Fulbrook, Latour, Albarran, et al., 2007).

Although family presence had been endorsed at an international level by key professional bodies, many health care facilities had not formalised guidelines supporting family presence during resuscitation. Concerns that continue to be raised by medical and nursing staff in opposition to family presence, highlight that debate still exists between health professionals (Halm, 2005; McClenathan, Torrington, & Uyehara, 2002; Meyers, Eichhorn, Guzzetta, Clark, & Taliaferro, 2000). Studies have shown that a lack of policy or guidelines can lead to misinterpretations in

practice and increase conflict within resuscitation teams (Curley et al., 2012; Dougal, Anderson, Reavy, & Shirazi, 2011; Meyers, Eichhorn, Guzzetta, Clark, & Taliaferro, 2004).

Fulbrook, Latour, and Albarran (2007) found that only 12.2% of a sample of 98 paediatric intensive care nurses in Europe reported having a unit protocol that guided family presence during resuscitation. Similar results were found in an earlier study by Fulbrook, Albarran, and Latour (2005), where only 12% of nurses working in mixed adult and paediatric settings throughout Europe and the U.K. had written guidelines in their ward or unit. Axelsson et al. (2010) also found that European nurses, working in the cardiovascular setting, reported that policies relating to family presence were rare, in comparison to U.K. and Irish nurses, where 14% reported having written policies. MacLean et al. (2003) also found that 5% of critical care and emergency nurses from the U.S in their study (n=984) had a written policy in their unit, although 45% practised family presence without a formal policy. Madden and Condon (2007) assessed the practices of 90 nurses at the Cork University Hospital in Ireland and found that 74% of emergency nursing staff wanted a written policy on family presence, as their department did not have a written policy during the time of the study. These studies generated from large samples, and including a number of settings in Europe, the U.S and the U.K, across both critical care and non-critical care areas, clearly reflect that lack of guideline/policy supporting family presence has existed.

Structured programs, education and written policies supporting family presence during resuscitation, have been reported to influence health professionals practice and opinion towards family presence. In a paediatric study by Mangurten et al. (2006), opinions held by nurses and medical staff, were improved as a result of the implementation of the ENA guidelines (1993) to facilitate family presence in a hospital in Dallas, in the U.S. In another study in a paediatric hospital in Philadelphia, a structured family presence program was implemented (O'Connell, Farah, Spandorfer, & Zorc, 2007). The program included a written protocol and training to support the staff that supported families while witnessing the resuscitation. Over the 18 month period of this study, no families were reported to have interfered with the resuscitation process, and most families were with their

loved ones within five minutes of the commencement of the resuscitation. In conjunction to this, health professionals did not feel that families had a negative impact on medical decision making, patient care or communication amongst the team (O'Connell et al., 2007). Kingsworth et al. (2010) also assessed the effect of a structured program, and its effect on patient care, finding that following a structured program of policy implementation and education, patient care was uninterrupted.

Despite ongoing concerns from staff, structured programs, education and policies for staff on family presence have resulted in positive perceptions. The majority of studies relating to family presence have been conducted in the U.S and U.K, as have the majority of policies and structured programs. The next section considers the international context.

International similarities and differences.

Studies emerging from North America and the U.K. have often portrayed a positive view towards family presence during resuscitation (Fulbrook et al., 2005; Halm, 2005; McClement, Fallis, & Asha, 2009). Further studies in Europe, the Middle East and Asia revealed negative attitudes towards allowing families to be present. Two studies from Turkey indicated similar results as each other. Badir and Speit (2007) explored the opinions of intensive care nurses utilising the questionnaire developed by Fulbrook et al. (2005) and found that 83% of nurses did not feel it was necessary to invite families to be present, and a further 79% did not want families to be present. Demir (2008) also assessed Turkish medical and nursing staff, revealing that 83% of participants did not think it was appropriate for families to be present during resuscitation. Both studies were conducted in critical care settings (emergency and intensive care) in major teaching hospitals throughout Turkey. Similar figures from a German study of intensive care nurses, revealed that 66% did not agree that families should be given the option of being present (Koberich, Arnold, Oliver, & Albarran, 2010), as did Vavarouta, Xanthos, Papadimitriou, Kouskouni, and Lacoviou (2011) in Greece, revealing that 72% of medical and nursing staff were not in favour of family presence.

Studies from Asia have also shown negative perceptions toward family presence. Ong, Chung, and Mei (2007) found that 80% of emergency staff in a major Singapore hospital were not in favour of family presence. A multi-centre study in Malaysia also found little support for family presence, with 84% of medical and nursing staff working in emergency department settings, opposing family presence (Sheng, Lim, & Rashidi, 2010). Similar findings resonated in the Middle East, where in a study of two Saudi hospitals, opinions of nursing staff in the emergency department revealed that 77% were opposed to family presence, and a further 92% felt that families would not benefit from being present (Al-Mutair, Plummer, & Copnell, 2011). An Israeli study also found opposition to family presence, however nursing staff were more favourable to family presence than medical staff (Wacht, Dopelt, Snir, & Davidovitch, 2010). These studies indicate that family presence during resuscitation is not favoured and has not been established as common practice outside the U.S, U.K and Australia.

The following section explores the perspectives of families who have been present during the resuscitation of their loved one. The perspectives of patients who have survived in-hospital resuscitation are also discussed.

Family and Patient Perspectives

Family Perspectives.

Studies exploring the attitudes and experiences of family members during witnessed resuscitation have indicated that family members wish to be given the opportunity to make a decision about being present during the resuscitation of a loved one (Davidson et al., 2007; Eichhorn, Meyers, Guzzetta, Clark, Taliaferro, et al., 2001; Tinsley et al., 2008). Given the opportunity, those families who have witnessed resuscitation of a loved one, have stated that they would want to be present again if in a similar situation (Halm, 2005). Although medical and nursing staff have expressed concern in regards to the psychological effects of family presence, there appears to be little evidence supporting this claim. In the event of a patient death, the family's experience of being present during resuscitation was not as frightening as they previously expected, but in fact helped in their grieving process (Davidson et al., 2007).

In a prospective study, Powers and Rubenstein (1999), aimed to determine if allowing family members to be present during invasive procedures in the PICU: a) reduced the anxiety that parents experienced; b) if parental presence was beneficial to the child, and c) if their presence affected staff performance. Sixteen children underwent procedures ranging from intubation to chest tube placements. Parents were invited to be present or asked to wait in the waiting room (control group). Parents' anxiety levels were then compared following the procedure. Staff anxiety levels associated with having parents present were also assessed. Results revealed that parental anxiety was significantly reduced in those parents who were present during the procedure ($p=.005$, Mann-Whitney Test). Eighty-one per cent of parents felt that being present was beneficial to themselves, the child (87%, $n=16$) and to staff (81%), and if given the option again, 94% would prefer to be present again. Similar positive results were found following staff assessment, in that 94% of nursing staff found parental presence to be helpful to the child and parents. Although this study revealed positive results for parental presence, neither survey tools had been tested and validated. In addition to this, this study was not a true reflection of 'emergency resuscitation events', as it included invasive procedures such as line placement, in what seemed to be a controlled environment.

In a study by Meyers et al. (1998) 25 families were interviewed by telephone following the death of a loved one, eight weeks and 15 months after the event. Both qualitative and quantitative data were recorded, replicating and expanding the survey by Doyle et al. (1987). The survey results, comparable to those found by Doyle et al. (1987), revealed that 80% of families would have liked to be given a chance to be present and 96% felt that families should be able to be with their loved ones just before death if desired. In conjunction to this, families felt that the option should be available to families if they felt they could 'handle it emotionally,' and one participant commented that 'we see stuff like this on the TV- it's not such a shock for people, families will know if they can handle it' (p 403). Sixty-four per cent of families felt that being present may have helped their sorrow and sadness after the death of their loved one. Meyers et al. (1998) also revealed a significant difference (Fisher's exact test, $p=.03$) according to the family member's relationship to the patient and the belief that being present would have helped their sorrow and sadness.

Those family members who were a parent or spouse felt that their presence would not have helped their grief, and in contrast those who were a sibling or child believed that their presence would have helped their grief. Although this was an unexpected finding of this study, the authors could not interpret this finding with confidence due to the small sample size. The majority of family members interviewed in this study were parents.

Studies in the paediatric emergency setting have revealed parental support for family presence during resuscitation. Mangurten et al. (2006) sought to identify the attitudes and experiences of parents following implementation of a family presence protocol (during invasive procedures and resuscitation) in their paediatric emergency department. The researchers assessed for disruptive parental behaviour that may have interrupted patient care. Sixty-six parents were included in the study, where 44% were resuscitation events and 56% were invasive procedures. Of the total procedures performed, emergency intubation was recorded as the most frequent intervention (89%). Parental experiences revealed that 95% of parents found their presence to be of benefit to their child, in that it helped them to understand their child's condition. A further 86% felt they had the right to be present, and 82% felt their presence had no impact on the actions of the resuscitation team.

All parents said they would be present again if given the option, and that being present 'was their right to stay, gave them peace of mind, and helped them to know that everything was done'. Qualitative data reflected similar results, with themes such as 'providing support for their child, information about their child's illness and obligation to stay with their child' (Mangurtern et al, 2006, p 230). Patient care was not found to be interrupted. This was attributed to the role of the family facilitator, who included only family members who were deemed to be 'emotionally stable'. The authors did not report the number of families who were unable to cope with witnessing invasive procedures or resuscitation, or how they determined that families were emotionally stable. Selection bias was present in only permitting those assessed as 'emotionally stable' to be present.

In the setting of a paediatric emergency department, McGahey-Oakland, Lieder, Young, and Jefferson (2007), aimed to describe parental experiences of children who underwent resuscitation, assess psychological functioning post resuscitation and identify any information that may be beneficial to families who witness future events. Ten bereaved family members who had witnessed resuscitation, were assessed utilising the survey validated by Meyers et al. (2000) and three validated measures were used to evaluate psychological and mental health status. Qualitative and quantitative data were captured by utilising open and closed questions via interview, one year following the event. This study revealed similar findings to the study by Mangurten et al. (2006) which found that most staff supported family presence and nurses supported family presence more so than medical staff. An additional theme (not derived from any other study), included the need to enter the room quickly rather than discussing details about the resuscitation prior to entry. Parents felt that there would be time to ask questions later, and preferred to be with their child quickly. This study also dispelled some perceptions surrounding the disadvantages of family presence. Families in this study were conscious of 'getting in the way' commenting that they felt it was important not to get in the way of the work done by the team. Psychological harm was also shown to be non-significant in this group. However little was reported about the results of the three measures used to assess psychological outcomes, with only mention of there being an absence of traumatic stress. Therefore the authors did not provide evidence for non-significant harm. Recall error (one year following the event) from participants may have also affected the results of this study (McGahey-Oakland et al., 2007).

Tinsley et al. (2008) assessed parental experience following resuscitation in the PICU setting. Forty one parents from 33 bereaved families participated and were divided into two categories; those parents who witnessed resuscitation (n=21) and those who did not, due to being out of the hospital, declining the offer to be present or not being invited (n=20). In the group of parents who were not present, 55% wished they had been present and 60% believed their presence would have been comforting to their child. Fifty per cent of parents in this group also said that they would recommend that other parents be present during resuscitation. In addition to this, parents who were not present felt that they could have been better informed of

the progress of the resuscitation, 71% of those parents who witnessed resuscitation felt that their presence comforted their child, 67% felt that it helped them to adjust to their child's death and 76% would recommend other parents to be present. It is interesting to note that those parents who witnessed resuscitation were not all located in the resuscitation room. Forty-three per cent were located outside the room behind a glass window, 19% were in the room but not within physical contact of their child and 38% were near the bed. One parent did report that he/she wished to have been closer to his/her child; however 81% of this group were happy with their location during the resuscitation.

Pasquale, Pasquale, Baga, Eid, and Leske (2010) assessed the anxiety, satisfaction and well-being of families who witnessed the resuscitation of an adult family member. It was hypothesised that families would tolerate witnessing resuscitation and have less anxiety, more satisfaction and greater well-being. The three instruments chosen to assess families were well-known validated tools based on the Resiliency Model of Family Stress, Adjustment and Adaptation conceptual model by McCubbin, Thompson, and McCubbin (1938). Fifty participants comprised 25 families who were present and 25 families who were not present during resuscitation. Although no statistically significant differences were shown, those families who were present scored better than those who were not present, indicating that those who were present tended to suffer less anxiety, greater satisfaction and well-being. Pasquale et al. (2010) reported several limitations to their study. Firstly, families were recruited by convenience sampling, so there may have been bias in subject enrolment. Secondly, the sample was moderately small, and not large enough for statistical significance between groups. This was due the number of families who were not present being recruited more quickly than those who were. Therefore a large percentage of families were not available, possibly due to the speedy air transport of patients who live some distance from the hospital. Thirdly, data regarding the nature of procedures witnessed, such as intubation or line placement, were not collected which may have confounded the outcomes of anxiety, satisfaction and well-being. Finally, another limitation not mentioned by the researchers, was that there was no indication as to whether patients survived resuscitation which may have been a further confounding factor.

Although the number of studies examining the perspectives of families has been fewer in comparison to that of health professional, families have clearly favoured the option of being present during resuscitation. Those who have been present have appeared to have found this to be beneficial, and not psychologically harmful. The following section provides an overview of the patient's perspectives of family presence.

Patient perspectives.

Few studies have explored the perspective of the surviving patient who has experienced resuscitation. Eichhorn, Meyers, Guzzetta, Clark, Klein, et al. (2001) conducted a qualitative review (utilising the constant comparison technique) of the experience of nine adult patients post emergency treatment, which included a variety of invasive procedures and one participant who had survived cardio-pulmonary resuscitation. Patients were interviewed nine months following the event, revealing several themes, including: being comforted by the presence of family members, as they felt "loved, supported and less alone" (p 52); receiving help as their family members acted as advocates, reminder of personhood (humanising patients for providers), maintaining a patient-family connection, and; belief that family presence is a right. None reported any negativity towards having family members present. Participants understood that family members may have been stressed by witnessing the event however felt that it was actually beneficial to the family as they received information about their health condition. Participants also felt that the presence of family members should not affect the health care environment, and that families should be supported while present, be told what is expected of them by the bedside and each case should be assessed individually, as to which families can "handle it" (Eichhorn, Meyers, Guzzetta, Clark, Klein, et al., 2001) (p53).

More recently, McMahon-Parkes, Moule, Bengner, and Albarran (2009), conducted interviews of 21 survivors of resuscitation and 41 patients who underwent emergency treatment (not resuscitated), to determine their views and preferences regarding having family members present. Similar themes were identified by content analysis. This included 'being there' which meant that they felt that family members provided emotional support and advocacy to them during the procedure. They also felt that their family member could see that everything was being done and that it

may help them to understand the medical treatments being undertaken, thus reducing anxiety for the family member. Participants also realised that if they had not survived the resuscitation, then family members would have had a chance to say goodbye. Another similarity included the concern that family members may find the experience stressful. Participants were also concerned that family members remained unobtrusive to the resuscitation team. Patients were not concerned about confidentiality, and felt that the health care team would be mindful as not to disclose certain information (McMahon-Parkes et al., 2009).

Patients and families have expressed positive experiences of having families present, and wanting to be present during resuscitation of a family member. The following section now examines the perspectives of the medical and nursing staff in both the adult and paediatric settings.

Healthcare Professionals' Perspectives

The majority of studies concerning family presence during resuscitation have focused on the opinions of medical and nursing staff rather than those of family members. Settings have included emergency departments and critical care areas in mixed adult and paediatric hospitals and some in hospitals exclusively caring for children. Research thus far has indicated that there are varying opinions amongst health care professionals, particularly between nursing and medical professions, between those who work with or without formal family presence during resuscitation guidelines in their institution and between those health professionals who were more experienced compared to those who were less experienced.

1. Adult and paediatric setting.

1.1 Nursing and medical perspectives in mixed setting.

Varying opinions between medical and nursing staff in the mixed adult and paediatric setting are evident. Helmer, Smith, Dort, Shapiro, and Katan (2000), surveyed members of the American Association for the Surgery of Trauma (AAST) and Emergency Nurses Association (ENA), to identify opinion and attitude regarding family presence during resuscitation. Comparison between medical and nursing staff, found that AAST members felt that family presence was inappropriate during

resuscitation ($p < 0.001$, Pearson's chi square) because family members could interfere with resuscitation efforts, that family presence would increase stress levels of the trauma team and that family presence would lead to greater incidents of malpractice litigation ($p < 0.0001$). However, nurses believed that family presence was a patient right and supported family presence during paediatric resuscitation ($p < 0.0001$). Medical opinion may not reflect the opinion of emergency physicians, as the medical participants in this study were surgeons operating on emergency patients (see Appendix C for summary of study).

Similar attitudes to family presence were found by McClenathan et al. (2002), who surveyed critical care health professionals attending an international meeting of the American College of Chest Physicians. Unlike other survey studies, the majority of participants were medical professionals (91%), rather than nurses who made up 5% of the respondent and 4% allied health. The majority of all health professionals ($N = 554$) were opposed to family presence during resuscitation (78%). When compared, there was a significant difference ($p = 0.003$) between physicians and nurses, in that nurses were more supportive of family presence. McClenathan et al. (2002) explained that support from nurses may be a result of different training programs in which greater emphasis is placed on family-centred care. In addition to this, the author suggested that because nurses had less legal responsibilities than medical staff, therefore less responsibility in the resuscitation room, this may have accounted for their greater support for family presence.

Meyers et al. (2000) surveyed nursing and medical staff to examine their attitudes to the benefits and disadvantages of family presence, following implementation of the ENA protocol for family presence in the emergency department at the Presbyterian Hospital in Dallas Texas. Ninety-six workers (60% nursing and 40% medical) were surveyed post resuscitation events. The study reflected others in that there was a greater support for family presence by nursing staff than medical staff (see Appendix C). A different finding in this study was that resident doctors were less supportive of family presence than their more senior consultant colleagues and nurses. Also contrary to McClenathan et al. (2002) and Helmer et al. (2000), this study found that 88% of all health workers felt that the family presence program should continue in their hospital and 85% were comfortable

with having families present. This finding may have been influenced by the number of nursing staff participants (62%, n=60) compared to 38% medical staff (14 physicians and 22 residents). In addition to this, education and implementation of the ENA family presence protocol may have also influenced participants' opinion in this study. Similar results were found in the study of 202 U.S. medical and nursing emergency staff by Duran et al. (2007), revealing the majority of all respondents were in favour of family presence, and nurses were also more supportive of family presence than medical staff. This study also included staff in the adult and neonatal intensive care units.

1.2 Nursing perspectives in mixed setting.

The perspectives of nurses has been examined in a number of settings. A mixed adult and paediatric setting in Indiana U.S. was explored by Twibell et al. (2008). Nurses' perceptions of the risks and benefits of family presence and their self-confidence in applying family presence were investigated using the 'Family Presence Risk/benefit Scale (FPR-BS) and the Family Presence Self-Confidence Scale [FPS-CS] (Twibell et al., 2008) [see Appendix C]. The study included nurses who worked in critical care (n=136) and non-critical care settings (n=165), the emergency department (n=22) and outpatient setting (n=26). The majority of participants worked with adult patients (n=300), rather than paediatric/and or neonatal patients (n=75). Twibell et al. (2008) found that 254 nurses in their sample had never invited families to be present during resuscitation, yet more than half agreed or strongly agreed that family presence was a right of both patients and families. Those nurses who had invited families to be present perceived more benefits and fewer risks. Nurses who perceived more benefits and fewer risks also scored highly in relation to their self-confidence in managing family presence.

Twibell et al. (2008) assessed the relationship between demographic variables and nurses' perceptions and self-confidence. Those nurses who were certified (completed speciality training) and who belonged to a professional nursing organisation, perceived more benefits and fewer risks than those who were not certified or who did not belong to a professional nursing organisation. These nurses also perceived higher self-confidence in performing resuscitation during family presence. Furthermore, nurses working in the emergency department perceived fewer

risks and more benefits ($p=.001$) and reported more self-confidence ($p=.001$) than those nurses working in other areas. No other demographic variables (such as years of experience) showed significant relationships between risk/benefits or self-confidence. Critical care nurses did not differ in their perceptions of the risks, benefits or self-confidence, when compared to nurses working in non-critical care units. This study was the first to compare nurses' perceptions in both the critical care and non-critical care settings, and assessed perceptions of self-confidence. The 'Family Presence Risk/benefit Scale' (FPR-BS) and the 'Family Presence Self-Confidence Scale' (FPS-CS) developed by Twibell et al. (2008), will be used to assess the perceptions and self-confidence of critical care and non-critical care nurses and medical staff in this study. Both tools will be validated prior to use in the Australian setting, and is discussed in the methodology chapter.

Two other studies examined the opinions of nurses who worked in both the adult and paediatric setting. MacLean et al. (2003) surveyed members of the American Association of Critical Care Nurses and the ENA, and assessed their practices related to family presence during resuscitation (see Appendix C). Nine-hundred and eighty-four nurses participated. Only 4% worked exclusively with children and 56% worked with both adults and children. Seventy-five per cent of nurses favoured the option of family presence, particularly those who had previous experience with family presence, reflecting findings of other studies (Helmer et al., 2000; McClenathan et al., 2002; Meyers et al., 2000). Knott and Kee (2005) qualitatively explored nursing perceptions in the adult, paediatric and neonatal setting. The beliefs and experiences of 14 nurses, with a minimum of four years' experience in critical care areas were examined. Nurses who worked with children revealed significantly more support for family presence than those working with adult patients.

2. Adult setting.

2.1 Nursing perspectives in adult setting.

Studies exclusively exploring nursing opinion of family presence during resuscitation from the adult setting found mixed support, particularly from countries outside of the U.K. and U.S. (Koberich et al., 2010). The majority of studies focused on nursing staff attitude in the emergency department setting or intensive care setting

(no studies exclusively assessing medical opinion were found). Fulbrook et al. (2005) surveyed critical care nurses in mainland Europe and the U.K and compared their experiences and attitudes to family presence during adult resuscitation. One-hundred and twenty-four nurses from the U.K. (43.5%) and northern European countries (mainly from Denmark, Sweden and Norway) completed the survey at a conference. The study found a significant difference between nurses working in the U.K. and Europe, in that nurses from the U.K. were more positive towards family presence. European nurses were more reluctant to invite families to be present during resuscitation and only 38% of European nurses felt that family members should be given the option, compared to 66% of U.K. nurses. Fulbrook et al. (2005) acknowledged several study limitations that included; only delegates from the conference participated in the study which may not be a true representation of all U.K. and European nurses views, that there was a large number of ICU nurses (bias in sampling), the questionnaire was not validated and those nurses with an interest in family presence were more likely to have completed the survey. In addition to these limitations the impact of cultural differences between countries should be considered. For example Madden and Condon (2007) found support by ED nurses at the Cork University Hospital in Ireland. Two-thirds of respondents (n=90) supported family presence and had often invited families to be present.

Qualitative studies describing emergency and intensive care nurses' experiences in the Canadian and American adult setting have reported similar findings (see Appendix B). McClement et al. (2009) investigated perceived benefits and risks for family members by Canadian critical care nurses, as did Miller and Stiles (2009) in the American setting. Both groups of nurses interviewed perceived benefits for family members, which included family members ability to see that everything was done for their loved one, the ability of families to comfort their family member during resuscitation and the ability to say good-bye if the resuscitation was unsuccessful. Perceived risks for family members included psychological trauma, and the risk of being injured by equipment. Benefits to the team were perceived as seeing the patient as part of a family and seeing that the family had accepted the decision to discontinue resuscitative efforts. Potential risks for the healthcare team included feeling clinically inadequate, liability, humour used

by the resuscitation team that may offend families and disruption to the resuscitation team.

3. Paediatric setting.

The concept of family presence during resuscitation has been more strongly supported by medical and nursing staff in the paediatric setting (Critchell & Marik, 2008; Fulbrook, Latour, & Albarran, 2007; Kuzin et al., 2007; MacLean et al., 2003). Survey feedback has indicated that family presence provided staff with the opportunity to educate parents about their child's condition, initiate a bond between health care providers and family, and gave the family the power to make decisions on behalf of their children (Fulbrook, Latour, & Albarran, 2007; MacLean et al., 2003). Although family presence has been accepted in most paediatric settings, it appears that opinions still vary amongst some medical and nursing staff (McClenathan et al., 2002).

3.1 Nursing and medical perspectives in paediatric setting.

Several studies have been undertaken in the PICU setting. These studies have predated the adult/mixed setting studies, indicating that the practise of family presence has been in place for longer than that in the adult setting. Jarvis (1998) assessed medical and nursing staff in a PICU in the U.K. using a mixed quantitative and qualitative study design. The objectives were to explore, compare and provide insight into negative and positive attitudes of staff towards family presence. Fifty-six staff (19 medical and 37 nursing) completed the questionnaire (93% response rate). The study revealed support for family presence, with 89% of staff members agreeing that parents should have the option of being present during resuscitation. Although the overall feeling towards family presence was positive, medical staff were less supportive of family presence (68%) than nursing staff (100%). In the study by Kuzin et al. (2007), a significant difference was also found between medical and nursing staff by Kuzin et al. (2007), where nurses were more supportive of family presence (97%) compared to physicians (64%). Jarvis (1998) also found that medical staff felt that staff member leading the resuscitation, had the right to oppose family presence 'depending on the team's confidence and ability' (Jarvis, 1998, p 5). One can only assume that the team leader in this case would be medical. A similar finding by Jefferson and Paterson (2001), reported in a Canadian PICU if the technical

ability of the procedure was challenging for the team, then parents would be asked to leave by medical staff.

In the ED context, Mangurten et al. (2006) explored the experience of medical and nursing staff following implementation of a family presence protocol in the emergency department of a large children's medical centre in Texas, U.S. Ninety-two health care professionals participated in the study, and included nursing staff (41%), physicians (20%) and residents/fellows (39%). Collectively health professionals reported positive opinions towards family presence, with 79% agreeing that the family had the right to be present and 70% supporting family presence. More nurses (92%) were supportive of family presence, compared to physicians (78%) and residents (35%).

Exploring staff perceptions more broadly than in PICU or ED settings, Jones et al. (2011) sought to understand the views of health care professionals, in a study of 137 participants from a Texas paediatric hospital in America. Medical, nursing staff and medical students (41, 87 and nine participants respectively) were sourced from the emergency department, medical centre and a paediatric palliative care conference. The quantitative and qualitative study design included a scenario involving the resuscitation of an eight year old girl. Participants' views of family presence were explored, how they viewed their colleagues' opinion regarding family presence (i.e. how they viewed their colleagues' opposition or acceptance of family presence) and the effect of family presence on the resuscitation team. Seventy per cent of participants agreed that the family should be given the option of being present during resuscitation. No significant differences in opinion were found between medical and nursing staff.

Jones et al. (2011) also revealed findings not described elsewhere in that those in favour of family presence felt that colleagues opposed to family presence lacked sympathy for family members. Participants who were opposed to family presence reported that their colleagues who were in favour of family presence lacked sympathy for the trauma team. The issue of litigation was also assessed in this study, revealing that participants who were in favour of family presence felt that their colleagues who opposed family presence were concerned about legal implications.

Those opposing family presence had conflicting views in that they felt those who favoured family presence did so as they were worried about false accusations from families who were not present. Jones et al (2011) identified new concepts, which included the view that having families present in fact minimized risks of litigation from families. It is also interesting to note that participants were recruited from a palliative care conference, in which one would assume that health professionals from this cohort were not often involved in resuscitation. In addition to these limitations, the survey development was not reported.

3.2 Medical perspectives in the paediatric setting.

Two studies explored the opinions of medical staff in the paediatric setting. Bradford, Kost, Selbst, Renwick, and Pratt (2005) assessed residents who were part of an E.D trainee program in a large children's hospital at the University of North Carolina, U.S.A. Fifty-three residents were assessed for their opinion of family presence during invasive procedures and resuscitation. Residents were accepting of family presence during invasive procedures, but not during resuscitation. This finding was similar to Meyers et al. (2000) and Mangurten et al. (2006), in which resident medical staff were less receptive to family presence during resuscitation, than those of senior medical staff and nurses. When participants were compared in relation to years of experience, no significant difference was found between senior medical staff and nurses. Residents were also anxious about failing the procedure in front of family members, therefore appearing 'inexperienced or unknowledgeable'. Several limitations existed in this study; participants were limited to this one particular training program. In addition to this, participants were identifiable, which may have affected the way in which participants responded (Bradford et al., 2005).

Barata et al. (2007) assessed the opinion of junior medical residents and found similar results. Participants in the study cohort of 521, the largest study to date, revealed 50% of residents felt that family presence would interfere with their ability to perform invasive procedures and resuscitation. Those with more experience in emergency medicine felt that family presence would not be intrusive. This study included residents in a mixed adult and paediatric emergency department and a paediatric emergency department. Those working in the paediatric department were more likely to allow family presence during resuscitation than those in the mixed

emergency setting. The authors conclude that this may be due to existing family presence programs that facilitate family presence in the paediatric setting.

3.3 Nursing perspectives in the paediatric setting.

Few studies have exclusively examined paediatric nurses' opinion of family presence during resuscitation. Perry (2009) assessed the knowledge, experience and beliefs of paediatric nurses working at the Withybush hospital in the U.K. Respondents included nursing staff from the emergency department, the general ward and special care nursery. Seventy-eight per cent of the 32 respondents agreed that parents had the right to be present during resuscitation of their child. Perry (2009) compared groups from each area to identify differences in opinion towards family presence. No statistical significance was found between either groups, or by the amount of paediatric nursing experience, due to the small sample size. However those nurses with more experience in paediatric resuscitation were more positive towards family presence. The study also revealed that those nurses with a specialist nursing qualification favoured family presence at resuscitation compared to those who held no specialist training, reflecting findings by others (Jarvis (1998) and Twibell et al. (2008)).

Utilising the questionnaire previously developed for the adult ICU setting (Fulbrook et al., 2005), Fulbrook, Latour, and Albarran (2007) assessed the attitudes and experiences of European paediatric intensive care nurses, Ninety-eight nurses participated in this study, recruited from a nursing symposium in Sweden. Responses were positive, with the majority of nurses agreeing that family members should always be offered the option of being present (63%). A further 89.8% of nurses felt that parental presence would help parents know that everything was done for their child, and that if resuscitation was unsuccessful, it gave parents the opportunity to share their final moments with their child (71%). Although the study showed overall support for family presence, a substantial number of nurses disagreed with giving families the option of being present during resuscitation (31%). In addition, nurses were concerned that parents may become upset as a result of what the team may say during the resuscitation process (69%). Unlike the majority of studies, 65.4% of nurses disagreed that families should be excluded from witnessing resuscitation due

to the possibility that they may become distressed. In addition to this, 65% did not advocate for a dedicated support person to be present with parents during witnessed resuscitation. This finding is unlike guidelines in the U.K and U.S, that advocate for a support person during family presence (ENA, 1993; Resuscitation Council UK, 1996). The differences in opinion may be attributed to cultural differences, and the support of existing guidelines in the U.K and U.S.

