



Patient-centred nursing,
compassion satisfaction and
compassion fatigue in
Australian intensive care units

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Certificate of original authorship

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

This research was supported by an Australian Government Research Training Program Scholarship.

Signature of Student:	Production Note: Signature removed prior to publication.
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Date: 16th April 2018

Statement of contributions to jointly authored works within this thesis

This thesis contains published work and work that has been submitted for publication or is currently under peer review (Chapters Two, Three, Five, Six and Seven). Justification for choice of journal and journal characteristics are outlined in Appendix 2.

Primarily I have been responsible for determining the research questions, managing data collection, analysis and drafting manuscripts. Professor Lin Perry and Doctor Joanne Lewis have provided valuable advice and also been involved in data synthesis, interpretation and manuscript editing.

I take full responsibility for the accuracy of information and findings presented in this thesis.

Publications and presentations related to this thesis

- Jakimowicz, S. & Perry, L. 2015, 'A concept analysis of patient-centred nursing in the intensive care unit', *Journal of Advanced Nursing*, vol. 71, no. 7, pp. 1499-517.
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- Jakimowicz, S., Perry, L. & Lewis, J. 2017, 'Compassionate patient-centred nursing in Australian intensive care units', paper presented to *Nursing Research Forum, Illawarra Shoalhaven Local Health District*, Wollongong Hospital.
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Dedication

I dedicate this thesis to Michael.

He is my inspiration.

His belief in me has taken me on a journey ~ introducing me to the world of learning.

I did not graduate from high school but have completed

not one degree, but three

and now submitting a Doctoral Thesis for examination.

Because of him I have been able to travel this learning pathway.

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Glossary of Terms

Abbreviation	In Full	Definition
General		
BFST	Bowen Family Systems Theory	An existing theory that focuses on patterns within a family/group with a goal of diffusing anxiety and increasing individual empowerment
BO	Burnout	Exhaustion, physically, cognitively and emotionally as a result of chronic stress or frustration
CF	Compassion fatigue	A combination of secondary traumatic stress and burnout
CS	Compassion satisfaction	The pleasure derived from alleviating others' suffering and completing your work the best you can
CCN	Critical care nurse/nursing	A registered nurse working or qualified to work in an intensive care or high dependency unit
	Differentiation of self	The ability to respond intellectually rather than react emotionally to any given situation
	Emotional Cut-off	Where an individual may become distant, disengaged as a consequence of emotional 'stuckness'.
	Emotional process	The way individuals within a group may react to chronic anxiety
	Family	Broadly refers to those close to the patient, or who the patient considers family, significant other, next of kin, relative or close friend
	Family System	A family system – a system of interrelated variables or in this case a system of interrelated people
HDU	High Dependency Unit	A ward within a hospital that cares for critically ill patients requiring one-to-two nursing care
ICU	Intensive Care Unit	A ward within a hospital that cares for critically ill patients requiring one-to-one nursing care
	Patient	An individual requiring medical treatment in a hospital setting – in the case of this thesis, an intensive care unit

Abbreviation	In Full	Definition
	Patient / Person	'Patient' and 'person' are used interchangeably throughout literature; with patient appearing more often in papers addressing critical care. For consistency, 'patient' is used throughout this program of work as the definition of patient refers to a 'person'.
PFCC	Patient and Family Centred Care	A model of care where the patient and family are treated as one
PCN	Patient-centred nursing	A model of care where the patient is the focus, not the disease
STS	Secondary Traumatic Stress	Emotional distress resulting from repeated exposure to direct trauma of another individual
	System conflict	Developing conflict from competing needs of the elements of a family system
	Triangling	A configuration of three individuals within a relationship
Methodology		
CCA	Constant Comparative Analysis	Revisiting data, going back over data collection. Simultaneous collection, coding and analysis of data with the aim of generating theory
	Theoretical sampling	A process of deduction to verify the category properties. Revisiting data, going back over data collection with a different perspective.
	Structuralism	A theoretical perspective that views social behaviour and culture as a communication code. Behaviour and culture may be communicated through non-verbal and verbal coding.
SPSS	Statistical Package for the Social Sciences	Software used in statistical analysis and data management
NVivo	NVivo	Software used in qualitative data analysis and management
Miscellaneous		
ACCCN	Australian College of Critical Care Nurses	Australian regulatory body of critical care nurses
JAN	Journal of Advanced Nursing	An international peer reviewed journal
JCN	Journal of Clinical Nursing	An international peer reviewed journal
ACC	Australian Critical Care	A peer reviewed journal

Abstract

Aim

To develop a conceptual framework outlining processes involved in patient-centred nursing and compassion satisfaction or compassion fatigue in the context of critical care nursing.

Background

The aggressive curative setting of intensive care may compromise elements of patient-centred nursing. Critical care nurses are *expected* to employ bio-medical nursing expertise while delivering compassionate nursing care to critically ill patients; they are at high risk of anxiety and fatigue with no assurance their patients will recover despite their best efforts. Compassion satisfaction and compassion fatigue influence nurses' intention to leave; workforce turnover is high.

Methods

Mixed method research using an explanatory sequential design together with constructivist methodology was adopted. A concept analysis defined patient-centred nursing in context and an integrative literature review examined barriers and facilitators to patient-centred nursing in intensive care. A cross-sectional survey collected data from nurses of two adult Australian intensive care units measuring compassion satisfaction and fatigue. Grounded theory methods were employed to examine critical care nurses' experience of compassion satisfaction, compassion fatigue and patient-centred nursing. In a novel approach to the discovery of new knowledge, Bowen Family Systems Theory was applied to intensive care nursing. Data were integrated at various points using a constructivist paradigm contributing to conceptual development.

Findings

Patient-centred nursing in intensive care is different to other areas of healthcare. The critical care environment and complex challenges faced by critical care nurses were found to compromise their ability to provide effective patient-centred nursing. Overall, critical care nurses had mid-range levels of compassion satisfaction and fatigue. Workplace, education, tenure, age and experience were found to be predictive and contributing factors to compassion satisfaction and fatigue. Early to mid-career critical care nurses were at greatest risk. The experience of compassion satisfaction or fatigue impacts the ability to deliver compassionate patient-centred nursing. Moments of compassion satisfaction and fatigue may occur along a continuum, keeping time with critical care nurses' expectations being met and their ability to meet perceived expectations. Bowen Family Systems Theory, when applied to intensive care nursing identified possible strategies to assist critical care nurses' provision of patient-centred nursing. Findings from each subsection of this program of work were brought together, contributing to the development of the conceptual framework comprising five levels: workplace, expectations, differentiation, patient-centred nursing and compassion. Existing knowledge and new knowledge is threaded through the framework.

Conclusion

This innovative approach resulted in new insights into processes surrounding patient-centred nursing, compassion satisfaction and compassion fatigue in intensive care nursing. Applying Bowen Family Systems Theory to intensive care nursing resulted in new knowledge and recommendations to develop workplace culture and enhance critical care nurses' compassion satisfaction.

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1 Introduction

1.1 Background

Reports of poor quality care, dehumanising experiences and lack of compassion in health professionals' interactions with patients have scandalised the public and led to increasing scrutiny of healthcare delivery (Francis 2013; Garling 2008). Within their response, governments and international bodies have recognised patient-centred care as an approach to counter such deficits in delivery of health services (Kitson et al. 2013). However, as ill-health and disease force individuals to entrust others to meet their healthcare needs they frequently experience feelings of fear, vulnerability and anxiety (Stein-Parbury 2009). This has resulted in a paradigmatic shift within nursing and healthcare frameworks from a 'one-size-fits-all' model to a more personalised holistic approach as healthcare providers pursue a means of improving health services and delivery in an effort to meet the needs and expectations of the public.

Critical care nurses are exposed to extremely stressful and unpredictable conditions and are vulnerable to anxiety, fatigue and stress-related effects. Patient-centred nursing has been difficult to operationalise across the varied settings of healthcare delivery, although attempts have been made to meet this challenge (McCormack & McCance 2010). Frameworks resulting from this research are not easily adapted to the intensive care unit environment (Kelleher 2006; Pearson, Vaughan & Fitzgerald 2005), mostly due to critically ill patients' immediate need for biomedical intervention and their inability to communicate. Consequently, aspects of patient-centred nursing can sometimes be hard to

sustain in this biomedical environment. Strategies are required to reduce barriers and increase support for these nurses in their delivery of patient-centred nursing, and may enable better job satisfaction for critical care nurses and better experience for patients in ICU.

1.1.1 Patient-centred nursing

‘Person-centred’ was a term first coined by a humanistic psychologist in the 1940s (Rogers 1961) which has since become an expression used across many domains of healthcare, in an effort to move the focus from ‘disease’ to ‘person’ (Hobbs 2009). Patient-centred is not a new concept to nursing, with Florence Nightingale differentiating nursing from the medical fraternity many years ago by her focus on the patient rather than the disease (Lauver et al. 2002). Mead and Bower’s (2000) five dimensional literature based medical model of patient-centred care, Kitwood’s (1997) work focusing on person-centred care in gerontology and the ‘person-centred framework’ developed by McCormack and McCance (2016) are among contemporary researchers aiming to meet the needs of modern clinical environments.

The patient-centred nursing clinical model has been found to benefit patients by improving their experience of healthcare (McCormack & McCance 2016). It has been welcomed by advocacy groups and international healthcare providers as an enabling model of care that is capable of meeting the expectations of individuals and health services (Kitson et al. 2013). In the application of this framework patients are offered less tangible forms of nursing care such as relationship building, empathy and compassion together with the more measurable biomedical aspects of nursing care. Partnering patients in their healthcare, treatment planning and goal-setting are important components of this

framework, but may be compromised in some settings or contexts, such as the biomedical environment of intensive care units.

1.1.1.1 Patient-centred versus Person-centred

It is important to address the specific language used in this thesis. Use of the term ‘patient-centred’ was chosen over ‘person-centred’ for very particular reasons. Considering the author’s personal philosophy underpinned by Carl Rogers’ work around person-centredness, at first it seemed foreign to use the word ‘patient’ rather than ‘person’ when examining the concept of caring for others. I considered current and historical works such as those of Mead and Bower (2000), Kitwood (1997) and McCormack and McCance (2010). When I commenced my program of work, McCormack and McCance’s (2010) research did not address person-centredness in *all* healthcare contexts, concentrating on aged care and general wards. However their most recent text has tackled this concept in settings such as acute care and mental health (McCormack & McCance 2016). They have worked on refining their framework to be more inclusive and mindful of context and culture. Context and culture have been acknowledged by these leading researchers as one of the most challenging aspects of providing and sustaining patient-centred care (McCormack, Dewing & McCance 2011). A key discussion point has been the need to establish and recognise conflicting priorities in context in order to fully understand the care being delivered (McCance et al. 2013). It is important to understand the context and culture of a setting prior to investigating or exploring it, especially if there is a view to developing or implementing innovations to improve practice.

The use of ‘patient’ rather than ‘person’ in this program of work was confirmed as appropriate after in depth review and analysis of literature and consultation with an expert linguist, who suggested this choice was supported by functional linguistic theory. As the context of the thesis is highly biomedical and the people in focus are most often referred to as ‘patients’ both in daily interactions as well as the majority of critical care literature, it was deemed appropriate to use that terminology. There is a risk that use of the term ‘person’ may take away from the sense of the context in this case. The context of culture and the context of situation are terms first coined by the anthropologist Malinowski (1935). Malinowski (1935) found it was important to gain a sense of the context in order to fully understand the meaning of a concept. Later, Hasan (1993, p. 88) claimed ‘linguistic meaning construes context, and context activates linguistic meaning’. Intensive care is an environment sometimes referred to as a ‘rescue environment’ (Chapple 2010), where access to life saving technology, an attitude of curing or saving lives (Hillman & Cardona-Morrell 2015), and a biomedical ideology contribute to a culture where at times the ‘person’ in the ‘patient’ may be lost. Functional linguistic theory supports the idea that a chosen language must be used for the meaning to be clearly communicated. It is important therefore, to use language that is customary to those targeted in the research, such as critical care health professionals, and those having responsibility for organisational structure within the intensive care unit. Due to the specific context and importance of dissemination of results of this research to the critical care arena, the language had to be appropriate to the audience. Therefore, it was deemed necessary to use ‘patient’ rather than ‘person’ for this program of work. Further analysis of the concept of patient-centred nursing in the context of intensive care is examined in Chapter Two.

1.1.1.2 Patient and Family Centred Care

Patient and Family Centred Care (PFCC) involves the inclusion of family or significant others in patient care, also an important component of the patient-centred model of care (McCormack & McCance 2016). Patient and Family Centred Care is recognised as a means of improving patient care (Mitchell et al. 2016) and has gained interest across most healthcare areas, particularly paediatric, palliative and intensive care (Davidson et al. 2007). The PFCC framework includes elements such as family members partnering in decision making and physical care, respect and communication (Davidson et al. 2007; van Mol et al. 2017). Research into PFCC in intensive care has been diverse, but limited in providing specific strategies to change the paradigm to a more accepting culture (Mitchell et al. 2016), or in overcoming barriers to implementation (van Mol et al. 2017). The PFCC model of care will be referred to at times throughout this program of work but is not the focus of this thesis.

1.1.2 Compassion

The profession of nursing is synonymous with compassion, empathy and caring (Hooper et al. 2010). Many nurses enter the profession aiming to provide competent and compassionate care and many patients expect these attributes of their nurse (Coetzee & Klopper 2010). Compassion is not a new concept in nursing. A derivative of Florence Nightingale's ideals, it has permeated professional ethical codes and standards of practice internationally (Straughair 2012). However, a recent report in the United Kingdom (UK) found that compassion was lacking in healthcare delivery (Francis 2013). Since then, more research has been undertaken in an effort to improve delivery of compassionate healthcare (Ledoux 2015; Strauss et al. 2016).

The importance of compassion is widely acknowledged in healthcare, yet consensus definition is lacking (Ledoux 2015; Strauss et al. 2016). Attempts at defining the phenomenon have been made, with compassion broadly described as an emotive reaction or sensation that is felt when witnessing the suffering or distress of another individual (Boyle 2011). More recently, Strauss et al. (2016) completed a systematic literature review examining the concept more closely and surmised that compassion comprises five elements: 1) recognising suffering; 2) understanding the universality of human suffering; 3) feeling for the person suffering; 4) tolerating uncomfortable feelings; and 5) motivation to act to alleviate the suffering.

1.1.3 Compassion satisfaction and compassion fatigue

Compassion satisfaction has been found to be a ‘positive aspect of caring’ and attractive to those choosing to work in professions like nursing (Hooper et al. 2010, p. 422). Compassion satisfaction brings about a sense of achievement and gratification to the nurse as they provide care to their patients, alleviating or attempting to alleviate suffering (Hudnall Stamm 2012). Compassion satisfaction has been found to positively influence critical care nurses’ intention to stay or leave the profession (Sawatzky, Enns & Legare 2015).

Alternatively, compassion fatigue is a negative aspect that can occur at times in the professional life of many nurses (Hudnall Stamm 2012). It has been defined as a natural phenomenon that results from the effort of caring for people who are suffering (Figley 1995, Hooper et al. 2010). Compassion fatigue has been researched across many professions including social work, medicine and psychology (Adams, Boscarino & Figley 2006; Figley 2002; Lynch & Lobo 2012). Empirical research supports the idea that

repeated direct and indirect exposure to trauma through ‘vivid imagery’ risks significant changes in health professionals’ emotional, behavioural and cognitive abilities (Adams, Boscarino & Figley 2006; Figley 1995). The term ‘compassion fatigue’ initially appeared in nursing literature in the late 1980s. Joinson (1992) defined compassion fatigue as a new concept in the healthcare arena, specifically referring to emergency nurses. This foundational article described compassion fatigue as a form of burnout common to nurses who were vulnerable due to the nature of their role in healthcare. Figley’s (1995) research concurred and identified empathy, caring and emotional engagement as risk factors for health professionals. Compassion fatigue was identified as comprised of two components: burnout and secondary traumatic stress (Jenkins & Warren 2012).

1.1.4 Critical care nursing

For this work program, the term ‘critical care nurses’ (CCN) refers to (qualified / registered) nurses working at a 1:1, 1:2 or similar nurse: patient ratio in intensive care, high dependency or coronary care units. Critical care nursing is claimed to be multidimensional, with competence differing from that required in general nursing (Riitta-Liisa, Suominen & Leino-Kilpi 2007). The UK Royal College of Nursing guidelines state that the complexity and acuity of the patient influences the required skill level of the nurse (RCN 2003). Researchers agree and suggest highly developed decision-making skills are required to anticipate and prevent complications (Abbey, Chaboyer & Mitchell 2012). Caring for the sickest patients in acute hospitals (BACCN 2010), critical care nurses utilise advanced decision making, problem solving and communication skills to provide effective care including complex assessment and monitoring (AACN 2015). Critical care nurses account for 14% of the nursing workforce in Australia (HWA 2013) and 37% in the US (AACN 2011) and nurse:patient ratios differ between countries. For

example, nurses in Australia (ACCCN 2016) and the UK commonly nurse one (ventilated) patient (BACCN 2010) whilst nurses in the US are allocated two or more such patients (AACN 2011). Models of care also differ. An exclusively registered nursing workforce works within a total patient care model in Australia (ACCCN 2016), whereas unregistered support roles are included in care teams in other countries. Nurses who choose the specialty of critical care are presented with unpredictable challenges as their patients' conditions can change rapidly necessitating skilled and prompt interventions. A recent study advises that this unpredictability demands the need for constant comprehensive vigilance from the CCN (Abbey, Chaboyer & Mitchell 2012); UK guidelines suggest that the CCN is the key provider of holistic patient-centred-nursing care (RCN 2003).

Some scholars perceive the use of life sustaining equipment and vigilant monitoring of the patient as a form of patient-centredness (Galvin 2010), whilst others believe that technology can impede nurse-patient interactions, negating caring aspects of patient-centred nursing (Price 2013). Patient-centred-nursing in ICU was found to be compromised as the psychosocial needs of the patient are often overlooked due to the demands of technology and the immediate need to treat physical illness or injury (Davidson et al. 2007). The severely compromised physiological state of the patients requiring ICU admission infers a difference in needs and differences in provision of patient-centred-nursing in this compared to other areas in the hospital setting (Kelleher 2006).

1.1.5 Nursing workforce

The delivery of quality nursing care has been positively linked to job satisfaction and subsequent workforce retention (Sawatzky, Enns & Legare 2015). With worsening shortages predicted for coming years (Buchan et al. 2015), the need to retain highly skilled staff has become a priority. While reflecting the general population in terms of chronic disease, the average age of the general nursing workforce in many countries is increasing at a faster rate (AIHW 2015). The critical care nursing workforce faces similar issues and a substantial shortage is anticipated as experienced nurses in older cohorts leave or retire (Chan & Perry 2012). Davidson et al. (2007), however, argue that workforce ageing is not the only issue driving the projected international nurse workforce shortage. Poorly developed policy frameworks, lack of career structures, educational opportunities and incentives (Buchan et al. 2015), burnout and compassion fatigue (Sawatzky, Enns & Legare 2015) have been reported as challenging job satisfaction and, therefore, the supply and retention of nurses.

Expert nursing staff desire a stimulating work atmosphere (van Dam, Meewis & van der Heijden 2013), supported with training, education and career development (Davidson et al. 2007). Organisational factors such as these have been found to impact critical care nurses' ability to deliver compassionate care (Jones et al. 2016). This presents a tension in financially restrained environments, where patient-centred nursing is expected to flourish alongside the performance and financial targets required by an increasing 'corporatisation of care' (Tuckett et al. 2014, p. 5; van Dam, Meewis & van der Heijden 2013). This commodification of healthcare results in competition between the pressures and priorities of patient-flow with what is occurring at the bedside and can result in job dissatisfaction and burnout (Tuckett et al. 2014). Supporting this group of nurses is

important as job satisfaction, compassion satisfaction, engagement and burnout have been identified as key predictors of intention to leave critical care nursing (Sawatzky, Enns & Legare 2015).

1.2 Aim

The overarching aim of this program of work is to develop a conceptual framework that outlines the processes involved in patient-centred nursing and compassion satisfaction or compassion fatigue in the context of critical care nursing.

1.3 Research questions

To address the aim of this program of work a sequence of research questions were addressed:

- How is patient-centred-nursing in intensive care defined?
- What acts as a facilitator or barrier to nurses' provision of patient-centred-nursing in the intensive care unit (ICU)?
- To what extent do Australian ICU nurses experience compassion satisfaction and compassion fatigue and what are the predictive factors?
- How does the intensive care nursing role impact their feelings of compassion satisfaction and compassion fatigue?
- What strategies could assist critical care nurses' provision of patient-centred-nursing in ICU?

1.4 Researcher's motivation

As a Registered Nurse working in a regional intensive care unit, I noticed that at times nurses provide professional and compassionate nursing care and sometimes they do not. My previous degree was in psychotherapy and my philosophical outlook is based on the humanistic Rogerian model of unconditional positive regard, congruence and empathy. For this program of work, I am focused on how nurses experience their role as I recognise the importance of this, not just for the nurses themselves, but also for patients' experience of their ICU admission.

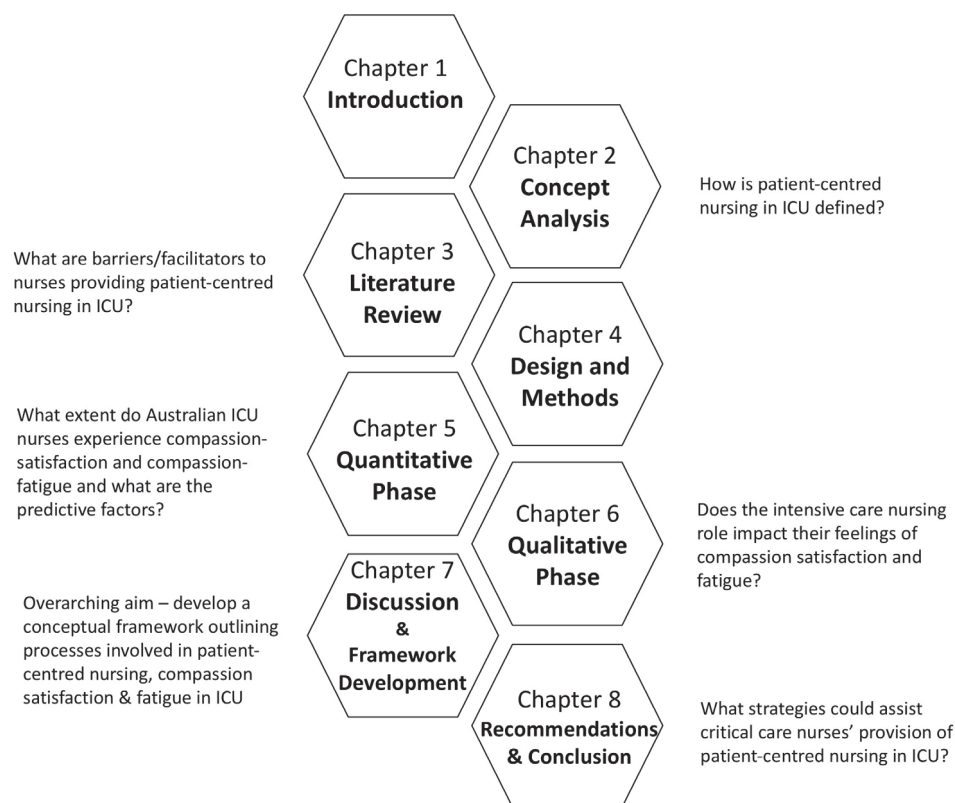
1.5 Significance of the research

Understanding the basic processes by which both compassion satisfaction and compassion fatigue arise may enable the development of strategies to improve nurse-job-satisfaction and the patient-focus of care provided to these patients. It is challenging for healthcare agencies to attract and retain their expert nursing staff in critical care where turnover is high. The potential benefits of supporting nurses in their delivery of patient-centred-nursing are three-fold: improved nurse-job-satisfaction leading to improved nurse wellbeing; better nurse workforce retention; enriched patient experience, satisfaction and outcome. This investigation will strengthen the nexus between research and practice and will contribute to the body of knowledge of how nurses' wellbeing impacts patient experience of healthcare in Australia.

1.6 Structure of thesis

This is a thesis by publication, meaning the unified body of work contains a number of papers for publication. Consequently, some repetition may occur. The papers are presented within this thesis in each relevant chapter. Each chapter has an introduction and summary providing an exegesis. The structure of the thesis is outlined in Figure 1.1.

Figure 1-1 Thesis structure



1.6.1 Chapter 1 - Introduction

Chapter One provides background knowledge to the project, outlining the meanings of patient-centred nursing, compassion, compassion satisfaction and compassion fatigue.

Critical care nursing and the context of intensive care are delineated. The aim, research questions and significance of this research are scripted.

1.6.2 Chapter 2 – A concept analysis of patient-centred nursing in the intensive care unit

Chapter Two analyses the concept of patient-centred nursing in the context of intensive care; addressing the first research question. This concept analysis has been published in the Journal of Advanced Nursing (JAN).

1.6.3 Chapter 3 – An integrative review of support, facilitators and barriers to patient-centred nursing in the intensive care unit

Chapter Three reports the review of current local and international literature describing factors impacting provision of patient-centred nursing in the intensive care unit, particularly as perceived by critical care nurses; addressing the second research question. This integrative literature review has been published in the Journal of Clinical Nursing (JCN).

1.6.4 Chapter 4 – Research design, methodology, methods and theory generation

Chapter Four explains the theoretical and methodology perspectives, research design, sample selection, ethical considerations and methods of data collection and analysis employed for this program of work.

1.6.5 Chapter 5 – Compassion satisfaction and compassion fatigue: a cross-sectional survey of Australian intensive care nurses

Chapter Five describes the extent to which critical care nurses experience compassion satisfaction and compassion fatigue in Australian intensive care units; addressing the third

research question. This chapter reports the results of the quantitative phase of the research determining the Professional Quality of Life of intensive care nurses and has been published in the Australian Critical Care journal (ACCCN).

1.6.6 Chapter 6 – Insights on compassion and patient-centred nursing in intensive care: a constructivist grounded theory

Chapter Six explores intensive care nurses' perspectives on compassion satisfaction and compassion fatigue and patient-centred nursing. This chapter summarises a qualitative enquiry examining intensive care nurses' role of delivering patient-centred nursing and the impact of their feelings of compassion satisfaction and compassion fatigue; addressing the fourth research question. This segment of the thesis has been accepted for publication in the Journal of Clinical Nursing (JCN).

1.6.7 Chapter 7 – Applying Bowen Family Systems Theory to nursing in the intensive care unit: a discussion

Chapter Seven presents a discussion on the application of Bowen Family Systems Theory to intensive care. This chapter outlines theory development focussing on the processes around patient-centred nursing and compassion in intensive care; introducing the conceptual framework. This chapter has been submitted to the Journal of Advanced Nursing and is currently under review.

1.6.8 Chapter 8 – Recommendations and conclusion

Chapter Eight serves to conclude this dissertation by bringing the practical implications of the study into clear focus and in conjunction with the conceptual framework that has emerged from the research. Recommendations for practice informed by discussion of the

framework are detailed. Strengths and weaknesses and recommendations for future research are outlined.

1.7 Chapter summary

This chapter has given an overview of the background to this thesis encompassing the issues in the wider context internationally and locally. Patient-centred nursing, compassion, compassion satisfaction and compassion fatigue have been described. The importance of maintaining the critical care nursing workforce has also been explained in this chapter.

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2 A concept analysis of patient-centred nursing in the intensive care unit

The material of this chapter has been published (see Appendix 1):

Jakimowicz, S. & Perry, L. 2015, 'A concept analysis of patient-centred nursing in the intensive care unit', *Journal of Advanced Nursing*, vol. 71, no. 7, pp. 1499-517.

2.1 Chapter introduction

Chapter two addresses the first research question:

- *'How is patient-centred nursing in intensive care defined?'*

Analysis of a concept provides a building block in theory development or construction (Walker & Avant 2011). To adequately grasp the true meaning and cultivate an understanding of the processes surrounding patient-centred nursing and compassion satisfaction or compassion fatigue in ICU, it is important to analyse the concept of patient-centred nursing in the critical care context. Contextualising a concept throughout analysis strengthens the epistemological and ontological foundation. Additionally, by including both empirical and theoretical evidence for analysis the concept can be characterised within a group of people or community capturing not only the theoretical aspect of the concept, but also the colloquialisms (Risjord 2008) – the ICU community, in this case. The publication commences from the next paragraph. Justification and rationale for choice of journal for this chapter are outlined in Appendix 2.

2.2 Introduction

Recent reports of poor quality care, dehumanising experiences and lack of compassion in health professionals' interaction with patients have led to increasing scrutiny of healthcare delivery (Francis 2013; Garling 2008). In response, governments and international bodies have recognised patient-centred care as an approach to counter this in delivery of health services (Kitson et al. 2012). Further, a global strategy intended to achieve healthcare that is 'people-centred' not 'disease-centred' is currently being developed by the World Health Organisation (WHO) (WHO 2014). However, as individuals entrust others to meet their healthcare needs they frequently experience feelings of fear, vulnerability and anxiety (Stein-Parbury 2009). Consequently, pursuit of improved health services and delivery has resulted in a paradigmatic shift from a 'one-size-fits-all' model to a more personalised holistic approach within nursing and healthcare frameworks (Gillespie, Florin & Gillam 2004). Subsequent research has focused on patient decision-making, emotional support, discharge and admission procedures, end of life care and room design (Hobbs 2009; McMillen 2008).

Patient-centred care has been difficult to operationalise in the mixed and varied healthcare setting but attempts have been made to meet the challenge (McCormack & McCance 2010). Frameworks resulting from the research are not easily adapted to the intensive care unit (ICU) environment (Kelleher 2006; Pearson, Vaughan & Fitzgerald 2005), primarily due to critically ill patients' immediate need for biomedical intervention and their inability to communicate. Consequently, there is lack of consensus on what constitutes patient-centred nursing in the context of ICU; critical care nurses have mixed perceptions. Some nurses are convinced that due to the one-to-one ratio in the ICU, they *must* be

providing patient-centred care; other nurses, grounded in the biomedical ‘cure-oriented’ model, maintain that patient-centred nursing is based on the physical well-being of their patient (Kelleher 2006; Pearson, Vaughan & Fitzgerald 2005). Against a background of consensus that patient-centred nursing care is not ‘technology centred, doctor centred, hospital centred or disease centred’ (Stewart 2001, p. 444), it remains poorly understood in the critical care environment. The purpose of this analysis is to clarify the concept of patient-centred nursing in the context of the ICU.

2.3 Background

Clarification of the concept of patient-centred nursing in the ICU is important as critical care nurses have differing perceptions of the needs and expectations of their patients (Aro, Pietila & Vehvilainen-Julkunen 2012). ICU patients can seldom guide their nurses in this because most are unable to communicate during at least part of their ICU admission (Maxwell, Stuenkel & Saylor 2007). It is therefore important that nurses are supported in their relationships with their patients with agreed care philosophies and processes; patient-centred nursing is one commonly discussed approach to achieve therapeutic nurse-patient relationships (Esmaeili & Salsali 2013). However, whilst the broad concept of patient-centred care has been analysed, it has not been examined in the context of ICU. The concept of patient-centred nursing in the context of ICU remains clouded, with no consensus on a clear definition.

Historically, ‘person-centred’ was a term first coined by Rogers (1961) a humanistic psychologist in the 1940s. In healthcare it has been suggested that the expression ‘person-centred’ is used internationally in an effort to move the focus from disease and illness to

the ‘person’ experiencing this (Hobbs 2009). This is not new; Florence Nightingale differentiated nursing from the medical fraternity when she focused on the patient instead of the disease (Lauver et al. 2002; Timmins & Astin 2009). More recently, Kitwood’s (1997) seminal work in dementia prompted others to advocate for wider adoption of person-centredness (Dewing 2008), and this was embraced within the United Kingdom (UK) National Health Service prior to it becoming a worldwide movement.

Patient-centred care became prominent at a time of substantial transformation in nursing, with changes in education, advanced nursing roles and new technologies (Hobbs 2009). The evolution of patient-centred care has resulted in the development of a number of frameworks. Mead and Bower’s (2000, p. 1088) dimensional literature-based medical model of patient-centred care included ideas of the ‘bio-psycho-social perspective and patient as person’. UK researchers prompted by Kitwood’s work initially began investigating person-centred care in gerontology in the 1980’s (Dewing 2002; McCormack 2003; Nolan, Davies & Grant 2001). McCormack and McCance (2010) developed a four element framework for general nursing; intended to operationalise patient-centred care in everyday nursing practice, this framework does not address the complexities, intense relationships and acuity of physiologically compromised uncommunicative patients in the ICU.

Critical care nursing is a multidimensional role with competency criteria that differentiate it from general nursing (Riitta-Liisa, Suominen & Leino-Kilpi 2007). International guidelines confirm this claim, advising the complexity and acuity of the patient influences the skill level required of the nurse (AACN 2015; ACCCN 2003; RCN 2003). Further distinctive features include the need for highly developed decision-making strategies to

anticipate and prevent complications (Abbey, Chaboyer & Mitchell 2012; Aitken 2003). Critical care nurses are presented with unpredictable challenges as their patients' conditions can change rapidly and necessitate skilled and prompt intervention. Vigilant monitoring of the patient and use of life sustaining technologies have been described as a form of patient-centredness (Galvin 2010); others believe that machinery can block nurse-patient interactions, negating the caring aspect of patient-centred nursing (Price 2013). Research and discussion in the United States has seen technology viewed as an important element in holistic, patient-centred nursing (Aro, Pietila & Vehvilainen-Julkunen 2012; O'Connell & Landers 2008; Price 2013). However, lingering resistance to this notion suggests nurses can 'hide' behind technology and use it as self-protection (Slatore et al. 2012). The severely compromised physiological state of ICU patients differentiate the requirements and provision of patient-centred nursing in this from other hospital settings (Kelleher 2006). In order to develop a supportive theoretical framework specifically to operationalise patient-centred nursing in the ICU this concept requires clarification.

This paper addresses the question: 'What defines the concept of patient-centred nursing in the context of the ICU?' Walker and Avant's (2011) methodology was chosen to analyse this concept due to its structured and systematic approach. This model involves an eight-stage process: 1) Selecting a concept; 2) Determine the aims or purposes of analysis; 3) Identify all uses of the concept that you can discover; 4) Determine the defining attributes; 5) Identify a model case; 6) Identify borderline, related, contrary, invented or illegitimate cases; 7) Identify antecedents and consequences; and 8) Define empirical referents. Walker and Avant (2011) advise this process is not linear; rather, there is backward and forward movement between the steps to construct a rigorous

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analysis of the concept in context. An extensive review of literature was conducted to provide an evidence-based foundation for this concept analysis.