In conclusion to this part of the review, the issues that have been identified by health professionals will now be discussed in terms of the two concepts that are examined in the study questionnaire. These include health professional's opinions of the risks and benefits of family presence during resuscitation and their reported self-confidence.

Concepts Examined in the Study Questionnaire

The two concepts examined in the study questionnaire concern: health professionals' perceptions of the risks and benefits of family presence during resuscitation, and the relationship between health professionals' self-confidence and their practice. These form the basis of the two scales examined, the 'Risk/benefit' scale and 'Self-confidence' scale developed by Twibell et al. (2008).

Health Professionals' Perceived Risks and Benefits of Family Presence during Resuscitation.

A number of perceived risks and benefits have been identified and the eight key themes are presented in Table 3.

Table 3

Perceived risks and benefits of family presence

<u>Risk</u>	Interference with the resuscitation process
	Increased stress levels of staff
	Malpractice litigation
	Psychological trauma of families
<u>Benefit</u>	Aiding in the grieving process
	Seeing that everything was done
	Comforting the patient
	Professional behaviour

Self-confidence of Healthcare Professionals and Resuscitation.

Very little research has been conducted about the self-confidence of health professionals performing cardiopulmonary resuscitation, while families are present. Maibach, Schieber, and Carroll (1996) explored the concept of self-efficacy and the impact this had on paediatric resuscitation. Self-efficacy is defined as “a cognitive process indicating people’s confidence in their ability to affect a given behaviour” (p 94). Self-efficacy has been known to have impact on academic performance, athletic performance, as well as social interaction (Maibach et al., 1996). The authors of this review of self-efficacy felt that this cognitive process had a direct impact on how health professionals performed paediatric resuscitation. They made the point that “even those skilled and knowledgeable in resuscitation, may fail to apply themselves successfully unless they have strong belief in their capability” (p 94). Interpretations of performance and successful or improved aspects on performance can boost self-efficacy. This statement may indicate that those with more experience in family presence during resuscitation tend to be more confident in its management. If resuscitation skills are not practised frequently, lack of self-perceived competence may induce stress in the health care professional (Fulbrook, Latour, & Albarran, 2007).

In a cross-sectional study of three Norwegian hospitals, Hopstock (2008) assessed non-critical care staff's amount of resuscitation training, experience in resuscitation and their self-confidence in performing resuscitation in the clinical area. The Norwegian Resuscitation Council recommended revision of resuscitation training every six months. In the 361 health care professionals who completed this quantitative survey, 89.2% of participants had received resuscitation training, however only 11% had updated this training in the previous six months. Thirty-two per cent of participants had participated in a real resuscitation event. Overall, self-confidence was reported as being 'moderate' by all participants. When the time from training exceeded two years, this report of self-confidence decreased (no data shown). The study highlighted the need for regular training and assessment of resuscitation skills in the hospital setting, as this may have an impact on retention of skills and self-confidence in resuscitation (Hopstock, 2008).

Several studies have indicated that those health professionals, who have more experience in performing resuscitation, are more likely to support family presence (Fulbrook, Latour, & Albarran, 2007; Mangurten et al., 2005; Perry, 2009). Similarly, physicians who have more contact with critically ill children and who work at a specialist level, tended to support family presence during resuscitation (Kuzin et al., 2007; MacLean et al, 2003; Fulbrook et al, 2007). This may indicate that health professionals with experience will have more self-confidence in facilitating family presence and support family presence during resuscitation; however none of these studies assessed the direct link between self-confidence and the management of family presence during resuscitation. Mitchell and Lynch (1997) assessed the views of medical and nursing staff in the emergency department of a London hospital. The majority of participants were Medical staff (n=80, 88%) of varying seniority and there were 12 nursing staff (12%). Participants were asked if they were in favour of family presence, and were provided with the opportunity to comment. The authors concluded that those staff with the least experience in dealing with resuscitation did not support family presence and related this to a lack of self-confidence. This conclusion should be interpreted with caution, as the authors did not assess self-confidence in their one question survey.

Only one study to date has directly assessed the relationship between self-confidence of nursing staff during resuscitation and the impact on their support and facilitation of family presence (Twibell et al., 2008). As detailed earlier in this chapter, nurses who felt that family presence was beneficial also exhibited more self-confidence in managing family presence. Twibell et al. (2008) examined self-confidence by directly asking such questions as '*I could administer drug therapies during resuscitation efforts with family members present*' and '*I could deliver chest compressions during resuscitation efforts with families present*'. Data from this study reported reliability and validity of this scale. Other studies have only speculated that self-confidence in performing resuscitation efforts in front of families was related to years of experience. The direct link between self-confidence in resuscitation skills, and the support and facilitation of family presence has therefore been under researched.

Conclusion

Family-centred care acknowledges that family are a constant in the child's life and an integral part of his or her recovery. Consumer rights and expectations of the care provided by the health professional have increased, placing greater demand on the health care professional. Parental participation not only includes being informed about all aspects of a child's care, but also includes their presence during medical and nursing interventions. Family presence during resuscitation is included in this concept of family-centred care and forms the basis of the theoretical framework for this research.

Despite family-centred care being the philosophy underpinning paediatric care, family presence during resuscitation continues to be a controversial subject amongst health care professionals. Research to date has largely focused on the opinions of medical and nursing staff in critical care areas, with underrepresentation from those working in non-critical care areas. Varying opinion exists between health professionals, with greater support from nursing staff than medical staff. In addition to this, health professionals working in the paediatric setting have shown more support for family presence during resuscitation than those in adult settings. Self-confidence in performing resuscitation in front of families may attribute to the

support of family presence, and those with more experience have indicated being more supportive of family presence.

Controversy amongst health professionals centres on perceived disadvantages that have been largely underrepresented by evidence. However, health professionals have agreed that there are some advantages to family presence during resuscitation. In addition to this, families have indicated that they want to be present during the resuscitation of a loved one, revealing benefits to the grieving process, and the ability to see that everything was done. However, despite positive opinions of family presence by patients and families, family presence continues to produce debate amongst health care professionals. This presents a challenge to family-centred care and those families who wish to be present during resuscitation of a loved one and to those health professionals who wish to support family presence.

Evidence to date has largely been derived from descriptive methodologies seeking perceptions, and some qualitative studies although results from a few quasi-experimental studies have contributed. Response rates yielding small sample sizes with insufficient power have been an issue for some of the studies critiqued in this literature review, therefore underrepresenting the opinion of the general population of health care professionals in these settings and implying results have to be interpreted with caution. In addition to this, many participants have been recruited by convenience sampling, which may contribute to selection bias in that those health professionals with strong opinions may have chosen to participate in the study. Validity and reliability of the survey tools used to collect data have not been reported or undertaken, with minimal reporting of questionnaire development or testing by most authors.

In summary, there has been little research in Australia that has explored the concept of family presence during resuscitation. In particular, studies in the paediatric setting are limited, and mainly focus on the critical care setting. There are no known studies in Australia that have assessed the opinions of health care professionals, in the critical and non-critical care setting of a major paediatric setting. The results from this research at an Australian tertiary paediatric hospital will be the first study to report both the opinions and confidence of staff. The study hospital

endorses the practice of family presence during resuscitation, based on the theoretical framework of family-centred care. However little is known about the opinions and confidence of the staff working in this hospital setting. This research aims to clarify the perceptions of health care professionals.

The following chapter presents the methodology used to conduct this research, which assesses both medical and nursing staff perceptions and self-confidence related to family presence during resuscitation, in both the critical and non-critical care settings of a tertiary paediatric hospital. Rationale for the choice of the instruments used and the reliability and validity of the instruments are provided. Ethical considerations are presented.

Chapter Three Methodology

This chapter describes the design, methods and procedures taken to explore health care professionals' perceptions of the risk and benefit of family presence during resuscitation, and the confidence of health professionals in facilitating family presence during the resuscitation of a paediatric patient. The collection of data and analysis processes are outlined and presented in the sequence as they were undertaken. The rationale relating to the choice of questionnaire and data analysis is presented, together with methodological and ethical considerations.

Study Design

A descriptive cross sectional questionnaire study design was used to assess health care professionals' perceptions of and self-confidence in facilitating family presence during the resuscitation of a paediatric patient

The primary objectives were to:

1. Measure medical and nursing staff's perceptions towards family presence during resuscitation
2. Measure self-confidence in facilitating family presence
3. Compare differences in attitudes and self-confidence between critical care and non-critical care staff.

The secondary objectives were to:

1. Compare differences in attitude towards family presence and self-confidence in facilitating family presence between medical and nursing staff
2. Examine the influence of demographic characteristics on participants' perceptions of risk and benefit and self-confidence in facilitation of family presence during resuscitation.

Setting

The hospital is a 220 bed tertiary paediatric facility. Approximately 40,000 children and adolescents from 0 to 18 years of age, receive medical treatment per year as either inpatients or outpatients. These patients are from the Perth metropolitan area, greater Western Australia and from countries in the Indian Ocean

and South East Asian regions. Critical care areas within the study site include the Paediatric Intensive Care Unit (PICU), the Neonatal Intensive Care Unit (NICU) and the Emergency Department (E.D). Non-critical care areas include surgical and medical sub-speciality areas such as gastroenterology, respiratory, cardiology, endocrinology, and dermatology. Critical care areas include a 10 bed PICU, E.D and 30 bed NICU. The practice of allowing families to be present during resuscitation is supported by guidelines in the Paediatric Nursing Practice Manual (PNPM), E.D and PICU. The PNPM is an evidence based guidelines manual which was developed in 2007 and informs practice for nursing staff working in all clinical areas. All nursing policies in the PNPM are endorsed by the Paediatric Nursing Practice Committee. The E.D and PICU guidelines are accessed by both medical and nursing staff working in each department/unit. The PNPM family presence policy articulates that by allowing family members the option to be present during resuscitation supports the philosophy of family-centred care (Appendix F).

The study site is the only tertiary paediatric health care facility in Western Australia. Health care professionals are exposed to a greater number of paediatric patients requiring or recovering from cardiopulmonary resuscitation than health care professionals working in other health care settings in the Perth metropolitan area.

Sample Size

Formal sample size calculations were not done because no data relevant to the populations of interest to this study were available. In the study by Twibell et al. (2008), a total of 375 nurses participated. A post hoc sample size guide was not used due to establish a sample size in this study, due to the significant differences in population characteristics. Participants in the Twibell et al. (2008) study only included nurses, and has not been validated in the Australian context. Therefore, a sample size of 150 participants (medical and nursing) was chosen as this would allow estimation of effects of moderate size at the 5% significance level with 80% power. A simple rule of thumb was used to obtain the sample size: $N \geq 104 + m$. where m is the number of individual predictors in a linear regression model (equivalent to an independent samples t-test when $m=1$ and has two categories) (Tabachnick & Fidell, 2007).

Sample

Eligibility for inclusion included medical and nursing staff employed on a part time or full time basis, and staff working in clinical areas where resuscitation was most likely to occur, covering both critical and non-critical care areas. Casual pool employees were excluded due to the inconsistent nature of their work, particularly over the summer months when patient numbers are low. Medical and nursing staff working in psychological medicine and ambulatory care were also excluded, as resuscitation events in these areas are rare. Patients diagnosed with a mental illness are admitted to medical wards only when they have underlying medical conditions requiring specialist care. Therefore the likelihood of patients requiring resuscitation is uncommon on the psychiatric ward. Employees working in non-clinical areas (administration) do not have exposure to resuscitation, as no patients are treated in these areas, and therefore these, also, were excluded.

Two lists of eligible medical and nursing staff were obtained from the human resources department. A total of 314 medical and 608 nursing staff were eligible for inclusion. The names of eligible participants were placed into a sampling frame and alphabetically organised by surname and checked for omission and duplication. A random selection of participants was then undertaken using the Statistical Package for Social Sciences Version 17 (SPSS Inc. Chicago, 1999). The list of names was then labelled (from 01 to 75 medical and 01 to 75 nursing). Each list of medical and nursing staff members consisted of 75 randomly selected eligible participants. A total of 150 participants were included in the mail out (75 medical and 75 nursing). This number was chosen to try and achieve an adequate response rate close to that of the required sample size. Two mail outs were conducted, each being equal in terms of random selection and numbers selected. Participants, who were selected in the first mail out, were removed from the list of eligible participants in the second mail out. This was undertaken over a four month period and therefore 300 questionnaires were sent out in total. Participants were sent the questionnaire via the internal mail system. An information letter was attached, outlining the reason of the research and dissemination of research findings (Appendix G).

The researcher chose to randomise a list of names from a sampling frame to recruit participants for this study. The researcher chose this method of sampling as it is less time consuming than active recruitment. Other advantages to this type of sampling are that eligible participants are not predetermined, or selected by the researcher (resulting in choosing participants who may favour family presence over those who may oppose), therefore minimising bias (Watson, Atkinson, & Egerton, 2006). In conjunction, random selection of participants means that all eligible participants have an equal chance of being chosen as part of the sample (Kumar, 2005). A random sample also provides a good representation of a population (Watson et al., 2006).

Questionnaire

Medical and nursing staff responses were collected using two validated scales: 'The Family Presence Risk/Benefit Scale' (FPR-BS) which has 22 items and 'The Family Presence Self-confidence Scale' (FPS-CS) which has 17 items. These scales were developed and implemented by Twibell et al, and published in their 2008 article "*Nurses' Perception of Their Self-Confidence and the Benefits and Risks of Family Presence during Resuscitation*" (Appendix H). No other questionnaire measured perceptions of family presence relating to perceived risks and benefits and self-confidence in applying family presence at the commencement of the study. Therefore the scales developed by Twibell et al. (2008) were used to conduct this study.

Both scales have five point Likert response options for participants to complete with 1 being 'strongly disagree' to 5 being 'strongly agree' for the Risk/Benefit Scale, and; 1 being 'not at all confident' to 5 being 'very confident' in the Self-Confidence Scale. Twibell and associates included demographic variables which measured single items including; age, sex, ethnicity, educational level, role as a Registered Nurse or Licensed Practical Nurse (equivalent to Enrolled Nurse in the Australian health setting), professional certifications, and years of experience as a nurse. In conjunction with this, a single question asked how many times the participant had invited a family member to be present during a resuscitation attempt, with an option of never, fewer than five times, five times or more than five times. Twibell et al (2008) included participants from nursing, in a mixed adult and

paediatric general and acute care setting. Representatives from the medical field were not included in the Twibell study.

Demographic information was also sought from the participants in this study; however the questions were adapted to suit the Australian health care setting and the setting of the study site. Demographic information collected was similar to Twibell et al (2008) but excluded two questions. The first excluded question related to the race of the participant. This was excluded as the researcher felt that this was insignificant to the results of the study, and was complex in effect. The second question excluded related to the age of the patient (adult or paediatric), due to the hospital only providing medical care for the paediatric patient. As in the study by Twibell et al. (2008), an open ended question was available if participants chose to add any further comments related to family presence during paediatric resuscitation. Participants were also asked to indicate if they had previous experience with paediatric resuscitation, but this question did not ask the participant to indicate the number of times. All other demographic variables were identified in the literature as potentially having a significant impact on the participant's perceptions of family presence and confidence in application of family presence.

A questionnaire was chosen over other methods due to the advantages of this type of data collection which included the low cost of distribution via the internal mail, capturing medical staff who may work across departments (medical questionnaires were sent to a central location), and the possibility of participants not willing to discuss sensitive issues in an open forum. Participants may have been reluctant to discuss their confidence during resuscitation with the researcher. This method was also chosen to allow participants the flexibility of completion at any time that suited them and ensured anonymity. If participants wanted clarification about any particular questions, a phone number was provided in the cover letter.

Nurses' questionnaire.

The nurses' questionnaire had three sections in total. The first section requested demographic information. The second section requested that participants circle the five point Likert scale that best represents their opinion regarding family presence by completing the 'The Family Presence Risk/Benefit Scale' (FPR-BS)

which has 26 items. The third section requested participants circle the number that indicates how confident they are in performing a particular behaviour during a resuscitation by completing 'The Family Presence Self-confidence Scale' (FPS-CS) which has 17 items. Participants were able to provide any comments at the end of the questionnaire.

Medical questionnaire.

The medical questionnaire also had three sections in total. Demographic information was also requested, but differed from the nurses' questionnaire in requesting information relating to role, highest degree completed and did not include a question relating to membership of a professional organisation. There is no published literature relating to membership to professional organisations and medical opinion regarding family presence during resuscitation. Similar to the nurses' questionnaire, the second section requested the participant's opinion relating to risk and benefit by completing the 'The Family Presence Risk/Benefit Scale' (FPR-BS). The third section to the medical questionnaire also included the Family Presence Self-confidence Scale' (FPS-CS), assessing the confidence of facilitating family presence. Medical staff were also able to provide any comments at the end of the questionnaire.

Tool Validity and Reliability

Construct validity was reported following maximum likelihood exploratory factor analysis with varimax rotation of both scales (Twibell et al., 2008). The FPR-BS was finalised with 22 items with only one factor identified which accounted for 53% of variance in nurses' perceptions of risks and benefits of family presence. Factor loadings ranged from 0.890 to -.0498 (Twibell et al., 2008). Internal consistency of the 22 items was reported as Cronbach Alpha of .96.

Similarly, only one factor was identified for the 17 items of the FPS-CS which accounted for 52% of the nurses' perceptions. Factor loadings ranged from 0.553 to 0.825 and internal consistency was reported as Cronbach alpha of .95 (Twibell et al., 2008). These were undertaken in a US nursing population and the scales have not had reliability and validity tested in a medical population nor outside America. Therefore, before this study was conducted, both questionnaires were

reviewed to assess content validity particularly for the Australian context. A panel of 20 experts (health care professionals), with representatives from both nursing and medical areas were chosen to assess the content validity of both scales (see Table 2 for breakdown of representatives).

Table 4

Panel of experts

	<u>Study Site</u>	<u>Fremantle</u>	<u>Mater</u>
E.D*	5 (3N/2D)		4 (2N/2D)
P.I.C.U**	6 (5N/1D)		
D4***		5 (N)	

*Note** E.D; Emergency Department

** PICU; Paediatric Intensive Care Unit

*** D4; Paediatric ward

N=nurses; D=doctors

To create this panel, experts were chosen for their knowledge of the philosophy of family-centred care and family presence during resuscitation. Medical staff were included in this process of validation, as the tool had previously been used only to assess nurses' perceptions and confidence of family presence and validity and reliability were only for use with nurses. Experts were chosen from various health care settings including the study site, Fremantle Hospital (Western Australia) and the Mater Children's Hospital (MCH) in Brisbane. Medical and nursing health care professionals were sought from the study site's PICU, paediatric ward D4 (medical/surgical paediatric speciality) at Fremantle Hospital and Emergency Department at MCH. Review panel participants working at the study site were excluded from the randomised groups of participants in the formal study. Each panel member was asked to individually review each questionnaire, and comment on readability, indicating if they thought each item represented the topic of family presence during resuscitation. This addressed the face and content validity of each scale. Changes were made to the wording of some sentences to conform to the study site's nursing resuscitation guidelines setting. For example;

'I could perform electrical therapies during resuscitation efforts with family members present'

This was changed to;

'I could assist medical staff in performing electrical therapies during resuscitation efforts with family members present'

To ensure that this study utilised a validated questionnaire, no other major modifications were made to the questionnaire in this study. It is policy at the study site for only medical staff to undertake electrical therapies (for example defibrillation) during resuscitation efforts. Minor changes were made to two other questions to fit in with the participant role (therefore interchanging the role of nurse or medical staff in the question). As a consequence, the questionnaire was adapted to differentiate between nursing and medical staff and separate nursing and medical questionnaires were created. No other major changes were made to the items on each scale and all questions included in the Twibell et al. (2008) study were included in this study. Demographic questions differed in both the nursing and medical questionnaire, only in the wording of questions and not the topic. The nursing questionnaire had an additional question relating to membership with a professional organisation (excluding the Australian Nursing Federation – which is a union based organisation). [See Appendices I and J for final questionnaires].

Data Collection

Each medical and nursing questionnaire was coded (N1, M1) and name identifiers were not requested. Questionnaires were posted to participants via the internal mail system. Each envelope included a pre-addressed return envelope and participants were given three weeks to return their answers. Those who did not return the completed questionnaire within that time received a reminder letter with another questionnaire and return envelope included. As the calculated sample size was not reached after the first mail out, another mail out was distributed and further questionnaires were sent to a second randomised group of eligible participants.

Another three weeks were provided to participants for return of their completed questionnaire. As the return rate of completed questionnaires' from medical staff was initially poor, a reminder poster was placed in clinical areas, following permission from the Ethics Committee (Appendix K). A reminder poster was not issued in nursing areas as the response rate was adequate in this group.

Data collection occurred between December 2009 and April 2010. The researcher attempted to target the summer months when the hospital experiences fewer admissions. This was felt to be an appropriate time to recruit participants, as there is lower activity in the hospital during this period.

Data Analysis

Quantitative data were analysed using Statistical Package for Social Sciences Version 17.0 (SPSS Inc. Chicago, 1999). Data were entered into two separate SPSS data set files, one for nursing and one for medical. Critical and non-critical care respondents were identified by the numerical code of 0 and non-critical care respondents were identified by a number 1. Medical staff were coded as 0 and nursing staff as 1. Both medical and nursing SPSS files were then combined to create one final data set. Profession and area of work were then identifiable by numerical coding. This was necessary for analysis of data. Negatively worded items on the FBR-BS scale were reverse coded (questions 2, 3, 6, 8, 9, 10) as done in the original study by Twibell et al. (2008). All questions were positively expressed on the FPS-CS scale; therefore no reverse coding was needed. The FPR-BS and FPS-CS scale items were calculated by averaging the scores of all items. Higher scores on the FPR-BS indicated perceptions of more benefits and fewer risks, and greater confidence on the FPS-CS.

Before the main data analysis was conducted, accuracy with which data had been entered into the data file was checked. Data entries were checked by examination of descriptive statistics and graph representation of variables (Tabachnick & Fidell, 2007). By running frequencies on all replies, possible errors and incompleteness were identified. Frequencies were generated for all demographic items as well as all scale items. All means and standard deviations were analysed for

plausibility and discrete variables were checked for correct entry of category and whole number. Missing values were imputed by mean substitution, processed by calculating means from available data and replacing the missing values with the mean value, prior to analysis (Tabachnick & Fidell, 2007).

The response from each participant was calculated by producing a mean score for each scale, this being for the FPR-BS scale (items 1 to 26) and a mean score for the FPS-CS scale (items 27 to 43). Therefore each participant had two separate scores one for each scale, one indicating the level of perceived risk/benefit and one for level of self-confidence. Shapiro-Wilk and Kolmogorov tests were conducted to assess the distribution of mean scores for each scale (Watson, Atkinson & Egerton, 2006). Histograms and scatter plots were used to graphically show the sample distribution of each group, that being critical care and non-critical care, as well as nursing and medical for perceptions and confidence (Appendix items L - O). Descriptive statistics were generated for demographic data and scale items.

Comparison of demographic data between critical and non-critical care staff.

Demographic variables were compared between critical and non-critical care staff. Chi-squared tests were used to compare categorical data. A Mann-Whitney U test was used to compare years working in paediatrics. Only nursing staff were asked to indicate an existing membership with a professional organisation. Therefore a comparison was made for membership with a professional organisation amongst nursing participants. Numbers and percentages were calculated for categorical variables. Medians and ranges were calculated for years working in paediatrics. Statistical significance was considered for $p < .05$. Rounding of p values was reported to three decimal places. Numbers and percentages were reported with one decimal point.

Comparison of risk/benefit and self-confidence and demographic data.

Independent t -tests were used to calculate differences between risk/benefit and confidence mean scores and demographic variables. These included post graduate qualification, gender, previous experience with resuscitation, previous

experience inviting families to witness resuscitation, membership with a professional nursing organisation, area of work and occupation. Comparison was also made between critical care and non-critical care areas, as well as nursing and medical. Justification for the use of an independent *t*-test, was based on there not being any significant outliers, and the FPR-BS scale and FPS-CS scale was normally distributed for each demographic variable (Shapiro-Wilk and Kolmogorov tests). Pearson's correlations were used to test if the amount of years working in paediatrics were significantly associated with a high risk/benefit and confidence score. As variables were normally distributed, there was a linear relationship between variables and outliers were not significant, it was assumed that this test was justified.

Statistical significance was considered for $p < .05$. Rounding of *p* values were also reported to three decimal places, and mean and standard deviation scores were rounded to two decimal places.

Responses from the single comment section will be discussed in the results chapter. No qualitative tests were used to analyse this data.

Ethical Considerations

Although questionnaires were coded, they were re-identifiable to the researcher. Confidential records of names were kept to which only the research team had access. If participants chose to withdraw from the study retrospectively, then this enabled their returned questionnaire to be removed from the study. Furthermore, it allowed follow up of non-responders. In the event that participants experienced unpleasant memories of resuscitation, counselling services could be offered through Curtin University or the study site at no cost to the participant. The information letter introducing the researcher and explaining the purpose of the study was used to recruit participants (Appendix G). Consent was assumed on return of the questionnaire.

Approval from the hospital Human Research Ethics Committee (1713/EP) [Appendix P] and Curtin Human Research Ethics Committee (HR 127/2009) [Appendix Q] was given before the commencement of the data collection.

Confidentiality of participants was ensured at all times. The reporting of findings does not reveal the identity of individuals who participated.

The potentially identifiable data were kept in the researcher's locked office in a locked filing cabinet at the study site. Data were kept in a condition that would enable inspection if required. Loose paper was placed in files and sections numbered. Once data were entered into SPSS, access to this computer was password protected. They were not on a shared drive and no identifying information was stored with them. These data will be stored for five years in a secure location (National Health and Medical Research Council, 2011).

Conclusion

The strengths and limitations of the methodology used in this study have been explored in this chapter. Specifically, validity of the instruments have been provided. The analyses/statistical tests used to address the main objectives of this study have been described. Further, ethical considerations have been discussed. The following chapter presents the main results of the study.

Chapter Four Results

This chapter describes the results of the study. Demographic characteristics are initially described for all respondents, then described by each group of respondents: critical care and non-critical care and medical and nursing. Demographic characteristics are compared between groups: critical care and non-critical care and medical and nursing. Comparison is made between the critical care and non-critical care group and nursing and medical group for risk/benefit and confidence scores. The main objectives of the study are addressed by comparing the average scores of each scale amongst the critical care and non-critical care group, and then the nursing and medical groups. Comparison of demographic characteristics and average scores of the risk/benefit and confidence scales are presented for all respondents. Each item of the risk/benefit (Appendix R and S) and self-confidence scale (Appendix T and U) is reported, and presented for each group. A summary of all findings is presented at the end of the chapter.

Responses

Health professionals comprised medical and nursing staff employed at a major paediatric hospital during 2009 and 2010. Three hundred questionnaires were distributed and a total of 125 people returned the questionnaire. One hundred and twenty-three eligible participants completed the questionnaire, resulting in a response rate of 41.0%. Responses from the single comment section were insignificant (8). This data did not contribute any extra information to the results, therefore it is not reported.

Demographic Characteristics of all Respondents

Of the 123 respondents, 34 (27.6%) were critical care staff and 89 (72.4%) non-critical care. A total of 81 (65.8%) nursing staff and 42 (34.1%) medical staff responded. The median number of years working in paediatrics equalled 10 years, with a range between six months and 37 years. The sample consisted of 21 (17.1%) males and 102 (82.9%) females. Half of the respondents held a post-graduate qualification. Those who did not had completed an undergraduate degree in either nursing or medicine. Ninety-nine (80.5%) had been involved in paediatric

resuscitation, and 24 (19.5%) had no experience in paediatric resuscitation. Of those who had been involved in paediatric resuscitation, 55 (55.6%) had invited family members to be present during resuscitation. Table 5 provides the demographic characteristics of critical and non-critical care staff.

Demographic Characteristics of Critical Care and Non-critical Care Staff

Table 5
Qualifications of critical care and non-critical care participants

<u>Qualification</u>	<u>Critical Care n (%)</u>	<u>Non-Critical Care n (%)*</u>
Fellow of the Royal Australasian College of Physicians (FRACP)	8 (23.5)	19 (21.3)
Bachelor of Medicine/ Bachelor of Surgery (MBBS)	9 (26.5)	6 (6.7)
Hospital diploma/certificate (nursing)	1 (3)	9 (10.1)
Bachelor of nursing	6 (17.6)	30 (33.7)
Post graduate certificate (nursing)	3 (8.8)	10 (11.2)
Post graduate diploma (nursing)	5 (14.7)	14 (15.7)
Masters (nursing)	2 (5.9)	1 (1.1)
Total	34	89

Note *Percentage of total

Critical care group.

The total number of respondents in the critical care group was 34, six (17.6%) of whom were men, and 28 (82.4%) women. There were equal numbers of medical (17) and nursing staff (17). Medical staff consisted of five (30.0%) males and 12 (70.0%) females, and nursing staff one (6.0%) male and 16 (94.0%) females. The median number of years working in a paediatric setting/environment was 6 years

(with a range of 6 months to 30 years). Eighteen (52.9%) critical care staff held a post-graduate qualification and 16 (47.1%) did not. The distribution of qualifications in the critical care group is presented in Table 5; the largest group being medical staff with an undergraduate qualification MBBS. Thirty-two (94.1%) had experience in paediatric resuscitation and 2 (5.9%) had none. Of the staff who had experience in resuscitation, 29 (85.3%) had invited family to be present, and three (8.8%) had not.

Non-critical care group.

Eighty-nine non-critical care staff responded. There were a total of 74 (83.1%) females and 15 (16.9%) males. Within this group, 64 (71.9%) were nurses and 25 (28.1%) were medical staff. Nursing staff consisted of two (3.0%) males and 62 (97%) females, and medical staff included 13 (52.0%) males and 12 (48.0%) females. The median number of years working in a paediatric setting was 12 years (ranging between six months to 37 years). Forty-four (49.4%) non-critical care respondents held a post-graduate qualification, and 45 (50.6%) did not. The distribution of qualifications within this group is presented in Table five, with the largest number being nursing staff with a bachelor degree. Sixty-seven (75.3%) non-critical care staff had experience in paediatric resuscitation, and 22 (24.7%) had no experience. Of the staff who had paediatric resuscitation experience, 26 (38.8%) had invited families to be present, and 41 (61.2%) had not.

Comparison of Demographic Characteristics: Critical Care and Non-critical care

Table 6

Comparison of demographic characteristics between critical care and non-critical care staff

		<u>Critical Care</u>	<u>Non-critical care</u>	<u>*p</u>
		<u>n (%)</u>	<u>n (%)</u>	
Post Grad Qualification	Yes	18 (52.9)	44 (49.5)	.728
	No	16 (47.1)	45 (50.5)	
Gender	Male	6 (17.6)	15 (16.8)	.917
	Female	28 (82.3)	74 (83.1)	
Have previous experience in resuscitation	Yes	32 (94.1)	67 (75.3)	.018
	No	2 (5.8)	22 (24.7)	
Have invited families to be present at resuscitation	Yes	29 (85.3)	26 (38.8)	< .001
	No	3 (8.8)	41 (61.2)	
** Member of a professional nursing organisation	Yes	11 (64.7)	42 (65.6)	.944
	No	6 (35.3)	22 (34.4)	
Years worked in Paediatrics'	<i>Mdn (range)</i>	6 (0.5 - 30)	12 (0.5 - 37)	.013

Note *Chi-squared test for categorised data; Mann Whitney U test for numeric data
 **Nursing data only

Demographic characteristics were compared between critical care and non-critical care groups to identify any significant difference between the two groups and thus meet one of the objectives of this study. Demographic characteristics of the critical care and non-critical care participants and any significant differences found between the two groups are displayed in Table 6. Some similarities in demographic characteristics are noted in both groups. Similar proportions (50%) of staff in the critical care and non-critical care groups held post-graduate qualifications. Female participants comprised of 83% of both groups. Membership with a nursing

professional organisation (apart from nursing union membership) was similar in both the critical care and non-critical care groups.