2.3.1 Data sources

The Cumulative Index of Nursing and Allied Health (CINAHL), PsycINFO, Medline (EBSCO) and PubMed (NCBI) databases were chosen to identify literature examining patient-centred nursing in the intensive care context. An initial limited literature search was conducted to identify optimal keywords, search and index terms with syntax variations for each database, creating a group of optimal search terms (Table 2.1). Inclusion criteria were: written in English; published 2000 to 2014; adult (≥ 18 years of age) human subjects. “Intensive care unit” included any adult critical care unit described as ‘intensive care’, ‘critical care’, ‘coronary care’, ‘high dependency’ or where the nurse: patient ratio was 1:1 or 1:2. Research designs included peer-reviewed research studies using mixed methods, quantitative or qualitative methodologies together with discussion and review papers focussing on patient or person-centred nursing care in the adult ICU. Papers discussing patient or person-centred nursing care in any other contexts were excluded, as were papers set in paediatric or neonatal intensive care units. Reference lists of relevant papers were searched.

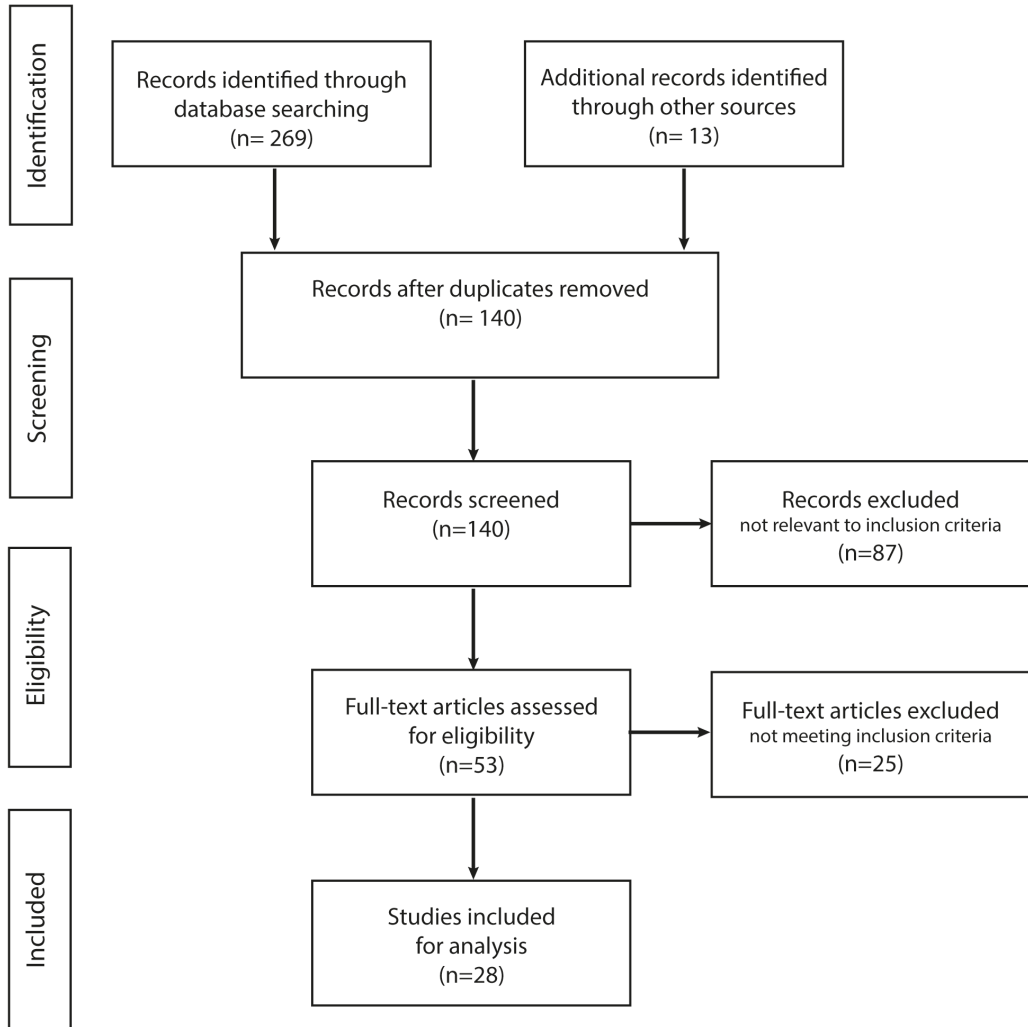
Table 2-1 Search results

#1	(patient* OR person*) AND (cent*)
#2	Nurs* (explode all trees)
#3	#1 AND #2
#4	“critical care” OR “intensive care” OR “high dependen*” OR “intensive therapy”
#5	#3 AND #4

2.3.2 Data selection and analysis

The database search and selection process resulted in 28 papers for inclusion in the concept analysis (Figure 2.1). Eighteen of these papers described research using mixed, qualitative or quantitative methodologies (Table 2.2). Ten papers were literature review or discussion articles (Table 2.3). Key themes and significant findings related to patient-centred nursing in the ICU were identified and categorised, then subjected to a meta-synthesis and collapsed into four key attributes. The iterative Walker and Avant process confirmed these as the defining attributes of the concept. Risjord (2008) supports this method and justification of choice of defining attributes through thorough literature review and synthesis with use of 'cases'. Cases provide a contextual foundation on which to base analysis and Walker and Avant (2011) also agree that reflection on context is important to decisions on defining attributes.

Figure 2-1 Data search and selection process



Adapted from: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e100097. doi: 10.1271/journal.pmed1000097

Table 2-2 Primary studies about patient-centred nursing in the intensive care unit

Citation	Sample/Setting	Methods	Aim	Findings
Aro et al (2012)	166 patients 16 ICU units in 6 hospitals (Estonia)	Quantitative Descriptive questionnaire Analysis – descriptive statistics, correlation analysis and statistical tests.	To describe perceptions of intensive care patients about the importance of their needs and how they are met.	Patients’ needs varied. Some found their needs were not met. Most important needs to patients were physical comfort and feeling safe. Additionally, privacy, involvement in decision making and involvement of their family were also important.
Crocker & Scholes (2009)	ICU nurses weaning patients from mechanical ventilators (United Kingdom)	Ethnography – observation 6 month period, 250 hours Glaser & Strauss – content analysis	To understand how nurses use technology when weaning patients from mechanical ventilation.	The central theme evolved as ‘knowing the patient’. Subthemes included: 1) ways of knowing; 2) continuity of care; 3) role of the patient
Cypress (2011)	15 patients and their families and nurses in an intensive care unit (United States)	Phenomenology – Merleau-Ponty’s perspective In-depth, open ending interviews vanManen’s selective line-by-line analysis	To describe & understand the lived experience of nurses, patients & families during illness in ICU.	Common themes: <ul style="list-style-type: none"> • Physical comfort/care • Physiological care • Psychosocial support • Transformation Family-centred care is a dimension of PCC -intro

Citation	Sample/Setting	Methods	Aim	Findings
Davidson et al (2007)	Multidisciplinary task force of experience in critical care (United States)	Development of clinical guidelines using consensus process	To develop clinical practice guidelines to support the patient and family in adult, paediatric or neonatal ICU.	43 recommendations made involving: <ul style="list-style-type: none"> • Communication and Shared decision-making • Involvement of family and Patient engagement/autonomy • Training of ICU staff, staff debriefing • Continuity of care • Staff communication and acknowledgement of staff stress as they try to provide PCFC care. • Cultural, language, nurse matching (Synergy model) • Spiritual & religious support • Open family visitation and Patient privacy/ confidentiality • ICU design for patient comfort • Family access to teams and Family presence at resuscitations
Eriksson et al (2011)	7 patients admitted to ICU 5 of their relatives (Sweden)	Hermeneutic phenomenology Open-ended Interview technique Gadamerian analysis	To interpret and understand meanings of lived experiences of visiting of patients in an ICU and their families – presented as a play.	Data separated into patient and family. Real Life Experiences <ul style="list-style-type: none"> • Patients remembered that their family was at their bedside. • A feeling of security from family presence. • Patient & family appreciated diary kept. Recalling unreal life experiences <ul style="list-style-type: none"> • Patients can be traumatised by ICU stay.
Esmaeili et al (2014)	21 nurses with at least 2 years experience working in critical care units. (Iran)	Qualitative Exploratory methodology Semi-structured interviews Content Analysis	To explore the perception of nurses working in critical care units regarding patient-centred care.	Themes: <ul style="list-style-type: none"> • From accepting to understanding the patient. • Improved care as the result of skill and expertise. • Managerial skills in caring. • Importance of getting to know the patient. • Adherence to patients' rights.
Hardy et al (2002)	Four nurse participants – 1 ICU nurse (United Kingdom)	Discourse analysis Method – all participants provided a self-assessment of their expert practice and examples	A pilot study to explore the discourse of nursing expertise as a 'catalyst' that alters treatment pathways and maximises patient centred care.	Nursing expertise is the ability to use knowledge and self seamlessly. The nurse-patient relationship and knowing your patient through communication and observation represent aspects of clinical expertise. High levels of assessment and observation skills as well as attention to non-verbal communication elements can promote patient choice and empowerment.

Citation	Sample/Setting	Methods	Aim	Findings
Hinkle & Fitzpatrick (2011)	101 relatives, 28 physicians and 109 nurses working with the same group of patients in six adult intensive care units. (United States)	Prospective descriptive study. Used Critical Care Family Needs Inventory (CCFNI) Analysis – SPSS descriptive and inferential statistics	What were the perceptions of needs for American critically ill patients as identified by relatives, physicians and nurses?	Three important needs to be met for the patient that were agreed upon by relatives, physicians and nurses were: <ul style="list-style-type: none"> • To have questions answered honestly. • Be assured of the best care possible for the patient. • Feel the hospital personnel care about the patient. Research question justifies inclusion
Johnson (2004)	Nine former patients from 3 critical care units in QLD – 6 male and 3 female 21 to 69 years old (Australia)	Qualitative – phenomenological methodology Influenced by Heiddegger Unstructured, in- depth interviews vanManen thematic analysis	Explore, describe and interpret the meaning a group of patients attributed to their experience of long-term mechanical ventilation in an Australian critical care unit.	Patients <ul style="list-style-type: none"> • Gain comfort from the presence of nurses and their families • Sought control over their treatment • Questioned and interpreted their environment to reclaim self. Other items of importance: <ul style="list-style-type: none"> • Continuity of care – seeing the same nurse • Communication and information sharing

Citation	Sample/Setting	Methods	Aim	Findings
Jones et al (2003)	18 men aged 21-54 years who had been patients in an intensive care unit. Recruited immediately before discharge. Allocated to 3 groups: 1) life review group; 2) home visit group; 3) no intervention group (United Kingdom)	Case study – mixed methods Qualitative interviews and Quantitative results from standardised measures eg tools to measure post traumatic stress symptoms. Analysis – Dey’s model of narrative synthesis together with descriptive statistics	Explore possible use of life review and reminiscence interventions with young men following critical illness.	Regarding ICU nursing <ul style="list-style-type: none"> • In near death experiences many patients reported hallucinations or ‘mystical consciousness’ • Experienced bizarre frightening dreams. • Feelings of confidence in nurses and appreciation for their kindness and support. Implications <ul style="list-style-type: none"> • ICU nurses need to remember the person behind the tubes and technology. • Can be satisfying for nurse to provide holistic care to patient.
Kydonaki et al (2013)	33 ICU nurses 9 doctors who were looking after 10 Scottish and 9 Greek ventilated patients (Greece & Scotland)	Ethnography Fieldwork – observation, 5 months Semi structured interviews NVivo – thematic analysis	To examine elements of the ICU environment and the impact of nurses involvement in decision making during weaning patients from mechanical ventilation.	Main themes: <ul style="list-style-type: none"> • Organisation of the unit (time structure, staff levels/allocation eg 12hr shifts) • Inter-professional relationships • Ownership and accountability in weaning decision making • Role of weaning protocols Additionally, weaning practice should be considered in relation to the environment, so individualised patient-centred weaning approach can be taken
O’Connell & Landers (2008)	40 nurses 30 relatives Critical care setting (Irish)	Quantitative Convenience sampling. Adapted version of the Caring Behaviours Assessment Tool	To compare perceptions of nurses and relatives on the importance of caring behaviours of critical care nurses.	There was congruence between nurses and relatives on the most and least important caring behaviours of critical care nurses. A higher value was placed on caring behaviours that demonstrate <ul style="list-style-type: none"> • technical competence, • the altruistic and emotional aspects of caring.

Citation	Sample/Setting	Methods	Aim	Findings
Price (2013)	<p>Purposive sampling</p> <p>8 nurses observed, 13 nurses, 1 doctor and 2 physiotherapists</p> <p>were interviewed from a district general hospital intensive care unit</p> <p>(United Kingdom)</p>	<p>Qualitative Ethnography</p> <p>Observation, document review and semi-structured interviews</p> <p>Glaser & Strauss – constant comparative analysis</p>	<p>To discover what aspects affect registered health professionals' ability to care for patients within the technological environment of intensive care.</p>	<p>The main theme that developed was 'crafting process'. Subthemes emerged:</p> <ul style="list-style-type: none"> • 'vigilance', • 'focus of attention', • 'being present' and • 'expectations'. <p>The ultimate goal was to achieve the best outcome for the individual patient.</p>
Slatore et al (2012)	<p>33 nurses in a 26 bed cardio-medical intensive care and a 26 bed general intensive care unit</p> <p>(United States)</p>	<p>Qualitative Ethnography</p> <p>315 hours observation and 53 semi-structured interviews</p> <p>NVivo – thematic analysis</p>	<p>To perform a qualitative analysis of nurses' communications</p>	<p>Themes:</p> <p>Communication occurred in</p> <ul style="list-style-type: none"> • biopsychosocial information exchange, • patient as person, • sharing power and responsibility • therapeutic alliance • clinician as person. <ul style="list-style-type: none"> • Nurses act as interpreter between physician and patients and their families. • Nurses can suffer stress as they play the enhanced role in the delivery of patient-centred care.
Tayeba et al (2014)	<p>Purposive sampling</p> <p>6 critical care nurses, 3 head nurses and 2 patients with 4 family/visitors</p> <p>(Iran)</p>	<p>Qualitative</p> <p>Semi-structured interviews</p> <p>Thematic analysis</p>	<p>To identify rationales for restricted visiting hours in adult ICU's in Iran.</p>	<p>Themes:</p> <ul style="list-style-type: none"> • Health protection – mental health protection (need for peace and calm for healing) and physical health protection (risk of infection transmission). • Safety promotion – risk for malice, legal abuse (family dynamics), unsafe nursing care (visitors interfere with ability to provide nursing care). • Privacy preservation

Citation	Sample/Setting	Methods	Aim	Findings
Wahlin et al (2006)	11 patients from two intensive care units (Sweden)	Qualitative Phenomenological Open ended interviews Karlsson 5-step analysis process	To describe patient empowerment in an intensive care situation.	Five typological structures or themes: <ul style="list-style-type: none"> • One situated structure - Patients felt less anxious and more confident in some nurses than others. Some nurses showed that they cared about them and others didn't. The nurses 'had a way of being' – might be a touch or the way they did things. • Creating a safe environment • Encouraging feelings of value and motivation • Providing additional care eg a hug or pat, help with little things. • Encouraging patient participation – taken seriously, listened to • Strengthening and stimulating the patients own inherent joy of life and will to fight <p>Patient empowerment in ICU involves confirming the patient and their opinions, wants and needs to be valuable.</p>
Wahlin et al (2009)	11 patients, 12 next of kin, 8 nurses and 4 doctors (Sweden)	Qualitative Phenomenological Open ended interviews Thematic analysis	Compare intensive care patients' experiences of empowerment with next of kin and staff beliefs.	Themes: <ul style="list-style-type: none"> • Experiencing joy in living and will to fight • Feeling motivated for struggling to get better • Feeling safe • Experiencing atmosphere as positive • Self-esteem • Experiencing good relationships • Knowledge creation • Involvement in care <p>Although there were many similarities found between patient experiences, next of kin and staff beliefs, on the whole next of kin and staff believed the patient to be more unconscious and unable to participate than patients did. If the patient could have more involvement in their care, the relationship between nurse and patient would be changed in a positive way.</p>

Table 2-3 Other peer-reviewed literature about patient-centred nursing in the intensive care unit

Citation	Article Type	Aim	Conclusion	Notes
Ciufo et al (2011)	Systematic Review Mixed Method	To appraise and synthesise evidence on visitation models used in adult ICU's and to explicate their congruence with the core concepts of patient- and family-centred care (PFCC)	Flexible visiting polices allow concepts of PFCC to be incorporated into practice. Nurses believe that flexible visiting hours means increased workload and are an impediment to practice even though it may benefit the patient.	Joanna Briggs methodology & software tools used
Crocker (2009)	Discussion Paper	To discuss the role of nurse in weaning patients from mechanical ventilation.	Knowing the patient is important in the process of weaning from ventilation.	Development of person-centred weaning plans can be incorporated into the process.
Efstathiou & Clifford (2011)	Literature Review	To discuss the challenges faced by critical care nurses when caring for patients at the end of their life.	Themes: <ul style="list-style-type: none"> • Communication • Patient & family centred decision making • Continuity of care • Emotional & practical support for patients and relatives • Symptom management & comfort care • Spiritual support • Emotional and organisational support for clinicians 	Critical care nurses require more education around patient-centred end-of-life care skill development.
Galvin (2010)	Discussion Paper	In development of person centred care this paper introduces the notion of 'caring science' as a way to develop types of knowledge that relate to caring practices in critical care environment.	Caring requires integration of: <ul style="list-style-type: none"> • Holism about kinds of knowing in general • Holism about the nature of the person • Holism about the nature of care Critical care nursing is complete when the nurse draws on their specialist knowledge, evidence, expertise, and capacity to show compassion and caring through relational understanding.	Critical care nurses can be challenged to know how to manage the balance 'hand' (technical skills) and 'head' (protocol & evidence) with 'heart' (ethical and human dimensions).

Citation	Article Type	Aim	Conclusion	Notes
Kelleher (2006)	Discussion Paper	To examine the provision of patient-centred care in the intensive care unit when the autonomy of patients could be compromised.	<p>Person-centred care is difficult to apply in the ICU context where patients' autonomy is often compromised.</p> <p>Aspects of person-centred care:</p> <ul style="list-style-type: none"> • Unique individual (individualised care) • Communication • Need to feel safe (lessen anxiety) • Creativity of nurse (to help improve patients' wellbeing) • Nurse-family relationship 	Until ICU nurses move from 'functional understanding' to a more philosophical understanding of their role, the true nature of person-centred nursing will not be realised.
Hynes et al (2008)	Discussion paper	To describe an intervention where patient and family members, and community partners were included in the ICU 'membership'.	<p>States core concepts of PFCC:</p> <ul style="list-style-type: none"> • Dignity and respect • Information sharing • Participation • Collaboration 	Discusses importance of commitment to PFCC as a philosophical approach encompassing patient and family involvement in planning of care, delivery and evaluation.
O'Connell (2008)	Reflective analysis	To gain a greater understanding of the emotional intelligence needed to develop therapeutic nurse-patient relationships in the context of critical care.	Therapeutic nurse-patient relationships are central to patient-centred nursing. These relationships depend on the context of the care delivery. These relationships leave nurses open to emotional pain, dependent upon boundaries set. Reflective practice and clinical supervision could potentially facilitate ICU nurses in learning how and where to set appropriate boundaries that are beneficial to both nurses and patients.	<p>Themes:</p> <ul style="list-style-type: none"> • Particularity – knowing the patient in the context of their illness and in the context of their lives • Reciprocity – the nurse-patient relationship requires an exchange of concern, knowledge and caring. • Mutuality – a partnership in the care of the patient. Often not able to be reached in ICU due to the acuity of the patient – this can be achieved by involving the family of the patient. • Graceful care – where the nurse uses their physical, humanistic and spiritual abilities in an effort to promote healing and personal growth. Giving of oneself, whilst maintaining professional boundaries, in an effort to build trust through congruence

Citation	Article Type	Aim	Conclusion	Notes
Rattray (2012)	Editorial	To discuss person-centred care in intensive care units.	<p>It is possible that much care delivered in the ICU is person-centred in general, but it is important to reflect on care delivery.</p> <p>Demonstration that ICU care is both safe and effective as well as person-centred is important to not only satisfy our patients, but also the governments.</p> <p>Privacy and continuity of care are two aspects of PCC that are often overlooked in the critical care environment. Is it the culture of the unit?</p>	<p>It is important to understand the concept of person-centred care in the context of intensive care.</p> <p>Softer skills like compassion and caring can be difficult to measure.</p> <p>Do shift lengths affect delivery of person-centred nursing? Is this driven by staff request rather than patient consideration?</p>
Stein-Parbury and McKinley (2000)	Literature review	A review of selected literature to allow ICU staff to understand experiences of their patients.	<p>Themes:</p> <ul style="list-style-type: none"> • Impaired cognitive functioning –often led to or was part of increased anxiety and discomfort. • Discomforts – Sleeping, pain, comfortable positioning and feeling trapped and out of control were unsettling and distressing to patients. This together with ability to communicate and feelings of helplessness contributed to the overall discomfort of patients. • Comforts and promotion of safety – patients felt safe when they had the presence of the ICU nurse. They perceived that they were supported by the highly skilled nurse and appreciated their understanding; this led to development of trust and confidence. 	Patient's level of acuity affected their ability to communicate, gave them feelings of helplessness and affected their experience of ICU.
Timmins & Astin (2009)	Editorial	Discuss delivery of patient-centred care.	<ul style="list-style-type: none"> • Communication • Continuity of care • Concordance 	Authors suggest that due to the lack of psychological support that nurses receive they may use task- centred, rather than patient-centred nursing as a coping mechanism.

2.4 Results

2.4.1 Uses of the concept

The Oxford Dictionary in English (2014) was consulted for definition. As patient-centred and person-centred appear to be used interchangeably in the literature, both terms were sought. ‘Person’ is defined as ‘a human being regarded as an individual’, and ‘patient’ as ‘a person receiving or registered to receive medical treatment’. The adjective of ‘centred’ is defined as ‘placed or situated in the centre’. When ‘centred’ is used in combination (as in this concept) it is defined as ‘having a specific subject as the most important or focal element’. ‘Nursing’ is defined as ‘the profession or practice of providing care for the sick and infirm’. With ‘patient’ and ‘person’ used interchangeably, for consistency, ‘patient’ is used throughout this paper as the definition of patient refers to a ‘person’. The combined definition is therefore ‘a human being, regarded as an individual, receiving or registered to receive medical treatment’, with patient-centred nursing as: *‘a sick or infirmed individual human being is the focal element, registered for or receiving medical treatment from a professional care provider’* (Oxford Dictionary 2014).

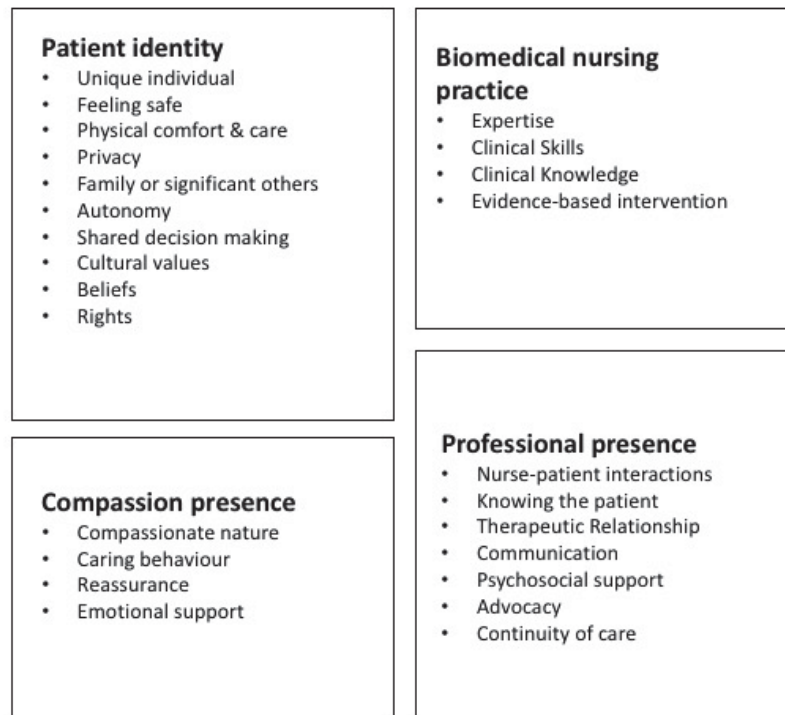
In nursing literature, the term ‘patient-centred’ is used to move from routinised or task-oriented ways of describing practice to one where the focus is more about a therapeutic relationship with the patient (Aro, Pietila & Vehvilainen-Julkunen 2012; O’Connell 2008). In an effort to explain patient-centred nursing, Kelleher (2006, p. 36) cited Peplau (1952) who defined nursing as a ‘human relationship between an individual who is sick or in need of health services and a nurse specially educated to recognise and respond to the need for their help’. An ethnographic study found that nurses contribute to patient-

centred nursing through communication regarding bio-psycho-social issues, treating the patient as a unique individual and development of a therapeutic relationship (Slatore et al. 2012). Review of the uses of the concept has identified some of the characteristics of patient-centred nursing without representing the notion in its entirety. This, together with material from included studies will provide a more complete picture of patient-centred nursing in the context of the ICU.

2.4.2 Defining attributes

Identification of the attributes of a concept occurs during analysis of literature, development of cases and is ‘the heart of concept analysis’ (Walker & Avant 2011, p. 162). Synthesis of key themes and significant findings from included literature determined the defining attributes of patient-centred nursing in the context of intensive care as: a) biomedical nursing practice; b) patient identity; c) compassionate presence; and d) professional presence (Figure 2.2).

Figure 2-2 Defining attributes



2.4.2.1 Biomedical nursing practice

Biomedical nursing interventions, following complex protocols and routines on a patient's arrival to ICU ensure patient safety and prompt medical treatment. The patient's survival is the priority. ICU nurses require expertise and a high level of clinical skills and knowledge to administer effective, evidence-based, biomedical patient-centred nursing (Crocker & Scholes 2009; Davidson et al. 2007; Hardy et al. 2002; Hynes et al. 2008). Nursing knowledge and expertise enable observation and assessment of the patient's haemodynamic status and titration of interventions such as mechanical ventilation or inotropic drugs to optimal levels (Crocker & Scholes 2009; Davidson et al. 2007; Hardy et al. 2002). Nurses' ability to develop a gestalt of the situation using forms of

communication together with observations and assessments of the clinical and emotional situation is an important aspect of holistic biomedical evidence-based expertise, which is required to provide patient-centred nursing in the ICU.

2.4.2.2 Patient identity

Maintaining the patient's own personal identity is also a defining attribute. Patient's personal identity is at risk due to their vulnerability consequent to their compromised physiological state. Treating the patient as a unique human being and not dehumanising them by referring to them as to a particular procedure, disease, injury or bed number, contributes to effective patient-centred nursing (O'Connell 2008; Slatore et al. 2012; Timmins & Astin 2009). Fear, lack of control and inability to participate in their healthcare due to physical or cognitive barriers, threaten the identity of the patient (Aro, Pietila & Vehvilainen-Julkunen 2012; Cypress 2011; Eriksson, Bergbom & Lindahl 2011; Kelleher 2006). It is important for the nurse to understand the patient in the context of their normal lives as well as their illness (O'Connell 2008); understanding the 'patient's unique personality outside their illness' contributes to effective patient-centred nursing (Slatore et al. 2012, p. 413). Involvement of patients' family or significant others can be useful in achieving this, together with autonomy and shared decision-making, allowing the patient to be treated with dignity and as an individual, respecting unique cultural values and beliefs (Aro, Pietila & Vehvilainen-Julkunen 2012; Ciufo, Hader & Holly 2011; Cypress 2011; Davidson et al. 2007; Eriksson, Bergbom & Lindahl 2011; Hinkle & Fitzpatrick 2011; O'Connell 2008).

2.4.2.3 Compassionate presence

The compassionate presence of the nurse is significant in patient-centred nursing and was also identified as a defining attribute (Esmaeili, Cheraghi & Salsali 2014; Galvin 2010; Hinkle & Fitzpatrick 2011; Johnson 2004; Jones, Lyons & Cunningham 2003; Kelleher 2006; O'Connell 2008; Price 2013). The presence of a caring and compassionate nurse provides reassurance and emotional support to the patient at a time when they are frightened and vulnerable. Patients were reported as stating: 'I may not always have been able to see (nurse) , ... but I just knew, or I felt that they were always close', 'she got me through it ... it made such a difference ...' (Johnson 2004, p. 195). O'Connell (2008) called this 'graceful care'; the humanistic and spiritual abilities required of the nurse to provide a compassionate presence to the critically ill patient.

2.4.2.4 Professional presence

The final defining attribute is the professional presence of the nurse. Nursing is bound by professional and ethical standards of practice aiming to protect the public and to maintain trust and confidence in the profession (AHPRA 2014; NMBA 2008; NMC 2014). The intensive care nurse has highly developed clinical reasoning, problem-solving and decision-making skills (Davidson et al. 2007); is able to demonstrate technical competence, altruistic and emotional aspects of caring, which provides patients with confidence, building trust and allowing therapeutic engagement (O'Connell & Landers 2008; Price 2013; Stein-Parbury & McKinley 2000). Thus as part of providing a professional presence, the nurse needs to develop a therapeutic relationship with the patient (Kelleher 2006; O'Connell & Landers 2008; Wåhlin, Ek & Idvall 2006), which

impacts positively on patients' experience and is a key component of patient-centred nursing (Stein-Parbury & McKinley 2000).

Communication, both formal and informal, is an important element of professional presence and in establishing a positive nurse-patient relationship. Formally, critical care nurses are the key providers of information, both good and bad, to patients and their families in the ICU. Nurses often act as translators of clinical information into language understood by patients and their families, enabling shared-decision making, an important component of patient-centred ICU nursing (Cypress 2011; Davidson et al. 2007; Efstathiou & Clifford 2011; Hinkle & Fitzpatrick 2011; Hynes et al. 2008; Tayebi et al. 2014). Informally, analysis of communication by ICU nurses observed them sharing good-natured jokes and non-verbal communications with patients and family members by touch or putting their arm around the person (Slatore et al. 2012).

Other characteristics embedded in professional presence and patient-centred nursing include patient advocacy, provision of psycho-social support and protection of privacy (Tayebi et al. 2014); sometimes these can be overlooked in the critical care environment due to attention given to bio-medical interventions (Rattray & McKenna 2012). Continuity of care is also important, enabling patients to build confidence and trust in their nurses (Crocker & Scholes 2009; Davidson et al. 2007; Efstathiou & Clifford 2011; Johnson 2004; Kydonaki, Huby & Tocher 2014). Hence, the professional presence of the ICU nurse is a defining attribute of patient-centred ICU nursing.

2.4.3 Model case

Cases in this process are used to reveal and confirm evidence of defining attributes of the concept; they are not merely illustrative examples (Walker & Avant 2011).

A Registered Nurse (Ashley) and doctor entered the ICU with a frightened 65-year-old woman, critically ill and unable to speak. Ashley followed complex protocols required for an ICU admission, and compassionately reassured Laurel (the patient) in a caring and calm voice whilst gently touching her shoulder. Another nurse recorded her vital signs and Ashley provided a professional presence to the patient while working alongside her colleagues. Laurel's airway was compromised due to oral surgery. The intensivist requested equipment for intubation. Ashley used her expert clinical skills and knowledge to prepare for the procedure, using simple language to communicate and share information with Laurel. Together with another nurse they assisted with the procedure whilst using highly developed communication skills to promote a therapeutic relationship with Laurel. Once Laurel was haemodynamically stabilised, Ashley explained the situation to her family. Providing patient-centred nursing Ashley maintained the patient identity by getting to know her patient, developing therapeutic relationships with both patient and family. Laurel was provided with continuity of care through roster allocation. Provision of all the defining attributes in this case contributed to a positive patient experience of critical care. In this exemplar case the antecedents, defining attributes and consequences of the concept were all evident.

2.4.4 Borderline case

Tina walked into the lunchroom and announced ‘my patient with sepsis in Bay 9 is demanding. I’ve done everything for her. She’s stable now but keeps talking about how her family are selling her house. She said I’m abrupt and don’t seem to care. Well, I’ve done everything I have to’. Tina has completed all task oriented, or biomedical interventions required for her patient, but she is missing compassionate and professional presence. She has depersonalised her patient by calling her by her diagnosis. This is a borderline case illustrating the need for *all* aspects of the concept process. Has Tina received organisational support? Does she require extra support from her colleagues to provide effective patient-centred nursing care?

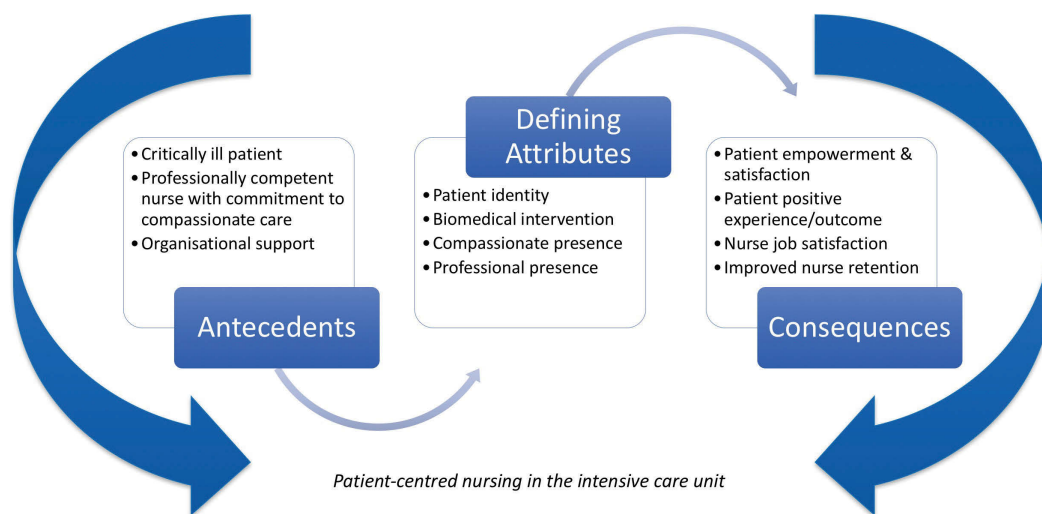
2.4.5 Antecedents and consequences

Antecedents are precursors to the occurrence of the concept; consequences the outcomes or incidents that transpire as a result (Walker & Avant 2011). Antecedents of patient-centred nursing in the ICU are: a physiologically compromised patient requiring biomedical intervention; a professionally competent critical care nurse trained to the level required to work effectively in an ICU; finally, organisational support in patient allocation, rostering, adequate training resources and promotion of a culture of patient-centredness. These resources combined with access to the facilities expected of an ICU, e.g. technological equipment, machinery, medical and allied health services etc., are antecedents to patient-centred nursing in the ICU (Aro, Pietila & Vehvilainen-Julkunen 2012; Cypress 2011; Davidson et al. 2007; Efstathiou & Clifford 2011; Hinkle & Fitzpatrick 2011; Hynes et al. 2008; Tayebi et al. 2014).

A number of significant consequences have been linked to patient-centred nursing in the ICU: patient empowerment, patient satisfaction and positive clinical outcomes, nurses' job satisfaction and improved nurse retention rates. Patients can feel less vulnerable, more empowered and engaged in their healthcare as a consequence of nurses' compassionate attitudes and caring behaviours (Wåhlin, Ek & Idvall 2006). Patients' satisfaction with their ICU stay may be impacted by defining attributes such as biomedical interventions and the presence of a compassionate and professional nurse (Aro, Pietila & Vehvilainen-Julkunen 2012; Davidson et al. 2007; Hinkle & Fitzpatrick 2011; Johnson 2004; Kelleher 2006).

Antecedents and defining attributes support consequences of the concept. This is apparent as patient-centred nursing meets nurses' altruistic desires and satisfaction in their role as the concept 'draws on their specialist knowledge, evidence, expertise and capacity to show compassion and caring' (Galvin 2010). If nurses are supported by the organisation and their altruistic desires are met they are more likely to continue in their nursing career (Davidson et al. 2007; Esmaili & Salsali 2013; Slatore et al. 2012). Antecedents, defining attributes and consequences make up the process of the concept and are shown in Figure 2.3.

Figure 2-3 Concept process



2.4.6 Empirical referents

Identification of empirical referents to measure defining attributes is the concluding stage in the concept analysis model (Walker & Avant 2011). Measuring recognisable phenomena that must occur to demonstrate the existence of the concept contributes to defining the theoretical foundation of the concept. Maintenance of patient identity, compassionate and professional presence can be measured by gauging patient and family satisfaction (Aro, Pietila & Vehvilainen-Julkunen 2012; Cypress 2011; Davidson et al. 2007; Eriksson, Bergbom & Lindahl 2011; Jones, Lyons & Cunningham 2003). Two instruments used for this purpose are the Family Satisfaction with Care in the Intensive Care Unit (FS-ICU 24) and the Critical Care Family Needs Inventory (CCFNI). Evaluating positive patient outcomes is a way of assessing biomedical nursing practice. A patient may improve clinically from effective biomedical nursing practice, or be

afforded a dignified death (Davidson et al. 2007). Patient or family input in appraising this attribute is necessary, together with health service statistics.

2.5 Discussion

This paper analysed the concept of patient-centred nursing in the context of ICU, contributing to a middle-range descriptive theory. Middle range theories may bridge the gap between nursing theory and practice (Peterson & Bredow 2009). The Walker and Avant philosophy is aligned with middle-range theory development (Walker & Avant 2011) and serves to operationalise a phenomenon by integrating theory and empirical research as an approach to theory construction (Merton 1968). Middle-range descriptive theories explain a phenomenon and encompass one concept by simply naming the commonalities across individuals or situations (Fawcett 2005). This concept is also well positioned within a number of grand nursing theories that have assisted nurses to respond to patients' health needs from a theoretical perspective, for example Peplau's interpersonal relations in nursing theory, and Watson's human science and care theory (Walker & Avant 2011). Some findings from this concept analysis map closely to the more recent middle range theory of the McCormack and McCance (2010) 'person-centred nursing framework'.

The antecedents, defining attributes and consequences identified in this analysis accurately describe the phenomenon in context and provide a foundation on which to base operationalisation of patient-centred nursing in intensive care. Paley (1996) suggests that concepts have different meanings within different contexts, which is exemplified in this analysis where the vigilant and extremely demanding role of the intensive care nurse has

been confirmed to differ from that of general nursing (Abbey, Chaboyer & Mitchell 2012; RCN 2003; Riitta-Liisa, Suominen & Leino-Kilpi 2007), therefore the phenomenon of patient-centred nursing appears differently in the context of the critical care environment to that of other areas of health. More recently Risjord (2008) confirms this notion and states that by contextualising a concept during analysis the epistemological and ontological footing is strengthened. To examine a concept in context not only means the actual setting, for example a hospital ward that provides medical treatment to critically ill patients, but also the everyday routines, language, interrelationships and discourse of staff and culture of the setting. Risjord (2008, pp. 688-9) suggests that a concept analysis based on purely scientific or quantitative data concentrates on the theoretical analysis, whereas if qualitative evidence is included then a 'colloquial concept analysis' can be prepared to 'represent concepts of a particular group of people'. A colloquial concept analysis aims to characterise the concept within a community or group of people. The literature included in this analysis covers both quantitative, qualitative and discussion papers in an effort to capture not only the theoretical meaning of the concept, but also the colloquialisms of the concept within the setting of the intensive care domain.

The vigilant and extremely demanding bio-psycho-social role of the intensive care nurse differentiates it from that of general nursing (Abbey, Chaboyer & Mitchell 2012; Riitta-Liisa, Suominen & Leino-Kilpi 2007). Successful operationalisation of patient-centred nursing in the ICU requires recognition of all key elements of the concept. Critically ill patients often require unique and sometimes creative forms of nursing interventions. Critical care nurses must cope with pressures of a bio-medically unstable patient and build a therapeutic relationship with that uncommunicative patient, whilst providing psychological and spiritual comfort to distraught family, all in the confines of a

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technologically crowded bed space. Nurses have been identified as the principal providers of care and reassurance for patients and their families in the ICU (Slatore et al. 2012).

A high level of expertise in observation, assessment and relationship building to overcome communication barriers is required. Expert critical care nurses use patients' clinical data and prior experience to inform decisions when identifying potential biomedical issues; this is vital in 'getting to know' the patient (Chaboyer & Hewson-Conroy 2012). Cultural and psycho-social aspects of patient-centred nursing are not always obvious, making it imperative for ICU nurses to have agreed care processes to support relationship-building. Nursing interventions that empower patients and maintain their identity often involve family members or significant others (Hardy et al. 2002). Literature indicates family inclusion in care and decision-making is important to positive patient outcomes (Aro, Pietila & Vehvilainen-Julkunen 2012; Burr 1998; Ciufu, Hader & Holly 2011). Family presence has also been found to impede and may add to the nurses' work pressure (Ciufu, Hader & Holly 2011), particularly the intense one-to-one nature of critical care nursing and the extended bedside vigils undertaken by families of these patients. Critical care nurses require 'softer skills' to cope with supporting the families of their patient. This is an additional obligation of ICU nurses and an added stressor to an already complex nursing situation (Esmaeili & Salsali 2013). Critical care nurses need training in, and to use their expert relationship and communication skills to implement a positive family and patient-centred experience (Davidson et al. 2007).

Nurses require an underpinning altruistic philosophy to enable compassionate patient-centred nursing to the level expected by patients, their relatives and healthcare systems (Galvin 2010; O'Connell 2008). Some say compassion is an innate quality; many nurses

enter the profession aiming to provide compassionate care (O'Connell 2008). Compassion satisfaction can bring about a sense of achievement and gratification and this positive aspect of caring is attractive to those who choose professional nursing, but compassion has both positive and negative consequences for nurses (Stamm 2010). The nursing workforce 'bears the full, immediate, and concentrated impact of stresses arising from patient care' (Menzies 1960, p. 97) and this has, at times, been seen to impact negatively on care processes and patient outcomes (Francis 2013; Garling 2008). ICU nurses are particularly vulnerable, due to the concentrated responsibility of one-to-one care of severely physiologically compromised patients and their families. Intense and continuous contact with patients and prolonged exposure to high-stress situations are precursors to compassion fatigue in critical care nurses (Jenkins & Warren 2012). Critical care nurses are at high risk of intense fatigue and anxiety, with no assurance their patients will recover despite their best efforts at patient-centred nursing (Campbell 2013; Davidson et al. 2007; Menzies 1960).

Tensions exist within healthcare systems driven by efficiency and effectiveness benchmarks where members are simultaneously expected to meet patient-centred standards and provide dignified and sensitive care in a pressured time-poor work environment (McCormack & McCance 2010; van Dam, Meewis & van der Heijden 2013). Effective patient-centred nursing achieves the desired results of positive outcomes where precursors are in place (Aro, Pietila & Vehvilainen-Julkunen 2012; Davidson et al. 2007). To further support the process Davidson et al. (2007) recommend that ICU nurses are included in treatment planning, receive training and debriefing to reduce stress levels. Engagement in planning and decision-making encourages autonomy in practice and adds to job satisfaction. Offering a stimulating work environment supported with training and

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development opportunities increases retention rates of expert critical care nurses (Attree et al. 2011; van Dam, Meewis & van der Heijden 2013). Training and development in the field of compassion, relationship-building, and ‘softer skills’ such as communication and self-care are as important to critical care nurses as medical and technological education (Davidson et al. 2007; O’Connell 2008). Supportive measures such as these link antecedents to the attributes of professional and compassionate presence. The foundation of successful implementation of patient-centred nursing in the ICU is the support and training of the nursing workforce (Davidson et al. 2007; Efstathiou & Clifford 2011).

It is important that decision and policymakers recognise the need to support critical care nurses in their challenging role, to maintain and grow an effective nursing workforce. The work pressures that ICU nurses are expected to sustain to deliver patient-centred nursing are enormous and contribute to high staff turnover (van Dam, Meewis & van der Heijden 2013). Recognition of the complex nature of critical care nursing and possibility of fatigue and other consequences justifies provision of early interventions to manage negative effects on nurses and consequently on the impact of patient care (Elkonin & van der Vyver 2011). Organisational support including provision of a safe working environment, training resources, fostering a patient-centred culture, together with access to up-to-date technological equipment is important. Meeting nurses’ needs and acknowledging their emotional well-being is also a key element of patient-centred nursing in ICU. Critical care nurses need tools, education, resources and stimulation to be supported in their important role (Davidson et al. 2007; Slatore et al. 2012; Tayebi et al. 2014).

2.5.1 Limitations

This analysis has clarified the concept of patient-centred nursing in ICU. However, some limitations exist. Firstly, choice of methodology could be criticised, with claims that the Walker and Avant methodology is weak in drawing meaning from literature (Paley 1996). In response, Walker and Avant (2011) point out the intention behind their method is its use as an introductory tool in development of theory and knowledge; to encourage thinking and understanding of concepts. Finally, restricting inclusion criteria to empirical literature might have provided a more objective outcome, but inclusion of discussion and review papers broadened the analysis.

2.6 Conclusion

This concept analysis supports a middle-range descriptive theory of patient-centred nursing in the ICU. Middle range nursing theories may be used to reduce the gap between theory and practice (Peterson & Bredow 2009) and this analysis assists to clarify implications for future theoretical development, operationalisation and research.

Patient-centred nursing in the ICU is different to that in other healthcare areas; the need for extraordinary qualities in the critical care nurse has been highlighted. Further development of instruments measuring patient-centred culture and nursing professional quality of life specific to the context of ICU is warranted to provide a basis for future decision and policy-making. This analysis opens up avenues for research examining the concept from the critical care nurses' perspective. These investigations may produce a foundation from which to formulate policy and practice guidelines to support delivery of effective patient-centred nursing, while at the same time development or testing of

interventions that provide support to encourage and attract critical care nurses to remain in the workforce.

2.7 Chapter summary

Results of this analysis indicate that patient-centred nursing in the context of intensive care is different to other areas of health. The antecedents, defining attributes and consequences derived from this concept analysis in context provide a foundation or the first building blocks for theory development. This analysis confirmed the need for detailed examination of the concept from the perspective of critical care nurses to ensure a clear understanding of the social processes, how nurses view the concept and how they can be supported in provision of effective patient-centred nursing and the processes involved.

2.8 References

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3 An integrative review of support, facilitators and barriers to patient-centred nursing in the intensive care unit

The material of this chapter has been published (see Appendix 3):

Jakimowicz, S., Perry, L. & Lewis, J. 2017, 'An integrative review of supports, facilitators and barriers to patient-centred nursing in the intensive care unit', *Journal of Clinical Nursing*, vol. 26, no. 23-24, pp. 4153-71.

3.1. Chapter introduction

Chapter three addresses the second research question:

- *What acts as a facilitator or barrier to nurses' provision of patient-centred nursing in the intensive care unit (ICU)?*

A systematic and integrative literature review is a crucial component of every research project (Bryman 2016) providing a critical analysis of what is already known and exposing gaps in knowledge (Liamputtong & Schmied 2017). Chapter two served to define and develop a patient-centred nursing framework specific to the context of intensive care. Examining facilitators or barriers to the provision of patient-centred nursing adds to this work by highlighting the difficulties and facilitators of application of the concept in context and serves to better understand nurses' perceptions to inform strategic initiatives and conceptual development. The publication commences from the

next paragraph. Justification and rationale for journal choice for this chapter is outlined in Appendix 2.

3.2. Background

Patient-centred nursing, a clinical model developed around patients, has been widely adopted in the wake of reports of poor quality healthcare and degrading patient experiences (Francis 2013). This approach has been welcomed by advocacy groups and international healthcare providers as an enabling model of care that meets expectations of individuals and health services (Kitson et al. 2013). In addition to the measurable, biomedical aspects of nursing care, patients are offered less tangible, humanising traits such as compassion, relationship building and empathy. These patient-centred clinical frameworks have been found to benefit patients and their experience of healthcare (McCance & McCormack 2017).

Patient-centred nursing in intensive care differs from that in general nursing for a number of reasons (Jakimowicz & Perry 2015). In particular, the patients are more biophysically compromised, and the challenges of their care require higher level bio-medical nursing expertise and interventions. Furthermore, patients often are unable to receive information or make decisions, challenging the patient-centred premise of shared decision making and care planning. The attributes of patient-centred nursing that may be compromised in intensive care include maintaining patient identity, developing a therapeutic relationship (Jakimowicz & Perry 2015) and patients partnering in treatment plans and goals (McCance & McCormack 2017). Whilst components of the patient-centred nursing model pose specific challenges to critical care nurses, the framework is hailed as an

important therapeutic approach, benefiting both patients and nurses in delivery of positive patient experience and enhanced nurse job satisfaction.

The core of the critical care nursing role is direct patient care. Specific responsibilities and functions of critical care nurses differ somewhat worldwide, but their common focus includes the critically ill patient's need for frequent, vigilant and prolonged observation and support. Caring for the sickest patients in acute hospitals (BACCN 2010), critical care nurses utilise advanced decision making, problem solving and communication skills to provide effective care including complex assessment and monitoring (AACN 2015). Critical care nurses account for 14% of the nursing workforce in Australia (HWA 2013) and 37% in the US (AACN 2011). Nurse to patient ratios also differ. For example, nurses in Australia (ACCCN 2015) and the UK commonly nurse one (ventilated) patient (BACCN 2010) whilst nurses in the US are allocated two or more patients (AACN 2015). Models of care also differ. An exclusively registered nursing workforce works within a total patient care model in Australia (ACCCN 2015), whereas unregistered support roles are included in care teams in other countries. Internationally, patients are mostly admitted to ICU because they are suffering life-threatening injury or illness. These conditions require experienced health professionals, expert nursing skills, knowledge, care, compassion, technological equipment and support. Nurses, therefore, have a multi-dimensional role, providing patients with professional and compassionate care where the exercise of their knowledge and skills benefits not only patients but also the nurses, in terms of job satisfaction.

The delivery of quality nursing care has been positively linked to job satisfaction and subsequent workforce retention (Sawatzky, Enns & Legare 2015). With worsening

shortages predicted for coming years (Buchan et al. 2015), the need to retain highly skilled staff has become a priority. While reflecting the general population in terms of chronic disease, the average age of the general nursing workforce is increasing at a faster rate. The critical care nursing workforce faces similar issues and a substantial shortage is anticipated as experienced nurses in older cohorts leave or retire (Chan & Perry 2012). Davidson et al. (2007), however, argue that workforce ageing is not the only issue driving the projected international nurse workforce shortage. Poorly developed policy frameworks, lack of career structures, educational opportunities and incentives (Buchan et al. 2015), burnout and compassion fatigue (Sawatzky, Enns & Legare 2015) have been reported as challenging job satisfaction and, therefore, the supply and retention of nurses.

Expert nursing staff desire a stimulating work atmosphere (van Dam, Meewis & van der Heijden 2013), supported with training, education and career development (Davidson et al. 2007). This presents a tension in financially restrained environments, where patient-centred nursing is expected to flourish alongside the performance and financial targets required by an increasing 'corporatisation of care' (Tuckett et al. 2014, p. 5; van Dam, Meewis & van der Heijden 2013). This commodification of healthcare results in competition between the pressures and priorities of patient-flow with what is occurring at the bedside, which can result in job dissatisfaction and burnout (Tuckett et al. 2014). Supporting this group of nurses is important as job satisfaction, compassion satisfaction, engagement and burnout have been identified as key predictors of intention to leave critical care nursing (Sawatzky, Enns & Legare 2015).

As contemporary healthcare organisations refocus to strengthen emphasis on patient needs alongside biomedical and economic priorities, attempts have been made to

operationalise patient-centred models of nursing (McCance & McCormack 2017). This has been particularly challenging for critical care, an environment considered to have an aggressive, curative approach where achieving survival of the patient is necessarily paramount and can dominate all aspects of care (Kelleher 2006). Within this fast-paced environment, critically ill patients undergo invasive and non-invasive procedures to regulate and monitor their physiological functions, which can impede the provision of patient-centred nursing (Kelleher 2006). Both the nature of critically ill patients and the vigilant and extremely demanding role of critical care nurses have potential to compromise some elements of patient-centred nursing (Kelleher 2006). To support nurses to provide effective patient-centred nursing in the intensive care environment, it is important to identify what supports, facilitates and impedes their delivery of high-quality care. This not only benefits the patient but supports nurse job satisfaction and retention, to create a 'virtuous circle' of stable staffing, quality care and positive patient experience.

3.3. Aim

The aim of this paper is to systematically review the literature describing factors perceived by nurses as impacting the provision of patient-centred nursing in the intensive care unit.

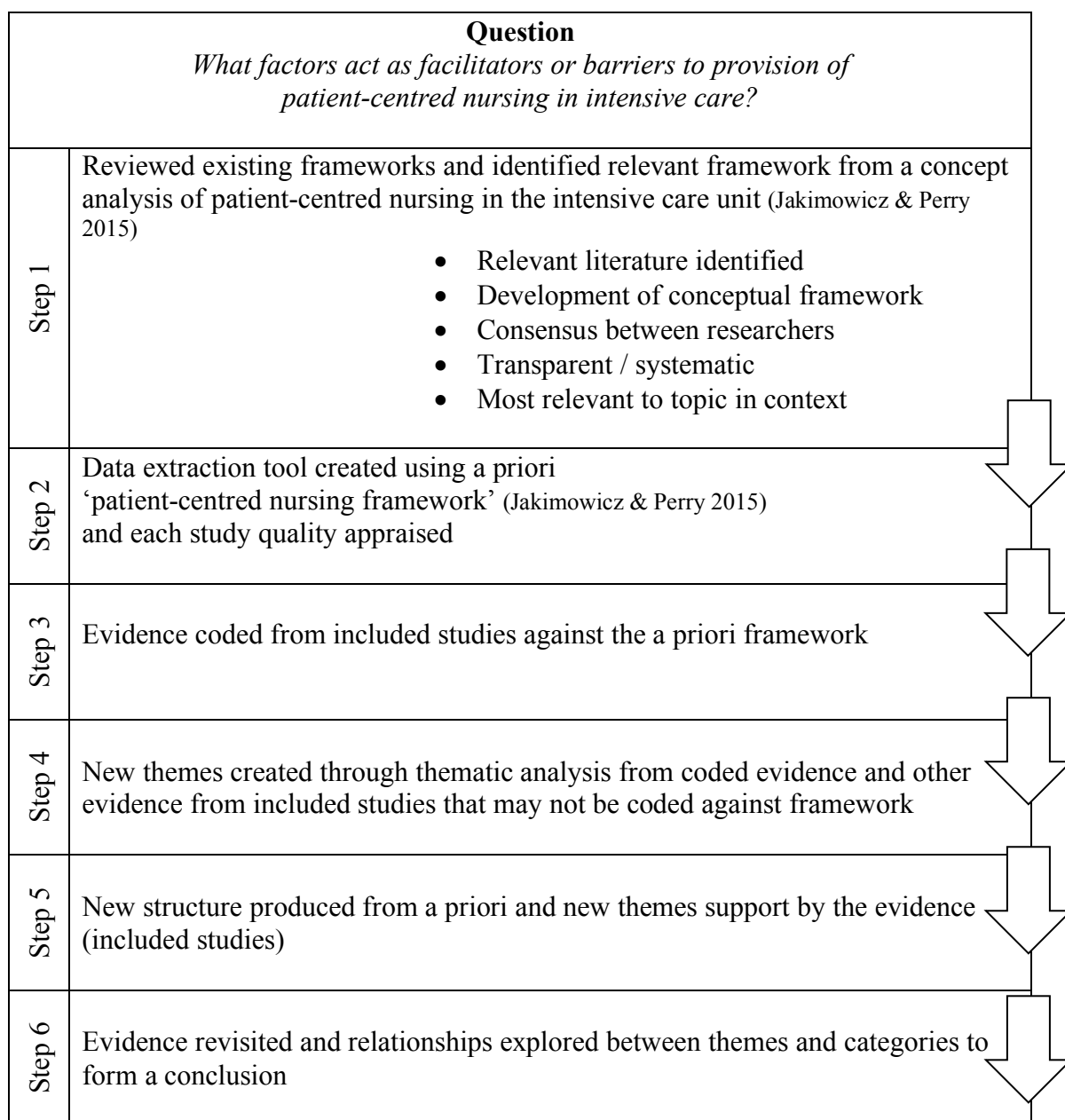
3.4. Methods

3.4.1 Design

This integrative review was informed by the Whitemore and Knafl (2005) methodology. Integrative reviews incorporate assorted sources of data resulting in a comprehensive and

rich understanding of the area of interest. This five stage rigorous process entails a clear search strategy and audit trail; sources are critically analysed, aggregated, synthesised, interpreted and findings disseminated. An adapted version of ‘best fit’ framework synthesis (Figure 3.1) was employed for rigorous and transparent analysis and synthesis of mixed methods of data (Carroll et al. 2013).

Figure 3-1 Method of synthesis using 'Best Fit' synthesis framework



3.4.2 Search methods

Literature included in this integrative review was located using a systematic approach. Included papers were identified through searches of CINAHL, PsycINFO, Medline and EMBASE databases. Search terms were drawn from the patient-centred nursing framework (Table 3.1). Inclusion criteria were: written in English; published 2000-2016 ‘intensive care unit’ setting; human adult patients (≥ 18 years of age). Literature was filtered to include papers reporting specifically from nurses’ perspectives. Papers had to be from peer reviewed journals; no restriction was placed on research design. Reference lists of relevant articles were searched. Papers were excluded if they did not meet the inclusion criteria. The first author conducted the search in consultation with the other authors.

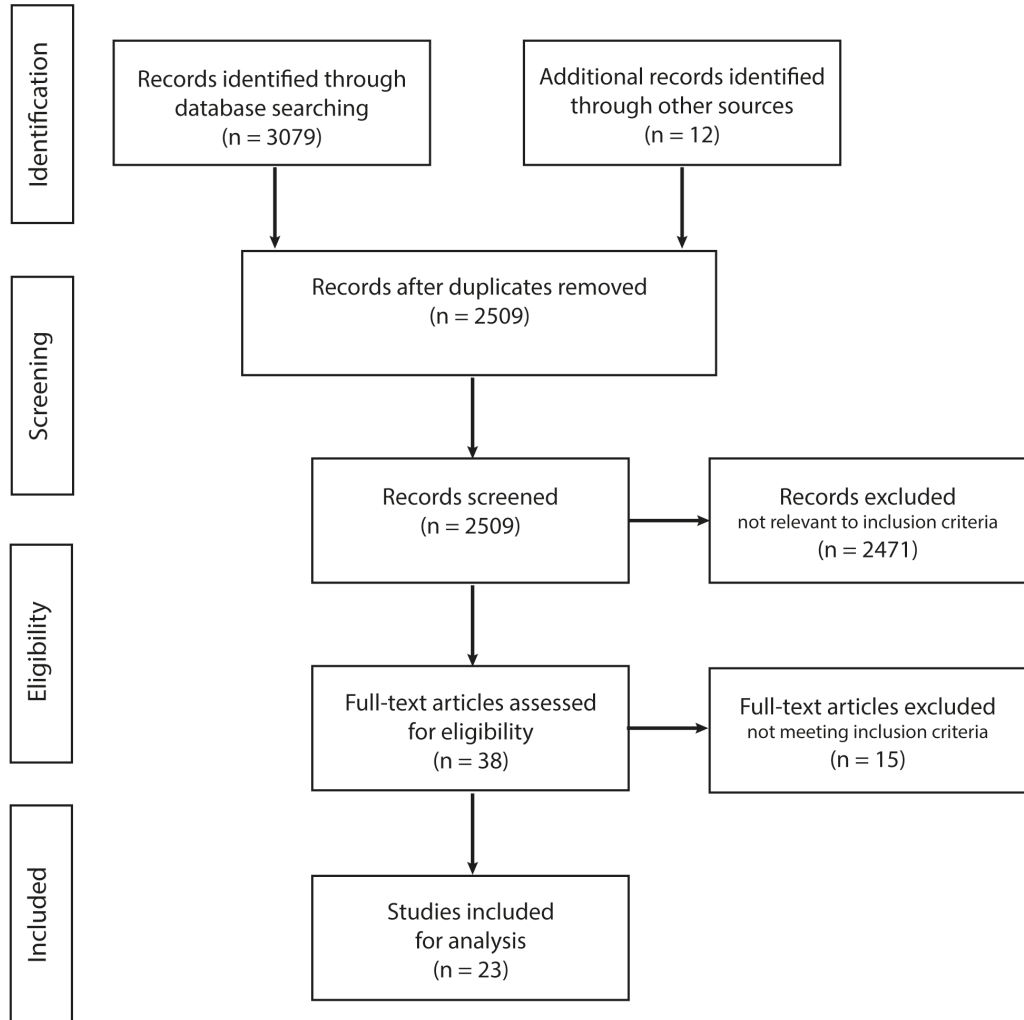
Table 3-1 Intensive care unit patient-centred nursing framework

Patient Identity	Biomedical Nursing Practice	Compassionate Presence	Professional Presence
<ul style="list-style-type: none"> • Unique individual • Feeling safe • Physical comfort & care • Privacy • Family or significant others • Autonomy • Shared decision making • Cultural values • Beliefs & rights 	<ul style="list-style-type: none"> • Expertise • Clinical skills • Clinical knowledge • Evidence-based intervention 	<ul style="list-style-type: none"> • Compassionate nature • Caring behaviour • Reassurance • Emotional support 	<ul style="list-style-type: none"> • Knowing the patient • Therapeutic relationship • Communication • Nurse-patient interaction • Family or significant others • Psychosocial support • Advocacy • Continuity of care
Antecedents		Consequences	
<ol style="list-style-type: none"> 1. Critically ill patient 2. Professionally competent nurse 3. Organisational support 		<ol style="list-style-type: none"> 4. Patient empowerment & satisfaction 5. Patient positive experience/outcome 6. Nurse job satisfaction 7. Improved nurse retention 	

3.4.3 Search outcome

Titles and abstracts of search output were reviewed. Following removal of duplicates and papers that did not meet the inclusion criteria, 38 papers were retained for full text review. Two researchers reviewed and discussed each paper using a data extraction tool detailing inclusion criteria. Papers were discussed to consensus, which occasionally required consultation with a third researcher. This resulted in 23 papers for inclusion in the integrative review (Figure 3.2; Table 3.2).

Figure 3-2 Search results



Adapted from: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e100097. doi: 10.1271/journal.pmed100097

Table 3-2 Included studies

Citation	Sample/Setting/Quality	Methods/Analysis	Aim/Research Question/Hypothesis	Relevant Findings
Alasad & Ahmad (2005)	28 critical care nurses Three ICUs (Jordan) <i>Quality: 10/10 criteria met (CASP*)</i>	Qualitative Phenomenological hermeneutic In-depth interviews & observation	To understand experiences of critical care nurses regarding verbal communication with critically ill patients in ICU.	Critical care nurses generally perceive communication as an important element of good nursing. Communication in the critical care setting is not effective and is seen as a barrier to 'getting the job done'.
Aslakson et al. (2012)	32 ICU nurses Four focus groups Four surgical ICUs (Maryland, US) <i>Quality: 9/10 criteria met (CASP*)</i>	Qualitative Focus groups Structured interview Content analysis	To explore barriers to communication and EOL care** in ICU as perceived by ICU nurses.	<i>Logistics</i> – patient unable to communicate, physicians too busy to communicate <i>Discomfort</i> with discussing prognosis <i>Inadequate skill</i> and training <i>Fear of conflict</i> These four domains acknowledged as barriers to EOL care in the ICU.
Bloomer et al. (2012)	12 ICU nurses, two metropolitan ICUs (Australia) Meets quality appraisal criteria <i>Quality: 8/10 criteria met (CASP*)</i>	Qualitative Focus groups Inductive content analysis	Describes ICU nurses' challenges in maintaining professionalism and ensuring self-care while caring for dying patient.	To provide a 'good' death for their patient, spending time with family and maintaining open communication was important. Preparing family for death and supporting them after death were primary goals. Impact on ICU nurse of caring for the dying. Organisational pressures, resources and design made providing ideal care a greater challenge.

Citation	Sample/Setting/Quality	Methods/Analysis	Aim/Research Question/Hypothesis	Relevant Findings
Cederwall et al. (2014)	19 critical care nurses, three ICUs (Sweden) Quality: 9/10 criteria met (CASP*)	Qualitative Semi-structured interviews Content analysis	Explore CCNs approach for management of patients experiencing prolonged weaning in ICU.	CCNs manage the weaning process using a targeted and patient-centred approach. Individualised planning, assessing patient capacity and managing team interaction and process were sub-themes identified.
Choe et al. (2015)	14 critical care nurses, two ICUs (Korea) Quality: 9/10 criteria met (CASP*)	Qualitative Phenomenological Giorgi's method In-depth interviews	Explore and understand moral distress from the perspective of critical care nurses	Ambivalence towards treatment and care, suffering from ethical insensitivity, dilemmas resulting from limited autonomy and conflicts with physicians and institutional policy are attributes of moral distress adding to a vicious circle leading to decreased patient satisfaction.
Crocker & Scholes (2009)	12 ICU nurses large teaching hospital (United Kingdom) Quality: 10/10 criteria met (CASP*)	Qualitative Ethnography Observation, fieldwork Focused interviews, documentary analysis. Content analysis	To understand how nurses used technology in the workplace. To explore this, the focus was on observing nurses weaning patients from mechanical ventilation.	Knowing the patient – divided into three sub-themes: ways of knowing, continuity of care, role of the patient. Two main factors are required to know the patient – continuity of care and expertise.

Citation	Sample/Setting/Quality	Methods/Analysis	Aim/Research Question/Hypothesis	Relevant Findings
Crump et al. (2010)	180 critical care nurses – 56 responded Midwestern urban trauma center (United States) <i>Quality:</i> 9/12 criteria met (MMAT**)	Mixed National Survey of Critical Care Nurses Regarding EOL Questionnaire Includes: 53 Likert scaled questions, 4 open-ended questions and 15 demographic questions. Quantitative descriptive analysis Qualitative – content analysis	Research questions: What are critical care nurses' perceptions of obstacles to, and supports for EOL care in the critical care environment? What do critical care nurses perceive as the knowledge and skills they need to provide quality EOL care?	Obstacles: 1. Family & friends continually calling. 2. Ethical issues such as aggressive treatment whilst waiting for family members to arrive, aggressive treatment when prognosis is poor. 1. Having to respond to very emotional family members, language barriers, inability to silence alarms on equipment. Support: 2. Having a designated family member as contact person. 3. Provision of a peaceful and dignified bedside scene. 4. Agreement with doctors on direction of care. 5. Allowing family members time to be alone with patient after death. 6. Support staff for paperwork, doctors to meet with family post-death and having space for family to grieve privately. 7. Have a clinical ethics committee member regularly visit the unit.
Edwards et al. (2012)	16 critical care nurses (convenience sampling) Private office or nursing homes (various ICUs) (Canada) <i>Quality:</i> 10/10 criteria met (CASP)	Qualitative descriptive design Interviews Content analysis (concurrent data collection/analysis)	To describe critical care nurses' perceptions of their roles in situations of conflict between family members and health-care providers in intensive care units.	Nurses highlighted the level of stress when conflict arises, the need to be cautious in providing care and communicating with family and the need for support for nurses.

Citation	Sample/Setting/Quality	Methods/Analysis	Aim/Research Question/Hypothesis	Relevant Findings
Engstrom et al. (2011)	8 critical care nurses (purposive sampling) General ICU (Sweden) <i>Quality: 9/10 criteria met (CASP)</i>	Qualitative Semi-structured Interviews Content analysis	To describe critical care nurses' experience of relatives' involvement in the nursing care of patients in an ICU.	Relative involvement is seen as a resource for nurses. The environment and lack of time were perceived as obstacles to involvement of relatives.
Esmaeili et al. (2013)	21 nurses with at least 2 years experience working in critical care units (purposive sampling) Critical care units of teaching hospitals (Iran) <i>Quality: 9/10 criteria met (CASP)</i>	Qualitative Exploratory methodology Semi-structured interviews Thematic analysis	To identify and describe the barriers to patient-centred care from the nurses' perspective and experience.	Lack of common understanding of teamwork Personal barriers - Lack of motivation and holistic view Organisational barriers - considering experiences of model workforce in the organisation
Gelinas et al (2012)	42 Intensive care nurses Five ICUs (Canada) <i>Quality: 10/10 criteria met (CASP)</i>	Qualitative - descriptive Focus Groups Thematic analysis using NVIVO for coding and categorisation	To describe stressors experienced by nurses in providing EOL care in intensive care units.	EOL care is stressful for ICU nurses and education and support programs should be developed to ensure quality EOL in the critical care environment.