Previous experience in paediatric resuscitation was significantly different between the critical care and non-critical care groups, with critical care participants having more experience (94.1%), compared to 75.3% in the non-critical care group ($p = .018$). The critical care group also had significantly more experience inviting families to be present during the resuscitation of patients, $p < .001$. Of the critical care participants, 85.3% had invited families to be present during resuscitation, compared to almost 30% in the non-critical care group. The median number of years working in paediatrics was also significantly different between the groups ($p = .013$). The non-critical care group had the higher median number of years' experience (12 years, ranging between six months and 37 years) compared to the critical care group (6 years, ranging between six months and 30 years).

Demographic Characteristics of Medical and Nursing staff

Medical staff.

Forty-two medical staff participated in the study. Seventeen (40.5%) worked in critical care areas and 25 (59.5%) in non-critical care areas. There were 18 (42.9%) males and 24 (57.1%) females. The median number of years working in a paediatric setting was 10 (ranging between 6 months to 35 years). There were 27 (64.3%) medical staff with a FRACP (Fellow of the Royal Australasian College of Physicians; a qualification of post-graduate specialist training program in medicine) and 15 (35.7%) without. Thirty-seven medical staff had been involved in paediatric resuscitation (88.1%) and five (11.9%) had not. Of the 37 who had been involved in resuscitation, 19 (51.3%) had invited family members to be present during resuscitation and 18 (48.6%) had not.

Nursing staff.

Table 7

Qualifications of nursing staff

<u>Qualification</u>	<u><i>n</i></u>	<u><i>%</i></u>
Hospital certificate/ diploma	10	12.3
Bachelor of Nursing	36	44.4
Post Graduate Certificate	13	16
Post Graduate Diploma	19	23.5
Masters	3	3.7
Total	81	100

Eighty-one nurses responded, 17 (21.0%) were critical care nurses and 64 (79.0%) non-critical care nurses. The median number of years working in paediatrics was 10 (range between 4 months - 37 years). There were three males (3.7%) and 78 (96.3%) females. Nurses who had completed a post-graduate qualification equalled 46 (56.8%) and the remaining 35 (43.2%) without a post-graduate qualification held a hospital certificate, a hospital diploma or bachelor degree. Table 7 outlines the qualifications of the nursing group, with the majority of nurses having a bachelor degree as their highest qualification. Fifty-three nurses (65.4%) were members of a professional nursing organisation (excluding union membership) and 28 (34.6%) were not. The number of nurses who had been involved in paediatric resuscitation was 62 (76.5%) and 19 (23.5%) had no experience. Of those who had experience in paediatric resuscitation, 35 (43.2%) had invited families to be present during resuscitation and 28 (34.6%) had not.

Comparison of Demographic Characteristics between Medical and Nursing staff

Table 8

Comparison of demographic characteristics between medical and nursing staff

		<u>Medical</u>	<u>Nursing</u>	<u>*p</u>
		<u>n (%)</u>	<u>n (%)</u>	
Post-Graduate qualification	Yes	27 (64.3)	35 (43.2)	.027
	No	15 (35.7)	46 (56.7)	
Gender	Male	18 (42.8)	3 (3.7)	< .000
	Female	24 (57.1)	78 (96.3)	
Have previous experience in resuscitation	Yes	37 (88.1)	62 (76.5)	.125
	No	5 (11.9)	19 (23.4)	
Have invited families to be present at resuscitation	Yes	19 (51.3)	35 (56.4)	.789
	No	18 (48.6)	27 (43.5)	
Years worked in paediatrics	<i>Mdn (range)</i>	10 (0.5 - 35)	10 (0.4 - 37)	.245

Note *Chi-squared test for categorised data; Mann Whitney U test for numeric data

Table 8 displays the comparison of demographic characteristics between the medical and nursing groups. Twenty-seven (64.3%) medical staff held a post-graduate specialisation qualification (FRACP). There was 35 (43.2%) nursing staff with post-graduate qualifications. The difference in post-graduate qualification between medical and nursing groups was significant ($p = .027$). Gender, also, was significantly different between medical and nursing groups ($p < .001$). Medical staff had 18 (42.8%) males and 24 (57.1%) females, with nurses predominantly being female (96.3%, $n=78$). The impact the differences in demographic characteristics had on the risk/benefit and confidence scores is presented in Table 9.

The remaining demographic characteristics were not significantly different between medical and nursing staff. These included previous experience in resuscitation, with the majority of both groups having been involved in paediatric resuscitation, 37 (88.1%) medical staff and 62 (76.5%) nursing staff. Of those who had been involved in resuscitation, 19 (51.3%) medical staff had invited families to be present during resuscitation and 18 (48.6%) had not. In the nursing group; 35 (56.4%) had invited families to be present, while 27 (43.5%) had not. The median number of years working in the paediatric setting was 10 for both the medical and nursing groups.

Comparison of demographic characteristics and mean total scores of the risk/benefit and confidence scales

Table 9

Risk/benefit and confidence mean scores and demographic characteristics

		<u>Risk benefit</u>		<u>Confidence</u>	
		<u>M (SD)</u>	<u>p</u>	<u>M (SD)</u>	<u>p</u>
Post Graduate qualification	Yes	3.13 (.38)	.909	2.81 (.62)	.361
	No	3.14 (.37)		2.71 (.58)	
Gender	Male	3.01 (.43)	.780	2.71 (.60)	.644
	Female	3.16 (.36)		2.77 (.61)	
Have previous experience in resuscitation	Yes	3.14 (.39)	.651	2.87 (.58)	< .001
	No	3.11 (.30)		2.33 (.49)	
Have invited families to be present at resuscitation	Yes	3.31 (.33)	< .001	3.11 (.50)	< .001
	No	2.96 (.34)		2.51 (.55)	
Years worked in paediatrics	* r	-.326	< .001	-.123	.175
Member of a professional nursing organisation	Yes	3.22 (.34)	.180	2.80 (.59)	.651
	No	3.11 (.38)		2.73 (.59)	
Occupation	Nurse	3.18 (.36)	.084	2.78 (.61)	.722
	Doctor	3.06 (.39)		2.73 (.59)	
Area of work	Critical Care	3.36 (.28)	< .001	3.07 (.47)	< .001
	Non-Critical Care	3.05 (.37)		2.64 (.61)	

Note *= Pearson's correlation coefficient

In table 9 the main results of the study are presented addressing the main objectives: the difference in perceived risk/benefit and confidence between the critical care and non-critical care groups, as well as medical and nursing groups. When comparing the risk/benefit scale mean scores between critical care and non-critical care groups, the critical care group had the larger mean score of 3.36 (0.28) as opposed to the non-critical care group of 3.05 (0.37). There was a significant difference ($p < .001$) in perceived risk/benefit of family presence, between the critical care and non-critical care groups. When comparing the results of the confidence scales, the critical care group also had a larger mean score of 3.07 as opposed to the non-critical care group, this being 2.64. There was a significant difference in confidence between the critical care and non-critical care groups, $p < .001$. Medical and nursing comparisons showed no significant differences between mean score for both the perceived risk/benefit and confidence scales.

Those participants who had previous experience in paediatric resuscitation had a significant difference in the mean score of the confidence scale ($p < .001$). Having previous paediatric resuscitation experience ($p = .651$) resulted in a non-significant difference for the mean scores of the risk/benefit scale. When participants who had invited families to be present during resuscitation were compared to those who had not, there was a significant difference in both the risk-benefit ($p = .001$) and confidence scales, ($p < .001$). For participants who had more experience working in paediatrics (that is, had been working in paediatrics' for a longer time) there was a significant difference on the risk-benefit means score ($p = .001$), compared to those with less experience. This was because of a moderate negative relationship found between years worked in paediatrics and the perceptions of risk and benefit. However, more paediatric experience did not have any significant difference on the mean score of the confidence scale ($p = .175$).

Those participants who held a postgraduate specialist paediatric qualification, or who were of a particular gender, showed no significant difference when comparing the scores of the risk/benefit or confidence scales. Similarly, nurses' membership of a professional nursing organisation showed no significance in relation to either scale.

Conclusion

In summarising, there were significant differences in the risk/benefit and confidence scales, between the critical care, non-critical care, medical and nursing groups. The majority of participants in this study worked in non-critical care areas, with a smaller representation from critical care areas. The majority of responding participants were female and most participants had experience in paediatric resuscitation. Of those with experience, half had invited families to be present during resuscitation previously.

The numbers of medical and nursing participants in the critical care group were even, with females making the majority of the group. Post graduate qualifications were evenly spread amongst critical care participants. The median numbers of years working in paediatrics was six. The majority of critical care respondents had resuscitation experience and most of those with prior resuscitation experience had also invited families to be present. The non-critical care respondents were mainly female nurses. There were equal numbers of respondents with a post-graduate qualification. The non-critical care group had a higher number of median years of paediatric experience than the critical care group (12 years as opposed to six); however they had less experience in resuscitation than the critical care group. The majority of non-critical care respondents had experience in resuscitation; however, the majority of these respondents had not invited families to be present during resuscitation.

Medical respondents were evenly distributed in the non-critical care and critical care respondents and females were the more common gender. The majority of medical staff had specialist training (FRACP) in addition to a Bachelor of Medicine Bachelor of Surgery. In addition, the majority of medical staff had experience in paediatric resuscitation, and of those with resuscitation experience, half had invited family members to be present during resuscitation. Non-critical care female nurses made up the majority of the nursing group. More than half of nurses had completed a post graduate qualification, and were members of a professional nursing

organisation. The majority of nurses also had experience in paediatric resuscitation. More nurses had invited families to be present than not, but only marginally. Both medical and nursing staff had a median of 10 years paediatric experience.

When comparing demographic characteristics amongst the critical care and non-critical care groups, significant differences surrounded resuscitation experience. Critical care respondents had more experience and had invited families to be present during resuscitation more often than the non-critical care group. Non-critical care respondents however had more experience in paediatrics. Only a few demographic characteristic differences were found to be significant between the medical and nursing groups. These included post-graduate qualification/training, which was higher in the medical group. Gender was also significantly different, with females dominating the nursing group.

The findings of comparison of perceived risk/benefit and confidence between the critical care and non-critical care groups, and medical and nursing groups addressed the main objectives of the study. Critical care respondents had higher risk/benefit scores and higher confidence ratings, than those in the non-critical care group. There was no significant difference amongst the medical and nursing groups when comparing either the risk/benefit or confidence scale. Irrespective of critical care or professional group, those who had experience in paediatric resuscitation were more confident in inviting family presence. In addition to this, those who had previously invited families to be present had higher risk/benefit scores and confidence rating than those who had not. Those who had more paediatric experience showed a significant difference in relation to risk/benefit scale scores; however there was no significant difference in confidence scale scores. The next/final chapter discusses these findings.

Chapter Five Discussion

This study explored health care professionals' perceptions of and confidence in facilitating family presence during resuscitation. This is the first study of this topic undertaken in an Australian paediatric setting. It compared the perspectives of medical and nursing staff, and staff in critical care and non-critical care areas. Several demographic characteristics were found to significantly influence the findings. These included working in critical care, having experience in paediatric resuscitation, having invited families to be present previously and greater number of years working in paediatrics. Others that were not influential included holding a post graduate qualification, gender, membership of a professional nursing organisation and occupation. The findings highlight that perceptions and confidence vary between those who have experience in resuscitation, and those who do not, and between those working in critical and non-critical care areas.

The following chapter interprets and explains the findings of this study as a result of statistical analysis of the Risk/Benefit and Confidence scale items (Twibell et al. (2008). First discussed are the sample characteristics and the influence of demographic characteristics. The theoretical framework of family-centred care is examined in terms of the influence on the results of this study. Comparison is made to Twibell et al. (2008) findings. Study strengths and limitations are presented. Recommendations are made for education and further research.

Sample Characteristics

Medical and nursing staff were recruited from the sole tertiary level paediatric health care facility in Western Australia. The sample was similar to the population of medical (M. AIHW, 2009) and nursing staff (N. AIHW, 2009) working in Western Australia at the time of recruitment (Australian Institute of Health and Welfare, 2009) . There were similarities in medical and nursing participants, and critical care and non-critical care participants. However, there were some differences, including that participants in the non-critical care group had statistically significantly more experience working in the paediatric setting than those in the critical care group and critical care participants had had significantly more experience in paediatric resuscitation and had invited more families to be present during resuscitation, than

the non-critical care group. This finding is not surprising considering the severity of illness and susceptibility of critical care patients to suffer acute life threatening events or cardio-respiratory arrest, critical care participants are exposed to more resuscitation events than non-critical participants.

Influence of Demographic Characteristics

Critical care participants perceived more benefits, fewer risks and were more confident in facilitating family presence than non-critical care participants. Those who had experience with paediatric resuscitation and facilitating family presence, also perceived family presence to be of greater benefit, and had greater confidence in its facilitation. Critical care participants had also invited more families to be present during resuscitation, a finding that has been previously linked to supporting family presence (MacLean et al., 2003; Sacchetti, Guzzetta, & Harris, 2003). In addition to the guideline in the Paediatric Nursing Practise Manual (2009), which supports the practise of family presence in both critical and non-critical care areas, there were additional guidelines supporting the practice of family presence in the PICU and E.D during the recruitment of participants (E.D, 2009; PICU, 2009). This is likely to have influenced both staff awareness of the concept and its translation or application to practice. Others have reported that effective implementation of a family presence guideline has resulted in more positive staff attitudes (Mangurten et al., 2006; O'Connell et al., 2007).

Interestingly those who had previous experience in resuscitation perceived family presence to be of no more benefit, than those with no experience of it. Lack of knowledge about the advantages of family presence may have affected participants' perceptions of the benefits, even though they were confident in performing resuscitation whilst parents were present. Although participants with previous experience in resuscitation did not perceive family presence to be of more benefit, those with previous experience in inviting families to be present during resuscitation did perceive there were more benefits, supporting work by others (Chalk, 1995; Doyle et al., 1987; Duran et al., 2007; Jarvis, 1998; MacLean et al., 2003; Meyers et al., 2000; Mitchell & Lynch, 1997; Redley & Hood, 1996; Sacchetti et al., 2003; Waseem & Ryan, 2003). Importantly these findings suggest that until health

professionals experience family presence, the benefits are not clearly understood. This has implications for education programs, especially for those working in non-critical care areas. Educational strategies to target evidence-based information and practical training for staff to facilitate parental presence at resuscitation will be of benefit.

Education aimed at implementing guidelines to support family presence during resuscitation has been shown to be effective in improving clinicians' perceptions and behaviours (Curley et al., 2012; Kingsworth et al., 2010; O'Connell et al., 2007). Curley et al. (2012), used simulation-enhanced workshops to improve medical and nursing staff's ability to facilitate family presence during resuscitation. High realism training with paediatric mannequins and professional actors representing parents resulted in staff reporting more comfort in managing family presence (Curley et al. 2012). The study highlighted the impact that effective education strategies can have on the attitudes of staff. Simulation training may therefore be an effective intervention in improving the perceptions of the benefits and confidence of those staff in non-critical care areas in this study setting.

Participants with more experience in paediatrics perceived fewer benefits for parental presence, adding to conflicting evidence as this finding reflects that of some authors (Fulbrook et al., 2005; Fulbrook, Latour, & Albarran, 2007; Twibell et al., 2008), yet is contrary to the findings of others (Chalk, 1995; Doyle et al., 1987; Mangurten et al., 2005; Meyers et al., 2000; Mitchell & Lynch, 1997; Redley & Hood, 1996; Sacchetti et al., 2003). Participants with more experience in paediatrics did not indicate more confidence in the facilitation of family presence, than those with less experience, perhaps suggesting that those senior staff in non-critical care areas may not have had recent experience with resuscitation, and subsequently less confidence to facilitate family presence. This finding further adds to the argument that simulation training may improve medical and nursing staff's ability to confidently and effectively facilitate family presence during resuscitation.

Paediatric health care professionals have collectively been more supportive of family presence, than those in adult settings (Davidson et al., 2007; Knott & Kee, 2005; Mangurten et al., 2006). This may be attributed to an understanding of the

philosophy of family-centred care, a model of care that is commonly encouraged in paediatric settings (Shields, 2010). This model of care has been supported by paediatric nursing and medical staff (Davidson et al., 2007), and is included in undergraduate paediatric nursing and medicine curricula (Gorter, Visser-Meily, & Ketelaar, 2010). This current study found no significant difference between medical and nursing staff perceptions or confidence, unlike the majority of other studies that indicated that nurses hold more favourable attitudes to family presence than medical staff (Chalk, 1995; Duran et al., 2007; Helmer et al., 2000; Jarvis, 1998; Mangurten et al., 2005; McClenathan et al., 2002; Meyers et al., 2000; Mitchell & Lynch, 1997; Redley & Hood, 1996). This finding suggests that the majority of medical staff at the study site may have practised family-centred care, and therefore supported the practice of family presence during resuscitation. The hospital endorsed the practice of family presence through formal guidelines, which may have made medical staff aware of family presence. In addition, there was a larger representation of senior medical staff than junior medical staff. Others have found that senior medical staff have been more supportive of family presence (Barata et al., 2007; Bradford et al., 2005; Mangurten et al., 2006; Meyers et al., 2000), while junior medical staff have previously indicated reluctance to have families present due to lack of confidence and anxiety when performing new tasks with an audience (Bradford et al., 2005; Helmer et al., 2000; McClenathan et al., 2002).

Family-Centred Care

Providing families with the opportunity to be present during the resuscitation of their child is consistent with the principles of family-centred care. This provides parents with the ability to act as the child's support network, advocating for their needs and being involved in care decisions on their behalf (Dingeman et al., 2007). Health professionals working in paediatric settings have become increasingly accustomed to having parents by the bedside during routine care, as well as more invasive procedures such as during resuscitation (Dingeman et al., 2007). Giving families the opportunity to be present therefore provides the family with an informed choice of participating in resuscitation, and supports the needs of families through crisis.

The findings of this study appear to indicate that family-centred care was a major influence on the perceptions of participants in this study. Support for family presence during resuscitation indicates that the participants were aware of the needs of families during such stressful situations. Although this study did not aim to establish the influence family-centred care had on the perceptions of participants, the findings may indicate that this model of care was working well at this study site.

Discussion of Findings of Studies that used the Risk/benefit and Confidence Scales

Twibell et al. (2008) had previously undertaken a similar study in a different setting using the same risk/benefit and confidence scales. The current findings were in contrast to the majority of Twibell et al. (2008) findings which may be accounted for by the differences in the type of patient population and clinical settings of recruited participants between the two studies. Participants in Twibell et al. (2008) study cared for mainly adult patients (80%), where in this study participants cared for children. Such differences could be explained by the influence of the philosophy of family-centred care. The hospital setting in the study by Twibell et al. (2008) had no formal policy supporting family presence during resuscitation. One third of participants had invited families to be present during resuscitation compared to this study where just over half of participants had. Sixty-nine per cent of participants here also agreed (strongly agreed and agreed) that families should be given the option of being present, compared to just over 50% of the Twibell et al. (2008) participants.

The groupings of clinical areas were different between the studies. Twibell et al. (2008) assessed four clinical area categories (critical care [ICU], non-critical care inpatient areas, the emergency department and outpatient setting) compared to this study which included only two clinical area categories - critical care (E.D, PICU, and NICU) and non-critical care areas (all other inpatient areas). Results of this study found that critical care participants perceived more benefits and had greater self-confidence than participants in non-critical care areas, whereas Twibell et al. (2008) found no differences between critical care and non-critical care participants. The variation in categorising clinical areas may account for the difference in results. The similarities were that critical care participants in this study and staff working in the emergency department in Twibell et al. (2008) perceived more benefits and greater

self-confidence than those in other areas. In both studies, nurses who had invited families to be present during resuscitation perceived more benefits and were more confident in facilitating family presence.

It appears that no other study has been published utilising the Risk/Benefit or Confidence scales (Twibell et al., 2008) for comparison in the Australian paediatric health care setting. A recent study in a mixed adult and paediatric setting in Western Australia, reported using the scales in a population of medical and nursing staff from the emergency department setting only (Chapman, Watkins, Bushby, & Combs, 2013). Consistent with the findings of Twibell et al. (2008), Chapman et al. (2013) also found that higher educational levels, post graduate speciality and experience in inviting families to be present were associated with perceptions of greater benefits and greater confidence. These differences may be explained by a number of variables. Participants were recruited from the emergency department and did not include inpatient ward areas. In addition to this, the setting in which the study by Chapman et al. (2013) was undertaken, did not have formal guidelines to inform staff on the process of family presence during resuscitation. However similarly to this current study, Chapman et al. (2013) found that there were no significant differences in perceptions and confidence between medical and nursing staff. The majority of medical staff in Chapman et al. (2013) worked at a senior level, as did medical participants here. This may account for the support of family presence by medical staff in both studies.

Strengths and Limitations of the Study

A number of strengths exist. Firstly, it is the only study to be conducted in the Australian paediatric setting, exploring medical and nursing perceptions and confidence towards family presence, in both critical care and non-critical care areas, in a major paediatric hospital. Secondly, the findings add to the limited body of knowledge representing the views of non-critical care staff, and medical staff. Thirdly, this is the third study to utilise Twibell et al.'s (2008) scales and the second to include medical staff. Fourthly, this research adds to the body of knowledge about PICU, NICU and E.D staff's perceptions and self-confidence, as these have been poorly understood (Dingeman et al., 2007).

Lastly, participants were recruited using randomisation of all staff members eligible for inclusion (medical and nursing equally), providing a representative sample of the organisation. The majority of other studies evaluating health professionals' views have employed convenience sampling to recruit participants (Knott & Kee, 2005; McClenathan et al., 2002; Meyers et al., 2000). By randomising participants, sampling bias was minimised. This study yielded a 41% response rate, which is similar to other survey type studies. Baruch and Holtom (2008), examined 1607 studies that utilised survey methods in organisational research between 2000 and 2005 and found the average response rate was 48.3%. This study also represents the typical distribution (86.8% nurses and 34% medical staff) of health professionals as generated by other studies assessing medical and nursing opinion of family presence in the paediatric setting (Jarvis, 1998; Jones et al., 2011). In the mixed adult and paediatric setting, similar response rates from medical and nursing staff have also been found (Helmer et al., 2000; Meyers et al., 2000).

Limitations relating to the methodological conduct of the study exist. Importantly, the research team found that interpretation of the meaning of the Risk/Benefit scale was challenging. This relates to the use of both terms; 'Risk' and 'Benefit' being used within the same construct. As both terms have opposite meanings, use in the same scale may lead to confusion when interpreting its meaning. Participants may have been unclear about the concept that the scale intended to measure. An assumption was made that the two concepts go together, that being more risk and more benefit, rather than being able to discern the risks separately from the benefits. This may be problematic for others who intend to use the scale and could be clarified by creating two subscales, one for each concept, thus creating a clear meaning for each concept. This potential limitation had not been detected previously by Twibell et al. (2008), or by the panel of experts asked to review the scales, prior to use in this study.

Although randomisation of eligible participants provided a representative sample of the organisation, critical care participants may have been more equally represented if randomisation of two separate groups occurred. To obtain equal proportions; the use of stratified random sampling may serve to achieve this in the

future. The timing of distribution of questionnaires was over the summer period, which meant that there may have been a high number of staff on leave. In addition, questionnaires were placed in the mailbox of each eligible medical staff member. The movement of junior medical staff on rotation between teaching hospitals may have precluded a larger sample of medical staff, as staff may not have been onsite to check their mail. This may also account for the higher number of specialist medical staff. Data were collected from a single institution, so transferability may be limited due to organisational factors.

Recommendations

Staff who perceived more benefits and fewer risks to family presence, were aware of the needs of families during resuscitation. Possibly, staff may consider family-centred care to include the presence of family members during a resuscitation event. Although this may be the case, for those staff who perceived fewer benefits, it indicates that further education about the concept of family-centred care is required to highlight the benefits of family presence. Guidelines supporting the practice of family presence existed at the study site, yet the results indicated that further education may still improve staff's awareness of family presence and the benefits to families. The following section presents implications for practise, education and research.

1. Implications for practice.

Implications for practice include providing feedback to staff at the study site during educational sessions to include both medical and nursing staff, in critical care and non-critical care areas. Publication of results and presentation of results at a suitable conference meeting will further raise awareness of the importance of family presence during resuscitation and highlight the positive perceptions held by staff in this paediatric hospital setting.

2. Implications for education.

The following suggestions for education strategies relate to simulation resuscitation training. Simulation training is an approach that resembles real life patient care (Kakora-Shiner, 2009) and provides participant with an opportunity to

learn tasks in a safe learning environment (Kane, Pye, & Jones, 2011). Simulation has improved teamwork and problem solving skills (Kleinpell, Hravnak, Werner, & Gizman, 2006; Shapiro et al., 2004). Making decisions urgently whilst families are present in a simulation type scenario has been shown to increase the self-confidence of staff. Simulation has also been found to improve retention of knowledge and boost self-confidence amongst participants (Beauchesne & Douglas, 2011). These recommendations for education aim to improve the practice of family presence and promote awareness of the concept amongst non-critical care staff in particular.:

To incorporate the principles of family-centred care during simulation training, teaching and learning strategies should include:

- A. Family presence simulation training as part of the regular paediatric resuscitation competency.
- B. Involving both critical care and non-critical care staff in scenarios which mimic resuscitation events on the ward would also give staff the opportunity to practise inviting families to be present in ‘real life’ situations. Non-critical care staff can have the opportunity to practise resuscitation skills and gain confidence in a non-threatening environment (Kane et al., 2011). Critical care staff can have the opportunity to provide leadership and discuss experiences performing resuscitation whilst families were present.
- C. Delegation of roles to provide clear expectations for participants (Beauchesne & Douglas, 2011) and the role of the support person (ILCOR, 2000).
- D. How to best communicate with families during resuscitation.
- E. Emphasising the needs of families in a crisis, focusing on the family unit.
- F. The opportunity to acquire skills in managing family’s needs during resuscitation.
- G. Caring for families after the resuscitation (ILCOR, 2000).
- H. Understanding behavioural responses to grief and trauma.
- I. Debriefing following simulation training. This provides staff with the opportunity to discuss their fears and concerns regarding the presence of families, particularly those staff who are junior and who have indicated

reluctance to have families present (Barata et al., 2007). Debriefing sessions can also provide educators with the opportunity to discuss relevant research findings regarding the experience of families, and their wishes to be present during resuscitation. This can provide participants with the opportunity to reflect on their performance and may aid in the learning process (Kane et al., 2011).

- J. Involving both medical and nursing staff in simulation training that exposes staff to situations in which a team approach is undertaken (Hunziker et al., 2011).

3. Implications for further research.

The following recommendations are for further research at the study site, as well as locally and internationally.

Family presence and the Risk/Benefit Scale

- Further development of the ‘Risk/Benefit’ and ‘Confidence’ scales to assess the validity and reliability of the scales is warranted. Creating two subscales that address the concepts of ‘Risk’ and ‘Benefit’ would provide a clear and meaningful understanding of both concepts.

Demographic data

- Collection of which country staff had gained their qualification from. Given the diversity of ethnicity in Australia, previous education may have impacted perceptions of participants.
- Collection of time since last involvement in resuscitation may have clarified why some senior staff with more paediatric experience, did not support family presence, and were not confident.

Study site

- Following the education strategies recommended above, undertake an evaluation of staff’s perceptions and confidence following simulation training. Pre and post evaluation of staff’s perceptions and confidence using the ‘Risk/Benefit’

(modified to create subscales for both risk and benefit) and ‘Confidence’ scales could assess the impact of the education strategies.

Family-centred care

- Parental perceptions of family presence during resuscitation could be investigated as these are poorly understood in the Australian context. An understanding of what families need during resuscitation may shed light on how staff can better support families. In addition to this, the voice of the paediatric patient would provide information on children’s views of parental presence during resuscitation.
- The ‘Risk/Benefit’ and ‘Confidence’ scales could be used in other paediatric settings, locally and internationally, to assess use in the wider paediatric setting. Further use of the scales in the paediatric setting would aid in the development of a reliable and valid measure of staff’s perceptions and self-confidence.
- Further exploration of the perceptions and confidence of non-critical care staff, would provide further insight into the factors that influence staff’s perceptions about family presence outside of the critical care setting. Acuity of patients in non-critical care settings has increased, and patients who would have been cared for in the critical care setting are now being located in general wards (Elliot, 2006; Lewis, 2011). Higher acuity of patients’ in non-critical care areas has resulted in patients with complex medical issues and higher rates of mortality (Massey, Aitken, & Chaboyer, 2009). Exploring the perceptions and self-confidence of staff in relation to family presence in non-critical care areas, warrants further investigation in both adult and paediatric settings.
- Investigation of non-critical care areas may provide insight into the differences in facilitating family presence during resuscitation for those patients who are acutely unwell compared to chronically ill patients who have been admitted to hospital for some time. No studies to date have differentiated between chronically and acutely ill children’s’ families’ previous experiences, and the influence this has on their desire to be present during resuscitation.

- Finally further exploration of self-confidence and its impact on staff performance whilst families are present, would add to the limited literature, this improving practice.

Conclusion

The key findings resulting from this study have highlighted that staff understand the needs of family members who witness the resuscitation of their child. In particular, medical and nursing staff who have experienced family presence, perceived fewer risks, more benefits and were more confident in facilitating family presence. When compared with critical care staff, those staff working in non-critical care areas perceived more risk and were not as confident. This study found no difference in perceptions or confidence between nursing or medical staff, unlike previous studies which have indicated that nurses had more positive views of family presence. This finding indicates that both understand the needs of families during resuscitation, and may further imply that the philosophy of family-centred care is a model of care practised across disciplines.

Understanding the needs of families in a traumatic event, such as resuscitation, is an important aspect of caring for families in the paediatric environment. Evidence indicates that families want to be present while their child is being resuscitated, and their presence has had positive outcomes for those who have had the opportunity to do so. Despite this, family presence during resuscitation remains a controversial subject amongst health professionals in the paediatric setting. Medical and nursing staff have shown reluctance to allow families to be present for fear of interference from family members, and concern over the psychological well-being of families who witness resuscitation attempts. Many of these concerns have not been supported by evidence.

This is the first Australian study to explore the perceptions and self-confidence of staff in relation to family presence, in a paediatric setting alone. The findings of this study have implications for practice, education and research. Implications for education include offering/introducing simulation training, where real-life scenarios have been shown to improve the self-confidence of staff to perform resuscitation in

the presence of families, and to effectively provide support to families during such stressful events. Implications for research are then to evaluate the impact that simulation training may have on the perceptions and self-confidence of staff. Furthermore, the perceptions of staff in non-critical care areas are yet to be better understood, indicating a need to further explore this area to be able to target educational strategies.

REFERENCES

- Adams, S., Whitlock, M., Higgs, R., Bloomfield, P., & Baskett, P. J. F. (1994). Should relatives be allowed to watch resuscitation? *British Medical Journal*, *308*(1687), 5.
- AIHW, M. (2009). *Medical labour force 2009*. Canberra: Retrieved from AIHW webiste
<http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=10737419967>.
- AIHW, N. (2009). *Nursing and Midwifery Labour Force 2009*. Canberra: Retrieved from AIHW webiste
<http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=10737419677>.
- AIPFCC. (2013). Australian Institute for Patient & Family Centred Care.
- Al-Mutair, A. S., Plummer, V., & Copnell, B. (2011). Family presence during resuscitation: a descriptive study of nurses' attitudes from two Saudi hospitals. *BACN Nursing in Critical Care*, *17*(2), 8.
- ARC. (2011). *Legal and Ethical Issues related to Resuscitation*. Australia:
www.resus.org.au
- Axelsson, A. B., Fridlund, B., Moons, P., Martensson, J., Reimer, W. S., Smith, K., . . . Norekval, T., M. (2010). European cardiovascular nurses' experiences of and attitudes towards having family members present in the resuscitation room. *European Journal of Cardiovascular Nursing*, *9*(1), 9.
- Badir, A., & Speit, D. (2007). Family presence during CPR: A study of the experiences and opinions of Turkish critical care nurses. *International Journal of Nursing Studies*, *44*(1), 9.
- Barata, I., LaMantia, J., Riccardi, D., Mayerhoff, R., D'Abbracci, P., Livote, E., . . . Sama, A. (2007). A Prospective Study of Emergency Medicine Residents' Attitudes toward Family Presence during Pediatric Procedures. *The Internet Journal of Emergency Medicine*, *3*(2), 14.
- Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations*, *61*(8), 21.
- Beauchesne, M. A., & Douglas, B. (2011). Simulation: Enhancing Pediatric, Advanced, Practice Nursing Education. *Newborn & Infant Nursing Reviews*, *11*(1), 5.

- Belanger, M. A., & Reed, S. (1997). A rural community hospital's experience with family-witnessed resuscitation. *Journal of Emergency Nursing*, 23(3), 2.
- Bergom, I. (2008). Family centred care across the life continuum. *The World of Critical Care Nursing*, 6(2), 6.
- Bradford, K. K., Kost, S., Selbst, S., Renwick, A., E., & Pratt, A. (2005). Family member Presence for Procedures: The Resident's Perspective. *Ambulatory Pediatrics*, 5(5), 4.
- Casey, A. (1988). A partnership with child and family. *Senior Nurse*, 8(4), 2.
- Chalk, A. (1995). Should relatives be present in the resuscitation room? *Accident and Emergency Nursing*, 3(1), 4.
- Chapman, R., Watkins, R., Bushby, A., & Combs, s. (2013). Assessing health professionals' perceptions of family presence: A replication study. *International Emergency Nursing*, 21, 8.
- Corlett, J., & Twycross, A. (2006). Negotiation of parental roles within family-centred care: a review of the research. *Journal of Clinical Nursing*, 15(1), 16.
- Coyne, I. (1995). Partnership in care: parents' views of participation in their hospitalized child's care. *Journal of Clinical Nursing*, 4, 71.
- Coyne, I. (1996). Parent Participation: a concept analysis. *Journal of Advanced Nursing*, 23
- Critchell, C., & Marik, P. (2008). Should Family Members be Present During Cardiopulmonary Resuscitation? A Review of the Literature. *American Journal of Hospice & Palliative Medicine*, 24(4), 6.
- Crock, C. (2013). A New Model of Care. <http://www.aipfcc.org.au/care.html>
- Curley, M., Meyer, E., Scoppettuolo, L., McGann, E., Trainor, B., Rachwal, C., & Hickey, P. (2012). Parent Presence during Invasive Procedures and Resuscitation. *American Journal of Respiratory and Critical Care Medicine*, 186(11), 6.
- Darbyshire, P. (1994). *Living with a Sick Child in Hospital*. London: Chapman & Hall.
- Davidson, J. E., Powers, K., Hedayat, M., Kamyar, Tieszen, M., Kon, A., Alexander, Shepard, E., . . . Armstrong, D. (2007). Clinical practice guidelines for support of family in the patient-centred intensive care unit: American College of Critical Care Medicine Task Force 2004-2005. *Critical Care Medicine*, 35(2), 17.

- Demir, F. (2008). Presence of patients' families during cardiopulmonary resuscitation: physicians and nurses' opinions. *JAN: Original Research*, 2008(1), 17.
- Dill, K., & Gance-Cleveland, B. (2005). Family Centred Care; With You Until the End: Family Presence During Failed Resuscitation. *Journal for Specialists in Pediatric Nursing*, 10(4), 3.
- Dingeman, R., Mitchell, E., Meyer, E., & Curley, M. (2007). Parent Presence During Complex Invasive Procedures and Cardiopulmonary Resuscitation: A Systematic Review of the Literature. *Pediatrics*, 120(4), 12.
- Dougal, R. L., Anderson, J. H., Reavy, K., & Shirazi, C., C. (2011). Family Presence During Resuscitation and/or Invasive Procedures in the Emergency Department: One Size Does Not Fit All. *Journal of Emergency Nursing*, 37(2), 5.
- Doyle, C., Post, H., Burney, R., Maino, J., Keefe, M., Rhee, K., . . . Michigan, A. A. (1987). Family Participation During Resuscitation: An Option. *Annals of Emergency Medicine*, 16(6), 3.
- Duran, C. R., Oman, K. S., Koziel, V. M., & Szymanski, D. (2007). Attitudes Toward and Beliefs About Family Presence: A Survey of Healthcare Providers, Patients' Families and Patients. *American Journal of Critical Care*, 16(3), 9.
- E.D. (2009). *Family Presence During Resuscitation*. Princess Margaret Hospital: Emergency Department.
- Eichhorn, D. J., Meyers, T., & Guzzetta, C., E. (1995). Letting the family say goodbye during CPR. *American Journal of Nursing*, 95(1), 1.
- Eichhorn, D. J., Meyers, T., Guzzetta, C., E, Clark, A. P., Klein, J., D, & Clavin, A. (2001). During Invasive Procedures and Resuscitation: Hearing the Voice of the Patient. *American Journal of Nursing*, 101(5), 7.
- Eichhorn, D. J., Meyers, T., Guzzetta, C., E, Clark, A. P., Taliaferro, E., Klein, J., D, & Calvin, A., O. (2001). During Invasive Procedures and Resuscitation: Hearing the Voice of the Patient. *American Journal of Nursing*, 101(5), 8.
- Elliot, M. (2006). Readmission to intensive care: a review of the literature. *Australian Critical Care*, 19(3), 8.
- ENA. (1993). Family presence at the bedside during invasive procedures and resuscitation. In *Resolution 93* (U.S.A.

- Evans, M. (1994). An investigation into the feasibility of parental participation in the nursing care of their children. *Journal of Advanced Nursing*, 20, 477.
- Fulbrook, P., Albarran, J. W., & Latour, J. M. (2005). A European survey of critical care nurses' attitudes and experiences of having family members present during cardiopulmonary resuscitation. *International Journal of Nursing Studies*, 42(1), 11.
- Fulbrook, P., Latour, J. M., & Albarran, J. W. (2007). Paediatric critical care nurses' attitudes and experiences of parental presence during cardiopulmonary resuscitation: A European survey. *International Journal of Nursing Studies*, 44(1), 11.
- Fulbrook, P., Latour, J. M., Albarran, J. W., Graff, d. W., Lynch, F., Devictor, D., & Norekval, T., M. (2007). The Presence of Family Members During Cardiopulmonary Resuscitation: European federation of Critical CARE Nursing associations, European Society of Paediatric and Neonatal Intensive Care and European Society of CARDiology Council on Cardiovascular Nursing and Allied Professionals. *The World of Critical Care Nursing*, 5(4), 3.
- Gorter, J. W., Visser-Meily, A., & Ketelaar, M. (2010). The relevance of family-centred medicine and the implications for doctor education. *Medical education*, 44(4), 2.
- Halm, M. (2005). Family Presence During Resuscitation: A Critical Review of the Literature. *American Journal of Critical Care*, 14(6), 18.
- Hanson, C., & Strawser, D. (1992). Family Presence during cardiopulmonary resuscitation: Foote Hospital emergency department's nine-year perspective. *Journal of Emergency Nursing*, 18(2), 3.
- Helmer, S. D., Smith, S., Dort, J., M, Shapiro, W., M, & Katan, B., S. (2000). Family Presence during Trauma Resuscitation: A Survey of AAST and ENA Members. *The Journal of Trauma: Injury, Infection, and Critical Care*, 48(6), 10.
- Hodge, A. N., & Marshall, A. (2009). Family presence during resuscitation and invasive procedures. *Collegian*, 16, 17.
- Holzhauser, K., Finucane, J., & DeVries, S. M. (2006). Family presence during resuscitation: A randomised controlled trial of the impact of family presence. *Australasian Emergency Nursing Journal*, 1(6), 8.

- Hopstock, L. A. (2008). Cardiopulmonary resuscitation; use, training and self-confidence in skills. A self-report study among hospital personnel. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, 16(18), 5.
- Hunziker, S., Johansson, A., Tschan, F., Semmer, N., Rock, L., Howell, M., & Marsch, S. (2011). Teamwork and Leadership in Cardiopulmonary Resuscitation. *Journal of the American College of Cardiology*, 57(24), 7.
- ILCOR. (2000). Part 9: Pediatric Basic Life Support. *Resuscitation*, 46, 40.
- Jarvis, A. S. (1998). Parental presence during resuscitation: attitudes of staff on a paediatric intensive care unit. *Intensive and Critical Care Nursing*, 4, 4.
- Jefferson, R., & Paterson, B. (2001). Efficient or family-centred? Practitioners' goals in decisions regarding parental presence during invasive procedures. *CACCN*, 12(3), 6.
- Jolley, J., & Shields, L. (2009). The evolution of family centered care. *Journal of Pediatric Nursing*, 24(2), 6.
- Jones, B. L., Parker-Raley, J., Maxson, T., & Brown, C. (2011). Understanding Health Care Professionals' Views of Family Presence During Pediatric Resuscitation *American Journal of Critical Care*, 20(3), 8.
- Kakora-Shiner, N. (2009). Using ward-based simulation cardiopulmonary training. *Nursing Standard*, 23(38), 5.
- Kane, J., Pye, S., & Jones, A. (2011). Effectiveness of a Simulation-Based Educational Program in a Pediatric Cardiac Intensive Care Unit. *Journal of Pediatric Nursing*, 26, 7.
- Kingsworth, J., O'Connell, K., Guzzetta, C., E, Edens Curreri, J., Atabaki, S., Mecherikunnel, A., & Brown, K. (2010). Family Presence During Trauma Activations and Medical Resuscitations in a Pediatric Emergency Department: An Evidence-Based Practice Project. *Journal of Emergency Nursing*, 36(2), 6.
- Kleinpell, R., Hravnak, M., Werner, K., & Gizman, A. (2006). Skills taught in acute care programs: a national survey. *Nurse Practitioner*, 31(7)
- Knott, A., & Kee, C. C. (2005). Nurses' beliefs about family presence during resuscitation. *Applied Nursing Research*, 18(1), 6.

- Koberich, S., Arnold, K., Oliver, R., & Albarran, J. W. (2010). Family witnessed resuscitation - experience and attitudes of German intensive care nurses. *Nursing in Critical Care, 15*(5), 9.
- Kumar, R. (2005). *Research methodology: A Step-By-Step Guide for Beginners* (Vol. 2nd). NSW: Australia: Pearson Education
- Kuzin, J. K., Yborra, J. G., Taylor, M. D., Chang, A. C., Altman, C. A., Whitney, G. M., & Mott, A. R. (2007). Family-Member Presence During Interventions in the Intensive Care Unit: Perceptions of Pediatric Cardiac Intensive Care Providers. *Pediatrics, 124*(4), 6.
- Lewis, R. (2011). Learning the 'SMART' Way... Results from a Pilot Study Evaluating an Interprofessional Acute Care Study *Nurse Education Today, 31*, 5.
- Linder, C. M., Suddaby, E. C., & Mowery, B. D. (2004). Critical Thinking in Critical Care: Parental Presence During Resuscitation: Help or Hindrance? *Pediatric Nursing, 30*(2), 3.
- MacLean, S. L., Guzzetta, C., E, White, C., Fontaine, D., Eichhorn, D. J., Myers, T. A., & Desy, P. (2003). Family Presence During Cardiopulmonary Resuscitation and Invasive Procedures: Practices of Critical Care and Emergency Nurses. *American Journal of Critical Care, 12*(3), 12.
- Madden, E., & Condon, C. (2007). Emergency Nurses' Current Practices and Understanding of Family Presence During CPR. *Journal of Emergency Nursing, 33*(5), 7.
- Maibach, E. W., Schieber, R. A., & Carroll, M. F. (1996). Self-efficacy in Pediatric Resuscitation: Implications for Education and Performance. *Pediatrics, 97*(1), 5.
- Mangurten, J., Scott, S. H., Guzzetta, C., E, Clark, A. P., Vinson, L., Sperry, J., . . . Voelmeck, W. (2006). Effects of Family Presence During Resuscitation and Invasive Procedures in a Pediatric Emergency Department. *Journal of Emergency Nursing, 32*(3), 8.
- Mangurten, J., Scott, S. H., Guzzetta, C., E, Sperry, J., Vinson, L., Hicks, B., . . . Scott, S. M. (2005). Family Presence: Making Room. *American Journal of Nursing, 105*(5), 9.

- Massey, D., Aitken, L., & Chaboyer, W. (2009). What factors influence suboptimal ward care in the acutely ill ward patient? *Intensive and Critical Care Nursing*, 25, 11.
- Maxton, F. J. (2008). Parental presence during resuscitation: a phenomenological study. *Journal of Clinical Nursing*, 17(1), 9.
- McClement, S. E., Fallis, W., & Asha, P. (2009). Family Presence During Resuscitation: Canadian Critical Care Nurses' Perspectives. *Journal of Nursing Scholarship*, 41(3), 7.
- McClenathan, Torrington, & Uyehara. (2002). Family member presence during cardiopulmonary resuscitation: a survey of US and international critical care professionals. *Chest*, 122(6), 2204-2211. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/12475864>
- McCubbin, H. I., Thompson, A. I., & McCubbin, M. A. (1938). *Family Assessment: Resiliency, Coping and Adaptation Inventories for Research and Practice*. U.S.A: University of Wisconsin.
- McGahey-Oakland, P., Lieder, H., Young, A., & Jefferson, L. (2007). Family Experiences During Resuscitation at a Children's Hospital Emergency Department. *Journal of Pediatric Health Care*, 21(4), 9.
- McMahon-Parkes, K., Moule, P., Bengler, J., & Albarran, J. W. (2009). The views and preferences of resuscitated and non-resuscitated patients towards family-witnessed resuscitation: A qualitative study. *International Journal of Nursing Studies*, 46(1), 9.
- Meyers, T. A., Eichhorn, D. J., & Guzzetta, C., E. (1998). Do families want to be present during CPR? A retrospective survey. *Journal of Emergency Nursing*, 24(5), 5.
- Meyers, T. A., Eichhorn, D. J., Guzzetta, C., E, Clark, A. P., & Taliaferro, E. (2000). Family Presence During Invasive Procedures and Resuscitation: The Experience of Family Members, Nurses, and Physicians. *American Journal of Nursing*, 100(2), 12.
- Meyers, T. A., Eichhorn, D. J., Guzzetta, C., E, Clark, A. P., & Taliaferro, E. (2004). Family Presence During Invasive Procedures and Resuscitation: The Experience of Family Members, Nurses, and Physicians. *Topics in Emergency Medicine*, 26(1), 12.

- Miller, J. H., & Stiles, A. (2009). Family Presence During Resuscitation and Invasive procedures: The Nurse Experience. *Qualitative Health Research, 19*(10), 11.
- Mitchell, M. H., & Lynch, M. B. (1997). Should relatives be allowed in the resuscitation room? *Journal of Accident and Emergency Medicine, 14*(1), 366.
- O'Connell, K., Farah, M. M., Spandorfer, P., & Zorc, J. J. (2007). Family Presence During Pediatric Trauma Team Activation: An Assessment of a Structured Program. *Pediatrics, 120*(3), 9.
- Ong, M. E. H., Chung, W. L., & Mei, J. S. E. (2007). Comparing attitudes of the public and medical staff towards witnessed resuscitation in an Asian population. *Resuscitation, 73*(1), 6.
- Osuagwn, C. (1991). ED Codes: keep the family out. *Journal of Emergency Nursing, 17*(6), 363.
- Pasquale, M. A., Pasquale, M., Baga, L., Eid, S., & Leske, J. (2010). Family Presence During Trauma Resuscitation: Ready for Primetime? *The Journal of Trauma Injury, Infection, and Critical Care, 69*(5), 8.
- Perry, S. E. (2009). Support for parents witnessing resuscitation: nurse perspectives. *Paediatric Nursing, 21*(6), 5.
- PICU. (2009). *Family Presence during Resuscitation*. Paediatric Intensive Care Unit: Princess Margaret Hospital.
- Platt, H. (1959). *The welfare of children in hospital : report of the Committee*. London: HSMO.
- Powers, K., & Rubenstein, J. (1999). Family Presence During Invasive Procedures in the Pediatric Intensive Care Unit. *Archives of Pediatric Adolescent Medicine, 153*(9), 4.
- Pruitt, L. M., Johnson, A., Elliot, C., & Polley, K. (2008). Parental Presence during Paediatric Invasive Procedures. *Journal of Pediatric HealthCare, 22*(2), 6.
- Redley, B., & Hood, K. (1996). Staff attitudes towards family presence during resuscitation. *Accident and Emergency Nursing, 1996*(4), 6.
- Resuscitation Council UK. (1996). *Should relatives witness resuscitation? A report from a project team of the Resuscitation Council UK*. London:
- Robinson, S. M., Mackenzie-Ross, S., Campbell Hewson, G. L., Egleston, C. V., & Prevost, A. T. (1998). Psychological effect of witnessed resuscitation on bereaved relatives. *The Lancet, 352*, 4.

- Sacchetti, A. D., Guzzetta, C., E, & Harris, R. H. (2003). Family Presence During Resuscitation Attempts and Invasive Procedures: Is There Science Behind the Emotion? *Clinical Pediatric Emergency Medicine*, 4(1), 4.
- Schilling, R. J. (1994). Should relatives watch resuscitation? *British Medical Journal*, 309(6951), 1.
- Shapiro, M., Morey, J., Small, S., Langford, V., Kaylor, C., Jagminas, L., . . . Jay, G. (2004). Simulation based teamwork training for emergency department staff: does it improve clinical team performance when added to an existing didactic teamwork curriculum? *Quality Safety Health Care*, 13, 4.
- Sheng, C. K., Lim, C. K., & Rashidi, A. (2010). A multi-center study on the attitudes of Malaysian emergency health care staff towards allowing family presence during resuscitation of adult patients. *International Journal of Emergency Medicine*, 3(1), 4.
- Shields, L. (2010). Questioning family-centred care. *Journal of Clinical Nursing*, 19(17 -18), 9.
- Shields, L., & Nixon, J. (1998). I want my mummy. *Collegian*, 5(2)
- Shields, L., Pratt, J., Davis, L. M., & Hunter, J. (2008). Family-centred Care for children in hospital (Review). *Cochrane Database of Systematic Reviews*, 2008(1)
- Shields, L., Pratt, J., & Hunter, J. (2006). Family-centred care: A review of qualitative studies. *Journal of Clinical Nursing*, 15(10), 6.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics* (Vol. 5th Ed). Boston: Pearson International.
- Tinsley, C., Hill, B., J, Shah, J., Zimmerman, G., Wilson, M., Freier, K., & Abd-Allah, S. (2008). Experience of Families During Cardiopulmonary Resuscitation in a Pediatric Intensive Care Unit. *Pediatrics*, 122(4), 5.
- Twibell, R. S., Siela, D., Riwitis, C., Wheatley, J., Riegle, T., Bousman, D., . . . Neal, A. (2008). Nurses' preceptions of Their Self-confidence and the Benefits and Risks of Family Presence During Resuscitation. *American Journal of Critical Care*, 17(2), 10.
- Vavarouta, A., Xanthos, T., Papadimitriou, L., Kouskouni, E., & Lacoviou, N. (2011). Family presence during resuscitation and invasive procedures: Physicians' and nurses' attitudes working in pediatric departments in Greece. *Resuscitation*, 82(1), 3.

- Wacht, O., Dopelt, K., Snir, T., & Davidovitch, N. (2010). Attitudes of Emergency Department Staff toward Family Presence during Resuscitation. *IMAJ*, 12(1), 5.
- Waseem, M., & Ryan, M. (2003). Parental Presence During Invasive Procedures in Children: What is the Physician's Perspective? *South Medical Journal*, 96(1), 884.
- Watson, R., Atkinson, I., & Egerton, P. (2006). *Successful Statistics for Nursing & Healthcare*. London: Palgrave Macmillan.
- Wolf, L., Storer, A., Barnason, S., Brim, C., Halpern, J., Leviner, S., . . . Bradford, J. (2012). Clinical Practice Guideline: Family Presence During Invasive Procedures and Resuscitation.
<http://www.ena.org/IENR/CPG/Documents/FamilyPresenceCPG.pdf>
- Yang, S., & Hoffman, M. (2011). Next generation or current generation? A study of the OPACs of 260 academic libraries in the USA and Canada. *Library Hi Tech*, 29(2), 4.

Every reasonable effort has been made to acknowledge the owners of copyright material. I would be pleased to hear from any copyright owner who has been omitted or incorrectly acknowledged.

APPENDICES

APPENDIX A: Family-centred care articles

Author	Aim	Study design	Sample	Results	Critique
Casey, 1988 (U.K)	A partnership with child and family	No research Introducing a model of care	n/a	n/a	A model of care: Partnership in care paving the path to family centred care
Coyne, 1995 (U.K)	Phenomenological approach to explore parents lived experiences of participation in their child's care	Retrospective, qualitative, interviews	n =18 parents from a paediatric surgical ward.	Main reasons parents chose to participate in their care were: 1. Concern about relinquishing care to strangers 2. Sense of parental duty 3. Concern for consistency of care 4. Parents experience of hospitalisation as a child Difficulties included lack of negotiation of roles, anxiety and loneliness.	No mention of tool validity or reliability.
Coyne, 1996 (U.K)	Parent Participation: a concept analysis	Systematic review	n/a	Partnership in care and parental participation has evolved to family centred care. Parental participation is underdeveloped. Family centred care provides a resolution to these issues	n/a

Author	Aim	Study design	Sample	Results	Critique
Shields, 2010 (Australia)	Questioning family-centred care	Discursive review	n/a	Addressing 5 questions: 1. Is family-centred care relevant 2. Is it relevant in western countries only 3. What does it mean to implement now 4. Is family centred care implemented effectively 5 does it make a difference?	n/a
Davidson et al., 2007 (USA)	Clinical practice guidelines for support of the family in the patient-centred intensive care unit: American College of Critical Care Medicine Task Force 12004-2005	Systematic review Guideline development	n/a	Families play an important role in the PICU. Recommendations include: Information sharing with families and decision making. Coordination of care. Physical and emotional care for families and cultural sensitivity.	n/a
Shields, Pratt, Davis and Hunter 2007 (Australia)	Family-centred care for children in hospital (review)	Systematic Cochrane Review	n/a	Search for RCT's, CCT's No RCT/CCT studies found, More research required.	n/a
Shields, Pratt and Hunter 2006 (Australia & U.K)	Family centred care: a review of qualitative studies	Systematic review	n/a	Further research required to generate evidence.	n/a

Author	Aim	Study design	Sample	Results	Critique
Shields, 1998 (U.K)	I want my Mummy	Review	n/a	Outlines changes in the care of children in hospital. The progression of family centred care as a model of care.	n/a
Darbyshire, Philip	To understand the lived experiences of parents who stayed in hospital with their child, to understand the experiences of paediatric nurses, and explore the relationships between parents and nurses	Qualitative/phenomenology/ grounded theory	30 parents 27 nurses	Major themes surrounding: The nature of being a live-in parent in hospital; the ontological sense, the situated meaning, involvement and control. Parents and nurses: caring and relationships: caring as a human trait, caring as a moral imperative, caring as a nurse-parent relationship and caring as a fusion of concerns.	n/a

APPENDIX B: Family presence during resuscitation: adult articles

Author	Aim	Study design	Sample	Results	Critique
Doyle et al, 1987	Attitudes of staff and families toward family presence	Retrospective survey No statistical analysis described by authors.	n = 47 families n = 21 staff	94% said they would be present again 76% believed it helped in the grieving process 71% of staff supported family presence.	Small sample size. Reliability and validity of tool not reported.
Hanson & Strawser, 1992	Programme evaluation after 9 years	Not included	Unknown	The authors report that no families have interfered with the process of resuscitation in the 9 years that the program has begun.	No study design, no sample or statistics to support results.
Chalk, 1995	To establish if relatives be allowed in the resuscitation room.	Retrospective Descriptive survey No description of statistical analysis given.	n = 50 (nursing and medical staff).	68% agreed with family presence. 76% would allow families if they were well supported. More nurses were supportive of family presence.	Methodology of randomisation not described. Tool reliability and validity not described. No description of sample.

Author	Aim	Study design	Sample	Results	Critique
Eichhorn, Meyers, Mitchell & Guzzetta, 1996	To explore the views of bereaved families from the emergency department.	Retrospective review Interview. No description of analysis provided by authors.	n = 25 families (pre implementation of program).	76% wanted to be present 60% felt their presence would have been beneficial 64% believed it would have helped their grieving 96% felt that families should be given the option.	Survey not described in terms of validity or reliability. Methodology not described.
Redley & Hood, 1996	Staff attitudes towards family presence during resuscitation.	Prospective survey at six major emergency department in Victoria Australia Survey convenience quantitative No description of analysis given.	n = 133 (nursing = 98 medical = 350)	62% would consider family presence 14% felt that families should be invited 9% felt Dr should decide 70% wanted to be given the choice if they had family members being resuscitated.	Sampling bias (convenience sampling) Reliability of tool not discussed.
Meyers, Eichhorn & Guzzetta, 1998	Attitudes of family members who were not present during resuscitation.	Retrospective review Descriptive survey Parametric and non-parametric analysis of data with SPSS. Fishers exact and content analysis for qualitative analysis of comments.	n = 25 bereaved families	80% wanted to be present 96% felt that families should be given the option 68% felt their presence would have helped their family member 64% felt it would help grieving.	Extensive period of time between death of family member and interview (recall error).

Author	Aim	Study design	Sample	Results	Critique
Eichhorn, Meyers, Guzzetta, Clark, Taliaferro, Klein & Calvin, 2001	Experiences of the patient during family presence.	Retrospective review Interview. Transcribed verbatim into NUDIST program for theme derivation.	n = 9 patients who had undergone emergency treatment (8 invasive and 1 CPR) with families present.	Patients found families to be comforting, helpful, positive experience.	Small sample size. Only English speaking patients therefore not applying to other ethnic groups.
Fulbrook, Albarran & Latour, 2005	Critical care nurses' attitudes and experiences of having family members present resuscitation.	Retrospective Survey convenience quantitative. Data entered into SPSS, parametric and non-parametric tests for differences and correlation conducted.	n = 124 critical care nurses attending the European Federation of Critical care Nursing Associations conference.	U.K nurses were more supportive of FWR 40% of nurses agreed families should be present 77% agreed that allowing families to be present would reassure them that everything had been done.	Sampling bias towards nurses attending the Federation of Critical Care Nursing Associations Conference. No mention of validation of tool.
Holzhauser, Finucane & De Vries, 2006	Family attitudes of being present during resuscitation.	Retrospective Survey. No mention of statistical analysis provided.	n = 88 (58 families in the experimental group, 30 in the control).	Families of survived patients, who were present, found it beneficial.	Single centre study

Author	Aim	Study design	Sample	Results	Critique
Badir and Sepit, 2007	Critical care nurses' attitudes and experiences of having family present.	Retrospective Survey convenience quantitative Utilised tool from Fulbrook et al, 2005 Data entered into SPSS utilising descriptive statistics.	n = 278 Intensive care nurses (from two major hospitals in Istanbul).	70% of nurses opposed to family presence Arguments against; patient confidentiality, family may argue with resuscitation team and suffer long term psychological trauma.	Convenience sampling leading to possible bias. No mention of tool validation.
Koberich, Arnold, Oliver and Albarran, 2010	Critical care nurses' attitudes and experiences of having family members present resuscitation.	Retrospective Survey design Utilised tool from Fulbrook et al, 2005 Descriptive statistics utilising SPSS. Thematic analysis for qualitative data.	n = 166 German intensive care nurses.	66% of nurses opposed due to: patient confidentiality, family may argue with resuscitation team and long term psychological trauma.	Convenience sampling leading to possible bias. No mention of tool validation.
Madden and Condon (2007)	Current practises and understanding of emergency nurses in relation to family presence	Retrospective survey Data analysed by SPSS. Frequencies and percentages calculated for demographic data.	n = 90	67% supported family presence 74% wanted a written policy 2.2% were opposed to family presence	Single centre study

Author	Aim	Study design	Sample	Results	Critique
McClement, Fllis and Asha (2009)	Experiences of critical care nurses in relation to family presence	Qualitative Online 18 item survey Data analysis completed using content analysis and comparison techniques.	n = 242	Perceived benefits: Seeing everything was done, providing comfort and saying goodbye. Perceived risks: Psychological trauma, physical harm to families from equipment.	Online survey does not provide the participant the option of asking the researcher questions or for the researcher to ask the participant questions. No mention of validation or reliability of survey tool utilised.
Miller and Stiles, 2009	Experience of emergency and intensive care nurses of family presence.	Qualitative Interview. Transcripts analysed using van Manen's (1990) technique of isolating thematic statements..	n = 17 nurses	Nurses felt that family presence created a bond with the team, gave families the opportunity to see that everything was being done and gave closure to families. Some nurses were cautious of family presence, in that it causes the family psychological harm, they could become violent or injured.	Single centre study.