Citation	Sample/Setting/Quality	Methods/Analysis	Aim/Research Question/Hypothesis	Relevant Findings
Goode & Rowe (2001)	16 ICU nurses (enrolled & registered) 11 bed ICU in major teaching hospital. (Ireland) <i>Quality:</i> 8/10 criteria met (CASP)	Mixed methods Two part questionnaire, focus groups interviews Descriptive statistics and content analysis.	To explore nurses perceptions and experiences of concept of primary nursing in ICU.	Primary nursing is an effective method of delivery of care in ICU. However, nurses suffer stress and require support due to the long period of one-to-one nursing of patient and their family.
Gross (2006)	23 ICU nurses Northeastern community hospital (Florida, United States) <i>Quality:</i> 11/12 criteria met (MMAT)	Mixed methods Exploratory/ descriptive design. Instrument: The National Survey of Critical Care Nurses Regarding EOL Care – slightly modified Descriptive statistics	To investigate critical care nurses' perceptions of obstacles and facilitators of end of life care.	Obstacles: 1. Overly aggressive treatment 2. Physicians overly optimistic 3. Communication with families 4. Nurses unaware of patient advance care directives 5. Numerous contact from members of families 6. Lack of ethics support and educational needs 7. Staffing/organisational issues 8. Disagreement with physicians on direction of care 9. Nurses morals conflicting with plan of care Supports/ Facilitators 1. Providing a peaceful bedside scene 2. Allowing families time with patient 3. Continuity of care – organisational support 4. Compassionate and caring physicians 5. Support of family wishes to withdraw treatment 6. Physicians - communicate with family. 7. Support from fellow nurses

Citation	Sample/Setting/Quality	Methods/Analysis	Aim/Research Question/Hypothesis	Relevant Findings
Halcomb et al. (2004)	Convenience sample of ten ICU nurses. Three separate ICUs within one health service ranging from a major teaching hospital to a smaller urban centre (Australia) <i>Quality:</i> 9/10 criteria met (CASP)	Qualitative Conversational Interviews informed by hermeneutic phenomenology as described by Van Manen Thematic analysis	To explore the experience of ICU nurses caring for clients who have treatment withdrawn or withheld.	Provision of care for treatment withdrawal or withheld in ICU represents a significant personal and professional struggle. Improved communication between health professionals, debriefing and education would benefit staff, families and improve patient care.
Hansen et al. (2009)	Phase 1 – 91 ICU nurses Phase 2 – 127 ICU nurses (United States) <i>Quality:</i> 11/12 criteria met (MMAT)	Mixed 5-subscale tool – 30 items with 4-point Likert scale – before and after interventions. Phase 2 – qualitative Analysis?	To describe nurses' perceptions of (1) knowledge and ability, (2) work environment (3) support for staff (4) support for patients and their families and (5) stress related to specific work situations in the context of EOL care before and after implementation of approaches to improve EOL care.	Better communication: nurses, physicians and families. Education – suggested for nurses, physicians and patients families. Suggestions for written protocols and nursing management of pain, comfort in death. Nurses were not happy with how the patient and families wishes were not followed by physicians and treatment plans. Lack of spiritual support for patients.

Citation	Sample/Setting/Quality	Methods/Analysis	Aim/Research Question/Hypothesis	Relevant Findings
Hoye & Severinsson (2010)	16 critical care nurses (purposive sampling) Three university hospitals. (Norway) <i>Quality: 9/10 criteria met CASP</i>	Qualitative Multi-stage focus group interviews of 8 groups of 3-7 participants. Content analysis	To explore ICU nurses' experiences of possible conflicts related to practical situations when encountering cultural diverse families of critically ill patients.	Nurses need to negotiate with culturally diverse family members to address conflicts. They should establish a balance between ethnocentricity and cultural sensitivity. An implication was found to be that nurses need increased education in diversity assessment.
Kirchoff et al. (2000)	Random sample of eight ICU nurses at two hospitals. 21 Registered Nurses (United States) <i>Quality: 8/10 criteria met (CASP)</i>	Cross sectional descriptive design Focus groups Content analysis	To describe EOL care in intensive care units as perceived by critical care nurses.	Disagreement or uncertainty about prognosis and communication problems complicates EOL care in ICU. Changes in physical environment, education and EOL care, staff support and better communication would improve care of dying patients and their families.
McGrath (2008)	10 critical care nurses purposefully selected Two cardio-thoracic critical care units (Ireland) <i>Quality: 10/10 criteria met (CASP)</i>	Qualitative Phenomenological hermeneutics Unstructured interviews Hermeneutic analysis	Explore the lived experiences of critical care nurses within a technological environment.	Life saving technology that supports the lives of critically ill patients can bring nurses close to their patient and families. Nurses must transcend the obtrusive nature of technology to be able to deliver expert care to patients. Suggests supporting, assisting and educating inexperienced nurses in the critical care area.

Citation	Sample/Setting/Quality	Methods/Analysis	Aim/Research Question/Hypothesis	Relevant Findings
Olausson et al. (2014)	14 ICU nurses Purpose sampling Three ICUs – one regional and two university hospitals (Sweden) <i>Quality: 10/10 criteria met (CASP)</i>	Qualitative Phenomenological Lifeworld interviews and photovoice methodology	To explore nurses' lived experiences of ICU bed spaces as a place of care for the critically ill.	Caring here means being uncompromisingly on call and a commitment to promoting recovery and well-being. A place of care comprises observing and being observed, a broken promise, cherishing life, ethical predicament and creating a caring atmosphere. The architectural design of the ICU bed space impacts greatly on nurses' well being, work satisfaction and the provision of humanistic care.
Popejoy et al. (2009)	22 ICU nurses Private community hospital (Midwest, United States) <i>Quality: 7/10 criteria met (CASP)</i>	Qualitative Focus groups Thematic analysis (2 researchers)	To explore nurses' perceptions of caring for the dying in order to design a palliative care program in an adult intensive care unit.	Findings support the need to build strong collegial relationships between members of the healthcare team in order to effectively support communication about EOL decision-making.
Slatore et al. (2012)	54 intensive care nurses participated with 33 interviewed medical and general intensive care units (Canada) <i>Quality: 9/10 criteria met (CASP)</i>	Qualitative Ethnographic 315 hours observation and 53 semi-structured interviews Thematic analysis using NVivo	To perform a qualitative analysis of nurses' communications.	Nurses act as interpreter between physician and patients and their families. Nurses can suffer stress as they play the enhanced role in the delivery of patient centred care.

Citation	Sample/Setting/Quality	Methods/Analysis	Aim/Research Question/Hypothesis	Relevant Findings
Trovo et al. (2004)	10 ICU nurses Clinical and surgical ICU (Brazil) <i>Quality: 9/10 criteria met (CASP)</i>	Qualitative – discourse analysis Semi structured interviews Content analysis (Bardin’s method)	To assess whether ICU nurses view the establishment of communication with patients beyond therapeutic possibilities as an effective palliative therapeutic resource and which aspects of this communication they valued most.	ICU nurses consider communication with dying patients an effective therapeutic resource. Nurses view themselves as ill prepared. Nurses often distance themselves from their patient due to their own feelings and lack of ability.
Yang & McIlfatrick (2001)	10 ICU nurses Medical, surgical and cardiac ICUs at two teaching hospitals (Taiwan) <i>Quality: 9/10 criteria met (CASP)</i>	Qualitative Phenomenological (Husserl) In-depth interviews	To explore the experience of caring for dying patients in ICU’s.	Education for ICU nurses must address issues such as nurse attitude to EOL, stressors and coping strategies for EOL care to facilitate better care of dying patients in ICU.

*Reports of full quality appraisal outlined in Appendices 3 and 4. Quality assessment using CASP (10 criteria) or MMAT (12 criteria) (Pluye et al. 2011, CASP 2013) **EOL – end of life

3.4.4 Quality appraisal

Reviewers independently conducted quality assessments of included studies using adapted versions of CASP (Critical Appraisal Skills Programme) and MMAT (Mixed Method Appraisal Tool) (CASP 2013; Pluye et al. 2011). Assessment of the studies informed judgement on research validity as well as synthesis and conclusions. Quality criteria are recorded in supplementary online material (Appendix 4). No papers were excluded on quality criteria.

3.4.5 Data abstraction

Whittemore and Knafl (2005) suggest methods of analysis that are analytical and systematic assist in providing unbiased and thorough interpretation of primary sources. Supporting the requirement for rigorous and transparent practices the data abstraction process was underpinned by stage three of the multi-stage method of analysis and synthesis developed by Carroll et al (2013). Stage three of the ‘best fit’ framework synthesis requires extraction and coding of evidence from the chosen studies against an a priori framework (Figure 3.1). NVIVO 10 software was used to code and manage analyses. The attributes of barrier or support/ facilitator were also sought. The first author coded the text; the NVIVO file was available to all researchers and node breakdown, matrix queries and results were discussed on a regular basis to ensure a rigorous data analysis process

3.4.6 Synthesis

The ‘best fit’ framework synthesis method developed and refined by Carroll et al. (2013) provided a strong foundation from which to generate synthesis. This multi-stage approach (Figure 3.1) entails identifying relevant literature from which to generate the a priori framework through thematic synthesis and quality appraisal; coding evidence against the a priori framework; creation of new themes using evidence that does not fit with the a priori framework; combining new themes and those from the original a priori framework; and revisiting the evidence to explore relationships between concepts to generate new ideas or models. The synthesis process for this review adapted from this approach is outlined in Figure 3.1.

An analysis of the concept of patient-centred nursing in the context of intensive care (Jakimowicz & Perry 2015) was identified as the most relevant a priori framework. Other conceptual models were considered; for example, (McCance & McCormack 2017) person-centred framework, developed for use with older person care, was discounted as it did not address the complexities, acuity and intense relationships encountered in ICU nursing. The preferred framework was developed using a recognised concept analysis approach. Defining attributes, antecedents and consequences of the concept of patient-centred nursing in the context of ICU were identified and tabled in this framework. Preliminary analysis and determination of the relevance of this framework aligned closely with the first two stages of the ‘best fit’ framework synthesis method, generating the, ‘a priori framework from identified publication(s) using thematic analysis’ (Carroll et al. 2013, p. 3). The resultant ICU patient-centred nursing framework comprises elements sensitive to identification of barriers or supports/ facilitators to patient-centred nursing in

the ICU and is an appropriate model on which to frame analysis and synthesis of abstracted data to answer the research question of this review.

New themes were created through thematic analysis from the coded evidence (stage 3). All included research studies were in the context of ICU, however their topics were heterogenic resulting in a new category that could not be coded against the original framework (stage 4). A contemporary structure and themes were produced, supported by the evidence (stage 5). The 'best fit' framework method required revisiting the evidence and exploration of relationships between themes and categories (stage 6) and data were summarised by category from each paper. It was important to balance reduction of the data with retention of the context and the original meanings. Interpretation of the data involved mapping connections and generating themes from the data set. This iterative process was influenced by the original aim of the research and conclusions were shaped from the findings. Through the interpretation process the researchers looked beyond the individual source papers' primary aims and drew out material that related to factors referred to as supports/ facilitators or barriers to patient-centred nursing in the context of ICU.

Meta-analysis of the mixed methods papers would have been ineffective for this review due to their small number and heterogeneous nature. Although consensus is lacking with regard to the narrative synthesis of quantitative data, the Centre for Reviews and Dissemination systematic review handbook endorses a model that recommends reviewing relationships between the papers' aim, design and method (CRD 2008, p. 48). Hence, mixed methods papers were analysed narratively and integrated with qualitative findings, forming a single dataset for analysis purposes.

3.5. Results

3.5.1 Characteristics of the literature

The majority of findings from the included papers discussed barriers to patient-centred nursing; supports and facilitators were less often considered. Material clustered around several elements of the framework: patient identity; biomedical nursing practice; professional and compassionate presence; and nurse job satisfaction. All of the included studies examined issues in critical care settings but related to a heterogenic group of topics: end-of-life (8); communication (4); family (3); technology (3); treatment withheld/withdrawn (1); environment (1); primary nursing (1); moral distress (1); and patient-centred nursing itself (1). These topics are noted and considered in discussion of the results.

Papers originated in Australia (2); Brazil (1); Canada (3); Iran (1); Ireland (2); Jordan (1); Korea (1); Norway (1); Sweden (3); Taiwan (1); the United Kingdom (1); and the United States (6). Studies in this review used qualitative (19) and mixed (4) designs, influenced by a range of methodologies. The mixed methods papers were mainly exploratory/descriptive designs (Table 3.2).

3.5.2 Themes

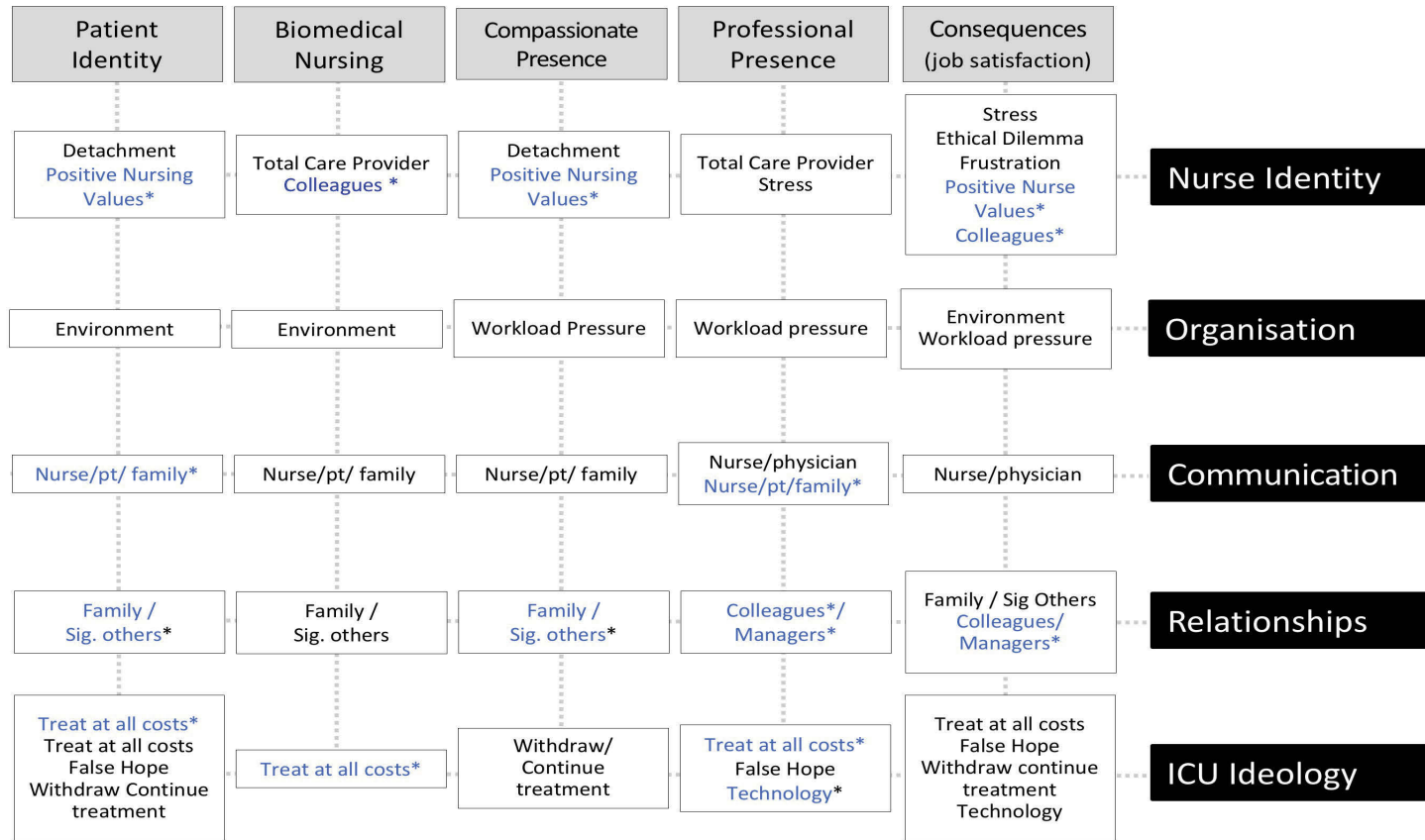
Five themes were identified, four of which transpired from coding against the a priori framework: 1) Nurse identity; 2) Organisation; 3) Communication; and 4) Relationships. One theme, derived from evidence, was not a 'good fit': 5) ICU Ideology (stage 5). Theme five was born from matrix queries and not coded directly against the a priori framework;

it does, however, contain categories describing factors that may act as barriers, supports or facilitators to elements of the ICU patient-centred nursing framework. Categories of each of the five themes are outlined in Table 3.3 (and definitions are outlined in supplementary online material – Appendix 5). Barriers and supports/ facilitators to provision of patient-centred nursing were interwoven through the literature and illustrated in Figure 3.3.

Table 3-3 Barriers and facilitators to patient-centred nursing in ICU

Barriers	Facilitators
Nurse Identity Stress Ethical Dilemma Detachment/Frustration	Nurse Identity Positive Values
Organisation Environment Workload Pressure	Organisation
Communication Nurse/Physician Nurse/Family/Sig Other Physician/Family	Communication Nurse/Family/Sig Other
Relationships Family/Sig Other Physicians	Relationships Colleagues Managers
ICU Ideology Treat at all costs False Hope Technology	ICU Ideology Treat at all costs Technology

Figure 3-3 Theme and category framework



* Indicates facilitator

3.5.2.1 Nurse identity

Nurse identity comprises nurses' values and their experiences. According to the literature, critical care nurses' experiences, as individuals but also collectively, may affect their provision of patient-centred nursing in both positive and negative ways. Nurses' stress, dealing with conflict and ethical dilemmas, moral distress and their sense of frustration and detachment from patient care situations limited their ability to provide patient-centred nursing. Moral distress is generally defined as negative feelings that occur when people are not able to act in accordance with their ethical beliefs, or they act in a way contrary to their professional or personal values and integrity (Choe, Kang & Park 2015; Epp 2012). Participants described anxiety, moral distress, stress and frustration caused by pressure of one-to-one nursing and precipitous changes in treatment goals by physicians without their involvement in decision-making. This was illustrated in a study exploring different nursing models, where a participant explained the changing pace: 'saving somebody's life And then the next minute one of the doctors just goes 'right that's it' (Goode and Rowe 2001, p. 299). Similar findings emerged from other studies where nurses felt powerless and brutal inflicting uncomfortable and painful procedures on patients they deemed had a poor prognosis (Choe, Kang & Park 2015; Halcomb et al. 2004; McGrath 2008; Popejoy et al. 2009). Notwithstanding the various topics and settings of the included studies, most critical care nurses believed they were not able to provide their patient with the best care, according to their values, if they felt stressed themselves. Conflict with physicians contributed to nurses' level of stress (Hansen et al. 2009) and often created ethical dilemmas, a factor acting as a barrier to patient-centred nursing (Choe, Kang & Park 2015).

Positive nursing values played an important role in supporting nurses and acted as a support/ facilitator to nurse job satisfaction, compassionate and professional presence. ICU nurses caring for patients who had treatment withdrawn or withheld felt that by providing patient-centred nursing they contributed positively to their patients' experience in the ICU and this offset their feelings of failure (Halcomb et al. 2004). Similarly, research describing end of life care in ICU discovered that if there was agreement between family-nurse-physician, and the patient was made comfortable, then the nurse felt rewarded and satisfied: 'If I can walk away and feel like this death met what my values are, the family was okay, the patient was comfortable ... I can walk away from that and feel, that is my job, it's OK' (Kirchhoff et al. 2000). Nurses' understanding of patients' needs and meeting these expectations led to feelings of satisfaction and reward during end-of-life care as well as patient recovery. The gravity of the situation often created interconnectedness between nurses, patients and families, generating feelings of joy and hope for the nurses as their patients met treatment milestones and began to recover (McGrath 2008). The satisfaction experienced in effectively developing therapeutic relationships and advocating for their patient was linked to professional, compassionate presence and job satisfaction. Positive values, agreement on treatment plans or goals and a sense of satisfaction supported and facilitated nurses' job satisfaction and were key elements of the ICU patient-centred nursing framework.

3.5.2.2 Organisation

The limitations of the built environment together with the organisation of the ICU and systemic pressures of the setting negatively impacted critical care nurses' provision of patient-centred nursing. In this taxing environment nurses found themselves vying for

space to provide treatment to their patient when the family were in attendance; this became a barrier to nurses' provision of clinical procedures. Furthermore, the close family involvement sometimes impacted nurses' ability to maintain patient privacy. Swedish critical care nurses described patients who, 'tried to cover themselves up when relatives came to visit You have to remember to maintain the integrity of the patient' (Engström, Uusitalo & Engström 2011, p. 5). Likewise, lack of space and privacy for their patient and family impacted patient-centred nursing especially in an end-of-life situation where maintaining patient identity and compassionate care is vital (Bloomer & O'Connor 2012; Gélinas et al. 2012; Olausson, Ekebergh & Österberg 2014). Participants also acknowledged their need to be able to remove themselves from emotional or stressful situations at the bedside, but found there was 'nowhere to escape' (Bloomer & O'Connor 2012). They needed space to 'think, reflect and prepare nursing activities' (Olausson, Ekebergh & Österberg 2014, p. 130). Similarly, nurses felt trapped, which created feelings of anxiety and uncertainty: 'I went to the storeroom and had a good howl' (Bloomer & O'Connor 2012, p. 28). Lack of space and inability to leave the bedside could act as a barrier to both clinical activities and nurse job satisfaction.

Organisational issues such as workload, bed and personnel shortages pressured nurses (Choe, Kang & Park 2015; Esmaeili, Cheraghi & Salsali 2014, p. 5). Participants depicted heavy workload as being responsible for 'ethical insensitivity' leading to feelings of remorse and moral distress as they treated their patients 'mechanically and with a cool manner' (Choe, Kang & Park 2015, p. 1633). Likewise, pressure for beds significantly impacted provision of compassionate and professional nursing when a patient was dying (Bloomer & O'Connor 2012; Gélinas et al. 2012). Participants described having to negotiate for more ICU time for their patient, and being pushed to relocate a dying patient,

causing emotional distress - also a barrier to patient-centred-nursing (Bloomer & O'Connor 2012; Crump, Schaffer & Schulte 2010; Gross 2006). Researchers investigating end of life care in ICU described lack of support for nurses as a stressor: 'lack of emotional support could make nurses less available to patients' families and place them at risk for coping problems and intense suffering' (Gélinas et al. 2012, pp. 32-3); an example was voiced by a participant who stated '...sometimes I cry once I get home'. Participants felt distressed when their workload thwarted efforts of advocating for patients' autonomy and 'respecting human dignity' (Choe, Kang & Park 2015, p. 1687).

3.5.2.3 *Communication*

Important elements of ICU patient-centred nursing such as development of a therapeutic relationship and provision of compassionate and professional presence could be impacted negatively by poor communication, which was also strongly linked with other themes. Communication with critically ill patients could be difficult due to sedation, reduced level of consciousness and endotracheal intubation. Some nurses mentioned that it was a 'one way' conversation where they 'talk all the time to the patient ... but don't really get anything much back' (Alasad & Ahmad 2005). This acted as a barrier to maintenance of patient identity as the nurse often did not know the patient's psychosocial background, beliefs and values. Communication issues compounded patient and family anxiety (Crocker & Scholes 2009; Gross 2006; Slatore et al. 2012; Trovo De Araujo, Paes Da Silva & Geraldo Da Silva 2004). As in other care areas, language barriers could also make it difficult for nurses to interact with their patient, gain insight into their patient's identity and develop a therapeutic relationship (Hoye & Severinsson 2010; McGrath 2008; Yang & McIlfatrick 2001).

Family or significant others facilitated communication in patient-centred nursing by relaying patient wishes during their illness and maintaining the sense of patient identity (Engström, Uusitalo & Engström 2011). Swedish researchers reported relatives of the patient ‘can tell you things about the patient ... becomes more like a whole human person then’ (Engström, Uusitalo & Engström 2011, p. 4). This communication with family or significant others was important to maintaining patient identity. Additionally, having one designated member of the patient’s family as a contact ensured the wider family received information and relieved the nurse of the communication burden (Crump, Schaffer & Schulte 2010; Gross 2006). Members of the multi-disciplinary team, such as social workers or chaplains within ICU, assisted critical care nurses in providing patient-centred communication to family members or significant others (Popejoy et al. 2009). Chaplains and social workers were a valuable resource, providing support to critical care nurses (Kirchhoff et al. 2000), but also satisfying the emotional and psychosocial needs of the patients’ family through communication (Gélinas et al. 2012); a complex and important component of patient-centred nursing in ICU.

3.5.2.4 Relationships

Relationships within critical care were reported as complex. The relationship between nurses and physicians was sometimes strained; physicians’ actions and behaviours regularly impacted critical care nurses’ provision of patient-centred nursing and could not be ignored. This is illustrated by a US study investigating end-of-life in ICU where participants stated that they were often left ‘picking up the pieces’ with families when ‘physicians insulate themselves by explaining the patient’s condition in technical jargon’ and then leave (Kirchhoff et al. 2000, p. 40). Conflict occurred due to differences of

opinion regarding continuance or withdrawal of treatment; where nurses perceived false hope was offered by physicians and respect for nurses' role was lacking (Aslakson et al. 2012; Choe, Kang & Park 2015; Crump, Schaffer & Schulte 2010; Goode & Rowe 2001; Halcomb et al. 2004; Kirchhoff et al. 2000; McGrath 2008; Popejoy et al. 2009). Tensions were created for nurses by physicians' behaviour when they were not included in care planning, decision-making (Choe, Kang & Park 2015; Gélinas et al. 2012) and communication with patient/family (Aslakson et al. 2012; Kirchhoff et al. 2000) and were consequently unable to effectively advocate for their patients (Halcomb et al. 2004; McGrath 2008). Resultant ethical dilemmas caused nurses to feel their personal integrity was compromised (Aslakson et al. 2012; Choe, Kang & Park 2015). Nurses felt left out of decision-making and care planning, as explained by Canadian participants: 'It ended up that both times the doctor didn't include me in the meeting with the family to find out what had been going on ... so all of a sudden the family arrived .. and he told me 'okay we are going to unplug everything ... they were looking at me' (Gélinas et al. 2012, p. 31). Swedish research found collaborative planning and constructive dialogue with physicians positively impacted quality of patient care (Cederwall et al. 2014). Alternatively, lack of inclusion in communication and decision-making caused nurses to feel frustrated and disrespected, impacting the nurse-physician relationship and their ability to provide effective patient-centred nursing.

Developing a therapeutic relationship with patients and their families is an important component of patient-centred nursing and hindrance poses barriers to quality care. Nurses' indifference and disengagement from patients and families due to moral distress disrupts the process of building the trust and rapport necessary to develop an effective therapeutic relationship (Choe, Kang & Park 2015). Additionally, the often highly

emotional environment could trigger conflict and challenging behaviours from families or significant others (Engström, Uusitalo & Engström 2011). Sometimes this could impede nurses' ability to provide what is clinically required and concentrate on the fragile condition of their patient (Edwards, Thronson & Dyck 2012). Family conflict, within families or through disagreement around treatment plans, also heightened stress for ICU nurses (Hansen et al. 2009); one participant 'did not want to come to work' or wanted to 'call in sick' rather than deal with a challenging family situation unsupported (Edwards, Thronson & Dyck 2012). Fractured relationships in ICU act as a barrier to maintenance of patient identity and nurse job satisfaction, both elements of the ICU patient-centred nursing process.

Colleagues and managers facilitated provision of patient-centred-nursing. Nurses believed that support from their peers and managers encouraged and motivated them in their challenging roles. Clinical discussions between nurses of various levels of experience promoted patient safety and treatment goals (Cederwall et al. 2014), improved nurses' clinical skills, knowledge and expertise, and improved biomedical nursing practice as well as maintaining patient identity (Esmaeili, Cheraghi & Salsali 2014; McGrath 2008). An Irish study participant concurred 'I actually like somebody else to come over ... and say 'oh maybe you should do that or would this help?'' (McGrath 2008, p. 1101). The cumulative wisdom of nurses provided a level of security and support for individual nurses (Edwards, Thronson & Dyck 2012). A Canadian participant felt, 'The reason why I think it was handled well was because as a nurse I felt supported ... by my colleagues, by my manager. And then you can manage anything, right? When you feel that you're in a team ... ' (Edwards, Thronson & Dyck 2012, p. 69). When nurses felt emotionally drained or had been part of a particularly difficult procedure or death

they discussed their feelings with their peers. Kirchhoff et al. (2000, p. 41) recorded ‘co-workers who have become good friends, and honestly I feel like they are the only people that can understand ... you know unless you live it, you don’t really understand ... you go home and ... it’s like, you know, yeah I had somebody die today, and people who don’t do this, don’t get it. They just don’t get it’. Colleagues understood, whereas families or friends did not (Bloomer & O’Connor 2012; Kirchhoff et al. 2000). Collegial relationships powerfully facilitated nurse job satisfaction, compassionate presence and nurse retention; important components of the ICU patient-centred-nursing framework.

3.5.2.5 Ideology of ICU

The ideology of the ICU was exposed in the literature as an important factor impacting delivery of effective patient-centred nursing. Treating at all costs, false hope, decisions to withdraw or continue treatment and technology were categories identified as sometimes compromising delivery of patient-centred nursing. Active, aggressive and sometimes inappropriate treatment causing discomfort or pain to the patient led to nurses feeling their clinical skills and knowledge were wasted or being used improperly. False hope offered by physicians led to prolonged decision-making and unnecessary aggressive treatment (Crump, Schaffer & Schulte 2010) causing ethical dilemmas (Choe, Kang & Park 2015) for nurses performing painful procedures on patients they deemed had a poor prognosis (Bloomer & O’Connor 2012). Moral distress, negative feelings caused by ethical dilemmas (Choe, Kang & Park 2015), was presented as a serious issue for ICU nurses, affecting their psychological and physical wellbeing, linking with job satisfaction (Goode & Rowe 2001; Halcomb et al. 2004; Yang & McIlpatrick 2001). Nurses found these constraints difficult to work under; they spent extended periods with the patient and

their family and believed they had a greater appreciation of the psychosocial and environmental aspects of the patient than many physicians (Hansen et al. 2009). Provision of professional nursing presence and nurse job satisfaction are important elements of the ICU patient-centred nursing framework sometimes impacted by ICU ideology.

The biomedical discourse within the ICU impacted the nurses' professional and compassionate presence: 'I think that at (sic) ICU we end up being too technical what we usually see is that the nursing team tends to distance itself' (Trovo De Araujo, Paes Da Silva & Geraldo Da Silva 2004, p. 146). Additionally, the strict standardised protocols of ICU sometimes did not account for patient's individual needs; a Swedish study exploring prolonged weaning from ventilation found it important to structure individualised treatment plans and goals to ensure patient identity was preserved (Cederwall et al. 2014). Furthermore, concern for the nurses' professional standing and the limits of the ICU domain sometimes resulted in nursing that was less patient-centred (Bloomer & O'Connor 2012). One Canadian participant stated 'in the ICU we save people. We're not end of life in the ICU' (Gélinas et al. 2012). This attitude to end-of-life care in the ICU was seen as a barrier to maintenance of patient identity; consideration of patients' advance care directives as well as their quality of life, if they survived, could be compromised. Patient-centred elements were often viewed as overlooked in the life-saving, curative environment of the ICU (Kirchhoff et al. 2000).

Alternatively, ICU ideology and the environment were also reported to support patient-centred nursing. Olausson, Ekebergh & Österberg (2014) recounted nurses being drawn closer to the patient. The technologically intricate environment 'defines this place, it transforms the critically ill body from being something invisible to something visible'

(McGrath 2008; Olausson, Ekebergh & Österberg 2014, p. 129). Technology and equipment used by nurses to provide biomedical and clinical patient-centred nursing often became ‘an extension of the nurses’ bodies, their extended arms and eyes’, constituting safety and security for both patient and nurse (Olausson, Ekebergh & Österberg 2014, p. 129). A study examining weaning from ventilation explained how nurses relied upon the ‘technology-generated information’ to ‘know’ the biomedical aspects of the patient and use their highly-developed clinical skills and knowledge; providing patient-centred nursing (Cederwall et al. 2014; Crocker & Scholes 2009, p. 291). The ICU ideology and the intensive care environment can support nurses in providing effective biomedical nursing practice, an important component of the ICU patient-centred nursing framework.

In summary, these five themes comprised barriers and supports/ facilitators to critical care nurses’ provision of effective patient-centred nursing, with barriers more prominent than supports in the literature.

3.6. Discussion

This review found provision of patient-centred nursing in ICU may be compromised by some factors of the critical care environment. Nurse identity, Organisation, Communication, Relationships and ICU Ideology were themes identified as encompassing barriers and supports/ facilitators to patient-centred nursing in ICU. These themes illustrate the impact of the critical care environment on elements of the ICU patient-centred framework such as patient identity; biomedical nursing practice; professional and compassionate presence; nurse job satisfaction and retention. Every theme and related categories referred to factors that act as barriers to provision of patient-

centred nursing in the ICU, while only four referred to supports/ facilitators (Table 3.3). Findings illustrate the challenges and complexity of providing effective patient-centred nursing in this dynamic environment.

Critical care nurses' inclusion in decision-making processes around treatment options and goals may be impeded in ICU, impacting integral components of the patient-centred nursing framework, such as patient advocacy, identity and nurse professionalism. The importance of supporting patient-centred nursing at 'end-of-life' in ICU was highlighted in reviewed and other studies (Virdun et al. 2015). However, access to life saving technology (McGrath 2008) and a culture of aggressive treatment (Gross 2006) can make it difficult to accommodate this ethic in some ICUs, and act as obstacles to patient-centred end-of-life care in the ICU. Hillman & Cardona-Morrell (2015) suggest that intensivists are trained to 'do something' to cure or save lives and little consideration is accorded to acceptance of dying or ageing. Transparency in end-of-life care situations is best practice (Hillman & Cardona-Morrell 2015), but where a physician falls short of open communication with nurses and patients, this can result in false hope (Gélinas et al. 2012). Both false hope and continuing treatment deemed to be futile due to poor prognosis (Halcomb et al. 2004) cause disharmony and frustration to nurses who spend many more hours at the bedside than physicians. An integral factor for patient-centred nursing, particularly in a palliative or 'end-of-life' situation, is effective communication and appropriate treatments aligned with the patients' wishes (Virdun et al. 2015). When communication falters and the patient's individual identity is compromised, the dominant ICU ideology may skew decision-making processes resulting in medical procedures not in line with the patient's wishes, thus impacting delivery of patient-centred nursing.

Decision-making processes and nurse-physician relationships are impacted when communication falters, increasing the challenges for critical care nurses in providing patient-centred nursing. The nurse-doctor relationship is historically complex, particularly in relation to delineation or recognition of nurses' opinion or voice, a topic that cross-cuts the themes of this review. Involvement in care planning and decision-making is an important component of the critical care nursing role (Davidson et al. 2007). Exclusion restricts nurses voicing their opinion, devalues their contribution, and their ability to advocate for their patient by keeping patients and their families fully informed, thereby impacting maintenance of the patient's autonomy and identity (Hoye & Severinsson 2010). Alternatively, collaboration and positive collegial relationships were found to support and facilitate provision of patient-centred nursing. Improved collaboration is necessary to counter discordant relationships in intensive care which can negatively impact patient satisfaction, maintenance of the patient identity, nurses' professional presence and job satisfaction which are all elements of the ICU patient-centred nursing framework.

Job satisfaction is also impacted when critical care nurses are impeded or obstructed from fulfilling their role. Many areas of healthcare have been slow to adapt to the expanding role of the nurse, with nurses continuing to be excluded from care planning and decision-making. Increasingly, nurses are demanding a place at the decision-making table; to be recognised as a 'voting' member of the patient's medical team as a means of improving job satisfaction. Specialty areas such as intensive care tend to attract nurses who make the effort to gain the specialist knowledge and skills to be able to contribute an informed opinion. Many desire increased autonomy (Sawatzky, Enns & Legare 2015), and perceive respect and empowerment in their role as intrinsic to job satisfaction. The relationship

between barriers, supports and facilitators to nurses fulfilling and being fulfilled in their role is somewhat paradoxical; on one hand, continuous one-to-one nursing offers an avenue for altruism leading to satisfaction, whilst the interconnectedness and closeness to patients and families may also cause feelings of failure, fatigue and distress. This tension can cause conflict, inner struggle, emotional turmoil and incongruence for critical care nurses, possibly contributing to burnout (Epp 2012) and compassion fatigue (Jenkins & Warren 2012).

Burnout and disengagement have been linked to nurses' intention to leave (Sawatzky, Enns & Legare 2015) whereas compassion satisfaction, empowerment and increased autonomy (van Dam, Meewis & van der Heijden 2013) have been associated with improved patient care and job satisfaction, influencing nurses to stay in the critical care nursing workforce (Sawatzky, Enns & Legare 2015). The predicted increasing nursing shortage is a significant problem in both developing and developed countries. Specialty areas like critical care are especially affected by this crisis (Chan & Lai 2010) as services expand to accommodate the ageing population and the increasing rate of attrition (AHWAC 2011). The nursing workforce is a vital component of health systems providing service to the world's population (Perry et al. 2015). Our review reveals barriers to nurses' fulfilment of their challenging professional role impacting their personal integrity and emotional wellbeing, resulting in moral distress and fatigue. Other researchers agree (Choe, Kang & Park 2015; Jenkins & Warren 2012) suggesting this reduces their job satisfaction, professional quality of life and desire to stay in the workforce (Sawatzky, Enns & Legare 2015; van Dam, Meewis & van der Heijden 2013). Increased recruitment has been suggested to alleviate the problem of nurse shortages, while efforts to retain existing experienced critical care nurses are all too often lacking (Chan & Lai 2010).

Recognition of factors that engage and encourage critical care nurses in their challenging work to accomplish effective patient-centred nursing has implications for current and future practice. This review has highlighted factors that act as barriers, supports and facilitators to provision of patient-centred nursing in the ICU. It is tempting to apply frameworks from other areas of health to attempt operationalisation of the patient-centred model and remedy issues in the ICU. The patient-centred nursing model of care is well developed in settings such as palliative and aged-care, often underpinned by the McCance & McCormack (2017) framework originally developed for these contexts. It is consistently evident in this review that unique factors act as barriers to critical care nurses' provision of effective patient-centred nursing, therefore a model unique to ICU is warranted, to empower critical care nurses, improve patient experience and health outcomes.

3.6.1 Review limitations

Whittemore and Knafl have been criticised for their lack of guidance on the methods of data analysis for integrative reviews. This review adopted an established method of qualitative analysis, described as particularly appropriate for textual analysis. Nonetheless there is debate around framework analysis and it has been claimed that findings may be 'quantified' rather than meeting the intention of qualitative research to capture diversity about a phenomenon. To counter this, the authors practiced reflexive engagement with each other and the data, regularly discussing the first author's position of ICU nurse and the influence of her experiences on interpretation. During this process the first author recognised that her role of ICU nurse impacted her interpretation of the literature. At times some papers revealed similar situations and results as her own

experiences. She also acknowledged that the exercise of reviewing the literature confirmed some and influenced other viewpoints. For example, it was cathartic for her to realise other ICU nurses experienced similar feelings toward common end of life care practices.

3.7. Conclusion

This review provides information to address the factors acting as barriers to critical care nurses' fulfilment of their role, and to enhance factors that support and facilitate delivery of effective patient-centred nursing in ICU. The complex nature of intensive care nursing and the moral distress and fatigue that nurses may encounter justifies development of a unique model of patient-centred care for the ICU and establishment of early interventions to avert or manage harmful consequences for nurses and consequently for patient care. Strategies are needed to support and empower nurses in their professional quality of life in the ICU and to provide a basis for delivery of effective patient-centred nursing. Research is required for deeper understanding of the concepts and relationships between patient-centred nursing and professional quality of life in critical care areas to sustain, encourage and attract critical care nurses to remain in the workforce and to formulate policy and practice guidelines to support delivery of this unique model.

3.8. Relevance to clinical practice

For patient-centred nursing to be prioritised, space must be made for both the patient's and nurse's 'voice', an element discussed in our review as often compromised in the ICU environment. In developing a model to enable patient-centred care in this unique

environment engagement with emerging patient and consumer groups may result in a deeper understanding of the needs and desires of the patient population, place nurses in a stronger position to advocate for their patients, and lead to improved job satisfaction.

Findings from this review indicate nurses' engagement in provision of patient-centred nursing is linked to role and job satisfaction. The emotional and physical demands of critical care nursing are a major consideration for delivery of effective patient-centred nursing and retention of these nurses in the workforce (Sawatzky, Enns & Legare 2015). Fostering and encouraging a safe work environment, listening to nurses and respecting their abilities (Tuckett et al. 2014) should enable an empowering and supportive culture, improving nurse job satisfaction and patient-centred nursing. Enhanced workforce retention achieves more stable staffing structures, and provides a firm foundation for effective patient-centred nursing.

This review makes plain the importance of good relationships in delivery of patient-centred care. Interprofessional collaboration in clinical practice contributes to relationship building and consequently improved patient-centred care, alleviating the 'silo' effect so common in healthcare. Where necessary this can be underpinned, initially at least, by structured facilitation, to develop better understanding of others' roles and a collegial supportive environment. Leadership in this area is also important to achieve the necessary cultural shifts. Measures to enhance patient-centred nursing can be used to promote critical care nurses' job satisfaction and workforce retention, and can also be applied more broadly and collaboratively to promote multi-disciplinary patient-centred care.

3.9. Chapter summary

Findings from this integrative literature review provide information to advance strategy development to support critical care nurses in delivery of patient-centred nursing, promoting positive patient experience and health outcomes, nurse job satisfaction and workforce retention. These results support the next stage in conceptual development and indicate there are many more barriers than facilitators to critical care nurses' provision of effective patient-centred nursing. Identification of these factors supports the next phases of this research beginning with determining the extent of critical care nurses' experience of compassion satisfaction and compassion fatigue to give an accurate picture of their professional quality of life. The findings of this review also support a qualitative enquiry to explore critical care nurses' perspective on their role and the impact of their feelings of compassion satisfaction and compassion fatigue on their capacity to provide compassionate patient-centred nursing.

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4 Research design, methodology, methods and conceptual development

4.1 Chapter introduction

This chapter outlines the research design and methods used in this study to explore patient-centred nursing and compassion satisfaction and compassion fatigue in the context of intensive care. This chapter is composed of four sections comprising the research design (4.2), methodology (4.3), methods and conceptual development (4.4) and ethical considerations (4.5). Overall, the mixed method design is described and justified, and the quantitative and qualitative data collection approaches are explained. The priority and sequence of analysis, as well as points of data integration are charted. Identification of ethical considerations and the way they were addressed, together with the rationales for methodological decisions are also discussed.

This design and methods were used to meet the overarching aim of this program of work, to develop a conceptual framework outlining the processes involved in patient-centred nursing and compassion satisfaction or compassion fatigue in the context of critical care nursing, as well as to answer the research questions:

- How is patient-centred-nursing in intensive care defined?
- What acts as a facilitator or barrier to nurses' provision of patient-centred-nursing in the intensive care unit (ICU)?

- To what extent do Australian ICU nurses experience compassion satisfaction and compassion fatigue and what are the predictive factors?
- How does the intensive care nursing role impact their feelings of compassion satisfaction and compassion fatigue?
- What strategies could assist critical care nurses' provision of patient-centred-nursing in ICU?

4.2 Research design

Research design refers to the way the researcher structures and plans the research process (Creswell 2015), and the design is chosen to support the purpose of the research. Once the research questions were established, it was clear that a mixed methods approach was needed to address the questions comprehensively. The following sections outline evidence supporting this decision as well as a description of sequencing and integration.

4.3 Methodology

Theoretical perspectives guide the way studies are conducted and inform research methodology and methods. Critical care nursing lies in a multifaceted and complex social context. Individuals in this setting are from all walks of life; varied backgrounds and experiences each with unique individual filters through which they view the environment around them. To gain a full understanding of the concept of patient-centred-nursing and compassion in the context of critical care nursing, both the interpretative paradigm and the positivist approach are required.

Quantitative research takes the positivist approach of focusing on ‘hard facts’, natural phenomena, using scientific methods. This approach is characterised by its empirical nature and the demonstration of ability to replicate results (Polit & Beck 2006). This method alone cannot account for social realities, for individuals’ thoughts and lives in the social context. Qualitative research investigates meanings within context; the individual’s interpretation; how a person narrates their own story; social construction; and the interpretation of truth (Charmaz 2014). Mixed methods research allows a dialectal epistemological stance where both post-positivist and constructionist epistemological views are taken to capture a rich understanding of the phenomenon using both positivism and interpretivism paradigms (Creswell 2015).

For this study, quantitative methods were required to determine to what extent ICU nurses experience compassion satisfaction or fatigue, however a qualitative approach was required to understand whether the ICU nursing role impacted their experience and their capacity to provide compassionate patient-centred nursing. Determining the choice of qualitative method required the researcher to fully understand the range of existing options. Ethnography and phenomenology were initially considered, but Constructivist Grounded Theory methodology was identified as offering the most appropriate medium to obtain a comprehensive view of the processes of patient-centred nursing, compassion satisfaction and fatigue.

Grounded Theory is a method of research where theory is developed from the point of creation. The creators of Grounded Theory, Glaser and Strauss, were sociologists who believed that theory should develop from findings rather than hypotheses (Glaser & Strauss 1967). Rather than prove a hypothesis, a theory is developed from the ‘ground

up' using the findings. It focuses on understanding and explaining social processes (Glaser & Strauss 1967). The individual participants' motivations and behaviours are explored in a particular context, such as the intensive care unit.

Grounded Theory, an inductive method of theory development, was commonly used in qualitative research in the 1980's; after this, however, Glaser and Strauss's schools of thought began to separate and alternative methods started to emerge (Wong, Liamputtong & Rawson 2017). Students of Glaser and Strauss, Juliet Corbin and Kathy Charmaz developed their own methods, leading to new generations of thought: Constructivist Grounded Theory and Dimensional and Situational Analysis. This led to the formation of three popular approaches to Grounded Theory: Classic (Glaserian), Straussian and Constructivist, outlined in Table 4.1.

Table 4-1 Grounded theory approaches

Grounded Theory Approach	Glaserian	Straussian	Constructivist
Philosophy	Positivism	Post-positivism	Relativism
Theory	Emerges from data	Created from data	Constructed from data
Data	Outside sources such as data should be considered after emergent theory	Outside sources may be included at any time during analysis	Everything is data including literature and quantitative

Constructivist Grounded Theory evolved from the traditional methods used in Grounded Theory that acknowledge the many certainties that make up the positions of researcher and participants and the construct of meaning (Charmaz 2014). Charmaz (2014) defined Constructivist Grounded Theory as a relativist ontology that accepts the pre-existence of social realities. New knowledge is co-constructed between the

participants and researcher in a joint interpretation of the meaning of participant experiences (Charmaz 2014). The author considered Constructivist Grounded Theory the most appropriate methodology to explore the processes experienced by the Registered Nurses and to understand the context around patient-centred nursing, and compassion satisfaction and compassion fatigue in the intensive care unit, meeting the overarching aim of the research of creating a conceptual framework. Constructivist Grounded Theory also incorporates a mixed method approach very well; a rationale outlined in the next section (4.3.1). This research was therefore conducted using a mixed method design underpinned by Constructivist Grounded Theory methodology.

4.3.1 Constructivist Grounded Theory and mixed methods research

This design choice may be seen as unusual in that Grounded Theory is viewed, in the main, as a qualitative methodology. However, Glaser and Strauss originally based their discovery on the work of Lazarsfeld, a quantitative researcher, who believed many studies were centred on incorrect extant theories. He therefore modified these theories to found his research on study data (Glaser 2008). Following Lazarfeld's lead, quantitative data continued to be used to 'test' theory, with the aim to correct possibly incorrect extant theory. Researchers still use quantitative methods to generate an idea or hypothesis and then test it, and Glaser and Strauss used a similar approach by generating 'conceptual theory' rather than testing it, allowing theory to emerge from the data (Glaser & Strauss 1967). According to Glaser (2008) 'everything is data' and, provided quantitative data is not used for theory generation or to test a theory, it can be included in Grounded Theory methodology as a form of theory formation. Constructivist methodology allowed data collected across multiple stages, including quantitative and qualitative, to be combined, constantly compared and theoretically

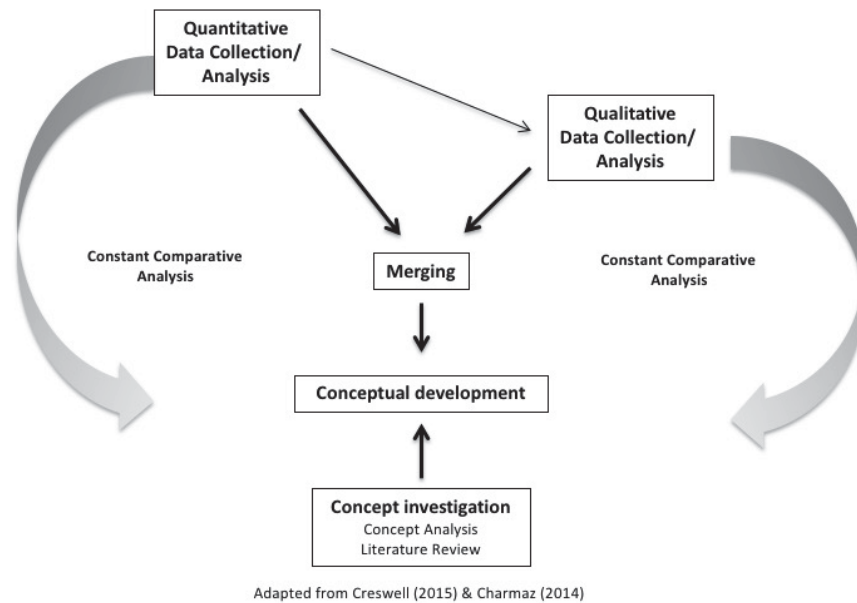
sampled (Charmaz 2014; Glaser & Strauss 1967) to optimise identification of differences and similarities in the data. The following section explains how Constructivist Grounded Theory has been used in this mixed method study.

4.4 Methods and conceptual development

4.4.1 Priority and sequencing

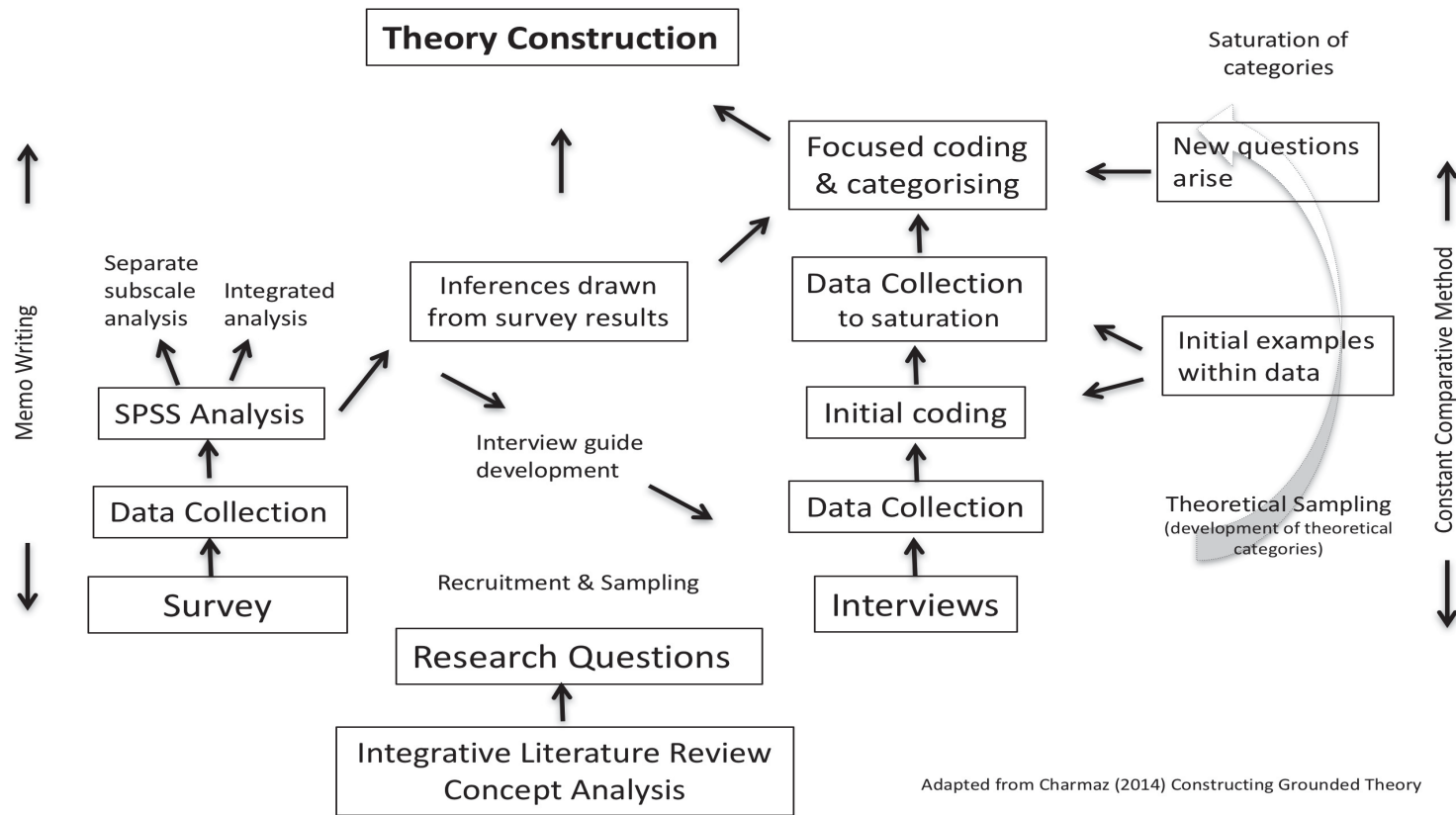
The mixed method design of this study comprised an adapted explanatory sequential design. The adaptation included a Constructivist Grounded Theory component. More usually, explanatory sequential design begins with a quantitative phase of data collection and analysis, followed by a qualitative phase of data collection to ‘explain the quantitative results’ (Creswell 2015, p. 38). Once the qualitative data are analysed, inferences are drawn about how they explain the quantitative results (Creswell 2015). Methods used in this study align with this description; however, the use of Constructivist Grounded Theory methods allowed for conceptual and theoretical development around the interpretation of data, adding an exploratory component (Figure 4.1).

Figure 4-1 Research design sequence



The first component of the study was a quantitative strand, where data were collected using survey methods. These data informed the second component where qualitative data were collected via interviews. Inferences were drawn between the quantitative and qualitative findings and synthesised using Constructivist Grounded Theory methods, such as constant comparative analysis and theoretical sampling (Charmaz 2014). This process is outlined in Figure 4.2. and explained in more detail in the following sections.

Figure 4-2 Research process sequence



Mixed method research involves the collection of both quantitative and qualitative data for a single purpose (Creswell et al. 2011). This method has become more popular in health in the past decade, however both Creswell (2015) and (Glaser 2008) state that the use of mixed methods commenced in the 1960's. Use of Constructivist Grounded Theory methods in mixed method research is becoming more accepted; the approach enables researchers to use diverse and flexible methods moving away from rigid sets of rules and procedures (Hall, Griffiths & McKenna 2011). This mixed method approach enabled integration of quantitative and qualitative data to produce a rich and strong interpretation (Creswell 2015).

Creswell et al. (2011) state that mixing the data is complex and requires a clear explanation. In this study integration of data occurred at several points throughout data collection, analysis and synthesis in line with the research objective of creating a conceptual framework. This process incorporated an explanatory sequential design (Creswell 2015), while at the same time using constant comparative analysis to construct and generate knowledge (Charmaz 2014), depicted in Figure 4.1. One integration point occurred during data collection through using the specific outcomes of the quantitative data (collected via survey) in developing questions to include in the interview guide (Appendix 6). Inferences were also drawn from the survey data and integrated into the qualitative analysis during theoretical sampling and synthesis. The findings from the concept analysis and literature review provided a foundation to support the research design and in keeping with the constructivist underpinning of this study, 'everything is data', were also integrated into the process; interview guide development and final synthesis. Later, to address the overarching structure of the conceptual framework, the processes that emerged from the qualitative analysis

(Charmaz 2014) were used, together with the survey outcomes, to justify the alignment of an existing theory to generate new knowledge in conceptual development. Integration points can be seen clearly in Figure 4.2.

Nursing research often examines complex phenomena and the use of a mixed methods approach, such as in this study, allowed for maximum impact and flexibility in the design of the research (Sandelowski, Voils & Barroso 2007). The method used in this research allowed for conceptualisation by developing a deep appreciation of the data illustrating reality, bringing in new knowledge and providing a holistic understanding of the processes of patient-centred nursing, compassion satisfaction and compassion fatigue in the context of intensive care. The last step in the mixed methods process adopted was development of the conceptual framework. This process is described in more detail in the next section.

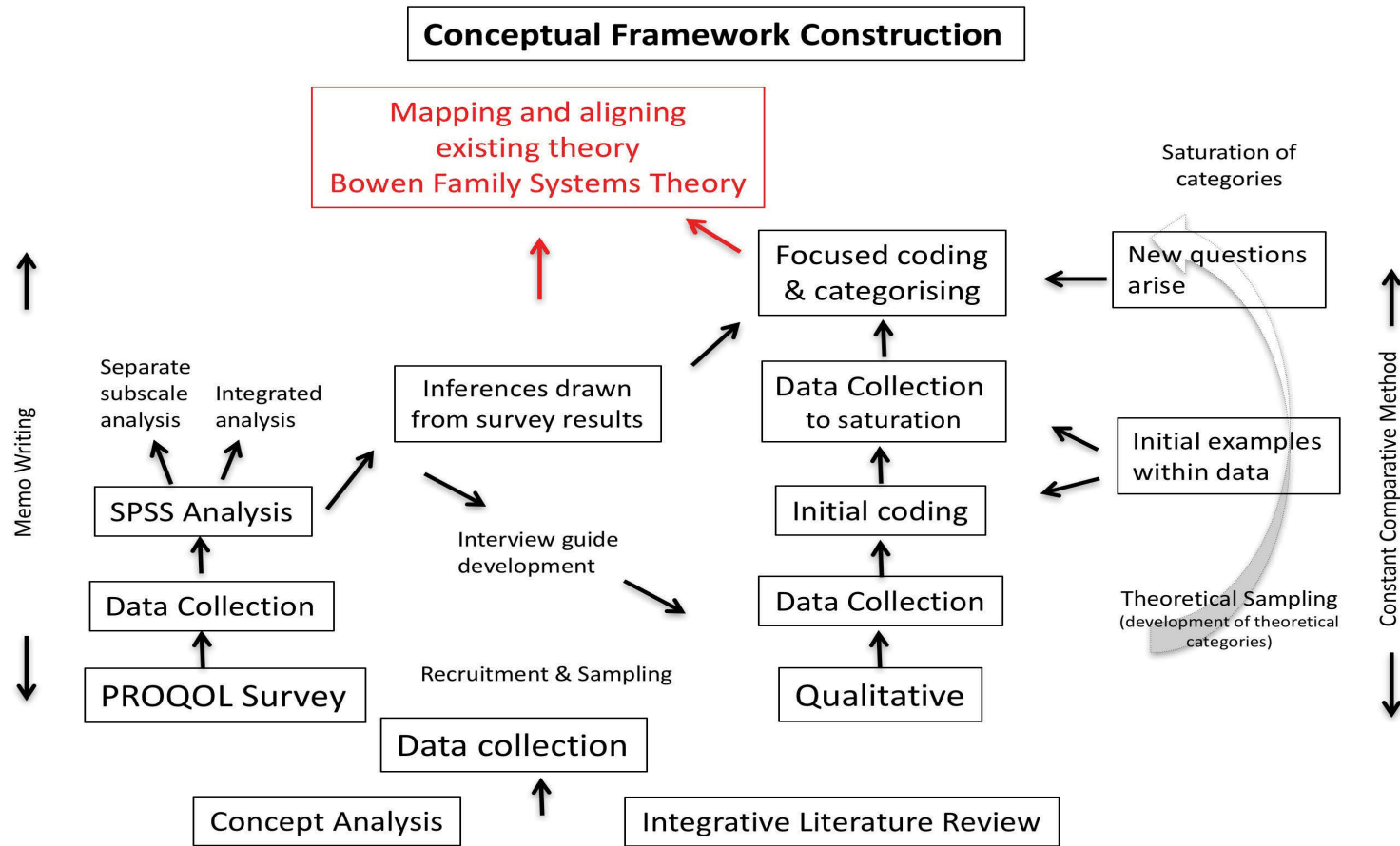
4.4.2 Conceptual framework development

A conceptual framework can act as a connection between existing knowledge and new or generated knowledge (Crookes & Davies 2004). During the course of this program of work, and with the increasing understanding of the researcher, new knowledge began to unfold as part of the process of development. Integrating the quantitative and qualitative data, it became apparent to the researcher that this work wasn't necessarily about constructing theory but using the constructive methodology to develop a conceptual framework, generating new knowledge from existing knowledge. The researcher's original thought was to develop a middle-range explanatory theory to describe the processes of patient-centred nursing, compassion satisfaction and compassion fatigue in intensive care (Figure 4.2). During the examination and

integration of data, the author began aligning the results to nursing and social theories such as Freud, Rogers, Benner and Bowen. It became apparent when integrating the quantitative and qualitative results of the research that Bowen Family Systems Theory (Kerr 2012) (an existing theory) could be aligned with intensive care nursing, leading to development of a conceptual framework explaining the processes in question . Crookes and Davies (2004) state that knowledge arranged in a conceptual framework allows the reader to have a better understanding of how conclusions are drawn.

Bowen Family Systems Theory focuses on patterns of behaviour within a group of individuals (family or unit) with a goal of defusing anxiety and increasing individual levels of differentiation and growth, resulting in a more collaborative team, improving workplace culture (Bowen 2012). The original theory development process involved an extra phase (Figure 4.3). The eight concepts underpinning Bowen Family Systems Theory were mapped to the quantitative and qualitative findings (example available in Appendix 7) (Kerr 2000).

Figure 4-3 Conceptual framework construction



Adapted from Charmaz (2014) Constructing Grounded Theory

4.4.2.1 Concept analysis and literature review

In keeping with the Glaser (2008) and Charmaz (2014) position of ‘everything is data’ the concept analysis and literature review formed part of the data included in conceptual development.

The concept analysis served to answer the first research question:

- *‘Define patient-centred nursing in the context of intensive care’*

The literature review answered the second research question:

- *‘What acts as a facilitator or barrier to nurses’ provision of patient-centred-nursing in the intensive care unit (ICU)?’*

4.4.3 Setting

Two NSW Health hospitals provided the study sites. Site A was a 12-bed intensive care unit in a tertiary referral hospital; site B an 18-bed intensive care unit in a regional teaching hospital. These hospitals had 120 and 110 Registered Nurses employed either full-time or permanent part-time in their critical care units, respectively. Nurses at both sites worked eight and twelve hour rotating rostered shifts.

These sites were chosen as they were both within the same health care system (ie NSW Health), therefore staffing mix and expectations for how patient care was delivered were similar. However, varied perspectives were also provided as one facility was located in a metropolitan area, and the other a regional health care service. Both units were teaching hospitals and offered advanced respiratory support (mechanical ventilation),

cardiovascular and renal support; Site A accepted patients required more specialised treatments such as extracorporeal membrane oxygenation. Therefore, their patients were often more critically ill, than Site B's patients.

4.4.4 Participant profile, sampling and recruitment

Purposive criterion sampling was used to obtain a group of participants with a varied range of experience and education levels meeting the criteria of being a registered nurse employed as a critical care nurse (CCN) on either a full-time, part-time or casual basis, with a minimum of six months post registration experience. Purposive sampling ensured that participants who could not be expected to have an informed view or position (ie those who had only just commenced in the unit) were excluded. Purposive sampling aims for participants that can provide in-depth and rich information about the phenomenon being explored (Liamputtong & Schmied 2017). Other methods of sampling were deemed unsuitable. For example, random sampling may be viewed as suitable for the cross sectional survey, however it was important that participants had been working in the unit for a period of time for the data to be relevant to critical care.

Recruitment was two-stage. Posters and flyers notified nurses of the research a few weeks prior to data collection. The researcher attended each site to promote the research, be available to answer any questions and invite nurses to participate. Stage one involved recruiting nurses to complete a survey. In the second stage participants were invited from the sample of survey respondents to participate in interviews. Participants were asked to either provide their contact details on the survey, or to contact the researcher to organise an interview to be conducted at their site. The aim was to attain at least fifty percent participation in the quantitative component, to achieve a 'reasonable'

representation rate. The number of interviews was dependent upon the data saturation point, or when no new information was emerging from the data collected.

4.4.5 Data collection

Data collection was two phased; the first phase of data collection entailed collection by survey; the second, by interviews. The combination of quantitative and qualitative data enables exploration of the situation from two perspectives drawn from response data (quantitative) and the other from personal data (qualitative) (Creswell 2015). The methods are described in detail in the next sections.

The survey data answered the following research question:

- *To what extent to critical care nurses experience compassion satisfaction and fatigue and what are the predictive factors?*

The interview data was used to answer the following two research questions:

- *How does the intensive care nursing role impact critical care nurses' feelings of compassion satisfaction and compassion fatigue?*
- *What strategies could assist critical care nurses' provision of patient-centred-nursing in ICU?*

4.4.5.1 Data collection pack and process

The researcher assembled a paper-based pack containing a participant information statement, consent form and the survey (Appendices 8, 9 and 10). The researcher attended each site and explained the research to Registered Nurses, providing them with

participation information statements. Only Registered Nurses working in the unit were offered the information and survey, in line with the purposive sampling process.

Purposive sampling is selective sampling, where only individuals with specific characteristics are included in data collection. In this case the researcher was only interested in Registered Nurses working in the intensive care unit, not for example, physiotherapists or medical officers. The visits were timed to capture Registered Nurses working various shifts, for example 12-hour day shifts, 8-hour afternoon/morning shifts and 8 or 12-hour night shifts during the week. The researcher also visited the units on weekends identifying staff usually working those days.

Senior nurses at each site gave approval for the surveys to be completed at the bedside during shifts. If the nurses decided to participate, they were encouraged to complete the survey during their shift (at the bed side when convenient) and deposit their survey into a collection box prior to shift end.

4.4.5.2 *Survey instrument*

A self-reported cross-sectional survey was chosen to collect quantitative data. Cross sectional surveys provide a profile of the sample, allowing for exploration of relationships between variables (Schofield & Forrester-Knauss 2017). Demographic information characterised participants by: gender; years of nursing experience; years in current unit; level of education; experience of family member as ICU patient.

A number of different tools were considered for this research: the three most frequently used tools in this field are:

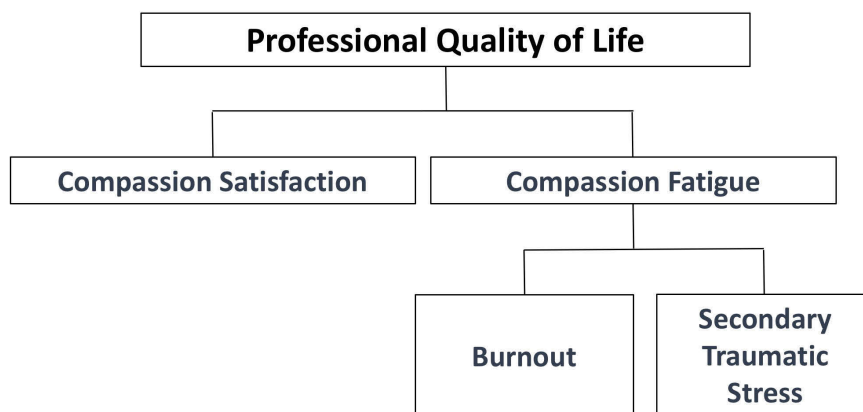
- a) The Compassion Fatigue Scale; (Adams, Figley & Boscarino 2008)
- b) The Secondary Traumatic Stress Scale (Adams, Boscarino & Figley 2006); and
- c) The Professional Quality of Life Scale (PROQOL) (Hudnall Stamm 2012).

The PROQOL was chosen as the survey instrument for the study as it examines participants' level of compassion satisfaction and compassion fatigue (Appendix 10). The research has been registered with PROQOL and the permission statement is appended (Appendix 11). Figure 4.4 illustrates the concept of Professional Quality of Life.

The PROQOL is a 30-item tool scored using a 5-point Likert scale. It yields three sub-scale scores: 1) compassion satisfaction; 2) burnout; and 3) secondary traumatic stress. Burnout and secondary traumatic stress are both elements that contribute to the phenomenon of compassion fatigue. Each score is 'psychometrically unique' (Hudnall Stamm 2012). The PROQOL has been extensively verified with reliabilities of: compassion satisfaction = 0.88; compassion fatigue = 0.81 and burnout = 0.75 (Hudnall Stamm 2012); and deemed a valid measure of all three concepts. Cutoff and average scores were determined from over 2000 participants using the PROQOL survey. This instrument has been used for over 15 years and utilised in many studies (Drury et al. 2013; Hudnall Stamm 2012; Sabo 2006; Yoder 2010a). It was chosen for this study due to its proven reliability and its frequent use in quality research projects to measure nurses' professional quality of life (Hooper et al. 2010; Yoder 2010b), therefore allowing for comparisons between findings of this and other study samples. The PROQOL was used in line with the guidelines stipulated by its author (Hudnall Stamm 2012). The three sub-scales provided an overview of the sample's level of compassion

satisfaction and compassion fatigue, which informed development of the interview guide.