APPENDIX C: Family presence during resuscitation: adult and paediatric articles

Author	Aim	Study design	Sample	Results	Critique
Helmer et al, 2000	Assessment of opinions of the American Association for the Surgery of Trauma (AAST) and the Emergency Nurses Association (ENA) regarding family presence.	Retrospective survey. Qualitative and quantitative data were analysed by analysis of variance and χ^2 analysis respectively. Likert scale items by Kruskal-Wallis test.	Response rate 43% AAST: 368 ENA: 1261	ENA members significantly more supportive of family presence. 97.8% of AAST members were unsupportive of family presence.	Poor response rate. Tool validity and reliability not described. AAST not representative of ED staff opinions.
McClenathan et al, 2002	Assessment of critical care professional support for family presence during resuscitation.	Retrospective survey of six questions. Fishers exact test used to compare between groups.	n = 554 (543 physicians, 28 nurses, 21 allied health)	78% of all respondents opposed family presence Nurses showed more support for family presence than physicians.	Convenience sampling leading to bias. Small representation from paediatrics. Tool reliability or validity not described.
Meyers, Eichhorn, Guzzetta, Clark & Taliaferro, 2000	Attitudes of staff and families regarding the benefits and problems associated with family presence.	Retrospective Survey & interview. SAS software package for statistical analysis Fishers exact, chi-square, t-test utilised. Interviews entered; NUDIST program and content analysis for coding & theme derivation.	n = 39 families n = 96 staff (60 nurses/36 physicians)	Families were supportive Nurses were more supportive than physicians. Health care providers supported the policy overall.	Suitable families were only interviewed, therefore not representative of the population. Interviews with families two months after death contributing to poor recollection of event.

Author	Aim	Study design	Sample	Results	Critique
Duran et al, 2007	Examine the opinions of nursing and medical staff towards family presence.	Retrospective descriptive survey design. Quantitative and qualitative data. Data entered into SPSS, mean scores calculated, t-tests, analysis of variance and χ^2 used to compare differences between groups. Qualitative data grouped into themes by content analysis.	n = 202 (98 physicians, 98 nurses, 72 family members, 62 patients).	Patients and families were positive towards family presence. Nurses were more supportive of family presence than physicians. NICU nurses and emergency department nurses were more positive towards family presence than adult nurses.	Poor response rate (18%).
MacLean et. Al, 2003	Critical care nurses preferences, practices and policy use regarding family presence.	Retrospective Descriptive survey 30 item survey. Data entered into SPSS, χ^2 used for comparative analysis.	n = 984 members of the American Association of Critical Care and Emergency Nurses Association.	5% of nurses worked in unit with policies, 45% worked in units without policy.	Sampling bias – only members of AACC and ENA were included. 33% response rate.
Knott and Knee, 2005	Explore the opinions and experiences of nurses in relation to family presence during resuscitation.	Qualitative Interview. Data analysed using constant comparative method of data analysis.	n = 15 (10 critical care nurses, 5 paediatric, 5 adult).	Reasons for family presence included: closure after death, see that everything was done, family right Against: lack of adequate space at bedside, lack of staff, potential psychological impact.	Convenience sampling bias.

Author	Aim	Study design	Sample	Results	Critique
Twibell et al, 2008	Explore nurses' perceptions of the risks and benefits of family presence and their self-confidence in applying family presence during resuscitation. Test two instruments used to measure perceptions of family presence.	Retrospective survey. Data entered into SPSS, Pearson <i>r</i> correlations among scores for perceived benefits, risks and confidence. Analysis of tool: item to item correlations and Cronbach α reliability to ensure items were measuring the same underlying ideas.	n = 375	Nurses who had invited families to be present were more self-confident in managing family presence and perceived fewer risks, those nurses who held a speciality qualification and who worked in the E.D were more supportive of family presence.	Convenience sampling bias.

APPENDIX D: Family presence during resuscitation: family and patient articles

Author	Aim	Study design	Sample	Results	Critique
Powers and Rubenstien (1999)	To determine of allowing parents to be present during invasive procedures; reduces anxiety in parents, in children or if it is harmful to the team.	Prospective cohort 5 point likert scale survey. Mann-Whitney analysis	n = 16 parents n = 16 nurses	81% of parents felt it to be beneficial 87% to the child 81% to staff Staff feedback: 94% of staff found it to be beneficial.	Small sample size in both groups. No representation from medical staff. No mention of tool validity or reliability. Invasive procedures not true representation of 'emergency events'.
Myers et al, (1998)	Determine the desires, beliefs ad concerns of bereaved families, following family presence during CPR.	Retrospective telephone survey Descriptive statistics using SPSS.	n = 25	80% would have liked to be present 96% believed families have the right to be present. 68% felt it would have helped them grieve.	Small sample.
McGahey-Oakland et al, (2007)	Explore the experiences of families whose children underwent resuscitation. Identify information to improve circumstances for future families. Assess psychological impact to families.	Retrospective survey design via interview method. Brief symptom Inventory, Short Form Health Survey and Post traumatic Stress disorder scale to assess psychological impact.	n = 10	Five themes: 1)Right to be present 2)Providing comfort to their child 3)Seeing everything was done 4)Physical location 5) Information for parents.	Recall error may have impacted results (1 year following event). Small sample size. No results of psychological measures.

Author	Aim	Study design	Sample	Results	Critique
Tinsley et al (2008)	Evaluate parental perception of being present during resuscitation and if they would recommend this to other families.	Interview 6 months following event χ^2 analysis used to compare groups and analyse relationships.	n = 41 (present = 21 not present = 20)	Not present: 55% wanted to be present, 60% believed it would have comforted their child. Present: 71% felt it comforted their child, 67% helped with grieving, 76% would recommend this to other families.	No mention of validity or reliability of tool.
Pasquale et al (2010)	Evaluation of anxiety, satisfaction and well-being in families who witnessed resuscitation.	Prospective comparative survey design. 48hrs following resuscitation. Mean total scores compared for both groups with <i>t</i> tests. Significance set at $P < 0.005$	n = 50 (witnessed = 25 non-witnessed = 25)	No significant differences in anxiety, well-being and satisfaction. Those who were present scored better on all measures.	Convenience sampling leading to bias. Moderately small sample size. No description of type of invasive procedure. No indication if families were bereaved.
Eichhorn et al (2001).	Experiences of survived adult patients post resuscitation.	Retrospective Interview nine months post resuscitation Qualitative design.	n = 9	Participants felt: Feeling comforted by family, family acted as their advocate, maintained a family connection. They supported family presence, but were concerned for their anxiety.	Recall error following event (9 months).

Author	Aim	Study design	Sample	Results	Critique
McMahon-Parkes et al (2009)	To evaluate the views and preferences of survived patients who underwent resuscitation and invasive procedures.	Interview Code reduction to generate themes.	n = 61 (survived resuscitated patients = 21 invasive procedures = 40)	Themes included: 1) Families were there to provide emotional support, be an advocate, understand and have a chance to say goodbye. 2) Concerned for relatives anxiety and stress 3) Teams management of resuscitation: no interruptions to team or increased anxiety to team as a result of family presence. Maintaining confidentiality.	Methodology poorly described.

APPENDIX E: Family presence during resuscitation: paediatric articles

Author	Aim	Study design	Sample	Results	Critique
Jarvis (1998)	Explore, compare and provide insight into negative and positive attitudes of medical and nursing staff towards family presence	Qualitative and quantitative approach using 10 closed-ended questions and a section for comments.	n = 56 (medical = 19 nursing = 37)	89% staff agreed with family presence as an option Medical staff were less supportive = 68% All nurses supported family presence.	Small sample size. No validity or reliability of tool mentioned.
Jefferson and Paterson (2001)	To identify the decision making process of staff in relation to family presence during invasive procedures and resuscitation.	Qualitative method utilising interpretive description	n = 15 (medical = 5 nursing = 10)	Staff gave three options to parents: to leave, to stay because there was no time to ask them to leave, or give the parents the option to stay. Most staff members asked parents to leave.	Convenience sampling leading to possible bias.
Henderson and Knapp (2005)	Representatives from 18 national organisations surveyed to determine support for family presence and the benefits and disadvantages of family presence.	Survey utilising four point likert scale questionnaire design. No further mention of statistical analysis.	n = 20	87% strongly agreed Disadvantages: interference from family, lack of staff assisting families, stress on staff. Advantages: Families can see everything done, calming effect on child, family & inclusion of family.	Small sample size Bias from convenience sampling.

Author	Aim	Study design	Sample	Results	Critique
Mangurten et al. (2006)	To determine the effectiveness of a family presence guideline and identify the attitudes and experiences of medical and nursing staff and families.	Retrospective survey and interview techniques. Mean attitude scores for parents and providers calculated. Differences calculated using Mann-Whitney U test. Qualitative data analysed using constant comparative technique.	n = 92 (41% nurses 20% physicians 39% residents/fellows) Parents: n = 22	Staff: 79% agreed families had the right to be present 70% supported family presence Nurses were more supportive – 92% as opposed to physicians – 78% and residents/fellows – 35% Parents: 95% reported family presence as being helpful. 86% felt they had a right to be present. 100% agreed they would be present again.	Small sample size in parent group. Parents were surveyed 3 months after the event so recollection may have not been accurate. Non-English speaking families excluded therefore not representative of population.
Jones, Parker-Raley, Maxson and Brown (2011)	Examine the opinions of medical and nursing staff in relation to family presence. Staff's opinions of colleagues' views of family presence.	Retrospective survey and interview. Descriptive design. Qualitative approach – no further description Mean scores and ANOVA statistical analysis to measure compare those in favour against those opposed.	n = 137 (nurses = 87 medical = 41 medical students = 9)	70% staff agreed with family presence. Those in favour: felt their colleagues lacked sympathy for families & were concerned with litigation. Those opposed to FP: felt that their colleagues lacked sympathy for other staff.	Participants recruited from a palliative care conference and who may not be involved with resuscitation on a regular basis.

Author	Aim	Study design	Sample	Results	Critique
Bradford, Kost, Selbst, Renwick and Pratt (2005)	Assessment of trainee residents' opinion of family presence during resuscitation and invasive procedures.	Retrospective survey likert scale questions. Mann-whitney test to compare questions for all residents and ANOVA between groups for statistical differences.	n = 53	Residents were accepting of families being present during invasive procedures, however not during CPR. Residents felt that family members would increase their anxiety if present	Small sample size. Surveys were not anonymous.
Barata et al. (2007)	Residents attitudes of family presence during invasive procedures resuscitation	Survey likert scale. Chi-square and confidence intervals used for analysis.	n = 521	50% believed family presence would interfere with their ability to perform resuscitation. Those residents working in paediatrics were more likely to favour family presence.	No report of tool validity or reliability.
Perry (2009)	Identify the knowledge and experience of paediatric nurses regarding family presence during resuscitation.	Retrospective survey using a 15 statement likert scale. SPSS parametric and non-parametric analysis undertaken. Distribution, frequencies, standard deviations and variations completed.	n = 32 (18 ward nurses 8 PICU nurses 5 Special Care Babies Unit nurses)	78% agreed that families have the right to be present during resuscitation. Nurses with more experience favoured family presence more, as did those with a nursing qualification.	Poor response rate (32%) Convenience sampling may have led to bias.

Author	Aim	Study design	Sample	Results	Critique
Fulbrook, Latour & Albarran (2007)	Explore the experiences and attitudes of European paediatric critical care nurses about family presence during resuscitation.	Retrospective survey with 5 point likert scale. Data entered into SPSS and parametric and non-parametric analysis conducted. Significance set at <0.05	n = 98	63% of nurses felt that families should be given the opportunity to be present. 89.8% felt that family presence enabled families to see that everything was done and 71% to spend their final moments with their child. Nurses were not concerned about the psychological impact in families or provision of a support person.	No mention of tool validity or reliability. Only conference delegates were represented in this study.

APPENDIX F: PNPM Family Presence during Resuscitation Guideline



CHILD AND ADOLESCENT HEALTH SERVICE
PRINCESS MARGARET HOSPITAL FOR CHILDREN

PAEDIATRIC NURSING PRACTICE MANUAL SECTION 4

RESUSCITATION PROCEDURES

4.5 FAMILY MEMBER PRESENCE DURING RESUSCITATION

4.5 FAMILY MEMBER PRESENCE DURING RESUSCITATION

Aim

To encourage family-centred care by allowing family members the option to be present when their child requires resuscitation.

Indications

1. In the foreseeable event that a child may require resuscitation.
2. In the emergency situation when a child requires resuscitation.

Key Points

1. Family member includes any person(s) that has a mutual relationship with the patient.^{1,2}
2. Up to two family members may be in attendance at the resuscitation at any one time.
3. Attendance of family members during the resuscitation is regarded as optional.³

Role of the Support Person

When staff available, nominate a dedicated support person to be made available to the family throughout the whole resuscitation.⁴

The support person can be a medical, nursing, allied health, social worker or chaplain not actively involved in the resuscitation. Their role is to offer support and provide regular updates for the family.

In the event that a dedicated support person is not available, allocate a staff member to provide regular contact with family.

During the Resuscitation

1. Offer and support family member presence during their child's resuscitation.
2. Ensure that the family is aware that they may leave the resuscitation at any time and that a private area will be made available for their use and assistance will be given in contacting other family members if required.⁵
3. Liaise with the medical and nursing staff to ensure they are comfortable with the family being present throughout the resuscitation.^{1,6}

Note: If they feel it is in the best interest of the child, medical and/or nursing staff have the right to request family members be removed from the resuscitation at any time.^{4,7}

References:

1. Meyers TA, Eichhorn DJ, Guzzetta CE, Clarke AP, Klein JD & Taliaferro E. Family presence during invasive procedures and resuscitation: the experience of family members, nurses, and physicians. [Level IV]. *Am J Nursing*.100(2):32-43; 2000.
2. Boie ET, Moore GP, Brummett C & Nelson DR. Do parents want to be present during invasive procedures performed on their children in the Emergency Department. A survey of 400 parents [Level III-3]. *Annals of Emergency Medicine*.34(1):70-74; 1999.

Date Issued: January 2007
Date Revised: March 2010
Review Date: March 2012
Authorised by: Paediatric Nursing Practice Committee
Review Team: CNM, ED

Family Member Presence During Resuscitation
Paediatric Nursing Practice Manual (PNPM)
Princess Margaret Hospital
Perth, Western Australia

All protocols should be read in conjunction with the Disclaimer in the Preface of this manual

Dear Participant,

My name is Julie McLean and I am an employee of Princess Margaret Hospital for Children and a Master of Philosophy (Nursing) student at Curtin University. As part of my degree, I am conducting research about family presence during resuscitation.

What is this research about?

This research is looking at medical and nursing staffs' attitude about the benefits and disadvantages of family presence during resuscitation and self-confidence in applying this in the clinical setting. More specifically this study aims to compare the confidence and opinion of staff in critical and non-critical care areas.

Why is this research important?

The findings of this study may have impact on policy/guideline formation, cross discipline education (medical and nursing staff education) and form the basis of further study about this topic.

How is the research conducted?

This is done by the use of a questionnaire, which is divided into sections relating to your opinion and confidence about family presence during child resuscitation. This questionnaire has been validated in Indiana, U.S.A at the Ball State Memorial Hospital. This questionnaire should take approximately 15 minutes to complete. There is a section allowing you to make any comments relating to family presence during their child's resuscitation at the end of the questionnaire. The comments section of the questionnaire is voluntary; however please note that any other questions not completed will deem the questionnaire not viable for use in this study.

What do I do with the questionnaire when I have finished completing it?

Once you have completed the questionnaire, please place it in the return envelope and place in the PMH internal mailing system. Each envelope should be addressed to; Julie McLean, Level 5, SSCCU, CMB, PMH.

Is it compulsory for me to complete this questionnaire?

Participation in this study is voluntary.

Will my answers be kept in a confidential place?

The information collected will be kept confidential in a secure place, which will only be accessed by the research team.

Has this study been approved?

Permission to conduct this research has been granted by the PMH Ethics Committee (Registration Number 1713/EP). This study has been approved by the Curtin University Human Research Ethics Committee (Approval Number HR 127/2009).

The committee is comprised of members of the public, academics, lawyers, doctors and pastoral carers. Its main role is to protect participants. 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.

Will the results of the study be presented at a seminar?

The results of the study will be communicated at the annual Research and Advances seminar at PMH, presented at a professional health conference and published in a peer reviewed scientific journal.

Who do I contact if I have questions or complaints about this research?

If you have any questions in relation to this study, please do not hesitate to contact me on 0417907726. If you have any complaints about the conduct of this study please contact Curtin University on 09266 9223 or the Medical Director through the PMH switch board.

Thank you for participating in this study, your opinion is greatly valued and your thoughts surrounding family presence during paediatric resuscitation is of interest to me.

Yours Sincerely,

Julie McLean



NURSES' PERCEPTIONS OF THEIR SELF-CONFIDENCE AND THE BENEFITS AND RISKS OF FAMILY PRESENCE DURING RESUSCITATION

By Renee Samples Twibell, RN, DNS, CNE, Debra Siela, RN, PhD, CCNS, APRN, BC, CCRN, RRT, Cheryl Riwitis, RN, BSN, CEN, Joe Wheatley, RN, BSN, CRRN, Tina Riegle, RN, BSN, CMSRN, Denise Bousman, RN, BSN, CCRN, Sandra Cable, RN, BSN, Pam Caudill, RN, BSN, Sherry Harrigan, RN, BS, CCRN, CVN-I, Rick Hollars, RN, MSN, CMSRN, ONC, Doreen Johnson, RN, MS, FACHE, CNAAC-BC, and Alexis Neal, RN, MA

CE 1.0 Hour

Notice to CE enrollees:

A closed-book, multiple-choice examination following this article tests your understanding of the following objectives:

1. Describe nurses' perceptions of self-confidence with families being present during resuscitation.
2. Recognize the association between perceptions of nurses regarding family presence during resuscitation and decisions of nurses to invite family presence.
3. Understand the use of both the Family Presence Risk-Benefit Scale and the Family Presence Self-confidence Scale.

To read this article and take the CE test online, visit www.ajconline.org and click "CE Articles in This Issue." No CE test fee for AACN members.

Background Debate continues among nurses about the advantages and disadvantages of family presence during resuscitation. Knowledge development about such family presence is constrained by the lack of reliable and valid instruments to measure key variables.

Objectives To test 2 instruments used to measure nurses' perceptions of family presence during resuscitation, to explore demographic variables and perceptions of nurses' self-confidence and the risks and benefits related to such family presence in a broad sample of nurses from multiple hospital units, and to examine differences in perceptions of nurses who have and who have not invited family presence.

Methods Nurses (n = 375) completed the Family Presence Risk-Benefit Scale and the Family Presence Self-confidence Scale.

Results Nurses' perceptions of benefits, risks, and self-confidence were significantly and strongly interrelated. Nurses who invited family presence during resuscitation were significantly more self-confident in managing it and perceived more benefits and fewer risks ($P < .001$). Perceptions of more benefits and fewer risks were related to membership in professional organizations, professional certification, and working in an emergency department ($P < .001$). Data supported initial reliability and construct validity for the 2 scales.

Conclusions Nurses' perceptions of the risks and benefits of family presence during resuscitation vary widely and are associated with how often the nurses invite family presence. After further testing, the 2 new scales may be suitable for measuring interventional outcomes, serve as self-assessment tools, and add to conceptual knowledge about family presence. (*American Journal of Critical Care*. 2008;17:101-112)

Debate persists in critical care units around the world about the risks and benefits of having family members of a patient present during resuscitation of the patient. Family members of patients overwhelmingly report a desire to be with their loved ones during end-of-life emergency measures.¹⁻⁸ At the urging of professional organizations, including the American Association of Critical-Care Nurses,⁹ the Emergency Nurses Association,¹⁰ and the American Heart Association,¹¹ an increasing number of hospitals now allow family members of patients to be present during resuscitation. Because few acute care facilities have policies about family presence during resuscitation,^{12,13} healthcare professionals often make case-by-case decisions about whether family members are given the option to be present. Therefore, clarifying the perceptions of nurses who are often "gatekeepers to the bedside" during resuscitation is vital.¹⁴

Background

Research suggests that various healthcare professionals have different opinions about family presence. Physicians, particularly interns and residents, are overall less positive than are other healthcare professionals about family presence during resuscitation.^{1,2,15-20} Some nurses support family presence during resuscitation,^{2,15,17,20,21,22} whereas other nurses have more negative views.^{2,4,5,15,17,18,20,23}

Healthcare professionals report 3 primary reasons for their reluctance to invite patients' families to be

Families believe it is their right to be present during resuscitation.

present: the unpleasantness of what the families will see,^{16,17,19,22-26} fear that the resuscitation team will not function well with patients' families in the room,^{16,19,30,22,24,25} and anxiety that family members will become disruptive.^{17,18,20,22,24,25,27} Less frequently men-

tioned concerns include patient confidentiality,²⁴ possible increase in litigation if patients' families are present,^{17,28} and more aggressive and prolonged treatment if patients' families are present.²

However, research has not indicated that patients' families are disruptive, anxious about what they will see, or more likely to sue.^{1,6,28-30} In fact, in one study,³¹ family members reported that they feared being disruptive and wanted to stay out of the way. Little research documents long-term detrimental effects on families.³² Likewise, research has not shown that the resuscitation team performs less adequately or that confidentiality is breached when families are present.²⁸

About the Authors

Authors are affiliated with Ball Memorial Hospital, Muncie, Indiana; Ball State University, School of Nursing, Muncie, Indiana; or Air-Evac EMS, West Plains, Missouri.

Corresponding author: Renee Samples Twibell, RN, DNS, CNE, Associate Professor, School of Nursing, Ball State University, Muncie, IN 47304 (e-mail: rtwibell@bsu.edu).

According to nurses, common advantages of family presence during the resuscitation of adult loved ones include the following: families grasp the seriousness of the patient's condition, families see that everything was done for their loved one, and families move more positively through the grieving process.^{2,19,20,26,27,33-36} In addition, families report that their presence helps the patient and enables the families to receive information quickly.^{2,3,32-34,36,37} Consensus is growing that parental presence during resuscitation of children has many advantages.³⁰ Recently, 18 healthcare organizations united in a national forum to support parental presence during resuscitations of children.³⁸

Three distinct gaps exist in what is known about the perceptions and decisions of nurses regarding family presence during resuscitation of adults. The first gap is due to the way perceptions were measured in earlier research. Most of what is known about nurses' perceptions of family presence during resuscitation has been assessed by using opinion surveys or interviews.^{8,12,14,16-19,23-27,32,34,36,37,39,40} Both methods of data collection are difficult to replicate. Findings across studies cannot be compared when the survey questions used in the studies differ, making it difficult to build a scientific body of knowledge of family presence. More rigor in the measurement of concepts related to family presence is needed.^{41,42}

Recently, several instruments to measure healthcare professionals' perceptions of and opinions about family presence have been developed and tested for psychometric properties.^{20,22,43} Early evidence of reliability and content validity have been reported.^{20,22,45} In 2 studies,^{20,22} researchers measured attitudes, values, and beliefs of healthcare providers related to family presence during resuscitation and invasive procedures. In both studies, nurses and physicians were surveyed. In addition, Duran et al²⁰ surveyed respiratory therapists, patients' families, and

patients. In both studies,^{20,22} the sample consisted of fewer than 100 nurses, all from critical care or emergency departments. Statistical analysis of subscales of the instruments was not part of either study.

The second gap is due to the lack of a conceptual framework. To date, research related to family presence during resuscitation has been atheoretical. More specifically, nurses have not yet identified the primary determinants of decision making about family presence and the pattern of relationships among key factors. Several concepts related to inviting or not inviting patients' families to be present during resuscitation are consistent in the literature, including perceived risks and benefits of the practice.^{5,7,12,15,16,17,26,29,34,37,44-45} Furthermore, according to Rogers' theory of diffusion of innovation,⁴⁶ new ideas are adopted in part on the basis of estimates of relative risks and benefits. In addition, according to Bandura,⁴⁷ the likelihood that a person will behave in a new way depends in part on the person's perception of his or her ability to perform the relevant behavior. In other words, people tend to perform behaviors that they feel confident in doing.⁴⁸

Research is needed to test the relationship between risks, benefits, and self-confidence in managing family presence during resuscitation. If nurses have high self-confidence about their ability to perform adequately during resuscitation when a patient's family is present, will they be more likely to invite families to the bedside? To what extent do perceptions of risks, benefits, and self-confidence influence nurses' decision making about the innovative practice of family presence?

The third gap is due to the types of samples included in earlier research. In most studies of nurses' perceptions of family presence, the sample consisted of nurses employed in emergency departments. Critical care nurses were included in some studies,^{17,20} but none of the studies included nurses who worked in non-critical care units. The samples in prior research consisted of fewer than 100 nurses,^{20,22} and sometimes the response rates were low.²⁸ In addition, the relationships between respondents' personal and professional characteristics, including age and years of experience, and their perceptions of family presence have not been consistently described.²⁸

The purposes of the study reported here were to address the 3 gaps and, specifically, to test instruments used to measure nurses' perceptions of family presence; to explore demographic variables and nurses' perceptions of self-confidence, risks, and benefits related to family presence in a broad sample of nurses from multiple hospital units; and to examine differences in perceptions of nurses who have and who have not invited patients' families to

be present during resuscitation. The research questions were as follows:

- What are the psychometric properties of 2 new instruments used to measure nurses' perceptions related to family presence?
- What are the relationships between nurses' perceptions of risks, benefits, and self-confidence related to family presence during resuscitation?
- What are the relationships among demographic variables and nurses' perceptions of family presence during resuscitation?
- What are the differences in perceptions of nurses who have and have not invited patients' families to be present during resuscitation?

Methods

Sample, Setting, and Procedure

Participants were registered nurses (RNs) and licensed practical nurses (LPNs) employed at Ball Memorial Hospital, a regional medical center associated with Ball State University in Muncie, Indiana. The hospital did not have a policy about family presence during resuscitation. Some units of the hospital routinely used family presence, whereas others did not. To be included in the study, participants had to be 18 years or older, be able to read English, and hold a nursing license in Indiana.

The study was approved by the appropriate institutional review boards. Nurses completed the 2 instruments and returned them by mail. Participation was voluntary and anonymous. Data were confidential.

Instruments

Perceptual variables in the study were perceived risks, perceived benefits, and self-confidence related to family presence during resuscitation. On the basis of the theories of Rogers⁴⁶ and Bandura,⁴⁷ qualitative data from content experts, and the findings of earlier research,^{5,7,12,15,16,17,26,29,34,37,44-45} we developed 2 instruments to measure the perceptual variables. The Family Presence Risk-Benefit Scale (FPR-BS) was used to measure nurses' perceptions of the risks and benefits of family presence to the family, patient, and resuscitation team. Two items addressed the extent to which being present was a right of families and patients. The Family Presence Self-confidence Scale (FPS-CS) was used to measure nurses' self-confidence related to managing resuscitation with patients' families present. Items for both scales were developed on the basis of the literature and interviews with expert nurses from a variety of clinical areas. Items on

Two-thirds of nurses had never invited family presence during resuscitation.

Table 1
Sample characteristics (n = 375)^a

Characteristic	No.	%
Sex		
Male	8	2.1
Female	359	95.7
Race		
White	351	93.6
African American	1	0.3
Asian Pacific	3	0.8
Other	5	1.3
Level of education in nursing		
Baccalaureate degree	185	49.3
Associate degree	108	28.8
Licensed practical nurse	45	12.0
Advanced practice/degree	14	3.7
Type of patients in nursing unit		
Adults	300	80.0
Children	38	10.1
Neonates	37	9.9
Years of experience		
<1	14	3.7
1-5	69	18.4
6-10	82	21.9
11-20	115	30.7
>20	88	23.5
Age, y		
18-24	17	4.5
25-29	143	38.1
40-55	173	46.1
>56	32	8.5
Type of clinical unit		
Critical care	136	36.3
Emergency	22	5.9
Non-critical care inpatient	165	44.0
Outpatient	26	6.9
Number of times invited family presence		
0	254	67.7
<5	83	22.1
≥5	28	7.5

^a Because of missing data and rounding, not all percentages total 100.

both scales had 5-point Likert response options, from strongly disagree (1) to strongly agree (5). Clinical experts in family presence, academicians, and statistical experts in design and testing provided content review of the items. The initial items were pilot tested with 20 nurses from multiple nursing units in an acute care setting. After modifications, 26 of the 30 original items were included in the FPR-BS. The possible range of scores was 26 to 130. Of the original 19 items, 17 were included in the FPS-CS; the possible range of scores was 17 to 85.

Demographic variables were measured by using single items that addressed age, sex, ethnicity, educational level, role as an RN or an LPN, current professional certifications, and years of experience as a nurse.

A single item asked, "How many times have you invited a family member to be present during a resuscitation attempt at this hospital?" Response options were never, fewer than 5 times, and 5 times or more.

Statistical Analysis

For analysis of the psychometric properties of the 2 instruments, maximum likelihood exploratory factor analysis with varimax rotation was computed to determine the construct validity of the scales. Item-to-total correlations and Cronbach α reliability were used to assess whether items were consistently measuring the same underlying ideas. Relationships among study variables were examined by computing Pearson r correlations among scores for perceived benefits, perceived risks, and self-confidence.

Relationships among demographic variables were analyzed descriptively. Because of the small number of men and nonwhite participants, data on sex and ethnicity of the participants were eliminated from the analysis. Pearson r correlations, t tests, and analysis of variance were used to determine relationships between perceptual variables and demographic variables. Analysis of variance was used to examine differences in scores on the FPR-BS and the FPS-CS on the basis of how often nurses had invited patients' family members to be present during resuscitation.

Significance was set at $P < .05$. A sample size of at least 250 was targeted. SPSS for Windows, version 14.0.2 (SPSS Inc, Chicago, Illinois), was used for all analyses. Negatively worded items were reverse scored. Residual analyses revealed acceptable linear trends.

Results

Characteristics of the Sample

A total of 375 nurses participated in the study, for a response rate of 64%. More than 95% were women, more than 90% were white, and more than 75% had at least 6 years of nursing experience (Table 1). One half of the sample had a baccalaureate degree in nursing. A total of 44% ($n = 165$) worked on inpatient, non-critical care units, 36% ($n = 136$) worked in critical care units, 6% ($n = 22$) worked in the emergency department, and 7% ($n = 26$) worked in an outpatient setting. Most respondents provided care for adults (80%). Nurses from a pediatric unit (10%) also cared for some adult surgical patients. Nurses from a neonatal ICU (10%) cared solely for infants.

About two-thirds of the participants ($n = 254$) had never invited the family of a patient to be present during resuscitation, more than 20% ($n = 83$) had invited family presence at least once but fewer than 5 times, and 7.5% ($n = 28$) had invited it 5 times or more.

Table 2
Factor analysis^a: items on Family Presence Risk-Benefit Scale

Original item number	Item	Factor loading
1	Family members should be given the option to be present when a loved one is being resuscitated	0.787
2	Family members will panic if they witness a resuscitation effort	-0.602
3	Family members will have difficulty adjusting to the long-term emotional impact of watching a resuscitation effort	-0.739
4	The resuscitation team may develop a close relationship with family members who witness the efforts, as compared with family members who do not witness the efforts	0.566
6	If my loved one were being resuscitated, I would want to be present in the room	0.667
7	Patients do not want family members present during a resuscitation attempt	-0.648
9	Family members who witness unsuccessful resuscitation efforts will have a better grieving process	0.740
11	Family members will become disruptive if they witness resuscitation efforts	-0.676
12	Family members who witness a resuscitation effort are more likely to sue	-0.591
13	The resuscitation team will not function as well if family members are present in the room	-0.498
15	Family members on the unit where I work prefer to be present in the room during resuscitation efforts	0.528
16	The presence of family members during resuscitation efforts is beneficial to patients	0.781
17	Family presence during resuscitation is beneficial to families	0.800
18	Family presence during resuscitation is beneficial to nurses	0.848
19	Family presence during resuscitation is beneficial to physicians	0.807
20	Family presence during resuscitation should be a component of family-centered care	0.856
21	Family presence during resuscitation will have a positive effect on patient ratings of satisfaction with hospital care	0.869
22	Family presence during resuscitation will have a positive effect on family ratings of satisfaction with hospital care	0.854
23	Family presence during resuscitation will have a positive effect on nurse ratings of satisfaction in providing optimal patient and family care	0.890
24	Family presence during resuscitation will have a positive effect on physician ratings of satisfaction in providing optimal patient and family care	0.843
25	Family presence during resuscitation is a right that all patients should have	0.680
26	Family presence during resuscitation is a right that all family members should have	0.673

^a Maximum likelihood extraction, varimax rotation.

Scores on Study Variables

Mean total scores were 3.15 (range, 1.09-4.91) on the FPR-BS and 3.65 (range, 1.0-5.0) on the FPS-CS. The responses of the participants varied greatly. Almost every item on the 2 instruments elicited responses that ranged from strongly disagree to strongly agree. Because of the large sample size and the variability in responses on such a controversial topic, normal distributions of scores were not anticipated. However, Shapiro-Wilks tests of normality indicated that scores on the FPS-CS and the FPR-BS had nearly normal distributions. Furthermore, the skewness and kurtosis measures were small, from 0.15 to 0.87, indicating that departures from normality were not marked. Visual inspection of graphs of scores likewise revealed that the distributions were nearly normal. Because strict normality was not a strong assumption for the statistics proposed in the study, parametric statistics were computed.¹⁹

Instrument Testing

Factor analysis of the FPR-BS revealed a single interpretable factor. Four items were deleted because of low item-total correlations and inconsistent loading on the single factor. The scale was bipolar: high scores signified perceptions of more benefits and fewer risks; low scores, perceptions of more risks and fewer benefits.

The single factor of the FPR-BS explained 53% of the variance in nurses' perceptions of risks and benefits of family presence. Factor loadings ranged from -0.498 to 0.890 (Table 2). The Cronbach α reliability of the 22-item scale was .96.

All 17 items on the FPS-CS correlated with the total score and were retained in the analysis. A single factor explained 52% of the variance in nurses' self-confidence to manage family presence. Factor loadings ranged from 0.553 to 0.825 (Table 3). The Cronbach α reliability of the scale was .95.

Table 3
Factor analysis^a: items on Family Presence Self-confidence Scale

Original item number	Item	Factor loading
1	I could communicate about the resuscitation effort to family members who are present	0.732
2	I could administer drug therapies during resuscitation efforts with family members present	0.585
3	I could perform electrical therapies during resuscitation efforts with family members present	0.553
4	I could deliver chest compressions during resuscitation efforts with family members present	0.671
5	I could communicate effectively with other health team members during resuscitation efforts with family members present	0.713
6	I could maintain dignity of the patient during resuscitation efforts with family members present	0.640
7	I could identify family members who display appropriate coping behaviors to be present during resuscitation efforts	0.755
8	I could prepare family members to enter the area of resuscitation of their family member	0.825
9	I could enlist support from attending physicians for family presence during resuscitation efforts	0.591
10	I could escort family members into the room during resuscitation of their family member	0.800
11	I could announce family members' presence to resuscitation team during resuscitation efforts of their family members	0.789
12	I could provide comfort measures to family members witnessing resuscitation efforts of their family member	0.799
13	I could identify spiritual and emotional needs of family members witnessing resuscitation efforts of their family member	0.788
14	I could encourage family members to talk to their family member during resuscitation efforts	0.693
15	I could delegate tasks to other nurses in order to support family members during resuscitation efforts of their family member	0.787
16	I could debrief family after resuscitation of their family member	0.751
17	I could coordinate bereavement follow-up with family members after resuscitation efforts of their family member, if required	0.715

^a Maximum likelihood extraction, varimax rotation.

Relationships Among Perceptions

The Pearson *r* correlation between nurses' perceptions of risks and benefits and self-confidence related to family presence was significant ($r = 0.56$, $P < .001$). Nurses who perceived more benefits and fewer risks also perceived more self-confidence in their ability to manage family presence.

Slightly more than half of the sample agreed or strongly agreed that family presence was a "right" of both patients and families. These perceptions were significantly related to perceptions of fewer risks and more benefits ($r = 0.72$, $P = .008$) and to high scores on the FPS-CS ($r = 0.40$, $P = .04$).

Relationships Between Demographic Variables, Risks-Benefits, and Self-confidence

Scores on the FPR-BS differed significantly between nurses who did and did not belong to a professional nursing organization ($t = 5.3$, $P < .001$) and between nurses who were and were not certified in a clinical specialty ($t = 3.9$, $P < .001$). Certified nurses and members of professional organizations perceived more benefits and fewer risks than did nonmembers and noncertified nurses.

Likewise, scores on the FPS-CS differed significantly between nurses who did and did not belong to a professional nursing organization ($t = 5.1$, $P < .001$) and between nurses who were and were not certified in a clinical specialty ($t = 3.8$, $P < .001$). Certified nurses and members of professional organizations perceived greater self-confidence than did noncertified nurses and nonmembers.

Perceptions related to family presence did not differ between RNs with an associate degree, a baccalaureate degree, or an advanced nursing degree. Compared with all RNs, LPNs perceived fewer benefits and more risks ($F = 14.3$, $P < .001$). LPNs reported less self-confidence than did RNs with a baccalaureate degree ($F = 2.76$, $P = .04$), but the self-confidence of LPNs did not differ significantly from that of RNs with an associate degree or an advanced practice degree.

Number of years of experience in nursing was not significantly related to nurses' perceptions of risks, benefits, or self-confidence. Nurses' age was not significantly related to their perceptions of family presence.

Scores on the 2 instruments varied across units. The perceptions of nurses who worked in critical

care settings did not differ from those of nurses who worked in non-critical care inpatient units. Although only a few participants in the sample worked in the emergency department, their perceptions varied significantly from those of the other participants. Emergency nurses perceived significantly fewer risks and more benefits ($F = 7.56, P < .001$) and greater self-confidence ($F = 6.90, P < .001$) than did nurses who worked in all other units. Nurses who worked in outpatient ambulatory settings, also a small part of the sample, reported significantly more risks and fewer benefits than did nurses from other units ($F = 6.9, P < .001$).

Who Invites Family Presence?

Mean scores on the FPR-BS differed significantly ($F = 32.6, P < .001$) between nurses who had never invited family presence ($n = 254$; mean score = 2.99), nurses who had invited family presence fewer than 5 times ($n = 83$; mean score = 3.38), and nurses who had invited family presence 5 times or more ($n = 28$; mean score = 4.00). The more times nurses invited family presence, the more benefits they perceived (see Figure).

Scores on the FPS-CS also varied significantly ($F = 36.4, P < .001$) between nurses who had never invited family presence (mean score = 3.47), nurses who had invited family presence fewer than 5 times (mean score = 3.93), and nurses who had invited family presence 5 times or more (mean score = 4.43). The more times nurses invited family presence, the greater was their self-confidence (see Figure).

Discussion and Implications

The dramatically divergent responses of participants, from strongly agree to strongly disagree on most items, reflect the continuing controversial nature of family presence during resuscitation. Despite families' clear desire to be present and the support of family presence by professional organizations and consensus groups, nurses still do not agree on the risks and benefits involved. The total mean score of 3.15 on the FPR-BS was slightly positive, indicating that nurses still see both benefits and risks in family presence. This score was higher than the 2.79 mean score, which indicated positive attitudes toward family presence during resuscitation and procedures, in the study by Duran et al.²⁰ Mean scores on scales in the study by Mian et al.¹² also were in the 2.7 range. However, a clear and insightful comparison of scores is not possible, because the sample in our study consisted solely of nurses, the focus was resuscitation, and the items differed from those on earlier tools.

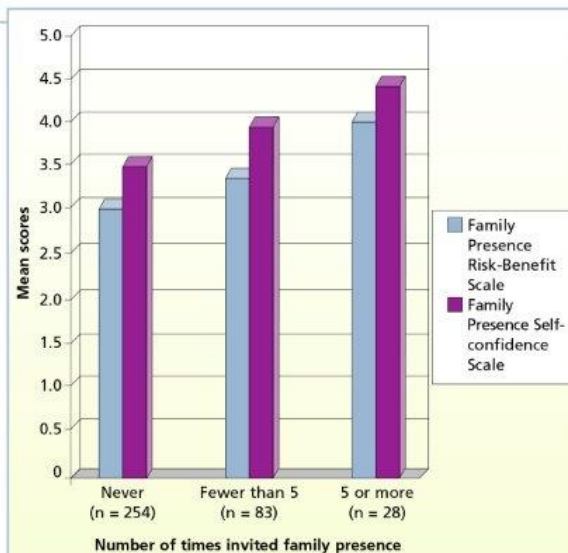


Figure Mean scores on Family Presence Risk-Benefit Scale and Family Presence Self-confidence Scale for nurses who did and did not invite family presence.

Despite limited experience in inviting family presence, the total sample of nurses in our study scored themselves moderately high on self-confidence in caring for patients and families during family presence. No other investigators have used a multi-item tool to assess self-confidence, so no data from other samples are available for comparison. The finding that nurses with greater self-confidence had invited family presence more often is consistent with results from 2 earlier studies,^{18,43} in which health-care providers with increased confidence and competence were more likely to adopt family presence than were providers with less confidence and competence. Our findings do not indicate whether increased confidence in managing family presence precedes more frequent invitations for family presence or whether more frequent invitations for family presence increase nurses' confidence in managing such presence. Further exploration of the relationship between nurses' confidence and perceptions related to family presence is needed.

Our results do not indicate why nurses make certain decisions about family presence, but the

More than half of the nurses believed that family presence during resuscitation was a "right" both of patients and their families.

findings do suggest that the perceptions of nurses who have invited family presence differ from those of nurses who have not invited such presence. Nurses who invited family presence perceived more benefits, fewer risks, and more self-confidence than nurses who did not invite family presence. These results support other research findings^{22,27,33} suggesting that once nurses participate in family presence, they perceive more benefits than risks in the practice.

Our data depict a profile of nurses who typically invite family presence. Nurses most likely to invite family presence were RNs who were certified, were members of a professional organization, and were working in the emergency department. Possibly, the respondents were members of the American Association of Critical-Care Nurses or the Emergency Nurses Association, organizations that advocate for family presence. In 2 other studies,^{17,23} nurses certified by the Emergency Nurses Association were more likely than other nurses to invite family presence. Similar to our findings, in the study by Bassler,²⁴ nurses who worked in the emergency department were more likely than critical care nurses to invite family presence. Nurses in emergency departments may tend to integrate patients' family members into patients'

experiences more than nurses do on inpatient units, where even open visitation for patients' families may still be controversial.³⁰

Nurses who work in critical care units did not differ in their perceptions of risks, benefits, or self-confidence from nurses who worked in non-critical care inpatient units. This finding was similar to that of Fulbrook et al³² that ICU and non-ICU nurses in a European sample did not differ in attitudes toward family presence. Nurses who worked in an outpa-

tient setting may have perceived more risks and fewer benefits because their experiences with resuscitation are rare and usually unexpected.

Our results did not clarify the relationships between nurses' age, years of experience, and perceptions related to family presence. We found no significant relationships, in contrast to the findings of other studies,^{18,23} which suggested that nurses with more nursing experience were more favorable toward family presence. Fulbrook et al³² found no differences in attitudes related to years of nursing experience.

Our data reflect disparity about whether or not patients' families have a "right" to be present during resuscitation. The key question is, Who owns the family presence decision? Families have commonly

reported that family presence is a right.^{2,3,28,34} The nurses in our study were evenly divided on whether or not families had a right to be present. Similar results from other studies^{7,12,25,40} indicate that healthcare professionals do not yet fully embrace family presence as a right to be exercised by patients' families, independent of the judgment of healthcare professions.

Strategies to increase adoption of family presence can focus on skill building for both inviting and managing family presence. Once a nurse has experienced family presence during resuscitation, debriefing can provide further learning opportunities and a chance to reflect and develop confidence. Active-learning strategies could include role playing, mentoring, supervised practice, coaching, case-study simulations, and self-exploration of the evidence on family presence. Membership in professional organizations can be encouraged.

One purpose of our study was to test instruments to measure nurses' perceptions related to family presence. The instruments in prior research were used to measure global concepts of attitude, beliefs, and values^{20,22} rather than specific concepts such as risks, benefits, and self-confidence, although some overlap occurred in the content of items. Our use of factor analysis of the instruments to examine construct validity is the first statistical evaluation of the factor structure of measures of concepts of family presence. No discrete subscales were identified. The data provided initial support for the internal consistency reliability and construct validity of the 2 scales.

Further development of the FPR-BS and FPS-CS could address validity, reliability, and the scope of the items on the scales. Validity of the scales can be enhanced by testing the factor structure of the 22-item FPR-BS in other samples with ethnic and geographic diversity. The factor structure of the FPS-CS also requires confirmation in other samples. Concurrent validity of the FPR-BS could be tested by using selected subscales from similar measures, such as the family presence attitude scale in the study by Duran et al.²⁰ Concurrent validity of the FPS-CS could be tested by using a general measure of self-efficacy, such as the General Self-efficacy Scale.⁵¹ However, measures of self-efficacy and self-confidence are more valid and precise when associated with a specific behavior rather than measured as a global construct.⁵²

Internal consistency reliability of the scales can be tested in other samples. The high Cronbach α values for our scales suggests that some items are redundant and could be removed. Test-retest reliability may be informative as a measure of stability of scores over time, although perceptions of family presence may change in response to day-by-day experiences.

Members of professional organizations perceived greater benefit and less risk than did non-members.

The scope of the items on the FPR-BS could be expanded to explain more of the variance in the scores. In our study, slightly less than half of the variance in scores on both instruments was unexplained. Unexplained variance could arise from 2 sources. One source might be inconsistent responses to items by individual respondents, because of the emotional and controversial nature of the debate on family presence. If nurses are not sure about risks, benefits, and self-confidence, responses to items may not be consistent, and more unexplained variance will result. Fulbrook et al¹² noted that respondents (n = 124) changed their views on issues related to family presence from the beginning to the end of a survey. A second source of unexplained variance might be the existence of additional influences on nurses' perceptions of risks, benefits, and self-confidence that were untapped by these tools.

Qualitative research on family presence may reveal more specific concepts related to nurses' decisions about the practice that can be operationalized on further revisions of the instruments. For example, it might be useful to measure additional, specific benefits of family presence on the FPR-BS, such as "family can see that everything was done," "family can have closure," "family can touch the patient," "patient can be comforted by the family," "patients' confidentiality may be compromised," and "patients' personhood may be preserved." The development of a conceptual framework for family presence will offer further direction for expanding the items of the scales.

After more development, these 2 scales may contribute to what is known about family presence in several ways. First, the scales may offer a standardized, psychometrically sound alternative to researcher-developed, single-study opinion surveys and thus may allow results to be compared across studies and samples. Clarification of the conceptual underpinnings of family presence may be enhanced as additional, psychometrically sound tools are developed.

Second, the scales could be used to quickly and easily identify nurses who favor family presence and feel confident in managing it. The Synergy Model⁴⁶ recommends matching patients' needs with nurses' competencies. To optimize patient and family outcomes during resuscitation, nurses who are confident of their abilities in managing family presence can be assigned to code teams, rapid response teams, and family care during resuscitations. Likewise, nurses who favor family presence and are confident of their ability to manage the practice may act as role models for novice nurses, mentor experienced nurses, teach family presence at the bedside, serve effectively on

code teams, and lead change in units that do not practice family presence.

Third, the 2 scales could be used as pretests to detect learning needs for an educational intervention on family presence and as posttests to measure the effectiveness of interventions, a study design piloted by Mian et al.²²

Fourth, the scales also can be used as quick self-assessments for nurses who want to understand more clearly why they feel the way they do about family presence. For example, nurses can ask themselves, Am I nonsupportive of family presence because I don't feel confident about my ability to manage the situation?

Further exploration of nurses' self-confidence related to family presence may expand to include the concept of self-efficacy. Self-efficacy includes not only how confident nurses feel about performing an activity but also the extent to which nurses believe that the activity will bring about desirable results.⁴⁷ Once the desirable results of family presence are verified through research, the FPS-CS could be adapted to measure self-efficacy related to family presence.

Limitations

In interpreting the results of this study and planning future research, it is important to note how the study could be improved. One limitation was that participants reported solely about their experience in inviting family presence, not past experience with resuscitation in general. In our study, the focus was on nurses' perceptions regardless of their experience with resuscitation and family presence. Because more than 75% of the sample had at least 6 years of nursing experience and more than 90% worked in acute care units, most participants probably had exposure to at least one resuscitation effort. However, we made no attempt to examine the effect of past experience with resuscitation in general on perceptions related to family presence. Because recent research^{5,20} suggests that exposure to resuscitation with or without family presence could influence attitudes and beliefs, experiences with resuscitation should be measured in future studies. Researchers could inquire about the number of resuscitations in which participants had been involved and the number of opportunities participants had to invite family presence.

The limited variety in the ethnicity of participants and the geographic setting of the study constrain the

Despite limited experience, nurses scored moderately high on self-confidence in providing the experience.

generalizability of the results. Perceptions of family presence may vary across geographic regions and ethnic groups.^{17,25,42} Our sample was more than 90% white, although it did reflect the ethnic composition of the region in which data collection occurred. Therefore, replication of this study is recommended in other world regions and in multiethnic samples of nurses.

Conclusions

Our results suggest that nurses hold widely divergent perceptions of risks, benefits, and their own self-confidence related to family presence. Nurses who hold professional certification, work in emergency departments, and are members of a professional organization are more favorable toward family presence than are other nurses, and they invite family presence more often. Increased participation in professional nursing organizations may provide greater exposure to current research and evidence-based practices related to family presence.

Perceptions of risks, benefits, and confidence in managing family presence are associated with the decisions nurses make about inviting family presence. Nurses who have high confidence view family presence as more beneficial and less risky. Active-learning strategies may boost nurses' confidence about family presence.

Initial tests of the FPR-BS and FPS-CS indicate that the scales provide reliable and valid measures of nurses' perceptions of risks, benefits, and self-confidence related to family presence. Further testing of both scales is needed, with the eventual goal of developing highly reliable and valid measures of nurses' perceptions related to family presence. Evidence-based practice will be enhanced as concepts relevant to family presence are identified and measured consistently across studies.

ACKNOWLEDGMENT

We acknowledge the contribution of Dr James A. Jones, Ball State University, to the statistical analysis of this study.

FINANCIAL DISCLOSURES

None reported.

SEE ALSO

To learn more about family presence during resuscitation, visit <http://ccn.aacnjournals.org> and read the article by Mian and colleagues, "Impact of a Multifaceted Intervention on Nurses' and Physicians' Attitudes and Behaviors Toward Family Presence During Resuscitation" (*Critical Care Nurse*, February 2007).

eLetters

Now that you've read the article, create or contribute to an online discussion about this topic using eLetters. Just visit www.ajconline.org and click "Respond to This Article" in either the full-text or PDF view of the article.

REFERENCES

- Mangurten J, Scott SH, Guzzetta CE, et al. Effects of family presence during resuscitation and invasive procedures in a pediatric emergency department. *J Emerg Nurs*. 2008; 32(3):225-233.
- Meyers TA, Eichhorn DJ, Guzzetta CE, et al. Family presence during invasive procedures and resuscitation: the experience of family members, nurses, and physicians. *Am J Nurs*. 2000;100(2):32-41.
- Meyers TA, Eichhorn DJ, Guzzetta CE. Do families want to be present during CPR? A retrospective survey. *J Emerg Nurs*. 1998;24(5):400-405.
- Kidby J. Family-witnessed cardiopulmonary resuscitation. *Nurs Stand*. 2003;17(51):33-36.
- Sacchetti A, Lichenstein R, Carraccio CA, Harris RH. Family member presence during pediatric emergency department procedures. *Pediatr Emerg Care*. 1996;12(4):268-271.
- Robinson SM, Mackenzie-Ross S, Campbell Hewson GL, Eggleston CV, Prevost AT. Psychological effect of witnessed resuscitation on bereaved relatives. *Lancet*. 1998;352(9128): 614-617.
- Hanson C, Strawser D. Family presence during cardiopulmonary resuscitation: Foote Hospital emergency department's nine-year perspective. *J Emerg Nurs*. 1992;18(2):104-106.
- Morris B. Witness protection ... allows relatives to witness resuscitations. *Nurs Stand*. 1998;12(50):12.
- American Association of Critical-Care Nurses. Practice alert: family presence during CPR and invasive procedures. American Association of Critical-Care Nurses Web site. <http://www.aacn.org/AACN/practiceAlert.nsf/vwdoc/pa2>. Issued November 2004. Accessed December 12, 2007.
- Emergency Nurses Association. *Presenting the Option for Family Presence*. Park Ridge, IL: Emergency Nurses Association; 1995:1-84.
- Guidelines 2000 for cardiopulmonary resuscitation and emergency vascular care: an international consensus on science. American Heart Association. *Circulation*. 2000; 102(8 suppl):11-384.
- MacLean S, Guzzetta CE, White C, et al. Family presence during cardiopulmonary resuscitation and invasive procedures: practices of critical care and emergency nurses. *J Emerg Nurs*. 2003;29(3):208-221.
- White HD. Policy development plan for the concept of family presence in the Johns Hopkins Department of Radiology: a patient safety initiative. *J Radiol Nurs*. 2006;25(1):16-18.
- Knott A, Kee CC. Nurses' beliefs about family presence during resuscitation. *Appl Nurs Res*. 2005;18(4):192-198.
- Boudreaux ED, Francis JL, Loyacano T. Family presence during invasive procedures and resuscitations in the emergency department: a critical review and suggestions for future research. *Ann Emerg Med*. 2002;40(2):193-205.
- Helmer SD, Smith RS, Dort JM, Shapiro WM, Katan BS. Family presence during trauma resuscitation: a survey of AAST and ENA members. *J Trauma*. 2000;48(6):1015-1024.
- McClenathan BM, Torrington KG, Uyehara CF. Family member presence during cardiopulmonary resuscitation: a survey of US and international critical care professionals. *Chest*. 2002;122:2204-2211.
- Mitchell MH, Lynch MB. Should relatives be allowed in the resuscitation room? *J Accid Emerg Med*. 1997;14(6):366-369.
- Fein JA, Ganesh J, Alpern ER. Medical staff attitudes toward family presence during pediatric procedures. *Pediatr Emerg Care*. 2004;20:224-227.
- Duran CR, Oman KS, Abel JJ, Kozziel VM, Szymanski D. Attitudes toward and beliefs about family presence: a survey of healthcare providers, patients' families, and patients. *Am J Crit Care*. 2007;16:270-279.
- Beckman A, Sloan B, Moore G, et al. Should parents be present during emergency department procedures on children, and who should make that decision? A survey of emergency physician and nurse attitudes. *Acad Emerg Med*. 2002;9(2):154-158.
- Mian P, Warchal S, Whitney S, Fitzmaurice J, Tancredi D. Impact of a multifaceted intervention on nurses' and physicians' attitudes and behaviors toward family presence during resuscitation. *Crit Care Nurse*. 2007;27(1):52-61.
- Ellison S. Nurses' attitudes toward family presence during resuscitative efforts and invasive procedures. *J Emerg Nurs*. 2003;29:515-521.
- Bassler PC. The impact of education on nurses' beliefs regarding family presence in a resuscitation room. *J Nurses Staff*

- Dev. 1999;15(3):126-131.
25. Ong ME, Chan YH, Srither DE, Lim YH. Asian medical staff attitudes towards witnessed resuscitation. *Resuscitation*. 2004;60(1):45-50.
 26. Redley B, Hood K. Staff attitudes towards family presence during resuscitation. *Accid Emerg Nurs*. 1996;4(3):145-151.
 27. Belanger J, Reed S. A rural community hospital's experience with family-witnessed resuscitation. *J Emerg Nurs*. 1997;23:238-239.
 28. Halm MA. Family presence during resuscitation: a critical review of the literature. *Am J Crit Care*. 2005;14:494-513.
 29. Booth MG, Woolrich L, Kinsella J. Family witnessed resuscitation in UK emergency departments: a survey of practice. *Eur J Anaesthesiol*. 2004;21(9):725-728.
 30. Nibert L, Ondrejka D. Family presence during pediatric resuscitation: an integrative review for evidence-based practice. *J Pediatr Nurs*. 2005;20(2):145-147.
 31. Weslien M, Nilstun T, Lundqvist A, Fridlund B. Narratives about resuscitation: family members differ about presence. *Eur J Cardiovasc Nurs*. 2006;5(1):68-74.
 32. van der Woning M. Relatives in the resuscitation area: a phenomenological study. *Nurs Crit Care*. 1999;4:186-192.
 33. Axelsson AB, Zettergren M, Axelsson C. Good and bad experiences of family presence during acute care and resuscitation. What makes the difference? *Eur J Cardiovasc Nurs*. 2005;4(2):161-169.
 34. Eichhorn DJ, Meyers TA, Guzzetta CE, et al. During invasive procedures and resuscitation: hearing the voice of the patient. *Am J Nurs*. 2001;101(5):48-55.
 35. Grice AS, Picton P, Deakin CD. Study examining attitudes of staff, patients and relatives to witnessed resuscitation in adult intensive care units. *Br J Anaesth*. 2003;91(6):820-824.
 36. Holzhauser K, Finucane J, De Vries SM. Family presence during resuscitation: a randomised controlled trial of the impact of family presence. *Australas Emerg Nurs J*. 2006;8(4):139-147.
 37. Wagner J. Lived experience of critically ill patients' family members during cardiopulmonary resuscitation. *Am J Crit Care*. 2004;13:416-420.
 38. Henderson D, Knapp J. Report of the National Consensus Conference on Family Presence During Pediatric Resuscitation and Procedures. *J Emerg Nurs*. 2006;32:23-29.
 39. Boyd R, White S. Does witnessed cardiopulmonary resuscitation alter perceived stress in accident and emergency staff? *Eur J Emerg Med*. 2000;7(1):51-53.
 40. Hallgrimsdottir E. Accident and emergency nurses' perceptions and experiences of caring for families. *J Clin Nurs*. 2000;9:611-619.
 41. Redley B, Botti M, Dike M. Family member presence during resuscitation in the emergency department: an Australian perspective. *Emerg Med Australas*. 2004;16(4):295-308.
 42. Fulbrook P, Albarran J, Latour J. A European survey of critical care nurses attitudes and experiences of having family members present during cardiopulmonary resuscitation. *Int J Nurs Stud*. 2005;42(5):557-568.
 43. Mangurten JA, Scott SH, Guzzetta CE, et al. Family presence: making room. *Am J Nurs*. 2005;105(5):40-48.
 44. Clark AP, Aldridge MD, Guzzetta CE, et al. Family presence during cardiopulmonary resuscitation. *Crit Care Nurs Clin North Am*. 2005;17(1):23-32.
 45. York NL. Implementing a family presence protocol option. *Dimens Crit Care Nurs*. 2004;23(2):84-88.
 46. Rogers EM. *Diffusion of Innovations*. 4th ed. New York, NY: Free Press; 1995.
 47. Bandura A. *Social Foundations of Thought and Action: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice Hall; 1986.
 48. Hardin SR, Kaplow R. *Synergy for Clinical Excellence: The AACN Synergy Model for Patient Care*. Boston, MA: Jones & Bartlett Publishers; 2005.
 49. Stevens J. *Applied Multivariate Statistics for the Social Sciences*. 4th ed. Mahwah, NJ: Lawrence Erlbaum Assoc; 2002.
 50. Berwick DM, Kotagal M. Restricted visiting hours in ICUs: time to change. *JAMA*. 2004;292(6):736-737.
 51. Schwarzer R, Jerusalem M. Generalized self-efficacy scale. In: Weinman J, Wright S, Johnston M, eds. *Measures in Health Psychology: A User's Portfolio. Causal and Control Beliefs*. London, England: nferNELSON; 1993:35-37.
 52. Bandura A. Self-efficacy mechanism in physiological activation and health-promoting behavior. In: Madden J, ed. *Neurobiology of Learning, Emotion and Affect*. New York, NY: Raven Press; 1991:229-270.

To purchase electronic or print reprints, contact
The InnoVision Group, 101 Columbia, Aliso Viejo, CA
92656. Phone, (800) 809-2273 or (949) 362-2050 (ext
532); fax, (949) 362-2049; e-mail, reprints@aacn.org.

APPENDIX I: Nurses questionnaire

Nurses' perception of family presence during the resuscitation of paediatric patients

Please do not put your name on this questionnaire.

Allowing families to be present during the resuscitation of paediatric patients is a controversial topic amongst health care professionals.

Definition: Family-witnessed resuscitation means one or more family members are present in the room while a patient is being resuscitated in an effort to sustain life.

Completing this questionnaire is **voluntary**.