Figure 4-4 Professional Quality of Life scale



4.4.5.3 Interview data collection

Registered Nurses who expressed an interest to participate in interviews were interviewed in the unit’s meeting room or at the bedside if they were not able to move away from their patient. Due to staffing levels and patient acuity it was difficult for nurses to leave the bedside. The researcher took this into account and interviews were only conducted if the nurse was comfortable to speak openly and fully engage in the interview without jeopardising either patient safety or the interview process. In most cases, the nurses moved away from the bedside, ensuring their partner nurse was caring

for their patient. However, they remained close by in case they were called upon at short notice.

An interview guide was developed from themes revealed in the literature review and the quantitative data collected from the PROQOL survey (Appendix 10). The initial interview guide was amended during data collection as other information emerged through concurrent constant comparative analysis. The researcher conducted all the interviews. The interviews were audio-recorded, except for two participants who were wanted to contribute but not be recorded; their data were included through note taking.

4.4.6 Analysis

4.4.6.1 Survey analysis framework

Surveys were paper based and data were entered into an MS Excel[®] spreadsheet by the researcher. Data entry was double checked with a statistically literate colleague reading back and forward, ensuring accuracy. The data were cleansed within MS Excel ensuring that inaccuracies or incomplete entries were identified and corrected prior to being imported into SPSS. Scoring the survey was a three-phase process: 1) reverse some items; 2) total items by subscale; and 3) convert raw score to a t-score. Developers of the survey instrument provided an SPSS code that enables the psychometric data to be calculated accurately according to the three-phase process. This coding was used as a reference (Hudnall Stamm 2012) when calculating the scores from each survey.

The analysis framework was structured to answer the research question: *'To what extent do intensive care nurses experience compassion satisfaction or compassion fatigue and what are the predictive factors?'*

Statistical analyses were performed using IBM SPSS Statistics Version 23.0. A significance level of <0.05 was established. In line with standard data procedures, missing data were replaced by group means providing no more than 5% of data were missing (Field 2009). Descriptive statistics were used to analyse participant demographic data, providing an appreciation of the sample characteristics. Bivariate correlations were performed to explore relationships between linear variables using Pearson's and Spearman's correlation coefficients as appropriate, keeping in mind the assumptions of level of measurement, nil outliers, related pairs, and normality of distribution within variables (Field 2009). Analysis of variance (ANOVA) and t-tests were executed to determine mean differences in compassion satisfaction, burnout and secondary traumatic stress across all continuous and categorical demographic variables. This provided an overview of the extent that critical care nurses were experiencing compassion satisfaction, burnout and secondary traumatic stress. Bonferroni and Scheffe corrections were performed and effective sizes evaluated using the (Cohen 1998) guidelines. Underlying assumptions for these tests, such as normality of distributions, equality and adequacy of sample size were adhered to where relevant (Field 2009).

Examining demographic and occupational characteristic relationships with each of the variables provided an explanation in variation of participant scores for compassion satisfaction, burnout and secondary traumatic stress. Multiple linear regression, using the backward stepping approach (Field 2009) was used to identify variables that may predict compassion satisfaction, burnout and secondary traumatic stress. All variables were initially included in these models, ensuring that no assumptions were violated.

Outliers were identified by analysis of standard variables, resulting in three records requiring removal.

4.4.6.2 Interview data analysis

Constant comparative analysis is a process used to analyse data that have been collected from assorted sources. This systematic process involved comparing data to identify similarities and differences. This method meant breaking the data down into ‘incidents’ (Glaser & Strauss 1967) and coding the ‘incidents’ into categories. In the case of Charmaz’s (2014, p. 116) approach this means staying close to the data, looking for ‘action’ in segments of the data and coding line-by-line to absorbing the researcher in the data. The categories emerged from the participants’ language and culture and from those identified by the researcher as being significant to the phenomenon being researched. The goal was to conceptualise the experiences and views of the participants allowing the researcher to develop theoretical insights into the process directly meeting the overarching aim of this research of creating a conceptual framework.

Interviews were conducted and the audio files were transcribed verbatim by the researcher, then analysed in keeping with constant comparative analysis (Charmaz 2014) using NVivo software Version 10. Transcribed text was coded initially by classifying small segments of data in a line-by-line process before grouping and categorising. This way of coding ‘brings the researcher into the data’ (Charmaz 2014, p. 121), providing an interactive space to explore and seek links, comparing and all the while using theoretical sampling. Transcripts were initially coded by the researcher. The other members of the research team (supervisors) double-coded a number of interviews each to ensure consistency before reviewing and contributing to this interactive process

regularly. All researchers were involved at different stages throughout the procedure to ensure scientific rigour and credibility, agreeing on the initial codes and emerging categories and discussing ongoing data collection at many points in data analysis process. Theoretical sampling is a process of deduction, which was carried out to verify the category properties (Charmaz 2014). Revisiting data, going back over data collection with a different perspective, was part of the theoretical sampling process. As Glaser (1988, p. 157) stated, theoretical sampling ‘... is the “where next” in collecting data, the “for what” according to codes, and the “why” from the analysis of memos’. This process involved simultaneous collection, coding and analysis of data with the aim of generating theory (Charmaz 2014) in keeping with constant comparative analysis. Examination of data in detail, with constant reference to the research questions assisted in discerning emerging patterns within the data. Once data saturation was reached and no new information was appearing from interview transcriptions and theoretical sampling, data collection ceased, final analysis and synthesis began, theory and conceptual development continued.

4.4.7 Synthesis

Integration in mixed methods research refers to the approach taken to bring together quantitative and qualitative data-sets to develop a theory or formulate a conclusion (Creswell 2015). In keeping with the Constructivist Grounded Theory and the overlay of an explanatory sequential design, the quantitative and qualitative components of the research were initially analysed separately, as described. The datasets intersected at a number of points in the research design (Figure 4.2). Survey analysis was examined together with the interview analysis. The initial sampling approach, purposive sampling, subsequently contributed to the use of theoretical sampling. For example, selecting

participants from varied experience, age and education levels allowed for predictive analysis results to be considered in relation to interview data. The separate sub-scales measuring compassion satisfaction or compassion fatigue were positioned against experiential information gathered from participants using a constant comparative approach, informed by Charmaz's (2014) constructionist methodology. The inductive, iterative process of theory generation using Charmaz's (2014) methods complemented the movement between explanations, generalisations and interpretative understandings of theory and practice.

This integration of quantitative and qualitative data was the point where theory development was interrupted. Theory construction began with the concept analysis and continued through each phase, using findings from the concept analysis, literature review, survey and interview data. The author also began examining existing works, including those of Freud, Rogers, Bowen and Benner. As more detail emerged and the concepts became clearer the author examined a range of theories in more detail and identified that Bowen Family Systems Theory aligned to the results of the constructivist study (incorporating concept analysis, literature review, survey and interview data). Using existing knowledge and adding knowledge to create new knowledge more clearly aligns with conceptual framework development than theoretical development (Crookes & Davies 2004). The initial mapping processes continued to develop the conceptual framework.

Findings from the concept analysis, literature review, survey and interview data were mapped against the concepts of Bowen Family Systems Theory (Appendix 7) (Kerr 2000). This exercise, in line with constructivist methodology, used a mixed method

research approach to build on and capture the full richness of the processes or interconnectedness of the individuals involved in the intensive care unit setting (Charmaz 2014; Creswell 2015).

4.5 Ethical considerations

Ethical review for this project was a two-stage process. First, the National Ethics Application Form (NEAF) was completed and submitted to the multi-site Human Research Ethics Committee (HREC) of South Eastern Sydney Local Health District, NSW Health. This project was deemed of low and negligible risk, and was approved (HREC Ref No. 15/070). The submission process ensured protection of the rights and welfare of the participants. Separate submissions were made to each site in line with the policy directive 'Authorisation to Commence Human Research in NSW Public Health Organisations'. The Site Specific Application (SSA) process required all documentation to be provided to each site's Research Governance Office for approval and then ratified by the University HREC. The initial application was made to the multisite HREC and Research governance and ethical approvals were granted by NSW Health and site offices (LNR/15/POWH/18). The HREC approvals were ratified by the University HREC (reference 15/070-15/G/098) – All approval documents are available in Appendix 12.

4.5.1 Informed consent process

Informed consent was gained from participants according to the guidelines provided in the National Statement of Ethical Conduct in Human Research (NHMRC 2014). This process required participants to have an adequate understanding of the research and any

possible implications that might occur from the process or results. Nurses participated voluntarily with full disclosure of the aim and methods documented in the Participant Information Statement (Appendix 8). This statement also informed participants of the likelihood of findings being published in academic journals. Consent to participate in the survey was implied by a completed and returned survey (paragraph 3.1.17; (NHMRC 2014). A signed form from each participant consenting to participation in an audio recorded interview was required prior to partaking in the interview process (Appendix 9). Participants were notified that they may withdraw from the study at any time without incurring disadvantage (an example of the withdrawal form can be viewed in Appendix 9).

4.5.2 Participant risk versus benefits

The researcher recognised that participants might be affected emotionally by re-living or remembering distressing events. Participants were advised that if they felt upset, confused or decided to cease their participation at any time during the interview they were free to conclude the interview. Participants were offered brochures and contact with the NSW Health Counselling service. It was appropriate to use this service as the participants were being asked about work-related experiences. As a precaution, the researcher gained the agreement of a Clinical Nurse Consultant at one site to be the ‘go-to’ person if participants required further debriefing or counsel if they did not want to contact the occupational counselling service. At the second site the on-site social worker was involved as support, if required.

Potentially the professional group of CCNs may have benefitted from the opportunity to be able to speak freely about their experiences and feelings, in a safe environment.

4.5.3 Anonymity, confidentiality and data storage

Participants' anonymity was preserved for the survey, as the surveys did not carry any identifying symbol or mark. If participants wished to know their survey score or be contacted for interview participation they needed to relinquish their anonymity or contact the researcher separately. If this occurred, their information remained confidential. Interview data were de-identified with each participant allocated a pseudonym or code, for example P-RN8 or W-RN8 dependent upon site. 'P' represented Site A; 'W' represented Site B and the year represented RN years of experience. No participant was identified in any way in publication of findings; no participant was identified in any published material.

Storage, retention, disposal and access are four points to consider in managing data of a research project (NHMRC 2014). Digital as well as paper-based data were collected in this project. A data management plan, in line with UTS guidelines (UTS 2014), was followed and required the digital files, both audio and digital, be kept on a password protected computer. Paper-based material was stored in a locked and secure filing cabinet at the researcher's home office. Digital files were backed up to the UTS Cloud regularly to prevent loss of data. In accordance with requirements of the Australian Code for Responsible Conduct of Research all data collected will be retained in a similarly secure environment for a minimum of five years after publication. Hard copy material will be shredded and electronic files deleted after this period.

4.5.4 Researcher's position

It is an important ethical consideration that transparency surrounds the researcher's position within the project. This means acknowledging any familiarity and existing

relationships between the researcher and participants; presuppositions and any potential bearing on interpretation. Reflexivity is essential to qualitative research and enables recognition of the researcher’s participation in the context or social environment of the project (Charmaz 2014). A reflexive stance required taking into account that the researcher had clinical experience as an intensive care nurse and worked among participants from one site. The researcher was not in a senior role, but recognised the ethical consideration and endeavoured to minimise any possibility of overt coercion or undue influence on her colleagues. To engage in reflexivity the researcher kept a methodologically written journal and was in constant counsel with her supervisors during data collection, analysis and synthesis. Table 4.2 illustrates recognised preconceptions and potential bearing on interpretations.

Table 4-2 Researcher's position

Preconception	Potential impact on interpretation	Engagement in reflexivity
Clinical experience as a critical care nurse	Interpretations may be influenced by the researcher’s clinical experience	The researcher will keep a methodological journal during the research process. The researcher’s supervisors will provide independent advice and mentorship in an effort to avoid bias and elicit transparency
Researcher has nursed in one of the sites where the research study will take place	Assumptions could be made by the researcher due to her familiarity with the site and the participants, this may affect her understanding of conversations during the interviews	
Researcher is extremely conscious of possible bias due to her dual-role of researcher/ colleague	Interview process and interpretation of narratives could be impacted	

4.6 Chapter summary

The research design, methodology and methods used to examine patient-centred nursing, compassion satisfaction and compassion fatigue were the focus of this chapter. An overview of the theoretical underpinnings was provided and a rationale for the use

of Mixed Methods and Constructivist Grounded Theory methodology outlined. The development of a conceptual framework through the process of development has been described and explained. An outline of the mixed method design, quantitative and qualitative data collection methods and ethical considerations are also provided in this chapter. The methods and approaches outlined in this chapter provide a clear picture of how the author was able to meet the overarching aim of creating a conceptual framework explaining processes of patient-centred nursing, compassion satisfaction and compassion fatigue in intensive care nursing. The following chapters have been published or prepared for publication and outline the importance of this research, methods and findings for each of the phases of this program of work.

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5 Compassion satisfaction and compassion fatigue: a cross-sectional survey of Australian intensive care nurses

The material of this chapter has been published (see Appendix 13):

Jakimowicz, S., Perry, L. & Lewis, J. 2017, 'Compassion satisfaction and fatigue: A cross-sectional survey of Australian intensive care nurses', *Australian Critical Care*, vol. 30, no. 2, pp 127 (online).

5.1 Chapter introduction

Chapter five addresses the research question:

- *'To what extent do Australian ICU nurses experience compassion satisfaction and compassion fatigue and what are the predictive factors?'*

Quantitative methods are the most appropriate method to determine an accurate answer when asking for measurable results (Creswell 2015). This chapter serves to provide reliable information on factors that predicted and contributed to compassion satisfaction and fatigue experienced by critical care nurses. The publication commences from the next paragraph. Justification and rationale of journal choice for this chapter is outlined in Appendix 2.

5.2 Introduction

Nursing workforce retention is a key issue internationally, playing out particularly in the critical care nursing workforce (Abbey, Chaboyer & Mitchell 2012) where turnover is high (van Dam, Meewis & van der Heijden 2013). The single largest group of Registered Nurses practicing clinically in Australia work in critical care and emergency (Health Workforce Australia 2014). Changing demographics and increasing acuity of hospital admissions are resulting in a greater demand for highly skilled care (HWA 2013). This environment necessitates strategies to improve retention of the already skilled workforce (AHWAC 2011).

Intensive care nurses are among the highest skilled nurses in the healthcare workforce (AACN 2015; ACCCN 2003; BACCN 2010). They are presented with critically ill patients suffering traumatic injuries and multi-organ failures requiring vigilant monitoring and intervention (Lakanmaa et al. 2012). Constant exposure to unpredictable challenges plus the demands of caring for a bio-medically unstable patient and a distressed family in a restricted, technologically congested bed space, places critical care nurses (CCN) at high risk of fatigue and anxiety. However, CCNs' experiences, whether positive and fulfilling or negative and draining, are poorly researched in Australia; this knowledge is important to understand job satisfaction in this environment. Nurses' job satisfaction is important not just in relation to workforce retention and nurse wellbeing, but because it has been strongly linked to quality of care (Sawatzky, Enns & Legare 2015; Simpson & Knott 2017).

Compassion has been identified as a marker of care quality but has all too often been reported as lacking in healthcare (Francis 2013). Compassion is a key factor in patient-centred nursing (Jakimowicz & Perry 2015; vanMol et al. 2016), a model developed to improve patient experience. Compassion is described as an emotive reaction or sensation that is felt when witnessing the suffering or distress of another (Boyle 2011). This reaction often triggers the desire to relieve the individual's suffering. Compassion satisfaction is a 'positive aspect of caring' and one of the elements that attracts those who choose to work in nursing (Hooper et al. 2010), providing a means to assist in relieving suffering that results in a sense of satisfaction. Conversely, when nurses are unable to provide relief of suffering, for whatever reason, they experience only negative attributes, which can result in compassion fatigue. This process occurs at times in the professional life of many nurses (Hudnall Stamm 2012), and is described as a natural phenomenon resulting from the effort of caring for people who are suffering (Figley 1995b).

Compassion fatigue has been researched across many health professions; empirical research supports the idea that repeated direct and indirect exposure to trauma through 'vivid imagery' risks substantial changes in emotional, behavioural and cognitive states (Adams, Boscarino & Figley 2006; Figley 1995a; Hooper et al. 2010; Hudnall Stamm 2012). Figley's (1982) seminal work explored traumatic stress in 1982. The term 'compassion fatigue' appeared in nursing literature (Joinson 1992) in a foundational article describing it as a form of burnout common to nurses who were vulnerable due to the nature of their role. Figley (1995b) identified empathy, caring and emotional engagement as factors placing health professionals at risk. More recently (Coetzee & Klopper 2010, p. 241) a more temporal model emerged suggesting compassion fatigue could be a 'sequence of events' leading to 'compassion discomfort or stress' which can

be managed or reversed. Compassion fatigue has been confirmed to comprise two components: burnout and secondary traumatic stress (STS) (Jenkins & Warren 2012). Burnout is characterised by emotional exhaustion, depersonalisation or detachment, and low personal accomplishment (Epp 2012). STS is similar to post-traumatic stress but results from knowledge of traumatic events suffered by others and the consequent stress (Hudnall Stamm 2012).

Critical care nurses experience daily tensions within healthcare, striving to deliver holistic and patient-centred care with sensitivity whilst maximising efficiency and patient flow, fulfilling financial and performance targets (Tuckett et al. 2014). These tensions compound the emotional and physical demands of the already challenging CCN role (van Dam, Meewis & van der Heijden 2013). Burnout and job satisfaction have been widely explored amidst mixed and hospital-wide samples but less amongst CCNs. Compassion fatigue can result in nurses suffering debilitating symptoms (Harris & Griffin 2015) or leaving the profession altogether (Sawatzky, Enns & Legare 2015) and has implications not just for present wellbeing but future stability of the workforce. It is therefore important to obtain a measure of the compassion satisfaction and fatigue that CCNs experience to enable development of strategies to support their wellbeing, and to attract and retain nurses in this important area of healthcare.

5.3 Aim

The aim of this study was to examine to what extent Australian ICU nurses experience compassion satisfaction and compassion fatigue and possible predictive factors.

5.4 Method

5.4.1 Study design, sample and data collection

This two-phase mixed method study was underpinned by a constructionist, epistemological view. This paper presents phase one, which employed survey design. The second qualitative phase employed interviews and is reported elsewhere (Jakimowicz, Perry & Lewis 2017). A self-reported cross-sectional survey was used to collect data quantifying compassion satisfaction, burnout and STS. Participants were recruited from two adult general ICUs in Australia. Site A was a 16-bed intensive care unit in a tertiary referral hospital; site B an 18-bed intensive care unit in a regional teaching hospital. These hospitals employed 107 and 93 Registered Nurses, respectively. Nurses at both sites worked eight or twelve hour rotating rostered shifts. Purposive criterion sampling was used to obtain a participant sample of registered nurses employed as CCNs on a full-time, part-time or casual basis, with a minimum of six months' post registration experience.

The data collection process occurred over eight weeks in 2015 ensuring maximum opportunity to participate. Participant information sheets and posters were placed in each unit prior to data collection. CCNs were invited to participate in the study by the primary investigator; surveys were distributed in each unit. Completed surveys were deposited in a secure container for collection.

5.4.2 Ethical considerations

All participants were supplied information packs and offered the opportunity to speak with the primary investigator with any queries. Completion of the survey was taken as

consent to participate. Participation in the survey was anonymous, therefore, the researchers were not able to respond to any individual who might be deemed at 'high risk'. A counselling service was detailed in the information packs, and participants advised to contact them if they were concerned. Research governance and ethical approvals were granted by relevant authorities and each site's Human Research Ethics Committee (HREC 15/070 -15/G/098 DT15/44395) and ratified by the university.

5.4.3 Instrument

The Professional Quality of Life Scale version 5 (PROQOL5) (Hudnall Stamm 2010) was used. This 30-item tool uses a 5-point Likert scale and yields three sub-scale scores: compassion satisfaction; burnout; and STS which are psychometrically unique (Hudnall Stamm 2010). Scores of 22 or less were designated low, 23 to 41 as average and 42 or above as high (Hudnall Stamm 2010). The PROQOL5 has demonstrated strong internal consistency with alpha scale reliabilities of: compassion satisfaction = 0.88; compassion fatigue = 0.81 and burnout = 0.75 (Hudnall Stamm 2010). This instrument was chosen for its conceptual fit with study aims (Hudnall Stamm 2012), its proven validity and reliability, and track record of usage to measure nurses' professional quality of life (Hegney et al. 2014; Hooper et al. 2010; Sacco et al. 2015; Yoder 2010). Demographic and occupational data comprised participant age, gender, years of practice, tenure, education level, site and experience of a family member admitted to ICU.

5.4.4 Data analyses

Statistical analyses were performed using SPSS Statistics Version 23.0. A significance level $\alpha < 0.05$ was established. Missing data were replaced by group means provided no

more than 5% were missing, as per standard missing data procedures. Participant demographic data were measured using descriptive methods. Bivariate correlations were performed to explore relationships between linear variables using Pearson's and Spearman's correlation coefficients as appropriate. Analysis of variance (ANOVA) and t-tests were executed to determine mean differences in compassion satisfaction, burnout and STS across all continuous and categorical demographic variables. Bonferroni and Scheffe corrections were performed and effect sizes evaluated using Cohen's (Cohen 1988) guidelines. Multiple linear regression was used to identify variables that could predict compassion satisfaction, burnout and STS. The backward stepping approach was used; seven demographic and occupational variables showed some significant associations with compassion satisfaction and/or fatigue using bivariate analysis. Choice of variables was theoretically based; however, all were initially included in the models. No adjustments for multicollinearity were required. No assumptions were violated. An analysis of standard residuals identified outliers and indicated removal of three records to meet model assumptions. A statistician reviewed the analyses for accuracy and clarity.

5.5 Results

With an overall response rate of 58.5%, most participants were female (71.4%) and held a post-graduate qualification (55.3%); their mean (SD) age was 42.3 (11.4) years, with 16.2 (10.7) years working as a nurse, 8.9 (7.2) years of which had been spent in their current ICU (Table 5.1). More than one third (36.3%) had experience of a family member as a patient in ICU. Participant response differed somewhat by site (Site A, 52%; Site B, 66%). Most participants at both sites were female, with more males at Site A [38.5%, 22%]. The mean age was similar (42 years) at both sites but age profiles were significantly

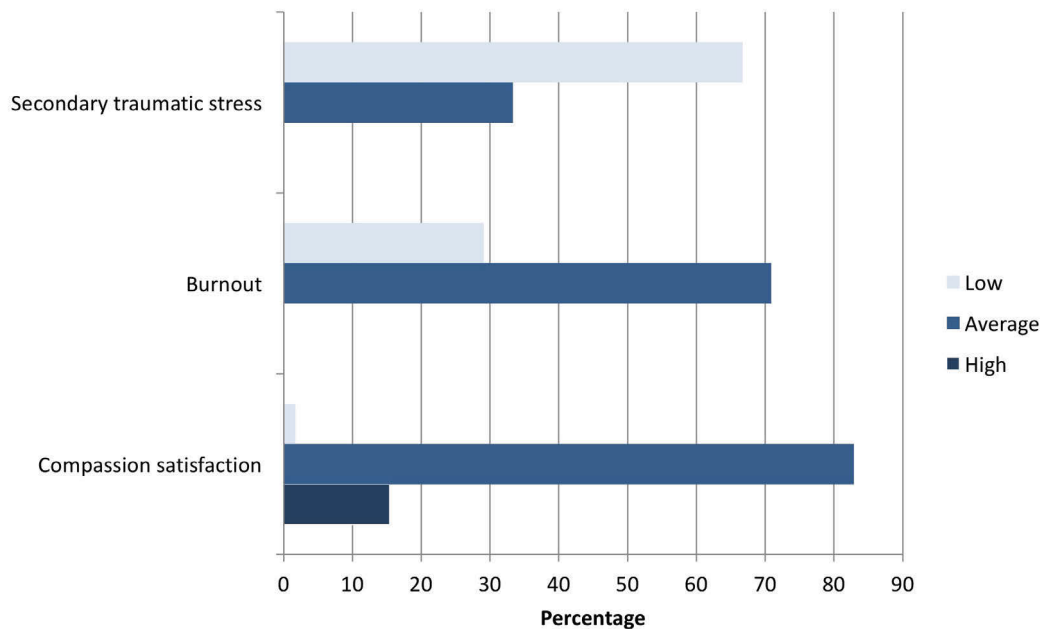
different; the largest proportion of nurses at Site A were aged 20–35 years [37.8%] but at Site B between 36 and 50 years [57.6%] (Appendix 14). Differences in years of experience and tenure (Figure 5.1) and the proportion of nurses holding a postgraduate qualification (55.6%, 55%) were not significantly different at the two sites (Appendix 14).

Table 5-1 Sample demographic and occupational statistics

Variable	Frequency (%)	Compassion Satisfaction Mean (SD)	Burnout Mean (SD)	Secondary Traumatic Stress Mean (SD)
PROQOL Scores				
		35.49 (6.00)	25.47 (5.31)	21.43 (4.64)
Gender n=98				
Female	70 (59.8)	35.03 (6.12)	25.80 (5.17)	21.67 (4.64)
Male	28 (24.0)	35.32 (4.90)	25.04 (4.97)	20.64 (4.62)
Age				
20-35 years	29 (24.8)	34.10 (5.01)	26.97 (4.55)	32.33 (7.35)
36-50 years	45 (38.5)	35.38 (5.41)	25.64 (5.26)	24.09 (5.12)
>50 years	22 (18.8)	32.33 (7.35)	21.62 (5.01)	20.32 (3.79)
Missing	21 (17.9)			
Years of Practice				
<5 years	15 (12.8)	35.93 (5.33)	26.40 (4.61)	22.87 (4.92)
5-15 years	49 (41.9)	33.98 (6.46)	26.92 (5.17)	21.82 (4.71)
>15 years	48 (41.0)	36.86 (5.65)	23.98 (5.42)	20.69 (4.57)
Missing	5 (4.3)			
Years of Tenure				
<5 years	38 (32.5)	34.08 (7.02)	26.58 (5.64)	21.07 (4.98)
5-15 years	55 (47.0)	35.22 (4.99)	24.65 (4.74)	20.98 (4.50)
>15 years	18 (15.4)	38.22 (5.58)	23.22 (5.73)	20.67 (4.58)
Missing	6 (5.1)			
Education Level				
No Postgraduate	51 (43.6)	34.89 (4.94)	24.78 (5.48)	20.56 (5.05)
Postgraduate	63 (53.8)	36.46 (5.48)	25.06 (5.19)	21.24 (4.44)
Missing	3 (2.6)			
Family Patient in ICU				
Yes	41 (35.0)	35.24 (5.79)	26.15 (5.29)	21.51 (4.86)
No	72 (61.5)	35.24 (5.98)	25.39 (5.30)	21.50 (4.62)
Missing	4 (3.4)			

Scores of 22 or less = 'low'; scores 23-41 = 'average'; scores 42 and above = 'high' (Hudnall Stamm 2010)

Figure 5-1 Compassion satisfaction, burnout and secondary traumatic stress - overall



5.5.1 Compassion satisfaction, burnout and secondary traumatic stress

Overall mean scores for compassion satisfaction, burnout and STS were within the ‘average’ (23-41) range according to Hudnall Stamm (2010) interpretation (Table 5.1). Most participants (83%) scored ‘average’ and 15% scored ‘high’ (>41) for compassion satisfaction; 71% of participants scored ‘average’ and 29% ‘low’ (<23) for burnout. One third (33.3%) scored ‘average’ for STS and 66.7% scored ‘low’ (Figure 5.1).

5.5.2 Relationships with demographic and occupational characteristics

Demographic and occupational characteristics for the sample were examined for relationships with compassion satisfaction, burnout and STS. Duration (years) of practice

as a nurse and duration of tenure were significantly and positively related to compassion satisfaction scores although contributing only small effects (for each, 4% of the variation in compassion satisfaction scores, respectively; Table 5.2). Age, years of practice and tenure were significantly and negatively related to burnout scores. Burnout scores reduced significantly with increasing age, years of tenure and practice; small amounts (6%, 9% and 4%, respectively) of this variation were explained by these relationships (Table 5.2). Nurses with 5 to 15 years of practice had higher burnout scores than their colleagues with more than 15 years of practice, with significance confirmed by analysis of variance (Table 5.3) and a post hoc test ($p=0.023$, 95% CI 0.33, 5.55). There were no significant associations between the demographic and occupational variables and STS scores.

Table 5-2 Relationship between demographic and occupational characteristics

Variable	Burnout			Secondary Traumatic Stress			Age			Years of practice			Years of tenure		
	<i>r</i>	CI	<i>p-value</i>	<i>r</i>	CI	<i>p-value</i>	<i>r</i>	CI	<i>p-value</i>	<i>r</i>	CI	<i>p-value</i>	<i>r</i>	CI	<i>p-value</i>
CS	-0.735**	-0.81, -0.64	<0.01	-0.343**	-0.49, -0.17	<0.01	0.085	-0.12, 0.28	0.413	0.191*	0.01, 0.36	0.042	0.197*	0.01, 0.37	0.038
BO				0.544**	-0.66, -0.35	<0.01	-0.216*	-0.40, -0.01	0.037	-0.299**	-0.46, -0.12	<0.01	-0.200*	-0.37, -0.01	0.036
STS							-0.127	-0.32, 0.08	0.224	-0.137	-0.31, 0.05	0.148	-0.152	-0.33, 0.03	0.111

- Bivariate correlations - Abbreviations: CS – compassion satisfaction, BO – burnout, STS – secondary traumatic stress, CI – confidence interval
- * Significance at alpha level 0.05 (2-tailed). ** Significance at alpha level 0.01 (2-tailed). *r* = 0.1 to 0.29 small; *r* = 0.3 medium; *r* = 0.5 large correlation (Cohen). *n* = 117

Table 5-3 Variation among and between years of practice and years of tenure groups

	Sum of Squares	df	Mean Square	F	Sig.
YEARS OF PRACTICE ACROSS SAMPLE					
Compassion Satisfaction					
Between Groups	206.317	2	103.159	2.887	0.060
Within Groups	3929.913	110	35.726		
Total	4136.230	112			
Burnout					
Between Groups	223.358	2	111.679	4.111	0.019*
Within Groups	2988.253	110	27.166		
Total	3211.611	112			
Secondary Traumatic Stress					
Between Groups	64.653	2	32.327	1.478	0.233
Within Groups	2405.488	110	21.868		
Total	2470.142	112			
YEARS OF TENURE – SITE B					
Compassion Satisfaction					
Between Groups	206.375	2	103.187	3.298	0.044*
Within Groups	1752.202	56	31.289		
Total	1958.576	58			
Burnout					
Between Groups	152.524	2	76.262	3.325	0.043*
Within Groups	1284.22	56	22.933		
Total	1436.746	58			
Secondary Traumatic Stress					
Between Groups	147.667	2	73.834	3.164	0.050
Within Groups	1306.875	56	23.337		
Total	1454.542	58			

Summary of Analysis of Variance * Significance at alpha level 0.05

Demographic and occupational characteristics were examined by site for relationships with compassion satisfaction, burnout and STS. Burnout scores significantly decreased with years of practice at both sites, explaining 14% (Site A) and 7% (Site B) of the variation in these scores. Compassion satisfaction scores significantly increased with years of practice at Site A, explaining 8% of this variation; however, this association did not occur at Site B. STS scores decreased as years of practice increased at Site A, explaining 8% of the variation; again, this association did not occur at Site B. Burnout scores increased significantly with tenure at Site B to explain 7% of the variation in these scores; this was not significant at Site A. Tenure at Site B was significantly related to both compassion satisfaction and burnout levels (Table 5.3). Nurses with more than 15 years of tenure at Site B had significantly higher compassion satisfaction scores than those with less than 5 years of tenure ($p=0.048$, 95% CI 0.04, 10.86). This latter group of nurses had higher burnout scores than nurses with over 15 years' duration in the same ICU ($p=0.044$, 95% CI .09, 9.35). As expected there was a significant negative relationship between compassion satisfaction and burnout scores at both sites and a similar significant relationship was also found between compassion satisfaction and STS at Site B, but not Site A. No significant findings were revealed at either site for age, gender or education levels.

5.5.3 Relationships with compassion satisfaction, burnout and secondary traumatic stress scores

Relationships among compassion satisfaction, burnout and STS were significant. Compassion satisfaction scores were significantly reduced with higher burnout and STS scores, explaining 54% and 12% of this variation, respectively. Burnout scores

significantly increased with higher STS scores, explaining 30% of the variation in burnout scores (Table 5.2).

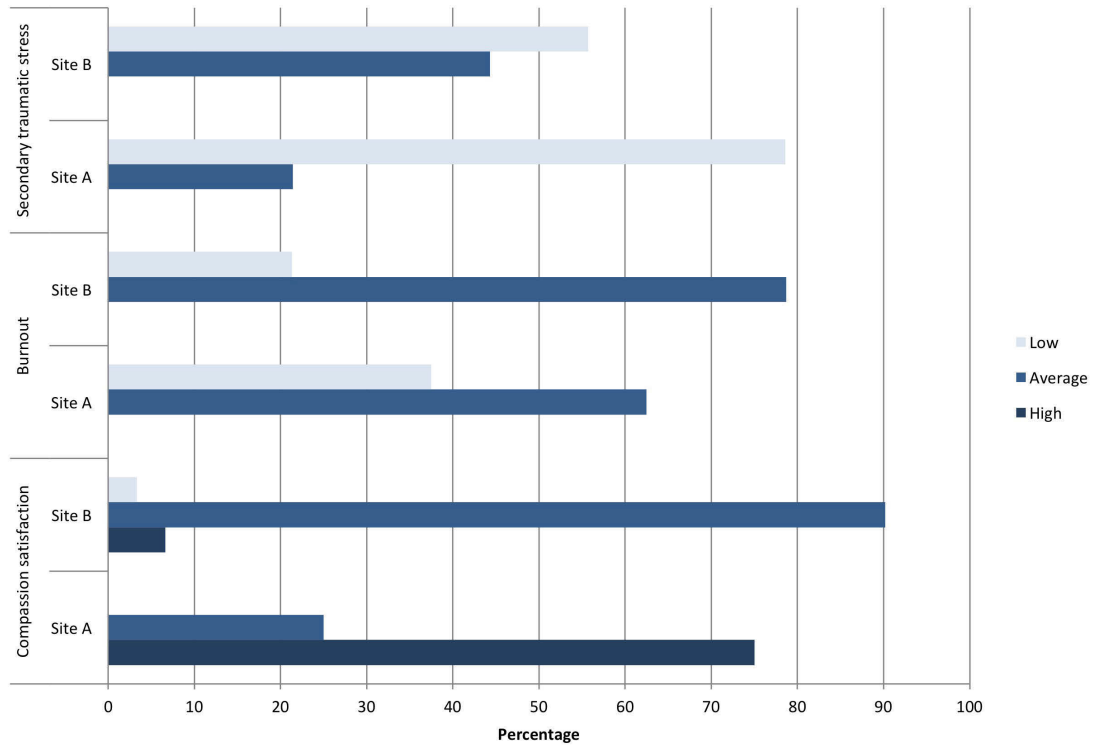
Compassion satisfaction scores differed significantly according to site and postgraduate certification. ICU nurses working at Site A had significantly higher scores for compassion satisfaction than those working at Site B ($p=0.008$) (Figure 5.2). Nurses reporting postgraduate qualifications also had significantly higher compassion satisfaction scores than nurses without ($p=0.027$) (Table 5.4). Likewise, STS scores differed significantly according to site; nurses who worked at Site A had significantly lower STS scores than those working at Site B ($p=0.025$) (Table 5.4, Figure 5.2).

Table 5-4 Comparison of demographic and occupational statistics to compassion satisfaction, burnout and secondary traumatic stress

	Variable (n)	Mean (SD)	T (df)	Sig. (2 tailed)	95% Confidence Interval	
					Lower	Upper
Site						
Compassion Satisfaction	Site A (56)	37.02 (5.88)	2.715 (115)	*0.008	0.794	5.078
	Site B (61)	34.08 (5.81)				
Burnout	Site A	24.59 (5.48)	1.734	0.086	-3.619	0.240
	Site B	26.28 (5.05)				
Secondary Traumatic Stress	Site A	20.43 (4.07)	2.269	*0.025	-3.588	-2.43
	Site B	22.34 (4.97)				
Gender						
Compassion Satisfaction	Male (28)	35.32 (4.90)	0.226 (96)	0.822	-2.280	2.866
	Female (70)	35.03 (6.12)				
Burnout	Male	25.04 (4.97)	0.688	0.506	-3.037	1.508
	Female	25.80 (5.17)				
Secondary Traumatic Stress	Male	20.64 (4.62)	0.992	0.324	-3.088	1.030
	Female	21.67 (4.64)				
Education Level						
Compassion Satisfaction	No P Grad (51)	34.89 (4.94)	2.240 (112)	*0.027	-4.674	-0.286
	P Grad (63)	36.46 (5.48)				
Burnout	No P Grad	24.78 (5.48)	1.355	0.178	-0.614	3.271
	P Grad	36.46 (5.48)				
Secondary Traumatic Stress	No P Grad	20.56 (5.05)	0.644	0.521	-1.175	2.306
	P Grad	21.24 (4.44)				
Family Patient in ICU						
Compassion Satisfaction	Yes (72)	35.24 (5.79)	0.007 (111)	0.995	-2.299	2.283
	No (41)	35.24 (5.98)				
Burnout	Yes	26.15 (5.29)	0.731	0.467	-2.812	1.297
	No	25.39 (5.30)				
Secondary Traumatic Stress	Yes	21.51 (4.86)	0.013	0.989	-1.837	1.812
	No	21.50 (4.62)				

Independent sample t-tests * Significance at alpha level 0.05 (2-tailed)

Figure 5-2 Compassion satisfaction, burnout and secondary traumatic stress - site comparison



5.5.4 Predictors of compassion satisfaction, burnout and secondary traumatic stress

Analyses indicated that site (place of work) significantly predicted the level of compassion satisfaction ($\beta=-0.250$, $p<0.024$). Years of tenure significantly negatively predicted the level of burnout ($\beta=-0.260$, $p<0.016$), however site was not a significant predictor of burnout. Site (place of work) significantly predicted the level of STS ($\beta=-0.338$, $p<0.002$), however tenure was not a significant predictor in this case. In summary, site was the strongest predictor of compassion satisfaction and STS, and shorter tenure strongly predicted increasing burnout (Table 5.5).

Table 5-5 Analysis of variables predictive of compassion satisfaction, burnout and secondary traumatic stress

Dependent Variable/ variable entered	Adjusted R ²	F	Standardised coefficient β	Confidence Interval	<i>t</i>	Sig.
Compassion Satisfaction						
Site	0.031	3.704	-0.250	-4.236, 0.069	-2.302	0.024*
Burnout						
Years of Tenure			-0.260	-0.312, -0.032	-2.446	0.016*
Site	0.059	3.748	0.179	-0.306, 3.796	1.692	0.094
Secondary Traumatic Stress						
Years of Tenure			-0.187	-0.263, 0.014	-1.782	0.078
Site	0.098	5.706	0.338	1.221, 5.165	3.220	0.002**

- Multiple regression - backward stepping solution was used
- * Significance at alpha level 0.05 ** Significance at alpha level 0.01 $r^2 = 0.1$ to 0.29 small; $r^2 = 0.3$ medium; $r^2 = 0.5$ large correlation (Cohen). $n = 114$

5.6 Discussion

Our analysis revealed that overall, these CCNs reported ‘average’ levels of compassion satisfaction and burnout, and ‘low’ levels of STS (according to PROQOL guidelines). Results are not indicative of a cohort of nurses who are struggling, but neither do they signify a particularly resilient workforce. An ideal result would see these nurses experiencing high levels of compassion satisfaction and low burnout and STS scores (Hudnall Stamm 2012). However, CCNs are reportedly exposed to traumatic and high stress situations within the intensive care environment (Simpson & Knott 2017). Thus, the finding that 30% of the variation in burnout scores was explained by STS scores further underscores the powerful effect on nurses of their role in ICU.

Overall, years of practice, tenure, educational level and place of work significantly influenced compassion satisfaction and fatigue. Less experienced nurses had lower compassion satisfaction and appeared more vulnerable to burnout than nurses who were older, with longer tenure and more nursing experience. This will need to be countered; to facilitate the transition of young nurses into more senior and experienced roles it will be important to address the poorer compassion satisfaction of the more vulnerable early and mid-career nurses (Hegney et al. 2014). These findings support earlier research, with similar results from two US studies of CCNs in adult and paediatric ICUs (Sacco et al. 2015), another of surgical and medical nurses (Burtson & Stichler 2010) and an Australian study of the general nursing workforce (Hegney et al. 2014). Large numbers of nurses leave the profession early in their career for reasons that include burnout (Flinkman et al. 2008). Our results are supported by a study exploring the complexity of turnover in the nursing profession; working conditions, ethical dilemmas and inability to

provide the desired type of nursing care were shown to impact the intention to leave of early to mid-career nurses (Flinkman, Isopahkala-Bouret & Salanterä 2013). Nurses with more experience and longer tenure recorded a higher level of compassion satisfaction, as in other studies (Burtson & Stichler 2010; Hegney et al. 2014; Sacco et al. 2015). The relationships between increased burnout and younger age identified in our study are also supported elsewhere (Burtson & Stichler 2010; Kim et al. 2015; Sacco et al. 2015).

Whilst not independently predictive (possibly subsumed, for example, by age), postgraduate education was linked with higher levels of compassion satisfaction. An Australian paper reporting results from a general nursing cohort found less educated nurses suffered anxiety and negative moods leading to higher levels of compassion fatigue (Hegney et al. 2014). A recent study examining professional quality of life and clinical competencies reported nurses with greater clinical competence tended to have higher compassion satisfaction and lower fatigue (Kim et al. 2015). This effect is not limited to the nursing profession; a study examining social workers' professional quality of life identified evidence based practice use and years of experience as buffers to the impact of trauma (Craig & Sprang 2010). Another study revealed CCNs' role competence and proximity to capable nurses predicted compassion satisfaction, while structured educational programs were linked to job satisfaction (Sawatzky, Enns & Legare 2015). This being so, management support enabling access to postgraduate education is important not just for a better educated and more clinically competent critical care workforce, but one with potentially greater compassion satisfaction and lower fatigue.

Compassion satisfaction and STS were predicted by place of work, whereas tenure predicted level of burnout. Significant differences were found between the two sites, with

CCNs at Site A having greater compassion satisfaction and less STS than those at Site B. There are several potential explanations. Firstly, Site A, a tertiary referral metropolitan hospital, offered more specialised treatments. Site B offered ventilatory and cardiovascular care, monitoring and renal support, accepted patients from more remote hospitals but transferred patients requiring more specialised treatments to a higher-level critical care setting such as Site A. Findings from a US study support this explanation: that participants working in a higher acuity ICU have higher compassion satisfaction scores (Sacco et al. 2015). The same research also reported higher burnout for nurses working in a unit undergoing change in management (Sacco et al. 2015), suggesting that differences in management style and support programs, as well as how well a change process is delivered, may also contribute to differences in staff experience. A recent study exploring key predictors of retention in the critical care nursing workforce found that management support, collaboration, engagement and compassion satisfaction influenced nurses' decision to remain or leave the critical care arena (Sawatzky, Enns & Legare 2015). Features of the context, environment and culture, management style and staff support programs may contribute to the differences between these sites' staff in compassion satisfaction and STS levels.

5.6.1 Limitations

The sample size (n=117) and participation rate (58.6%) are in line with other similar studies (Sacco et al. 2015; Sawatzky, Enns & Legare 2015); whilst they may render the generalizability of results uncertain, they may at least represent a microcosm of Australian critical care. Random sampling may have guaranteed a more generalisable result, however this choice was limited due to the size of the population. Some missing

data resulted in discrepancies between total number of participants and data reported, for example, for gender. This was an observational study and could not examine causal relationships; however, this was not the study aim and the instrument chosen to measure professional quality of life was not designed as a diagnostic tool but to provide an indication of workforce wellbeing (Hudnall Stamm 2010).

5.7 Implications and recommendations

Higher burnout was linked to lower compassion satisfaction; enhancement of compassion satisfaction levels in the CCN workforce may provide nurses protection from compassion fatigue (Craigie et al. 2016). Compassion satisfaction is depicted by a sense of achievement or gratification from the act of caregiving itself (Hooper et al. 2010) and being able to meet the requirements of the position (NMBA 2005, 2016; NMC 2015), such as provision of patient-centred nursing. Some researchers denote caring or feelings for others as grounded in self-care (Watson 2008). It makes sense, therefore, to incorporate interventions in future planning that buffer the negative effects of compassion fatigue by improving compassion satisfaction and addressing burnout (vanMol et al. 2015). With STS explaining 30% of burnout scores, it may be worth considering interventions geared toward decreasing burnout by reducing STS (vanMol et al. 2015). Potential strategies to combat this type of stress include mentoring, cognitive techniques, mindfulness and peer discussion (Simpson & Knott 2017).

Provision and support of continuing education may contribute to greater compassion satisfaction. CCNs are required to have expert clinical skills and knowledge, qualities such as reliability, empathy, kindness and patience as well as ability to deal with stressful

situations whilst being stable, agile, exact, alert and systematic (Lakanmaa et al. 2012). CCNs gain clinical skills and knowledge from formal university education and/or hospital on-the-job training; often they are neither prepared nor provided with any education around the likely emotional stressors involved with providing effective patient-centred nursing to patients suffering trauma or multi-organ failure (Coetzee & Klopper 2010). High expectations of meeting competency requirements could pressure CCNs; support and opportunities are required to develop experience, understanding and resilience as well as the requisite knowledge and competencies in safe situations, which may lead to enhanced compassion satisfaction.

Individual factors are important, but so too are the organisational and societal contexts in which the nursing care occurs. Place of work was shown to be a predictor of compassion satisfaction and fatigue. Symptoms of compassion fatigue may be indicators of the nature of the organisation's culture and ways of working, influencing nurses' decision to continue or to leave the job or profession (Sawatzky, Enns & Legare 2015). With longer experience in the role linked with lower burnout scores, have these more experienced nurses developed coping or survival skills (Burgess, Irvine & Wallymahmed 2010; Drury et al. 2013)? Or have the more affected early career nurses resigned - at least from the critical care arena? Could an answer lie in individual coping skills, personality traits or resilience and could such attributes be cultivated by work-based interventions such as debriefing, clinical supervision or peer support? Some of these strategies are already employed in areas such as mental health (Edwards et al. 2006). What is needed is a model to suit *this* health workforce population; one to accommodate the unique shift work (often 12 hour) and demands made on CCNs. Further investigation is warranted to answer these questions, and enable identification or development of appropriate interventions to

enhance the coping skills and reduce the burnout experienced, particularly, by early to mid-career CCNs.

5.8 Conclusion

Critical care nurses form the largest group of health professionals within the intensive care unit (Kim et al. 2015), contributing to positive patient experience by providing effective patient-centred nursing (Jakimowicz & Perry 2015). The growth and ageing of the population is driving demand for healthcare services, and retention and maintenance of an experienced and competent critical care nursing workforce is essential (AHWAC 2011). Interventions geared toward improving compassion satisfaction and decreasing burnout, including reducing STS, could lead to both greater wellbeing and longevity in the CCN workforce.

This first phase of a larger research project supports the need to conduct qualitative research to further explore the sources of CCNs' satisfaction or dissatisfaction in their challenging role. Small contributions to the variation in compassion satisfaction and fatigue were explained in this study, and the majority influences are yet to be determined. Future research is needed to better understand what enhances compassion satisfaction in this high-stress environment and what interventions could be employed to retain and maintain this crucial critical care nursing workforce.

5.8.1 Acknowledgements

The author acknowledges and thanks Michael Jakimowicz for statistical guidance and Dr Alex Wang, Faculty of Health, University of Technology Sydney for statistical expertise and advice. We also sincerely thank the nursing staff of the participating hospitals.

5.9 Chapter summary

Chapter Five presented the findings of the quantitative phase of this program of work, addressing the research question: *‘To what extent do Australian ICU nurses experience compassion satisfaction and compassion fatigue and what are the predictive factors?’*

This chapter included the published paper beginning with outlining the importance of this phase of the research; providing information for future strategy development to support, attract and retain critical care nurses in the workforce. The findings have illustrated the impact of workplace, education, experience and tenure on compassion satisfaction and fatigue. The need to better understand what enhances compassion satisfaction has been justified. The following chapter presents the results of the qualitative findings.

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6 Insights on compassion and patient-centred nursing in intensive care: a constructivist grounded theory

The material of this chapter has been accepted for publication (see Appendix 16).

Jakimowicz, S., Perry, L. & Lewis, J. 2017, 'Insights on compassion and patient-centred nursing in intensive care: a constructivist grounded theory', *Journal of Clinical Nursing*, (accepted for publication 9 December 2017) In Press.

6.1 Chapter introduction

Chapter Six addresses the research question:

- *How does the intensive care nursing role impact their feelings of compassion satisfaction and compassion fatigue?*

In this qualitative phase of the program of work the perspectives of the interview participants dominate. As the critical care nurses shared moments of their working, private lives and thoughts, their narrative gave meaningful and contextually rich data providing a foundation on which to generate insights into their experience of compassion satisfaction and compassion fatigue as it related to their provision of patient-centred nursing. The 21 participants held clearly defined opinions about their experiences of compassion satisfaction and fatigue and the impact on patient-centred nursing. They easily recalled experiences where the situation had led to them feeling satisfied fatigued signifying the impact of their role. From the critical care nurses' accounts, it was evident that a range of factors contributed to their experience of compassion satisfaction and

fatigue. Justification and rationale of journal choice for this chapter is outlined in Appendix 2.

6.2 Introduction

Intensive care can be a high-pressure, high-stress, high-challenge environment where nurses care for patients whose lives can literally be in the balance day after day (Beckstrand et al. 2017; van Dam, Meewis & van der Heijden 2013). This environment may impact delivery of patient-centred nursing both positively and negatively (Kelleher 2006; Mohammadi, Peyrovi & Mahmoodi 2017). A dominant biomedical curative ethos and local features such as collegial support, workplace culture, communication and relationships (Jakimowicz, Perry & Lewis 2017b; Jones et al. 2016) may both hinder and support maintenance of aspects of patient-centred nursing. For example, patients in critical care units are seldom able to partner in their treatment plans and goals, especially when they experience life-threatening illness or injury, and are unable to communicate (Jakimowicz & Perry 2015). Patient acuity often demands a focus on technological support, measurement, monitoring and titration of interventions and medications to regulate physiological bodily functions (Crocker & Scholes 2009; McGrath 2008).

For critical care nurses, complex and challenging biomedical and emotional situations are common and this stimulation may provide engagement, fulfilment and hence job satisfaction (Sawatzky, Enns & Legare 2015). However, constant exposure to challenging situations may contribute to fatigue (Sacco et al. 2015) or burnout (Epp 2012). Compassion satisfaction, compassion fatigue and/or burnout may influence critical care nurses' decisions either to continue or leave the profession (Sawatzky, Enns & Legare

2015), and may impact the extent to which they are able to deliver compassionate patient-centred nursing.

6.3 Background

6.3.1 Patient-centred nursing in intensive care

Patient-centred care is based on a model of nursing recognised as capable of meeting the needs and expectations of health services and consumers (McCormack & McCance 2016). The Francis (2013) report from a United Kingdom (UK) public health service provider acknowledged the expectations of the public to receive compassionate service from healthcare professionals, including nurses. To this end, the importance and expectation of patient-centred nursing has been emphasised in health service mission statements internationally (WHO 2016). Frameworks for both general medical settings (McCormack & McCance 2016) and for the intensive care context (Jakimowicz & Perry 2015) shape patient-centred nursing attributes. Elements such as partnering with patients in treatment plans and goals (McCormack & McCance 2016), integrated biomedical treatment, maintenance of the patient identity and compassionate and professional presence (Jakimowicz & Perry 2015) are expected of nurses.

Patient-centred nursing has been acknowledged as ‘different’ in ICU to other service areas (Jakimowicz & Perry 2015), due to the challenges of nursing a patient, usually on a one-to-one basis, who is highly physiologically compromised and requires higher levels of expert critical care nursing skills, expertise and knowledge than patients in other healthcare areas. These patients are often unable to be informed or included in decision-making or goal setting due to their cognitive and physical state. Patient and Family Centred Care (PFCC) is a model developed for this very reason; an approach where the

patient is viewed as a member of the family system, requiring care and partnership for all members of the group (Latour & Coombs 2017). Providing the ‘softer skills’ required to deliver compassionate, professional critical care nursing while managing a physiologically unstable patient in the confines of an equipment-cramped bed space and supporting the family, makes patient-centred nursing in this aggressively curative environment extremely challenging (Jakimowicz, Perry & Lewis 2017b; Latour & Coombs 2017).

6.3.2 Critical care nurses’ role

Globally, direct patient care is the core of ICU nursing although specific structures and functions vary worldwide. Professional standards and education levels of ICU nurses are similar internationally (AACN 2015; Bray et al. 2010; Robnett 2006) and a number of codes of nursing practice (ACCCN 2016; BACCN 2010), hospital vision and mission statements and Registered Nurse job descriptions (WHO 2016) call for compassionate patient-centred nursing. Critical care nurses are often challenged to deliver this under the pressure of patient flow and budgetary constraints (van Dam, Meewis & van der Heijden 2013) in a world demanding cost-contained but innovative and high quality health services (Jakimowicz, Perry & Lewis 2017b).

Positive workplace cultures have been acknowledged as contributing to successful patient-centred nursing (McCormack & McCance 2016). Organisational culture, defined as ‘a pattern of shared basic assumptions that the group learned’ (Schein 2010, p. 17) can underpin the success, health and well-being of an ICU and its staff. One of the earliest examples of social research into nursing culture and structure was conducted by a psychoanalyst, who argued that entrenched ways of working were a defence for nurses

feeling stressed, anxious and fearful due to the necessarily close and intimate relationships they must achieve with their patients (Menzies (1960); this work described an environment not dissimilar to contemporary critical care nursing. Place of work has been shown to be a significant influence for local staff compassion satisfaction and fatigue (Jakimowicz, Perry & Lewis 2017a).

6.3.3 Compassion in intensive care

Compassion has been acknowledged as a gauge of quality not always evident in healthcare (Francis 2013). Prior to the Francis Report (2013), compassion was not well defined in healthcare or nursing (Burnell & Agan 2013) and seldom referred to in nursing literature or practice (Ledoux 2015). However, compassion has arguably always been considered a central attribute of nursing, despite difficulties in expression of the experience of compassion and resultant behaviours (Burnell & Agan 2013). Compassion has been defined as the process of an emotional reaction or sensation in response to recognising another's suffering or distress and the consequential experience of feelings of empathy (Ledoux 2015). Compassionate nursing care has been regarded as difficult to measure, but recognised where nurses are clinically proficient while providing hope, kindness and understanding (Burnell & Agan 2013). Intensive care patients recognise both technology and compassionate nursing care are required for a positive experience and better outcome (Stayt, Seers & Tutton 2015).

6.3.4 Compassion satisfaction and compassion fatigue

Compassion satisfaction is an affirmative element of caring, providing the 'feel good' experience of helping another during a time of suffering (Hudnall Stamm 2012). Nurses may feel a sense of gratification, altruism or achievement when they experience

compassion satisfaction: an attractive element of nursing (Hudnall Stamm 2012). Alternatively, with repeated exposure to trauma or situations where nurses are not able to alleviate suffering, compassion fatigue may occur. Compassion fatigue is comprised of burnout and secondary traumatic stress (Figley 1995) and may lead to disengagement, demotivation and symptoms similar to post traumatic stress. Compassion satisfaction and fatigue are predictors of retention or attrition for the nursing profession (Sawatzky, Enns & Legare 2015). Nurses with higher levels of compassion satisfaction suffer lower levels of fatigue (Craigie et al. 2016); older and more experienced critical care nurses tend to suffer lower levels of compassion fatigue than their younger and less experienced colleagues (Jakimowicz, Perry & Lewis 2017a). As provision of effective patient-centred nursing may be linked to job or compassion satisfaction (Edvardsson et al. 2011), it is important to understand patient-centred nursing and compassion in intensive care to be able to develop strategies to enhance compassion satisfaction and combat compassion fatigue.

6.4 Aim

To explore how intensive care nurses' role impacts their feelings of patient-centred nursing, compassion satisfaction and compassion fatigue from their perspective.

6.5 Method

6.5.1 Design

The design of this research was underpinned by Constructivist Grounded Theory methodology. This design supports the inductive, emergent and comparative approach (Glaser & Strauss 1967) required to meet the aim of this study. This qualitative

methodology is appropriate to investigate the meanings of critical care nurses' experiences within the context of ICU, as well as their interpretation through narration of their own story (Charmaz 2014). A constructivist researcher positions themselves subjectively in 'construction and interpretation of data' (Charmaz 2014, p. 14). Reflexivity was used in this study to recognise the researcher's participation in the context or social environment of the project (Charmaz 2014) as an intensive care nurse working among potential participants. This contributed to contextual understanding of the critical care environment and supported generation of data. Critical reflection during data collection and analysis in consultation with the research team ensured transparency and guided the inductive and emergent processes of constant comparative analysis.

6.5.2 Setting and sample

The research was conducted with participants from two adult intensive care units in Australia during 2016. Site A was a 16-bed intensive care unit in a tertiary referral hospital; site B, an 18-bed intensive care unit in a regional teaching hospital. These units had 107 and 93 Registered Nurses employed full or part-time, respectively. Nurses across the sites worked eight and twelve hour rotating rostered shifts. The units operated as mixed intensive care/high dependency facilities with a nurse:patient ratio of either 1:1 or 1:2, dependent upon patients' acuity. Both units offer advanced respiratory support (mechanical ventilation), cardiovascular and renal support; Site A accepts patients requiring more specialised treatments such as extracorporeal membrane oxygenation.

Purposive criterion sampling was used to recruit Registered Nurses employed as critical care nurses on a full-time, part-time or casual basis, with a minimum of six months' post registration experience. Posters and flyers notified nurses of the research a few weeks

prior to project commencement and the researcher visited each site to promote the research. Participants were invited to individual interviews conducted on-site.

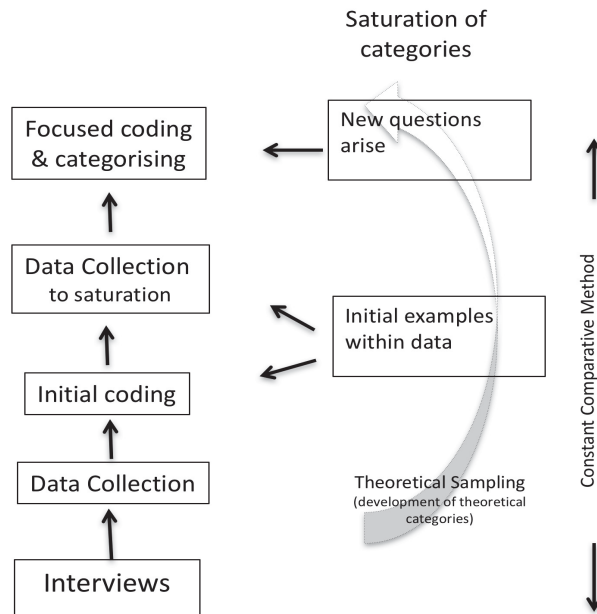
6.6 Data collection and analysis

In-depth interviews were conducted, digitally recorded and transcribed by the primary researcher, commencing with open-ended questions about how they viewed patient-centred nursing and their role as critical care nurses. Interview questions were originally developed through review of literature and then revised in keeping with constant comparative analysis with emerging and on-going data analysis. Interviews explored nurses' experiences and feelings; memos and field notes were taken. Regular meetings including all researchers ensured a rigorous process of data collection and analysis, aligned with reflexivity; recruitment continued until data saturation, where no new ideas or concepts surfaced.

Constant comparative analysis was used to analyse and compare data collected within and between interviews, to confirm similarities and differences. This method entailed breaking the data down into 'incidents' (Glaser & Strauss 1967) and initially coding the 'incidents' into categories. The categories emerged from the participants' language and from data identified by the researcher as significant to the phenomena of interest. The goal was to conceptualise participants' experiences in order to develop theoretical insights into patient-centred nursing and compassion. Interviews were conducted, transcribed and analysed, in keeping with constant comparative analysis, using NVIVO 11 software. Transcriptions were initially coded by the primary researcher; other members of the research team reviewed and contributed in this interactive process (Charmaz 2014). All researchers agreed on the initial codes and emerging categories and

discussed ongoing data collection. The process entailed simultaneous interviewing, initial or open coding and analysis of data, revisiting data and re-reading transcripts, with more focused coding directing analysis, aiming to generate theory (Charmaz 2014). Theoretical sampling was guided by the emerging coding and categories. As Glaser (1988, p. 157) stated theoretical sampling ‘..is the “where next” in collecting data, the “for what” according to codes, and the “why” from the analysis of memos’ (Figure 6.1). As stated by Charmaz (2014, p. 244), constructivist grounded theory is both inductive and abductive, an iterative process of theory generation. Using Charmaz’s (2014) methods this incorporated movement between critical care nurses’ explanation of their experiences, generalisations and the researchers’ interpretative understandings of both theory and practice. All researchers were involved at different stages through the procedure.

Figure 6-1 Data collection and analysis



Adapted from Charmaz (2014) Constructing Grounded Theory

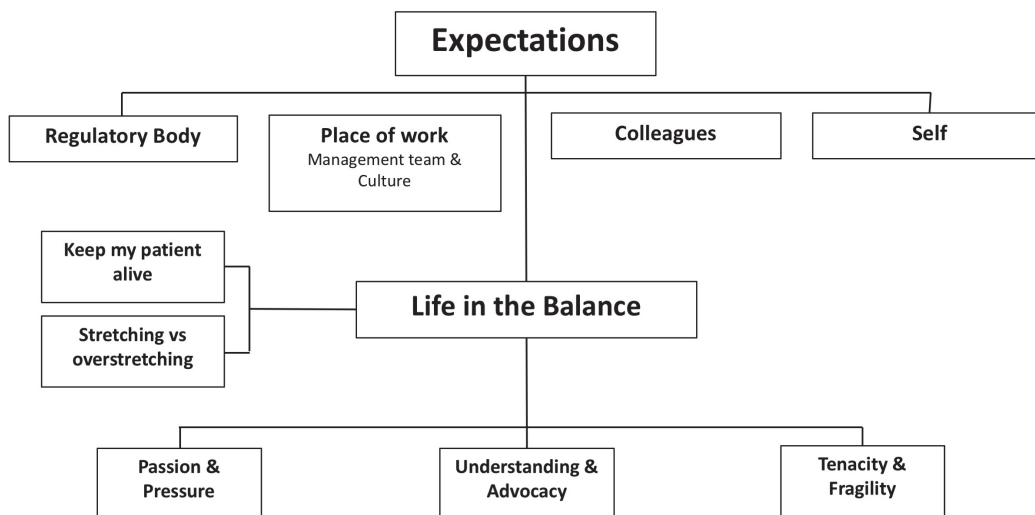
6.6.1 Ethical considerations

Participants were supplied project information packs and offered the opportunity to raise any queries with the primary investigator. Participants signed a written consent form. Survey data were anonymous, and names were not used in interviews; the audio and transcript files were coded using a numbering system confidential to the researcher. Two participants declined audio recording, but participated in interviews with manual note-taking. There was a risk that nurses participating might experience emotional distress through reliving difficult incidents; access to a counselling service was detailed in the information packs. Ethical approval was granted by the relevant health service Human Research Ethics Committees and of the University of Technology Sydney (HREC 15/070-15/G/098 DT15/44395).

6.7 Results

Twenty-one critical care nurses consented to participate in interviews, four of whom were male. Their experience ranged from second year Registered Nurses to 15 years or more in intensive care. Participants recounted events in their critical care roles which supplied rich and broad insight into their experiences. Findings reflected positive and negative impacts on nurses' ability to deal compassionately with their patients, revealing effects on patient-centred nursing and critical care nurses' own wellbeing. A core category of 'Expectations' emerged from the interview data, explaining the tension between critical care nurses' biomedical, clinical skills and knowledge versus compassionate, patient-centred nursing care. This tension is clarified and expanded in the sub-categories 'Life in the Balance', 'Passion and Pressure', 'Understanding and Advocacy' and 'Tenacity and Fragility' (Figure 6.2).

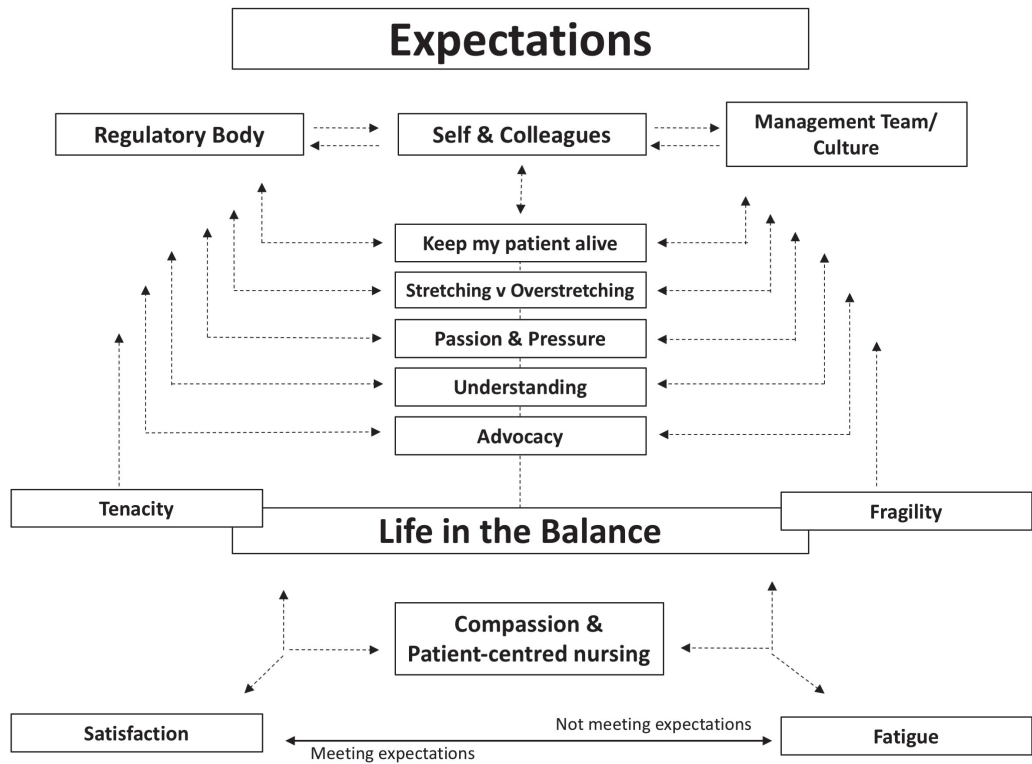
Figure 6-2 Category tree



6.7.1 Expectations

The core category of ‘Expectations’ is complex, comprising a form of reciprocity where critical care nurses have expectations of their regulatory body, unit management team, colleagues, patients and community as well as of themselves; where they perceived that each of these entities also had expectations of them. When participants were able to meet what was expected of them, and their own expectations were met, they felt satisfied in their ability to provide patient-centred critical care nursing (Figure 6.3).

Figure 6-3 Category relationship



6.7.1.1 Regulatory body

The encompassing layer of the regulatory body was the seat of governance of their practice. It expects that critical care nurses maintain relevant up to date expert clinical skills and knowledge; to maintain their professional registration they must continue to develop professionally and work within their scope of practice to provide the care prescribed.

‘Everyone must work safely and within the realms of the registration guidelines and rules. We have to keep up-to-date with all of that, you know our CPD’. P-RN4

Critical care nurses also expected support from their regulatory body, to provide them with contemporary principles and codes of practice to guide clinical skills, knowledge and ethos, and provide a safety framework for the public.

'They make new policies, they made a new policy after that trachy incident, they have to do that to stop mistakes in the future and make sure we work safely'. W-RN18

6.7.1.2 Place of work (management team and culture)

Participants described their management teams as expecting them to provide patient-centred nursing, to meet the required education level, be engaged in their work environment and to nurse collaboratively. These expectations encompassed possession and use of expert knowledge and skills, and having the confidence to work with some autonomy, for example in weaning patients from ventilation or titrating medications. They were expected to take responsibility as individuals; to apply knowledge of pathophysiology and technology to nurse the patient and assist their colleagues, and to work as a high functioning team.

'... we have to .. treat people like individuals, not a disease .. know the machinery and the numbers ...' W-RN25

'... competent and good standards of care ... weaning ventilation – adjust your ventilator .. have a bit of autonomy ...' P-RN15

In return, participants expected the management team to support them by providing appropriate equipment, staffing, and time to complete education so they could deliver their role in patient-centred nursing. If the management team met expectations and the nurses had access to resources and education, they felt more confident in providing patient-centred nursing, and more secure and satisfied in the workplace.