Part A: Demographic Information

1. Please circle the area in which you work.	Critical Care Area (E.D, PICU, NICU) Non Critical Care Area (All other areas)
2. Please select your current Nursing role.	Enrolled Nurse Registered Nurse Clinical Nurse Senior Registered Nurse
3. Please write the number of years you have been working in paediatrics (this includes neonates, infants, children and adolescents).	
4. Please select the highest nursing degree you have completed .	Enrolled Nursing Certificate Hospital trained Bachelor Degree in Nursing Post Graduate Certificate Post Graduate Diploma Masters Degree Doctoral Degree
5. Please select your gender	Male Female
6. Do you have a membership with a professional nursing organisation (excluding the ANF)?	Yes No
7. Have you been involved in resuscitation of a child? If Yes please answer question 8.	Yes No
8. Have you invited family into the resuscitation room?	Yes No

Part B: Family Presence Risk-Benefit Scale

Please circle the number that best represents your opinion.		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Family members should be given the option to be present when a loved one is being resuscitated.	1	2	3	4	5
2.	Family members will panic if they witness a resuscitation effort.	1	2	3	4	5
3.	Family members will have difficulty adjusting to the long term emotional impact of watching a resuscitation effort.	1	2	3	4	5
4.	The resuscitation team may develop a close relationship with family members who witness the efforts, as compared to family members who do not witness the efforts.	1	2	3	4	5
5.	If my loved one were being resuscitated, I would want to be present in the room.	1	2	3	4	5
6.	Patients do not want family members present during a resuscitation attempt.	1	2	3	4	5
7.	Family members who witness unsuccessful resuscitation efforts will have a better grieving process.	1	2	3	4	5
8.	Family members will become disruptive if they witness resuscitation efforts.	1	2	3	4	5
9.	Family members who witness a resuscitation effort are more likely to sue.	1	2	3	4	5
10.	The resuscitation team will not function as well if family members are present in the room.	1	2	3	4	5
11.	Family members on the unit where I work prefer to be present in the room during resuscitation efforts.	1	2	3	4	5
12.	The presence of family members during resuscitation efforts is beneficial to patients.	1	2	3	4	5

Please circle the number that best represents the extent to which you agree or disagree with the following statements: The presence of family members during resuscitation efforts.....		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
13.	is beneficial to families.	1	2	3	4	5
14.	is beneficial to nurses.	1	2	3	4	5
15.	is beneficial to physicians.	1	2	3	4	5
16.	should be a component of family-centred care.	1	2	3	4	5
17.	will have a positive effect on patient ratings of satisfaction with hospital care.	1	2	3	4	5
18.	will have a positive effect on family ratings of satisfaction with hospital care.	1	2	3	4	5
19.	will have a positive effect on nurse ratings of satisfaction in providing optimal patient and family care.	1	2	3	4	5
20.	will have a positive effect on physician ratings of satisfaction in providing optimal patient and family care.	1	2	3	4	5
21.	is a right that all patients should have.	1	2	3	4	5
22.	is a right that all family members should have.	1	2	3	4	5

Part C: Family Presence Self-confidence Scale

	Please read each numbered item below and circle the number to indicate how confident you are that you could perform the listed behaviour during a resuscitation effort with family members present.	Not at all Confident	Not Very Confident	Somewhat Confident	Quite Confident	Very Confident
1.	I could communicate about the resuscitation effort to family members who are present.	1	2	3	4	5
2.	I could administer drug therapies during resuscitation efforts with family members present.	1	2	3	4	5
3.	I could assist medical staff in performing electrical therapies during resuscitation efforts with family members present.	1	2	3	4	5
4.	I could deliver chest compressions during resuscitation efforts with family members present.	1	2	3	4	5

5.	I could communicate effectively with other health team members during resuscitation efforts with family members present.	1	2	3	4	5
6.	I could maintain dignity of the patient during resuscitation efforts with family members present.	1	2	3	4	5
7.	I could identify family members who display appropriate coping behaviours to be present during resuscitation efforts.	1	2	3	4	5
8.	I could prepare family members to enter the area of resuscitation of their family member.	1	2	3	4	5
9.	I could enlist support from attending physicians for family presence during resuscitation efforts.	1	2	3	4	5
10.	I could escort family members into the room during resuscitation of their family member.	1	2	3	4	5
	Please read each numbered item below and circle the number that indicates how confident you are that you could perform the listed behaviour during a resuscitation effort with family members present.	Not at all Confident	Not Very Confident	Somewhat Confident	Quite Confident	Very Confident
11.	I could announce family member's presence to resuscitation team during resuscitation efforts of their family member.	1	2	3	4	5
12.	I could provide comfort measures to family members witnessing resuscitation efforts of their family member.	1	2	3	4	5
13.	I could identify spiritual and emotional needs of family members witnessing resuscitation efforts of their family member.	1	2	3	4	5
14.	I could encourage family members to talk to their family member during resuscitation efforts.	1	2	3	4	5
15.	I could delegate tasks to other nurses in order to support family members during resuscitation efforts of their family member.	1	2	3	4	5
16.	I could debrief family after resuscitation of their family member.	1	2	3	4	5

17.	I could coordinate bereavement follow-up with family members after resuscitation efforts of their family member, if required.	1	2	3	4	5
-----	---	---	---	---	---	---

(Twibell, R.S., Siela, D., Riwtis, C., Wheatley, J., Bousman, D., Cable, S., Caudill, P., Herrigan, S., Hollars, R., Johnson, D and Neal, A. (2008). Nurses perceptions of their self-confidence and the benefits and risks of family presence during resuscitation. *American Journal of Critical Care*, 17(2), 101-111)

Please feel free to provide comments on any of the questions;

Thank you for completing this questionnaire, your opinion, time and effort are greatly appreciated. Please place this questionnaire in the self-addressed envelope and send via PMH internal mail. Many Thanks, Julie McLean.

APPENDIX J: Medical questionnaire

Medical staff's perception of family presence during the resuscitation of paediatric patients

Please do not put your name on the survey.

Allowing families to be present during the resuscitation of paediatric patients is a controversial topic amongst health care professionals.

Definition: Family-witnessed resuscitation means one or more family members are present in the room while a patient is being resuscitated in an effort to sustain life.

Completing this questionnaire is **voluntary**.

Part A: Demographic Information

1. Please circle the area in which you work.	Critical Care (E.D, PICU, NICU) Non Critical Care Area (All other areas)
2. Please select your current Medical role.	RMO Registrar Senior Registrar Consultant
3. Please indicate the number of years you have been practicing in paediatrics (this includes neonates, infants, children and adolescents).	
4. Please indicate the highest degree you have completed .	
5. Please select your gender	Male Female
6. Have you been involved in resuscitation?	Yes No
7. Have you been involved in resuscitation of a child? If Yes please answer question 8.	Yes No
8. Have you invited family into the resuscitation room?	Yes No

Part B: Family Presence Risk-Benefit Scale

Please circle the number that best represents your opinion.		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Family members should be given the option to be present when a loved one is being resuscitated.	1	2	3	4	5
2.	Family members will panic if they witness a resuscitation effort.	1	2	3	4	5
3.	Family members will have difficulty adjusting to the long term emotional impact of watching a resuscitation effort.	1	2	3	4	5
4.	The resuscitation team may develop a close relationship with family members who witness the efforts, as compared to family members who do not witness the efforts.	1	2	3	4	5
5.	If my loved one were being resuscitated, I would want to be present in the room.	1	2	3	4	5
6.	Patients do not want family members present during a resuscitation attempt.	1	2	3	4	5
7.	Family members who witness unsuccessful resuscitation efforts will have a better grieving process.	1	2	3	4	5
8.	Family members will become disruptive if they witness resuscitation efforts.	1	2	3	4	5
9.	Family members who witness a resuscitation effort are more likely to sue.	1	2	3	4	5
10.	The resuscitation team will not function as well if family members are present in the room.	1	2	3	4	5
11.	Family members on the unit where I work prefer to be present in the room during resuscitation efforts.	1	2	3	4	5
12.	The presence of family members during resuscitation efforts is beneficial to patients.	1	2	3	4	5

Please circle the number that best represents the extent to which you agree or disagree with the following statements: The presence of family members during resuscitation efforts.....		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
13.	is beneficial to families.	1	2	3	4	5
14.	is beneficial to nurses.	1	2	3	4	5
15.	is beneficial to physicians.	1	2	3	4	5
16.	should be a component of family-centred care.	1	2	3	4	5
17.	will have a positive effect on patient ratings of satisfaction with hospital care.	1	2	3	4	5
18.	will have a positive effect on family ratings of satisfaction with hospital care.	1	2	3	4	5
19.	will have a positive effect on nurse ratings of satisfaction in providing optimal patient and family care.	1	2	3	4	5
20.	will have a positive effect on physician ratings of satisfaction in providing optimal patient and family care.	1	2	3	4	5
21.	is a right that all patients should have.	1	2	3	4	5
22.	is a right that all family members should have.	1	2	3	4	5

Part C: Family Presence Self-confidence Scale

	Please read each numbered item below and circle the number to indicate how confident you are that you could perform the listed behaviour during a resuscitation effort with family members present.	Not at all Confident	Not Very Confident	Somewhat Confident	Quite Confident	Very Confident
1.	I could communicate about the resuscitation effort to family members who are present.	1	2	3	4	5
2.	I could administer drug therapies during resuscitation efforts with family members present.	1	2	3	4	5
3.	I could perform electrical therapies during resuscitation efforts with family members present.	1	2	3	4	5
4.	I could deliver chest compressions during resuscitation efforts with family members present.	1	2	3	4	5
5.	I could communicate effectively with other health team members during resuscitation efforts with family members present.	1	2	3	4	5
6.	I could maintain dignity of the patient during resuscitation efforts with family members present.	1	2	3	4	5
7.	I could identify family members who display appropriate coping behaviours to be present during resuscitation efforts.	1	2	3	4	5
8.	I could prepare family members to enter the area of resuscitation of their family member.	1	2	3	4	5
9.	I could enlist support from attending physicians for family presence during resuscitation efforts.	1	2	3	4	5
10.	I could escort family members into the room during resuscitation of their family member.	1	2	3	4	5
	Please read each numbered item below and circle the number that indicates how confident you are that you could perform the listed behaviour during a resuscitation effort with family members present.	Not at all Confident	Not Very Confident	Somewhat Confident	Quite Confident	Very Confident
11.	I could announce family member's presence to resuscitation team during resuscitation efforts of their family member.	1	2	3	4	5

12.	I could provide comfort measures to family members witnessing resuscitation efforts of their family member.	1	2	3	4	5
13.	I could identify spiritual and emotional needs of family members witnessing resuscitation efforts of their family member.	1	2	3	4	5
14.	I could encourage family members to talk to their family member during resuscitation efforts.	1	2	3	4	5
15.	I could delegate tasks to other staff in order to support family members during resuscitation efforts of their family member.	1	2	3	4	5
16.	I could debrief family after resuscitation of their family member.	1	2	3	4	5
17.	I could coordinate bereavement follow-up with family members after resuscitation efforts of their family member, if required.	1	2	3	4	5

(Twibell, R.S., Siela, D., Riwtis, C., Wheatley, J., Bousman, D., Cable, S., Caudill, P., Herrigan, S., Hollars, R., Johnson, D and Neal, A. (2008). Nurses perceptions of their self-confidence and the benefits and risks of family presence during resuscitation. *American Journal of Critical Care*, 17(2), 101-111)
Please feel free to provide comments on any of the questions;

Thank you for completing this questionnaire, your opinion, time and effort are greatly appreciated.
Please place this questionnaire in the self-addressed envelope and send via PMH internal mail.
Many Thanks
Julie McLean

APPENDIX K: Reminder poster



***HAVE YOU RECEIVED
THE QUESTIONNAIRE
INVESTIGATING***

***HEALTH PROFESSIONALS PERCEPTIONS AND
APPLICATION OF FAMILY PRESENCE DURING
RESUSCITATION?***

This questionnaire should take approximately 15 minutes to complete. Once completed, please place in the envelope provided and place in the internal mail.

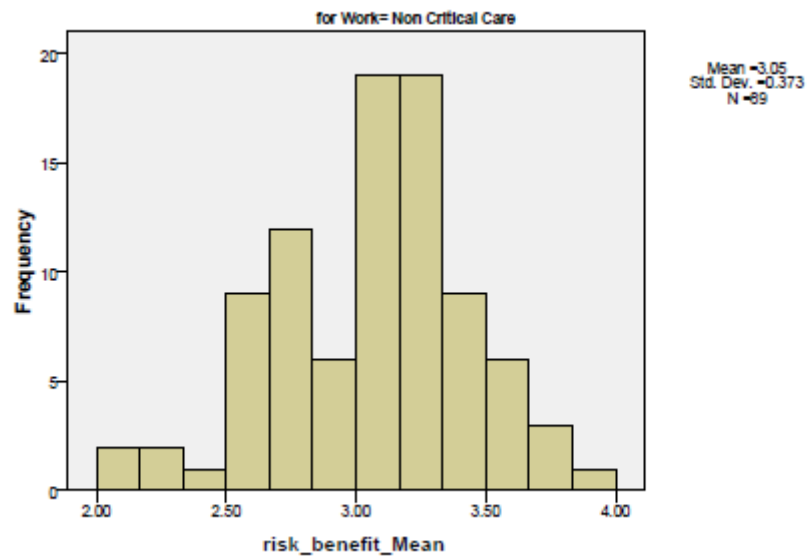
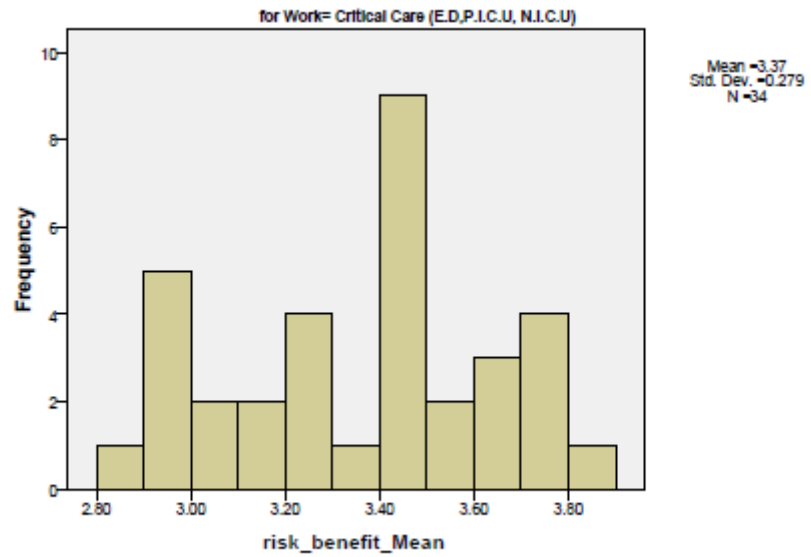
Your opinion is greatly valued

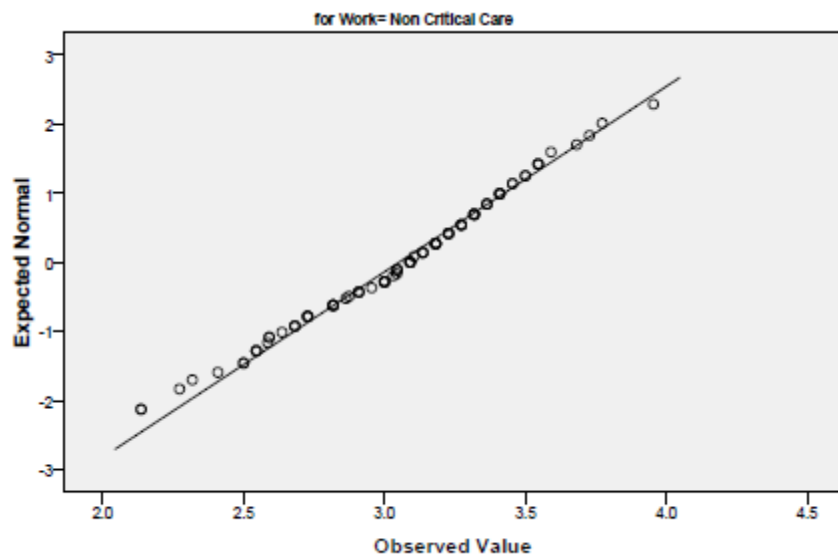
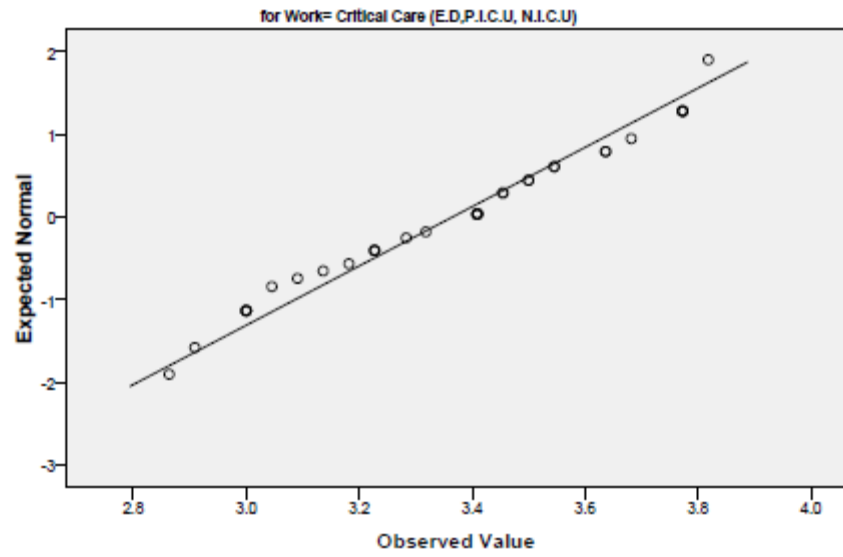
For any queries; 0417907726

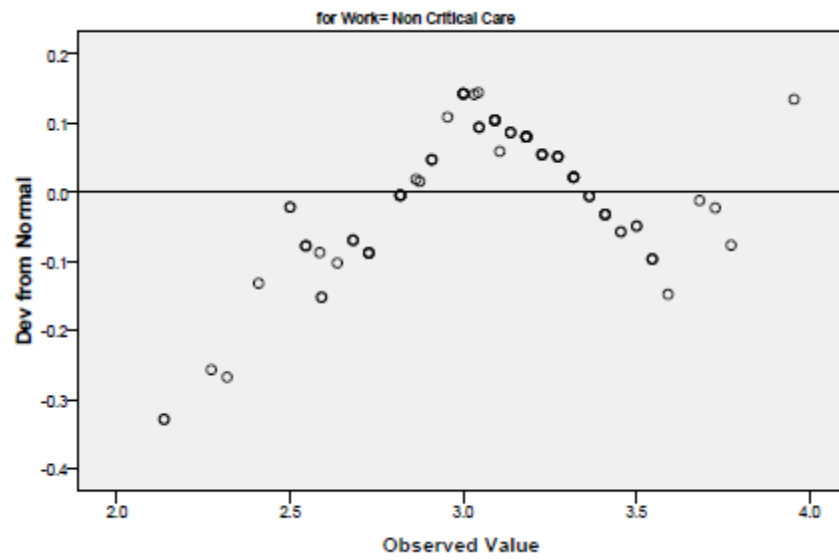
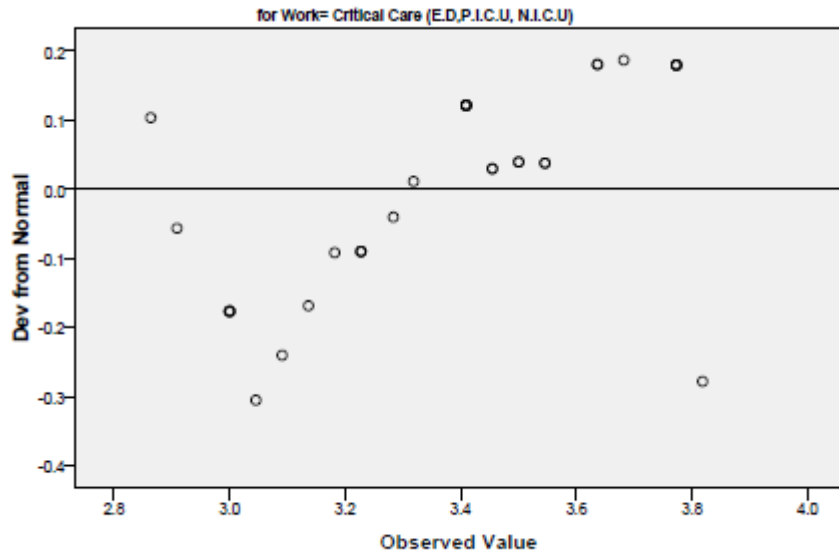
Regards

Julie

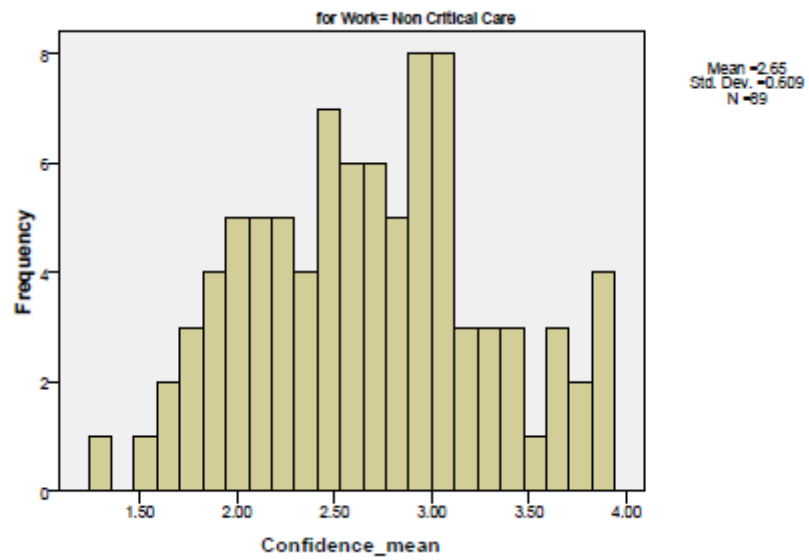
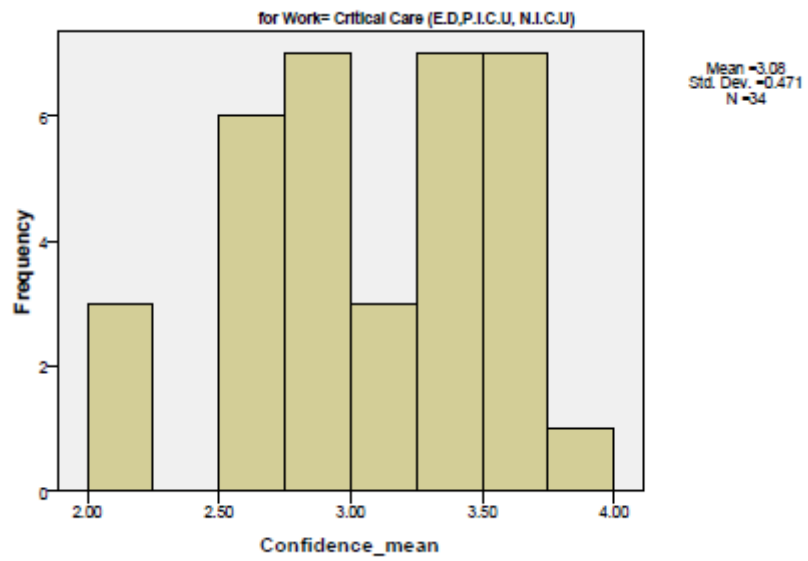
APPENDIX L Risk/Benefit critical care and non-critical care histogram and scatterplots

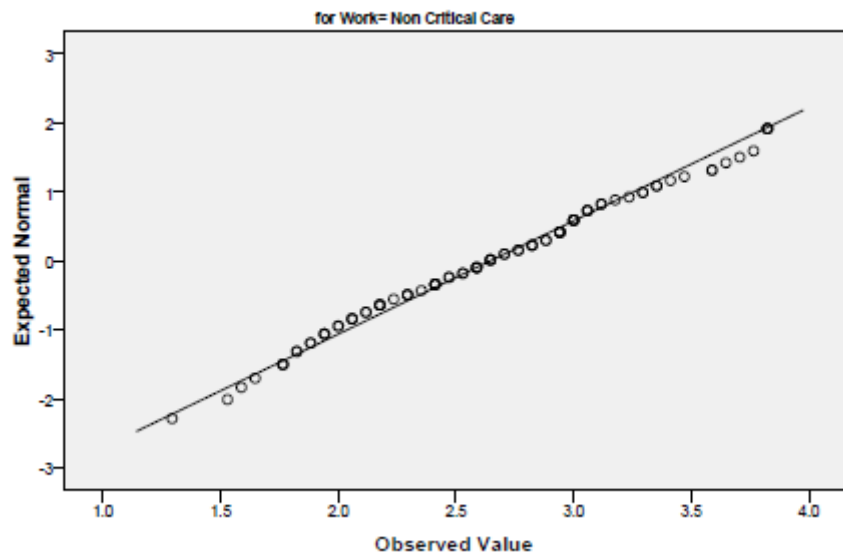
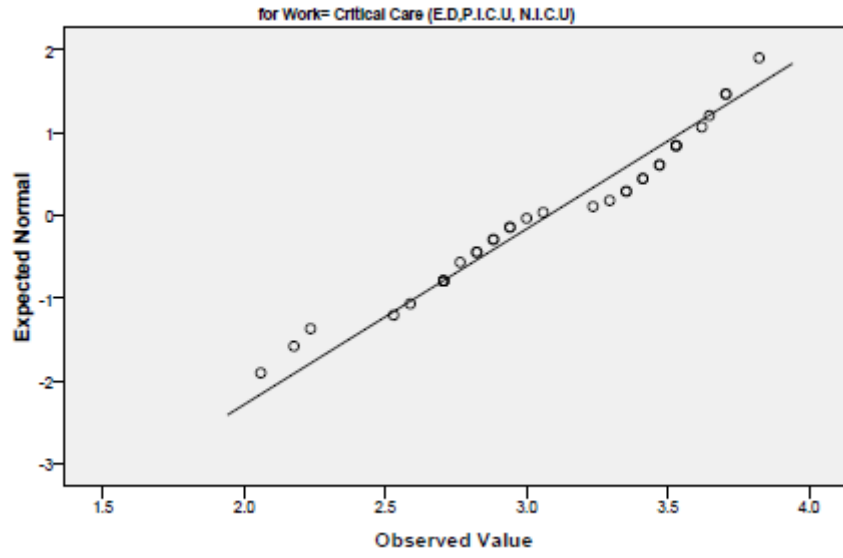


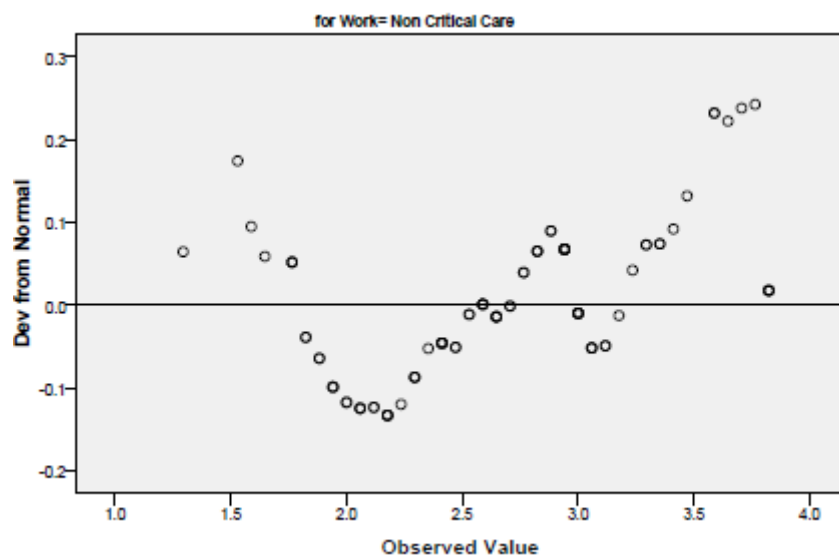
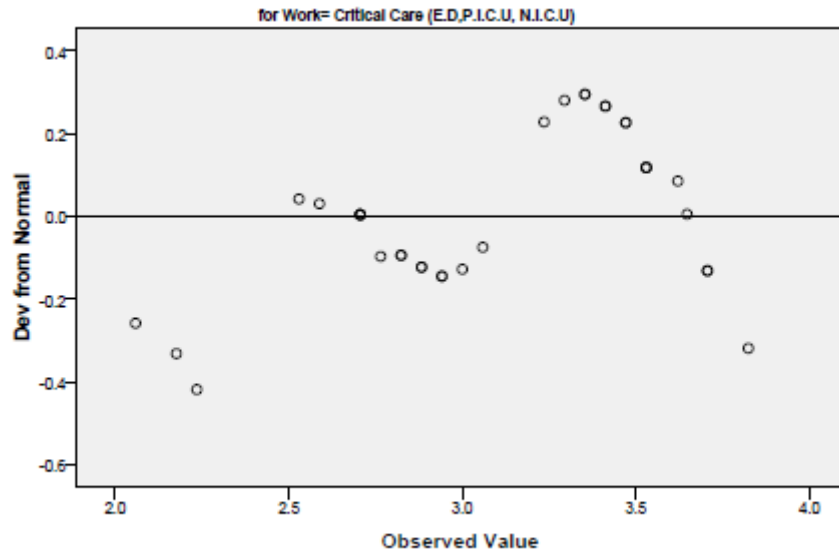




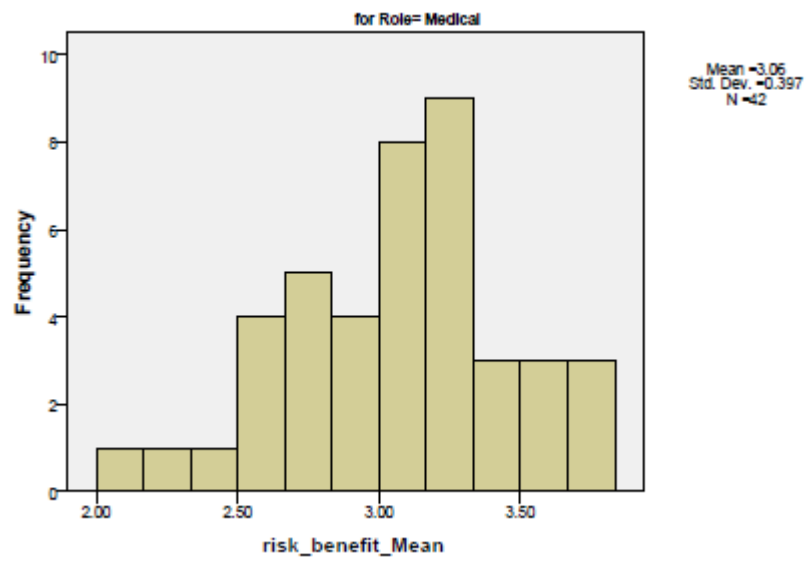
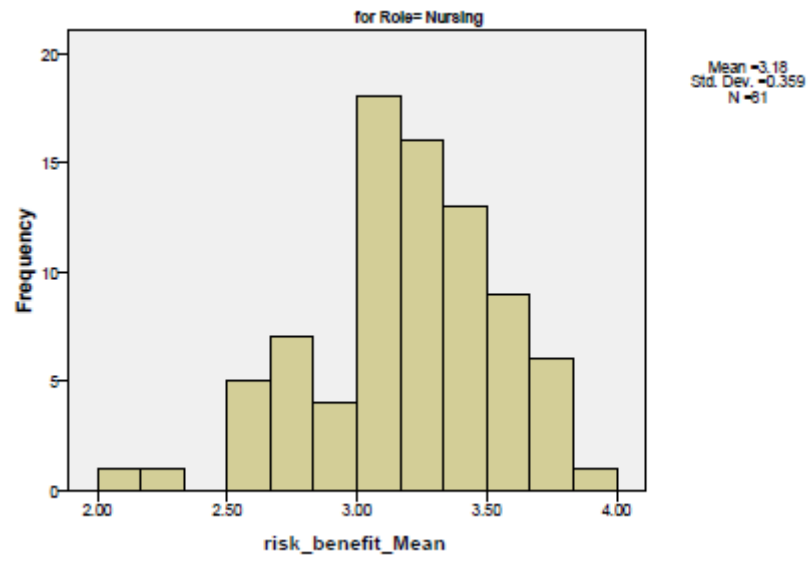
**APPENDIX M: Self-Confidence Critical Care and Non-Critical Care
Histograms and Scatterplots**

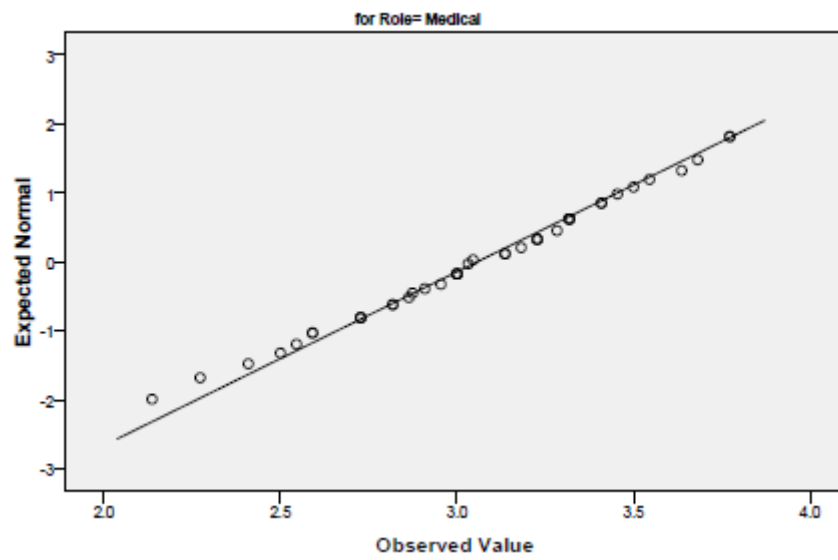
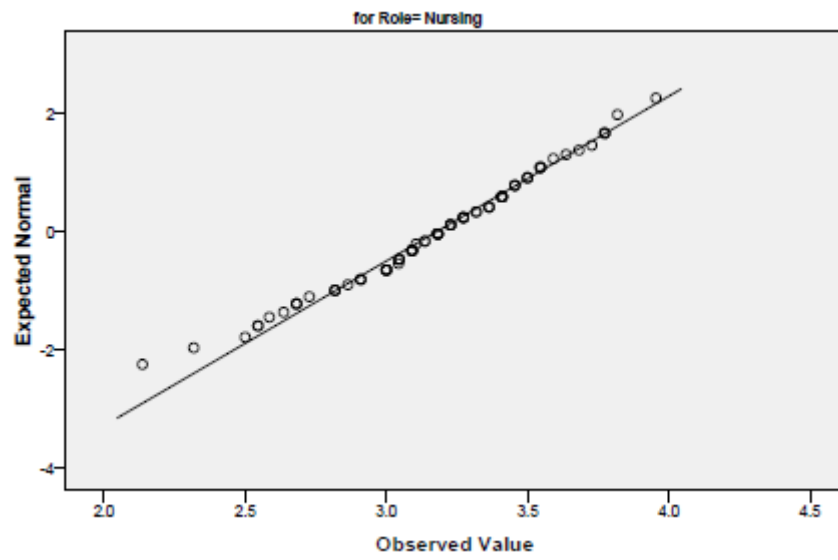


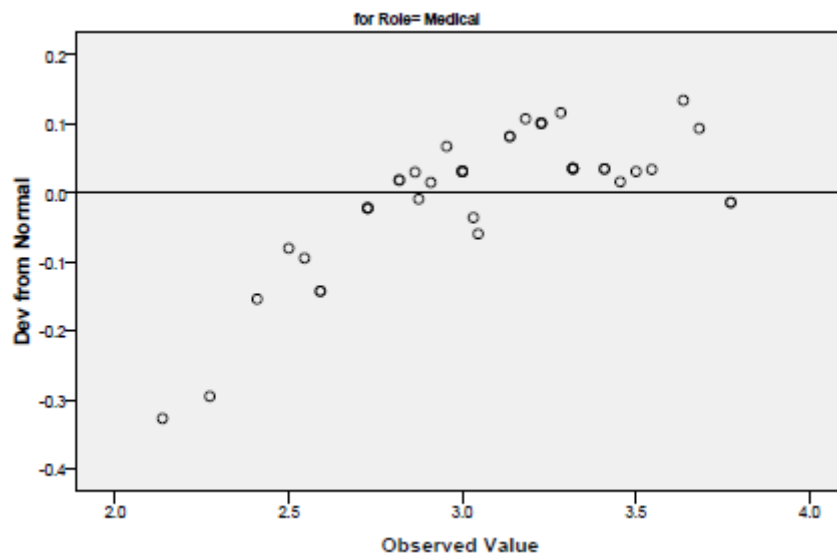
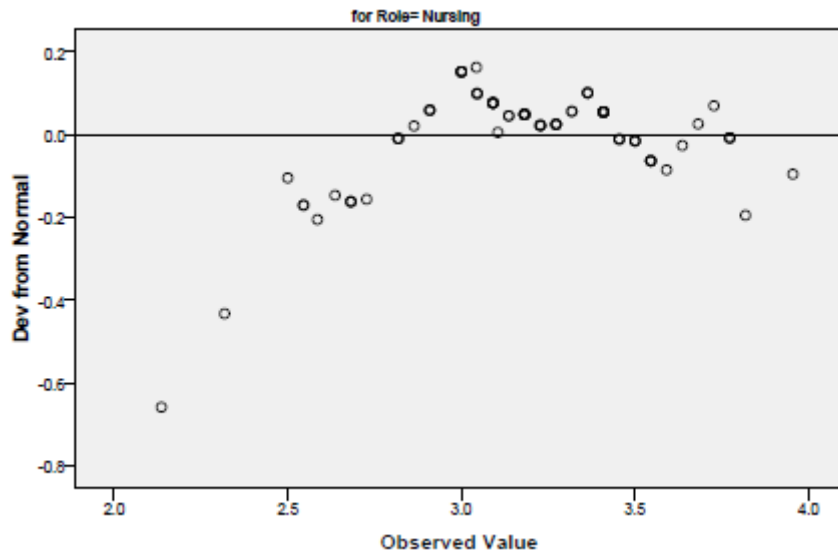




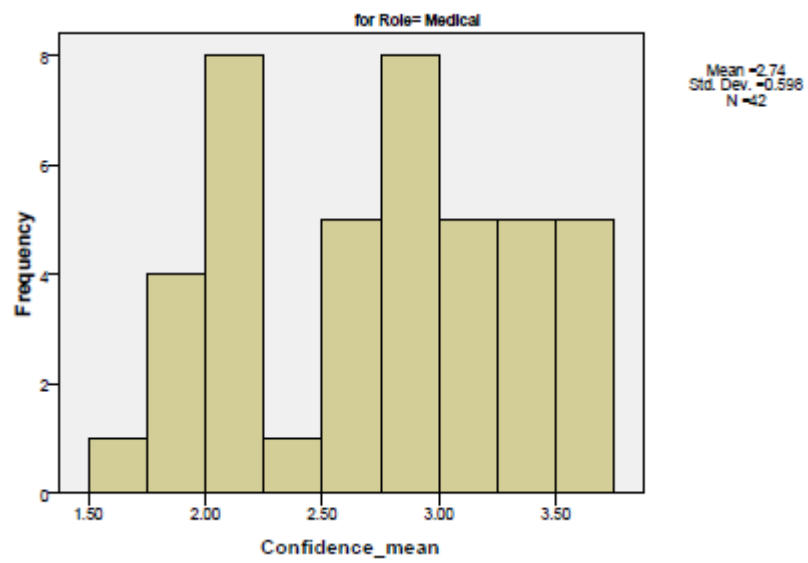
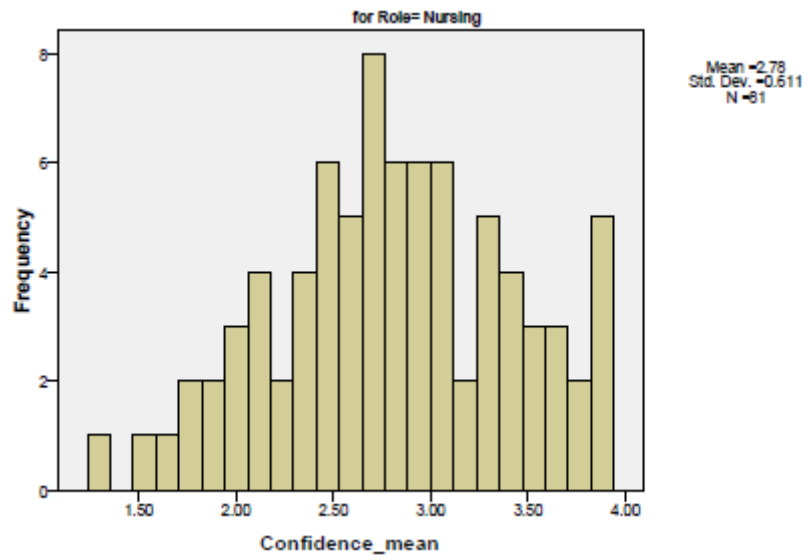
APPENDIX N: Risk/Benefit Medical and Nursing Histogram and Scatterplots

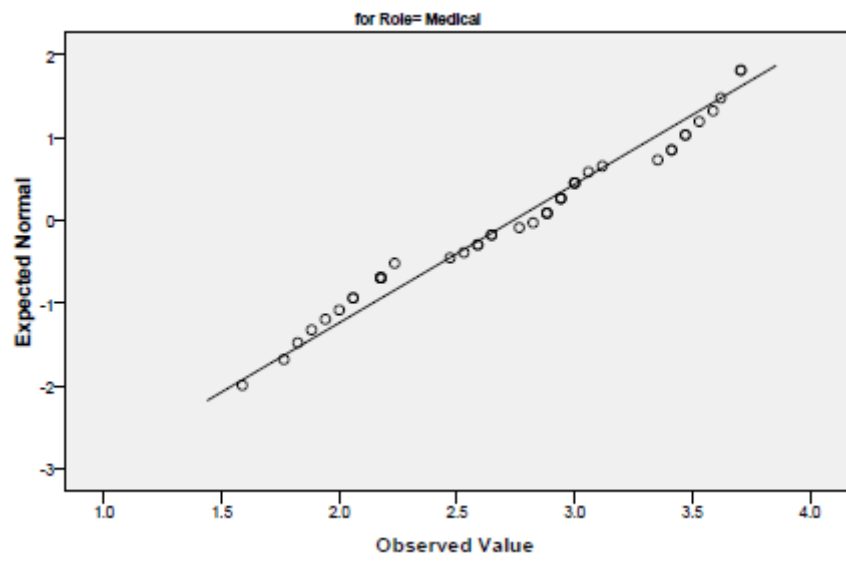
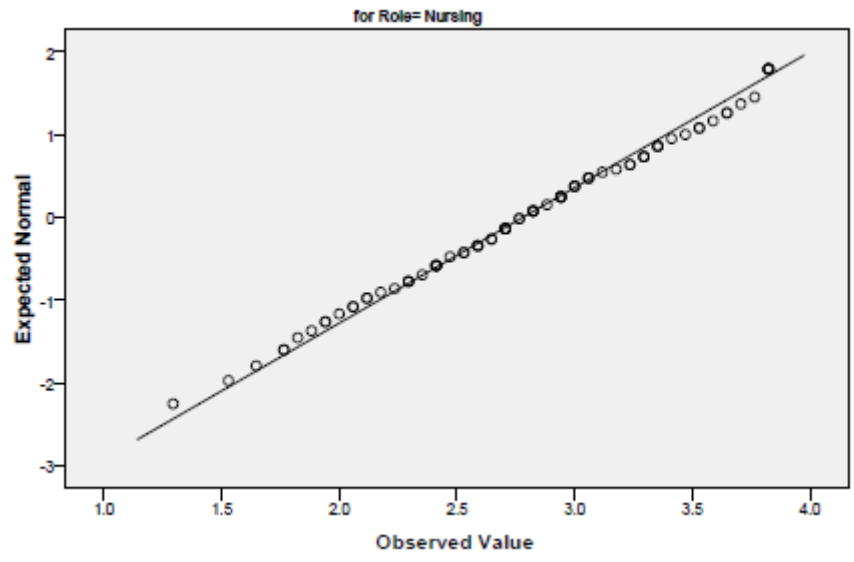


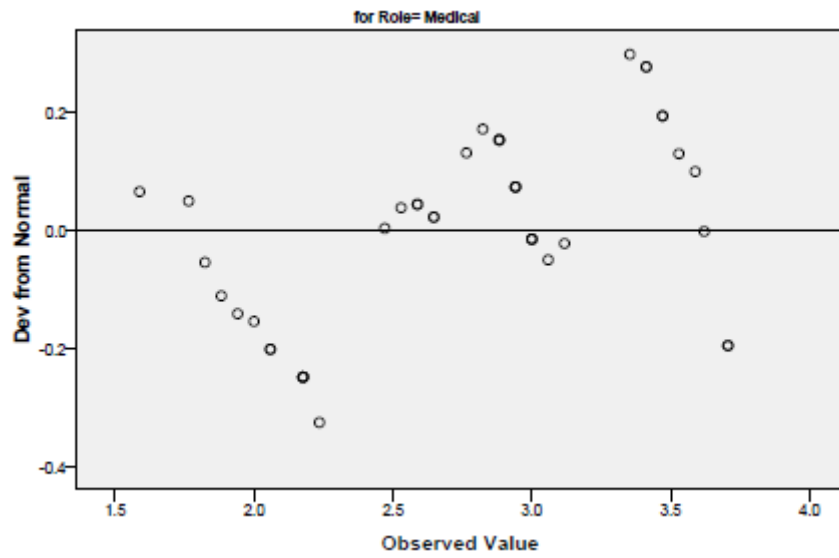
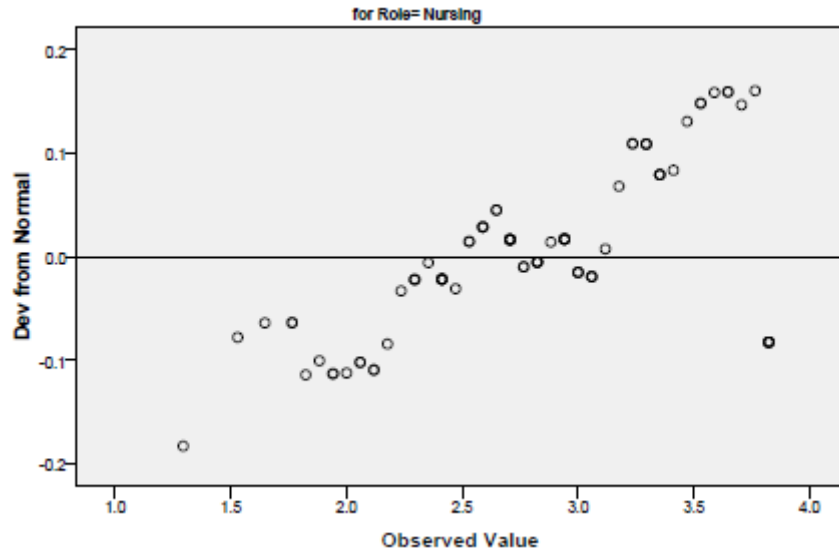




APPENDIX O: Self-Confidence Medical and Nursing Care Histograms and Scatterplots







APPENDIX P: Study site ethics approval



Government of **Western Australia**
Department of **Health**
Child and Adolescent Health Service



Mrs Julie McLean
Paediatric Nursing Education
23 Whatley Crescent
BAYSWATER WA 6053

Dear Mrs McLean

REGISTRATION NUMBER: 1713/EP

TITLE: Health professionals perceptions and application of family presence during resuscitation

MEETING DATE: 20 August 2009

The Princess Margaret Hospital for Children Ethics Committee has recommended approval be given for you to undertake the abovenamed research study. This recommendation has been ratified by the Child and Adolescent Health Service.

The Ethics Committee does however wish to be informed immediately of:

- I. any untoward effects experienced by any participant in the trial where those effects in degree or nature were not anticipated by the researchers, and steps taken to deal with these,
- II. substantial changes in the research protocol together with an indication of ethical implications, and
- III. other unforeseen events.

The Ethics Committee has been charged with the responsibility of keeping the progress of all approved research under surveillance. A copy of the final result must be forwarded to the Committee upon completion of the research or if the research is not completed within twelve months you are asked to submit a progress report and annually thereafter. This information should include:

LAug09New.doc



Princess Margaret Hospital for Children
Roberts Road Subiaco WA 6008
GPO Box D184 Perth WA 6840
Tel: (08) 9340 8222 Fax: (08) 9340 8111
www.caahs.health.wa.gov.au
wa.gov.au

XDHLE004

- a) The status of the project (completed/in progress/abandoned/not commenced). In the event that a project does not commence within 12 months of being approved by the Ethics Committee the study must be resubmitted to the Committee for approval.
- b) Compliance with conditions of ethical approval, including security of records and procedures for consent.
- c) Compliance with any special conditions stated by the Ethics Committee as a condition of approval.
- d) Results from the study to date, including outcome.

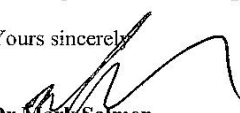
Please note that approval for studies is for **three years** and if the research is not completed within that period of time, a request for an extension of time should be submitted for consideration. In the event that a project does not commence within **12 months** of being approved by the Ethics Committee, the study must be resubmitted to the Committee for approval.

In accordance with the NHMRC National Statement on Ethical Conduct in Human Research Chapter 5.5.3, researchers have a significant responsibility in monitoring and must submit the following to the Ethics Committee:

- Annual Reports on the anniversary of the approval date of the study
- Adverse event reports as received
- Amendments and extensions to the study to be requested in adequate time

Please quote the above registration number on all correspondence.

Yours sincerely


Dr Mark Salmon
Executive Director
Medical Services

27 August 2009

- **The Ethics Committee is constituted, and operates in accordance with the National Health and Medical Research Council's National Statement on Ethical Conduct in Research Involving Humans**

APPENDIX Q: Curtin University Ethics approval



Office of Research and Development

Human Research Ethics Committee

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

memorandum

To	Professor Linda Shields, Nursing
From	A/Professor Joan Wardrop Acting, Chair Human Research Ethics Committee
Subject	Protocol Approval HR 127/2009
Date	7 October 2009
Copy	Julie McLean, 23 Whatley Crescent, Bayswater 6053 Graduate Studies Officer, Faculty of Health Sciences

Thank you for your application submitted to the Human Research Ethics Committee (HREC) for the project titled "*Health Professionals Perceptions and Application of Family Presence during Resuscitation*". Your application has been reviewed by the HREC and is **approved**.

- You have ethics clearance to undertake the research as stated in your proposal.
- The approval number for your project is **HR 127/2009**. Please quote this number in any future correspondence.
- Approval of this project is for a period of twelve months **06-10-2009 to 06-10-2010**. To renew this approval a completed Form B (attached) must be submitted before the expiry date **06-10-2010**.
- If you are a Higher Degree by Research student, data collection must not begin before your Application for Candidacy is approved by your Faculty Graduate Studies Committee.
- 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 HR 127/2009). The Committee is comprised of members of the public, academics, lawyers, doctors and pastoral carers. Its main role is to protect participants. 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 by emailing hrec@curtin.edu.au.

Applicants should note the following:

It is the policy of the HREC to conduct random audits on a percentage of approved projects. These audits may be conducted at any time after the project starts. In cases where the HREC considers that there may be a risk of adverse events, or where participants may be especially vulnerable, the HREC may request the chief investigator to provide an outcomes report, including information on follow-up of participants.

The attached **FORM B** should be completed and returned to the Secretary, HREC, C/- Office of Research & Development:

When the project has finished, or

- If at any time during the twelve months changes/amendments occur, or
- If a serious or unexpected adverse event occurs, or
- 14 days prior to the expiry date if renewal is required.
- An application for renewal may be made with a Form B three years running, after which a new application form (Form A), providing comprehensive details, must be submitted.

Regards,

A/Professor Joan Wardrop
Acting, Chair Human Research Ethics Committee

APPENDIX R: Scale items Risk/Benefit Critical care vs Non-Critical Care

	Critical Care					Non Critical Care				
	SD	D	N	A	SA	SD	D	N	A	SA
Family members should be given the option	0	1(3)	3(9)	13(38)	17(50)	4(5)	12(13)	18(20)	33(37)	22(25)
Family members will panic	1(3)	8(24)	12(35)	11(32)	2(6)	5(6)	31(35)	32(36)	20(22)	1(1)
Family members will have difficulty adjusting	1(3)	5(15)	12(35)	13(38)	3(9)	6(7)	23(26)	28(31)	29(33)	3(3)
The resus team may develop a close relation	1(3)	4(12)	9(26)	17(50)	3(9)	3(3)	27(30)	38(43)	21(24)	0
If my loved one were being resuscitated I would want to be present	0	2(6)	1(3)	6(18)	25(73)	5(6)	23(26)	13(15)	29(32)	19(21)
Patients do not want family members present	0	1(3)	15(44)	11(32)	7(21)	1(1)	8(9)	50(56)	25(28)	5(6)
Family members will have a better grieving process	1(3)	0	15(44)	13(38)	5(15)	1(1)	14(16)	39(44)	31(35)	4(4)
Family members will become disruptive	0	4(12)	9(26)	19(56)	2(6)	2(2)	15(17)	33(37)	35(40)	4(4)
Family members will sue	0	1(3)	8(23)	18(53)	7(21)	0	6(7)	30(33)	39(44)	14(16)
Resus team will not function	2(6)	1(3)	3(9)	23(67)	5(15)	4(5)	14(16)	19(21)	41(46)	11(12)
Family members on my unit prefer to be present	1(3)	13(38)	1(3)	17(50)	2(6)	9(10)	61(69)	1(1)	18(20)	0
Family presence is beneficial to patients	0	4(12)	16(47)	9(26)	5(15)	5(6)	19(22)	42(48)	19(21)	3(3)
Family presence if beneficial to families	0	0	7(21)	18(53)	9(26)	2(2)	11(12)	38(43)	32(36)	6(7)
Family presence is beneficial to nurses	0	2(6)	17(50)	13(38)	2(6)	4(4)	29(33)	33(37)	22(25)	1(1)
Family presence is beneficial to physicians	0	2(6)	17(50)	13(38)	2(6)	5(5)	30(34)	31(35)	22(25)	1(1)
Family presence should be a component of FCC	0	0	7(20)	17(50)	10(30)	3(3)	13(15)	30(34)	33(37)	10(11)
Family presence will have a positive effect on patient ratings	1(3)	2(6)	21(62)	9(26)	1(3)	2(2)	25(28)	48(55)	12(13)	2(2)
Family presence will have a positive effect on family ratings	0	1(3)	15(44)	17(50)	1(3)	1(1)	19(21)	42(48)	25(28)	2(2)
Family presence will have a positive effect on nurse ratings	0	1(3)	18(53)	14(41)	1(3)	0	24(27)	37(42)	25(28)	3(3)
Family presence will have a positive effect on physician ratings	0	3(9)	17(50)	13(38)	1(3)	1(1)	25(28)	41(47)	21(24)	1(1)
Family presence is a right that all patients should have	0	2(6)	5(15)	14(41)	13(38)	3(3)	14(16)	19(21)	37(42)	16(18)
Family presence is a right that all families should have	0	5(15)	5(15)	11(32)	13(38)	4(4)	15(17)	20(22)	31(35)	19(22)

APPENDIX S: Scale items Risk/Benefit Medical vs Nursing

	Nursing					Medical				
	SD	D	N	A	SA	SD	D	N	A	SA
Family members should be given the option	2(2)	7(9)	12(15)	32(40)	28(34)	2(5)	6(14)	9(21)	14(34)	11(26)
Family members will panic	6(7)	25(31)	29(36)	20(25)	1(1)	0	14(33)	15(36)	11(26)	2(2)
Family members will have difficulty adjusting	15(18)	31(38)	27(33)	3(4)	13(31)	2(5)	13(31)	9(21)	15(36)	3(7)
The resus team may develop a close relation	4(5)	25(31)	31(38)	20(25)	1(1)	0	6(14)	16(38)	18(43)	2(5)
If my loved one were being resuscitated I would want to be present	3(4)	15(18)	8(10)	26(32)	29(36)	2(5)	10(24)	6(14)	9(21)	15(36)
Patients do not want family members present	1(1)	4(5)	45(55)	24(30)	7(9)	0	5(12)	20(48)	12(28)	5(12)
Family members will have a better grieving process	2(2)	10(12)	34(42)	29(36)	6(8)	0	4(9)	20(48)	15(36)	3(7)
Family members will become disruptive	1(1)	12(15)	25(31)	39(48)	4(5)	1(2)	7(17)	17(40)	15(36)	2(5)
Family members will sue	0	4(5)	31(38)	33(41)	13(16)	0	3(7)	7(17)	24(57)	8(19)
Resus team will not function	3(4)	9(11)	14(17)	42(52)	13(16)	3(7)	6(14)	8(20)	22(52)	3(7)
Family members on my unit prefer to be present	0	6(7)	56(70)	18(22)	1(1)	0	4(10)	20(48)	17(40)	1(2)
Family presence is beneficial to patients	2(2)	9(11)	42(52)	22(28)	6(7)	3(7)	14(34)	17(40)	6(14)	2(5)
Family presence if beneficial to families	1(1)	7(9)	30(37)	36(44)	7(9)	1(2)	4(10)	15(36)	14(33)	8(19)
Family presence is beneficial to nurses	3(4)	20(24)	28(35)	27(33)	3(4)	1(2)	11(26)	22(52)	8(20)	0
Family presence is beneficial to physicians	3(4)	22(27)	27(33)	26(32)	3(4)	2(5)	10(24)	21(50)	9(21)	0
Family presence should be a component of FCC	1(1)	7(9)	21(26)	37(46)	15(18)	2(5)	6(14)	16(38)	13(31)	5(12)
Family presence will have a positive effect on patient ratings	0	20(25)	46(57)	12(15)	3(4)	3(7)	7(17)	23(55)	9(21)	0
Family presence will have a positive effect on family ratings	0	14(17)	41(51)	23(28)	3(4)	1(2)	6(14)	16(38)	19(45)	0
Family presence will have a positive effect on nurse ratings	0	16(20)	36(44)	25(31)	4(5)	0	9(21)	19(45)	14(34)	0
Family presence will have a positive effect on physician ratings	0	15(18)	44(54)	20(25)	2(3)	1(2)	13(32)	14(33)	14(33)	0
Family presence is a right that all patients should have	1(1)	8(10)	9(11)	39(48)	24(30)	2(5)	8(18)	15(36)	12(29)	5(12)
Family presence is a right that all families should have	2(2)	7(9)	11(14)	34(42)	27(33)	2(5)	13(31)	14(33)	8(20)	5(11)

APPENDIX T: Scale items Self-Confidence Critical Care vs Non-Critical Care

	Critical Care					Non Critical Care				
	NAC	NC	N	C	VC	NAC	NC	N	C	VC
I could communicate with families during a resus	0	1(3)	5(15)	17(50)	11(32)	3(3)	8(9)	29(32)	35(40)	14(16)
I could administer drug therapies	0	0	0	13(40)	21(60)	2(2)	7(8)	16(18)	41(46)	23(26)
I could assist in defib/perform defib	0	0	3(9)	14(41)	17(50)	6(7)	10(11)	24(27)	37(42)	12(13)
I could deliver chest compressions	0	0	1(3)	11(32)	22(65)	1(1)	3(3)	20(22)	39(44)	26(30)
I could communicate effectively with the team	0	1(3)	0	15(44)	18(53)	1(1)	9(10)	14(16)	39(44)	26(29)
I could maintain dignity of the patient	0	0	3(9)	14(41)	17(50)	0	10(11)	15(17)	41(46)	23(26)
I could identify appropriate coping mechanisms	0	3(9)	6(18)	18(53)	7(20)	3(3)	9(10)	35(40)	26(30)	16(17)
I could prepare families to enter the resus room	0	1(3)	6(18)	13(38)	14(41)	1(1)	16(18)	25(28)	28(31)	19(21)
I could enlist support from medical staff	0	0	7(20)	17(50)	10(30)	3(3)	21(23)	23(26)	26(30)	16(18)
I could escort families into the resus room	0	0	4(12)	15(44)	15(44)	3(3)	12(13)	22(25)	25(29)	27(30)
I could announce family presence to the team	0	1(3)	5(15)	11(32)	17(50)	3(3)	8(9)	25(28)	35(40)	18(20)
I could provide comfort to the family	0	3(9)	3(9)	12(35)	16(47)	4(5)	12(13)	18(20)	37(42)	18(20)
I could identify spiritual/emotional needs	1(3)	6(18)	13(38)	8(23)	6(18)	5(6)	19(20)	31(35)	26(30)	8(9)
I could encourage families to talk to their child during	0	4(12)	9(2)	14(41)	7(20)	9(10)	18(20)	30(34)	22(25)	10(11)
I could delegate tasks to other staff	0	0	6(18)	19(56)	9(26)	3(3)	9(10)	28(32)	30(34)	19(21)
I could debrief families after resus	0	5(15)	6(18)	10(29)	13(38)	9(10)	19(21)	26(29)	21(24)	14(16)
I could coordinate bereavement follow-up	1(3)	7(21)	9(26)	10(30)	7(20)	8(9)	25(28)	23(26)	25(28)	8(9)

APPENDIX U: Scale items Self-Confidence Medical vs Nursing

	Nursing					Medical				
	NAC	NC	N	C	VC	NAC	NC	N	C	VC
I could communicate with families during a resus	3(4)	5(6)	28(34)	32(40)	13(16)	0	4(10)	6(14)	20(47)	12(29)
I could administer drug therapies	2(2)	4(5)	14(17)	34(42)	27(34)	0	3(7)	2(5)	20(47)	17(41)
I could assist in defib/perform defib	6(7)	8(10)	21(26)	30(37)	16(20)	0	2(5)	6(14)	21(50)	13(31)
I could deliver chest compressions	1(1)	3(4)	17(21)	30(37)	30(37)	0	0	4(10)	20(48)	18(42)
I could communicate effectively with the team	1(1)	5(6)	11(14)	38(47)	26(32)	0	5(12)	3(7)	16(38)	18(43)
I could maintain dignity of the patient	0	6(7)	11(13)	37(46)	27(34)	0	4(10)	7(17)	18(43)	13(31)
I could identify appropriate coping mechanisms	1(1)	5(6)	27(33)	30(38)	18(22)	2(5)	7(17)	14(33)	14(33)	5(12)
I could prepare families to enter the resus room	1(1)	8(10)	23(29)	26(32)	23(28)	0	9(21)	8(19)	15(36)	10(24)
I could enlist support from medical staff	1(1)	15(18)	21(26)	28(35)	16(20)	2(5)	6(14)	9(21)	15(36)	10(24)
I could escort families into the resus room	2(2)	7(9)	16(20)	27(64)	29(70)	1(2)	5(12)	10(24)	13(31)	13(31)
I could announce family presence to the team	2(2)	2(2)	7(9)	15(19)	34(42)	1(2)	2(5)	8(20)	18(43)	13(30)
I could provide comfort to the family	2(2)	7(9)	15(19)	34(42)	23(28)	2(5)	8(19)	6(14)	15(36)	11(26)
I could identify spiritual/emotional needs	2(2)	10(12)	32(40)	24(30)	13(16)	4(10)	15(36)	12(29)	10(23)	1(2)
I could encourage families to talk to their child during	6(7)	12(15)	25(31)	26(32)	12(15)	3(7)	24(10)	14(33)	10(24)	5(12)
I could delegate tasks to other staff	2(2)	4(5)	25(31)	31(39)	19(23)	1(2)	5(12)	9(21)	18(44)	9(21)
I could debrief families after resus	9(11)	20(24)	24(30)	13(16)	15(19)	0	4(10)	8(20)	18(42)	12(28)
I could coordinate bereavement follow-up	7(9)	23(28)	20(25)	20(25)	11(13)	2(5)	9(21)	12(29)	15(36)	4(9)