'...Like tonight I'm standing by my patient's bed looking something up on my phone because I can't access the knowledge on the computer.' W-RN45

'... the education provided in this unit is, in my personal opinion, very poor and is a big factor in feelings of fear and confidence.' W-RN21

'... not adequate staffing ... not enough senior nurses on.' W-RN8

'... we do have some good programs, but ... not the time to access them.' P-RN7

Many participants felt physically and emotionally tired and drained. They expected understanding and support from their management team: reasonable rostering and patient allocation, time and access to resources such as debriefing or counselling for their own wellbeing. Some did feel supported; others spoke about constant challenging allocations, feeling drained and fatigued with no empathy, emotional or resource support from their managers. One participant recounted being told *'you're a good nurse, you'll cope with it'* after seeking support and guidance for compassion fatigue. Lack of support and resources resulted in participants feeling stress and fatigue; they wanted to block out or cut off emotionally from their work environment.

'I did hit a point where I found my workload, work environment so stressful that I didn't want to see work, or be part of work, or be reminded of work when I was off work.' W-RN11

'No support from the team leaders after a very difficult and emotional shift, no debrief, no support from management, it's just a job now – I can't care as much as I did, I can't.' W-RN19

6.7.1.3 Colleagues

Critical care nurses expected their colleagues to be competent, clinically skilled and knowledgeable, to assist with workload, provide camaraderie, understanding and emotional support.

'I have good friends at work and I think just being able to talk situations through because sometimes – it's good to talk it through with people that understand – other friends don't understand like what you do'. W-RN9

It was important to be able to rely on colleagues' experience and skills, individual and team cumulative knowledge. Trust was expected, and the culture or atmosphere within the unit impacted their feelings of satisfaction. When colleagues were positive and approachable nurses felt supported; if colleagues were negative and unapproachable, they felt dissatisfied, less safe and engaged in their practice. Dependence on colleagues was important to being able to continue to provide effective patient-centred nursing, even if fatigued.

'When there's something I don't know there's always someone around that does'. P-RN2

6.7.1.4 Self

Overall, critical care nurses had high self-expectations. Meeting everyone else's expectations (the regulatory body, their management team and colleagues) as well as their own was important to them. Participants described self-satisfaction if they met all these expectations, and improved capacity to nurse compassionately. Alternatively, where expectations were unmet, fatigue, stress and burn out impacted their capacity for compassion toward their patients and each other. Nurses experienced anxiety and fear if

they felt clinically unprepared, excluded or uninformed, but satisfied when they felt clinically competent, confident in their own skills and adequately educated. They described feelings of satisfaction when they met managers' obligations, supported their colleagues practically and emotionally and achieved what they perceived as effective patient-centred nursing. Meeting expectations and providing patient-centred nursing culminated in compassion satisfaction.

'I feel satisfied in my job if I know that I have been able to do everything I can for the patient that is in their best interests, and then it gets even a little bit better if it works out and they get better. But apart from that if it goes the wrong way as well and they don't get better and you've done everything you can and you have those resources to be able to do it'. P-RN24

6.7.2 Life in the balance

'Life in the Balance' depicts the balancing act that critical care nurses must play to provide patient-centred nursing while fulfilling other role expectations. It reveals a tension between critical care nurses' biomedical, clinical skills and knowledge versus compassionate, patient-centred nursing care. Their experiences exemplify the need to keep their patient alive while simultaneously maintaining their own wellbeing.

6.7.2.1 Keep my patient alive

The biomedical ideology of the intensive care environment was clearly identified by participants as intrinsic to the balancing act to keep their patient alive. Balancing the 'numbers', working to achieve and maintain patients' haemodynamic stability through medical and nursing interventions such as delivering and titrating medications and therapies was vital. Many participants viewed this one to one, biomedical care as one of

the most important components of patient-centred nursing, focal to their role and, when achieved, a source of satisfaction:

'... you have a very sick patient that you've got to the end of the shift alive!' P-RN6

Critical care nurses sometimes found it difficult to balance patient treatment with compassionate patient-centred nursing. Recognition of signs of patient deterioration was a key component of their role but the constant vigilance, the physical space and time constraints, the logistics and level of attention required for biomedical aspects of care could affect communication, interaction, personal connection and flexibility with patients and families; this impacted nurses' ability to provide aspects of patient-centred nursing. Lack of connection and depersonalisation of the patient was an outcome of their focus on treatment, at times reflected in their language:

'.... you can sometimes forget that there's a body in the bed because there's so much else going on that you've got to manage and if you don't manage that, there's not going to be a body in the bed.' P-RN6

'... realising there's a patient in the centre of all that sometimes we forget to explain what we're doing' P-RN12

6.7.2.2 *Stretching versus over-stretching*

Critical care nurses felt satisfaction if they were stretched to exercise their expert knowledge and skill, but if the stretch was too far, with too many tasks and responsibilities beyond what was sustainable or achievable, there was no longer a balance between their resources and the demands made upon them. They acknowledged the tension between experiences of satisfaction against overwhelming feelings of

distress and compassion fatigue. Their passion for patient-centred nursing could be an element that sustained them, providing compassion satisfaction:

'I love this – this is purpose. It makes you feel fulfilled'. P-RN15

However, some participants admitted to feeling burdened as they became more experienced in their role; with greater experience came responsibilities and tasks additional to that of nursing their own patient, such as carrying the hospital emergency pager, mentoring new staff or regularly being allocated the most critically ill patients. Feeling overburdened with extra responsibility led to disillusionment, distress and feelings of burnout and fatigue.

'I didn't think I was going to renew my registration I was so disillusioned and burned out ... I resented nursing.' P-RN16

Patient-centred nursing could suffer when critical care nurses' personal wellbeing was impacted detrimentally.

6.7.3 Passion and pressure

Some critical care nurses said they 'loved' their job, describing feelings of passion derived from providing patient-centred nursing. Their role met their instinctive need to 'make a difference' and have purpose. Their position was rewarding and fulfilling, giving them feelings of privilege and pride in their work and in their colleagues.

'You're purposeful and you're giving something back to the community .. to humanity ... it's a privilege'. P-RN12

'I watch the way staff (colleagues) are with patients and I think that's beautiful'. P-RN16

'I feel fortunate working in intensive care, you can head to toe, actually can really nurse them. There's a lot of greater satisfaction in that aspect'. P-RN15

Despite this, participants *'felt the pressure'* that came with the scope of the role, including the expectation of providing patient-centred nursing. The pressures of the role did not always allow critical care nurses to provide the type of nursing they desired. Compassion could be impacted by the focus on keeping the patient alive; compassion could fall by the wayside when attention was necessarily on medical interventions. Participants could feel overstretched by the toll of the pressured workload when attempting to provide effective patient-centred nursing.

Patient flow could impact nurses' ability to deliver compassionate patient-centred nursing. When patients were transferred to the ward quickly, to make room for another patient admission, time pressures made it difficult for participants to provide aspects of patient-centred nursing in the way they would have liked. Concerns were expressed about the safety of patients due to the haste of transfer to a ward where nursing was less intensive. However, they also acknowledged the risk to incoming patients of delayed admission.

'... being under the pump and stressed can stop you being so patient focused, especially when you're under the pump to discharge and admit patients quickly'.

P-RN15

'patients are often getting nurses that are feeling fatigued ...because you're tired, ... or you're busy or feeling swamped. I definitely think it affects the patient-centred care'. W-RN8

6.7.4 Understanding and advocacy

'Understanding and advocacy' were key to their role; feelings of satisfaction and fatigue were impacted by successful or unsuccessful delivery of these elements of patient-centred nursing.

‘Understanding and advocacy’ referred to the nurses’ role with their patients, and also to ‘understanding’ received from colleagues, patients and families. Participants craved understanding of the challenges they face and recognition of their expert clinical skills and knowledge by the patient, the community, their colleagues and other health professionals. Participants were, at times, frustrated by what they saw as lack of understanding and respect from the management team, medical and more senior nursing colleagues. A disconnect was perceived by some participants, who thought that some senior staff had forgotten what it was like to work at the bedside. Some spoke of the support they received from medical staff and described their satisfaction when included in patient treatment planning or consulted about their patient. Others were unhappy with a ‘medically-led’ culture where their knowledge was neither acknowledged nor utilised, indicating to participants a lack of respect and understanding. As a result these critical care nurses felt demotivated and fatigued.

‘Some of the doctors ... engage and ask you questions and make you feel valued.

Make you feel that you want to go that extra mile.’ W-RN9 but,

‘Sometimes it’s easy to feel like a number being filled on the floor ... just want to fill the numbers and tick the boxes’. W-RN12

Holistic understanding of the patient is integral to patient-centred critical care nursing. The importance of understanding the underlying pathophysiological condition in order to maintain the haemodynamic status of their patient was repeatedly stated. An understanding of the psychosocial aspects of their patient was also important, to assist in caring for both patients and their family. Feelings of compassion toward patients were impacted by the extent of understanding shown by patients and families of critical care nurses’ role. This could frustrate participants, particularly where families had

unrealistic ideas of intensive care nursing, and idealistic expectations of what could be done and achieved.

'People expect a level of care but I don't know that they understand what you are doing and the importance of you continuing your care is a matter of life and death'. P-RN27

'Yeah, unrealistic expectation that because there's technology available and because medical care is available that we should be able to fix any problem that a patient has'. W-RN19

Advocacy, an important component of patient-centred nursing, is part of this sub-category. Participants used their holistic understanding of their patient to fulfil their responsibility for advocacy. They saw this as a key component of their role, as their patients often could not speak for themselves. Advocating for their patient was both rewarding and difficult. Family attitudes could result in feelings of being misunderstood and disrespected; challenging family relationships and frustrated advocacy could contribute to participants feeling fatigue and dissatisfaction, which disrupted patient-centred nursing. Patient protection was an important component of their role and could be difficult and distressing to deliver, sometimes due to challenges over family involvement.

'.... patients beg me to stop ... they'll be saying please stop...the family are going "nope, got to go, keep going.' P-RN8

Non-collaborative practice by medical teams could also be a challenge. Critical care nurses felt they knew their patients intimately and could act as their voice, yet at times this was not acknowledged by medical teams.

'if you ...push them beyond what you feel comfortable with, um ... experience tells you that that patient is most likely to die regardless of what we do, yes it does affect your level of satisfaction and your compassion'. W-RN8

The topic of end of life care and the continuance of treatment in cases where patients were deemed (by nurses) to have a poor prognosis produced emotional responses and strong views in every interview.

'At the coal face you feel like you're the only one that cares! W-RN8

Participants experienced continuance of treatment in some patients as incongruent with their personal values and were conflicted in their feelings; narrating this brought distress and upset. Some distanced themselves from situations to cope and continue in their role.

'I have to try to close the door when I leave, because I cannot take that with me, I think that is what keeps me going.' P-RN10

Being unable to fulfil their advocacy role impacted feelings of compassion satisfaction; nurses were often caught between the patient, their family and the medical team. In this situation participants found it difficult to provide the patient advocacy they saw was needed, as well as maintaining their own personal integrity and moral dignity.

6.7.5 Tenacity and fragility

Critical care nurses displayed characteristics aligned with both tenacity and fragility. Beneath the tough, capable and determined professional persona, glimpses of fragility and vulnerability appeared, illustrating the tension. Responsibility, control and professionalism were viewed as key to their role, to provide patient-centred nursing and support to colleagues. Professionalism equated with being stoic and tenacious; participants attempted to control their emotions to maintain a professional persona. They did not want to appear emotional or 'out of control' in front of their patient or their family.

Control was not only relevant to emotions and professionalism, but to the environment and patient safety. Regimented routines and policies controlled numerous aspects of their work. Participants prided themselves on a tidy, controlled work space in preparation for any possible rapid patient deterioration, to meet their responsibilities safely and effectively. Determination and tenacity saw critical care nurses draw on professionalism to maintain control and meet their responsibility to provide patient-centred nursing.

'you need to be the professional and to control your emotions. This is part of your job, this is part of your responsibility'. P-RN8

Collegial relationships supported their tenacity, combating feelings of fragility. When relationships were positive, participants felt supported and satisfied in performing their duties; providing patient-centred nursing. Friendship, companionship and fellowship fostered feelings of satisfaction. Consulting with each other and feeling comfortable in being able to approach colleagues contributed to keep any sense of fragility at bay, combating their fatigue. When they felt overwhelmed they turned to one another and gained strength and understanding from each other.

'You can talk to your colleagues. You can ask for help. When you are feeling that you can't cope. People will come in and help you'. P-RN15

Some participants felt so close to their colleagues that they viewed them as 'family'; resilience, confidence and feelings of satisfaction developed with these relationships.

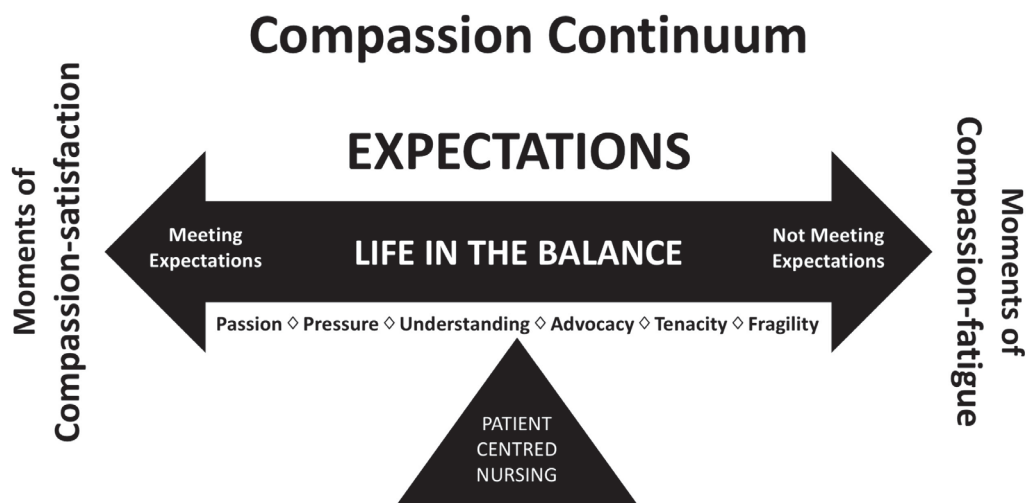
'I have good friends at work and I think just being able to talk situations through because sometimes – it's good to talk it through with people that understand – other friends don't understand like what you do'. P-RN14

6.8 Discussion

This grounded theory explored the relationships between compassion satisfaction, compassion fatigue and patient-centred nursing in intensive care and demonstrated that patient-centred nursing, compassion satisfaction and fatigue are intertwined. A core category of nurses' experience as one of 'expectations' was identified. They balance passion for their critical care role with the pressures felt when facing stress and difficulties as part of that role. They expect understanding from their colleagues, their management team and the community but can struggle to effectively advocate for their patients. They display tenacity, pushing through the stress and difficulties using control and professionalism; yet fragility emerges when their vulnerability and the emotional labour of the role are considered.

Nurses moved backward and forward along a compassion continuum between satisfaction and fatigue (Figure 6.4), interlinked with movements between other characteristics in tension. Critical care nurses' tenacity and fragility travelled with a similar motion: their tenacity enabled them to deliver patient-centred nursing effectively but fragility could intervene and impede their ability to provide patient-centred nursing, enhancing feelings of fatigue. Checks and balances on this movement were dependent upon meeting and having their expectations met.

Figure 6-4 Compassion continuum



Compassion fatigue and compassion satisfaction engender a temporal component where critical care nurses experience moments of compassion, allied with feelings of fatigue or satisfaction. This notion is supported by a meta-synthesis of qualitative studies (Nolte et al. 2017) and a concept analysis (Coetzee & Klopper 2010) examining compassion fatigue among nurses from various areas of healthcare. Coetzee and Klopper (2010) suggest that nurses may move through a cumulative and progressive process toward compassion fatigue if this is not caught in the early stages. Their research aligned with this research, describing triggers to movement along this continuum in either direction, providing groundwork for shaping the way to meet critical care nurses' aim for a point of balance.

6.8.1 Balance

Critical care nurses in this study were challenged to balance biomedical intervention and compassionate care, both important elements of the critical care patient-centred nursing framework (Jakimowicz & Perry 2015). The extent to which critical care nurses are able to achieve this balance, moment to moment, may contribute to feelings of compassion satisfaction, or may trigger moral distress, fatigue and feelings of incongruence as they attempt to provide patient-centred nursing in this biomedical, lifesaving setting. In an environment where control is important to both critical care nurses and patients, an imbalance or the struggle to achieve balance, may cause undue stress and discomfort. Whilst patients' lives are often literally 'in the balance', nurses also felt this about their role, in managing the pathophysiological state of their patient and the physical and emotional demands of their role. Similarly, Nolte et al. (2017) found nurses sometimes felt they were 'walking on a tight rope' emotionally.

This balancing act also linked to categories in this research describing nurses' fear and anxiety if they felt either clinically unprepared, or not meeting their self-expectations. Nurses in Nolte et al.'s (2017) meta-synthesis often were unable to find ways of diffusing the distress they experienced due to feelings of incompetence, helplessness or hopelessness, similar to our study where participants could find it difficult to balance the feelings of disillusionment, distress and pressure with those of purpose and passion for nursing. Furthermore, participants could struggle to maintain their professional persona and tenacity due to conflicted feelings of angst and vulnerability. Results from both this study and the meta-synthesis agree that biomedical and compassionate values are difficult bed-fellows and are, at times, at the root of compromised patient-centred care in this

setting (Nolte et al. 2017), consequently tipping the balance of compassion satisfaction or fatigue.

6.8.2 Expectations of self and others

Critical care nurses experienced moments of compassion satisfaction where there was reciprocity in meeting expectations: if they met their own expectations and completed all tasks and delivered care expected of them to the best of their ability *and* their expectations of colleagues, the management team and the community were met. Alternatively, they experienced compassion fatigue if their expectations were not met, or they were not able to meet the expectations of themselves or others. They felt fatigue and disillusioned if their management team did not meet their expectations: if they were not supplied the resources needed to fulfil their role. These nurses had to be tough and tenacious to get through everything they perceived as expected of their role, but living up to this could take a toll. When fatigued, critical care nurses perceived their provision of effective patient-centred nursing as lacking; satisfaction was related to being able to provide effective patient-centred nursing.

Compassion fatigue has been proposed as a ‘symptom’ of being impeded or obstructed from the act of delivering compassion care (Ledoux 2015); this assertion is in line with findings from this research where participants expressed feelings of fatigue and detachment if they were not able to meet the expectations of delivering patient-centred nursing. Effective patient-centred nursing was one expectation of self and others (ACCCN 2016; BACCN 2010), reinforced through professional codes, standards and job descriptions for Registered Nurses worldwide (WHO 2016). The importance of support for delivery of patient-centred nursing was clearly established in the sub-categories

Pressure, Understanding and Advocacy, where systemic issues such as patient flow, disconnection from the management team and being at odds with senior nursing colleagues and the medical team were described as affecting nurses' ability to meet expectations. In a similar converse manner, Nolte et al. (2017) discussed the 'frustration and despair' felt by nurses when their care was compromised by circumstances beyond their control.

In this study, when critical care nurses' support and resource expectations were met, their experience of compassion satisfaction created a virtuous cycle leading to more compassionate feelings toward their patient. Relieving patients' suffering through effective patient-centred nursing contributed to feelings of compassion satisfaction (Hudnall Stamm 2012). This motivation to ease patients' suffering resonates with the meaning of compassion (Ledoux 2015) and triggers moments of compassion satisfaction, indicating movement on the continuum toward a point of balance. Compassion is an important attribute of patient-centred nursing across healthcare (Jakimowicz & Perry 2015; McCormack & McCance 2016) and although its achievement may pose particular challenges in ICU, the rewards of meeting this may enhance compassion satisfaction for critical care nurses.

6.8.3 Relationships, compassion satisfaction and fatigue

Complex inter-relational connections were described by critical care nurses in this research; healthy and supportive connections included mentoring, practical and emotional support but others, such as not being heard, unrealistic targets, or lack of resources, were anxiety-provoking or enmeshed with conflict, lack of respect, and understanding. Critical care nurses, their colleagues, physicians, the management team, patient and family

members are all essential participants in the intensive care unit. Collaboration and support from and between these stakeholders was important to these participants in fulfilling their role. Delivery of patient-centred care is a shared responsibility within the unit, with organisational factors also contributing to nurses' capacity to provide compassionate patient-centred care (Jones et al. 2016).

Organisational factors, the structure, culture, and inter-relationships of the environment, emerged from the data as important components impacting delivery of patient-centred care. Positive workplace culture is an important component for successful patient-centred nursing (McCormack & McCance 2016). Collegial relationships were clearly important to participants in this research, with some participants ascribing family-like relationships to their colleagues. Historically, Menzies (1960) found, 'environmental relationships and pressures, technologies available and needs of the members of the organisation for social and psychological satisfaction and above all, support for dealing with anxiety' were crucial interacting factors in nursing structure and culture development. Not much seems to have changed.

6.8.4 Limitations

Participants in this study were drawn from two Australian intensive care units in the same state; a larger number of sites from other locations may have produced additional or different results. However, it is acknowledged that the findings may not always be generalisable but detailed understanding from these sites, and alignment with findings of other studies add to the body of knowledge in this field. Confirmation of the emergent themes may be seen as more robust if other stakeholders were consulted, for example medical practitioners, managers and community members. However, the aim of this study

was to explore nurses' perspective; further research could be undertaken to explore the issue from the view of other stakeholders in the future. The heterogeneity of the participants' levels of experience and tenure may also be seen as a limitation; however, an inclusive approach was deemed important in order to gain a rich understanding of nurses' perspectives across the units. Maintaining the authenticity of the findings, when taking into account the primary researcher's position within one of the units was paramount and addressed through robust and thorough reflexivity, as discussed earlier in the chapter. Participants from both sites appeared to be enthusiastic to be more open and transparent once they knew the primary researcher was a critical care nurse; this seemed to contribute to the success of establishing trusting relationships with participants.

6.9 Conclusion

Critical care nurses have less capacity for compassion toward their patient if their expectations are not met and they perceive they are being impeded from providing patient-centred nursing. Provision of patient-centred nursing may enhance critical care nurses' experience of compassion satisfaction which in turn impacts delivery of compassionate patient-centred nursing; a virtuous circle may be generated. Critical care nurses who feel supported and respected by their management team and colleagues experience compassion satisfaction that may lead to greater engagement and care toward their patient. It is important for all health professionals and their managers, not just critical care nurses, to take responsibility for their contributions to the delivery of compassionate patient-centred nursing which may lead to more moments of compassion satisfaction and fewer of compassion fatigue. A better balance will promote critical care nurses' well-being and job satisfaction, and improve the patient experience of intensive care.

6.10 Recommendations for practice

Guidelines and strategies to enhance compassion satisfaction and ease compassion fatigue are required. This research has revealed that critical care nurses want to be heard and treated with respect and consideration as they face complex moral and ethical situations, in a curative environment where saving lives is often the predominant goal. It is necessary to examine the organisational structure of intensive care units to ensure all members of the team, including critical care nurses, have a voice in developing a patient-centred, values based culture (Jones, Mitchell & Milligan 2016). This exercise may lead to enhancing critical care nurses' involvement in decision-making and planning, which may in turn increase moments of compassion satisfaction.

Obviously, healthcare services and management teams should support critical care nurses in meeting the contractual expectations of their role. However, it is also important they meet their *perceived* expectations (where these are realistic), because when critical care nurses feel impeded from providing the patient-centred nursing they expect to be able to deliver, they become fatigued. Provision of up-to-date technology, practical resources and considerate rostering are important, and perhaps professional clinical supervision may be a way for critical care nurses to feel supported emotionally and to promote development of realistic expectations, relieving pressure.

Access and time for education should be provided so critical care nurses are confident in their ability to fulfil their role in providing competent biomedical and compassionate patient-centred nursing. Lack of knowledge or skills led to feelings of anxiety and fear in critical care nurses from this study. Early and mid-career critical care nurses have been shown to be more vulnerable to burnout and compassion fatigue than their older, more

experienced, and possibly more knowledgeable colleagues (Jakimowicz, Perry & Lewis 2017a), also seen where nurses experienced compassion fatigue if they felt incompetent (Drury et al. 2013). Critical care nurses with post graduate qualifications experienced higher levels of compassion satisfaction (Jakimowicz, Perry & Lewis 2017a) than those with a baccalaureate level of education.

Informal space and time to meet away from the bedside should be provided to critical care nurses (Jones et al. 2016) to share social and emotional aspects of their experiences. Inclusion of the whole critical care team in this process could lead to relationship-building and inter-professional collaborative space. This could occur in a structured fashion, carefully designed to address power imbalance and cultivate inter-disciplinary collegiality rather than enforce power imbalances. Inter-professional collaboration improves communication and eases the ‘silo’ effects so often found between health professions (Braun et al. 2015), dismantling barriers to communication.

This research confirms that critical care nurses’ perceptions of compassion satisfaction and fatigue influence provision of compassionate patient-centred nursing in intensive care. Systematically addressing critical care nurses’ needs to successfully balance biomedical with compassionate nursing care as outlined in this study may lead to greater wellbeing in the critical care nursing workforce and improved patient experience of intensive care.

6.11 Chapter summary

This chapter has focussed on the pivotal nature of critical care nurses’ role moving between moments of compassion satisfaction and compassion fatigue dependent on

factors such as expectations; their ability to meet perceived expectations and have their own expectations met. Many of the critical care nurses interviewed were aware of how their experience of compassion satisfaction or fatigue impacted their capacity for compassionate feelings during provision of patient-centred nursing. The importance of workplace culture, support and relationships was made plain in this phase of the study. Additionally, the importance of enhancing compassion fatigue is signified in the outcomes outlined. This work is further extended in the following chapter where the quantitative and qualitative findings are brought together in a discussion of alignment of existing theory, Bowen Family Systems Theory.

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7 Applying Bowen Family Systems Theory to nursing in the intensive care unit: a discussion

7.1 Chapter introduction

Chapter Seven addresses the research question:

- *What strategies could assist critical care nurses' provision of patient-centred nursing in ICU?*

and the overarching aim of this program of work:

- *To develop a conceptual framework outlining the processes involved in patient-centred nursing and compassion satisfaction or compassion fatigue in the context of critical care nursing.*

The purpose of this chapter is to draw together and synthesize the findings of this study within the broader context, and to examine the application of existing theory in development of a conceptual framework. In a novel approach to the discovery of new knowledge, Bowen Family Systems Theory (BFST) was aligned with intensive care nursing, resulting in new insights into the processes surrounding patient-centred nursing, and compassion satisfaction and fatigue in the context of intensive care.

The discussion outlined in this chapter has been submitted to the Journal of Advanced Nursing and is currently under review. Justification and rationale for journal choice for this chapter is outlined in Appendix 2.

7.2 Mapping the overall findings

The overarching aim of this program of work was to develop a conceptual framework to explain processes involved in patient-centred nursing and compassion satisfaction or compassion fatigue in the context of critical care nursing. This framework then provides a basis to elicit recommendations for policy and practice development, education and research. Findings from this constructivist study, i.e. each of the subsections of this thesis (concept analysis, literature review, quantitative and qualitative data collection and analysis) are laid out in a table and figure available in Appendix 7. This table demonstrates how the findings of each chapter come together to form a framework upon which to formulate a conceptual model. The following discussion will use these results to illustrate how Bowen Family Systems Theory can align to intensive care nursing and aid in understanding the processes of patient-centred nursing, compassion satisfaction and compassion fatigue in intensive care nursing. The conceptual framework is described at the end of this paper.

7.3 Introduction

Patients are admitted to intensive care units to receive lifesaving medical and nursing care due to trauma or complex health conditions. The goal of nurses and doctors working in intensive care is to use their skills, knowledge and technology to maintain

life and alleviate suffering, and many health professionals experience a sense of failure if their patient dies (Beckstrand et al. 2017). The intensive care unit epitomises the medical ideology of cure and restoration of health for all. However, death in the intensive care unit is a stark and not infrequent reality, no matter how much effort is made. The unmet expectations of patients, families, health professionals and the healthcare service may result in an uncomfortable work environment for nurses and their colleagues (Jakimowicz, Perry & Lewis 2017b).

Critical care nurses are generally expected to provide nursing that is patient-centred; this model of nursing is emphasised in health service core values internationally (WHO 2014). Patient-centred nursing (McCormack & McCance 2016) and Patient and Family Centred Care (PFCC) (Mitchell et al. 2016) are models of care now recognised as capable of meeting the expectations and needs of both contemporary health services and the community. However, the expectation that critical care nurses will deliver compassionate patient-centred nursing (Jakimowicz & Perry 2015) may be difficult to meet as they balance the immediate biomedical needs of their patient with providing a compassionate presence (Kelleher 2006).

Compassion is a gauge of care quality that is not always present in healthcare (Francis 2013). Compassion has been defined as an emotive response to witnessing the distress or suffering of an individual and the counter response driving the need to relieve their suffering (Figley 1995). Compassion satisfaction is felt when critical care nurses are able to relieve their patients' suffering: the positive aspect of caring. Death rates are high in ICU (Beckstrand et al. 2017) and in this cure-focussed setting (Kelleher 2006), the sense of failure that critical care nurses (and other members of the team) may feel

when their patient dies despite their best efforts may result in compassion fatigue (Epp 2012), a concept comprised of burnout and secondary traumatic stress. Compassion fatigue is described as resulting from the effort of caring for those who are suffering (Figley 1995) and may occur throughout a nurse's career, impacting their professional quality of life. It may lead to disengagement, distancing and stress, and result in nurses leaving the workforce (Sawatzky, Enns & Legare 2015).

Critical care nurses rely on each other for emotional and practical support, encouraging and motivating each other in their challenging roles (Jakimowicz, Perry & Lewis 2017c). Delivery of direct patient care is a core aspect of critical care nurses' role. Critical care nurses are required to make numerous decisions while simultaneously working with advanced technology and undertaking complex activities, all in a high pressure environment (Abbey, Chaboyer & Mitchell 2012). Critical care nurses are exposed to extremely stressful and unpredictable situations and are vulnerable to fatigue (Jones et al. 2016) and stress-related consequences (Karanikola et al. 2014). Relationships within critical care have been reported as complex (Jakimowicz, Perry & Lewis 2017c) with the structure and culture of the unit playing an important role in delivery of professional and compassionate nursing care (Jones et al. 2016). Poor collaboration between nurses, physicians, colleagues and/or the management team can lead to nurses' moral distress and intention to resign (Karanikola et al. 2014), and can impact delivery of effective patient-centred nursing (Jakimowicz, Perry & Lewis 2017a). Therefore, it is important to examine the organisational structure and interrelationships occurring in intensive care units to better understand patterns of behaviour. In turn, this can help to develop recommendations to improve workplace

culture, enhance collaboration, communication, workforce retention and health professional wellbeing.

Bowen Family Systems Theory (BFST) focuses on patterns within a family or group of individuals with goals of defusing anxiety and increasing individual levels of differentiation and growth, resulting in more collaborative and healthy teams (Bowen 1978). Collaborative collegial and inter-professional relationships (Jakimowicz, Perry & Lewis 2017c), work practice congruency (Jones et al. 2016), teamwork and workplace culture have been identified as factors impacting delivery of compassionate patient-centred nursing, nurse wellbeing and workforce retention in intensive care units. The objective of BFST is to empower individuals through working with groups (Kerr 2012) such as managers and/or bedside critical care nurses, with a view to move away from a culture of blame and reactivity, to a healthier environment. As a consequence of the congruency between BFST purpose and goals and those of this program of work, the relevance and application of this Theory was examined to the close and sometimes intimate relationships that develop in the context of critical care.

7.4 Background

7.4.1 Bowen Family Systems Theory

7.4.1.1 Historical perspective

Bowen Family Systems Theory originated in the 1950-60's by Murray Bowen, an American psychiatrist. Bowen initially researched adult patients who suffered from schizophrenia and lived with their parents, defining the field of family therapy as

focussing on human interactions rather than symptomatic behaviours. He developed these ideas further into family systems theory (Kerr & Bowen 1988). Bowen discovered a unique relationship between mothers and their adult children leading to the initial concept of differentiation of self or separating thoughts from feelings (Bowen 1978). He advanced the work to add seven more concepts and develop the contemporary family systems theory (Kerr 2000). From early in its use, BFST has been applied to organisations; Bowen himself recognised anxiety within his own place of work (Kerr & Bowen 1988). He applied his theory to his own working situation in order to identify and alleviate anxiety for himself and his colleagues. Since then BFST has been adopted in many business structures (Chambers 2009; Kott 2014; Sagar & Wiseman 1982).

7.4.1.2 Components of Bowen Family Systems Theory

Bowen Family Systems Theory (BFST) is comprised of eight states that interconnect and outline chronic anxiety occurring within family or group relationships. The eight states of BFST include differentiation of self; nuclear family emotional systems; triangles; family projection process; emotional cut-off; multi-generational transmission process; sibling position; and societal regression. Each is briefly outlined in Table 7.1; relevant components are applied during discussion of intensive care units as a system.

Table 7-1 Bowen Family Systems Theory concepts

Bowen Theory concept	Definition
Differentiation of self	The ability to maintain a degree of autonomy within a group, or to keep thoughts and emotions (or emotional reactions) separate, especially when confronted with pressure of togetherness or peer group pressure.
Emotional Process	The notion that all mechanisms within a group may be generalised across other similar groups.

Bowen Theory concept	Definition
Emotional Cut-off	A consequence of emotional ‘stuckness’, or when the anxiety and distress due to intense closeness becomes intolerable and the individual reacts by becoming distant and unavailable emotionally.
Family Projection	Unresolved problems of the parents (or leaders) are projected onto the children (or organisation members). For example, blaming or scapegoating.
Multigenerational Transmission	Particular issues or problems persist within the unit despite leadership change.
Nuclear Family Emotional System	Patterns where individuals are functioning in parallel to others within the ‘family’ (team/ unit) group. A situation where each member of the group is impacted by the emotional atmosphere within the group. This may result in blending of fusing of individuals emotional selves.
Sibling Position	Ability to function is impacted by the individual’s birth order and number of other siblings.
Triangling	A configuration of three individuals, where the third person may stabilise the relationship. The third person alleviates the stress and tension that may exist between the initial two individuals. Triangles may interlock resulting in either increased or decreased anxiety within the system, depending upon the level of differentiation of individuals involved.

Bowen surmises that anxiety is the source of dysfunction (Kerr & Bowen 1988). His theory focuses on identifying patterns that develop in systems (or families) that may alleviate anxiety. Bowen (1978) suggests that the key trigger of anxiety in groups is one of perceived extreme closeness or distance within relationships; the degree of anxiety experienced within a group is underpinned by the level of stress and sensitivity to any given pattern that is generational, or transmitted from those more senior (Kerr & Bowen 1988). If individual members of the group react emotionally to relational dilemmas, rather than intellectually examining the perceived emotional demands, a chronic state of anxiety may become part of the system’s culture (Bowen 1978).

7.4.2 Application of Bowen Family Systems Theory - organisations

Bowen Family Systems Theory has commonly been used to understand and assist in family process; however, it has also been applied to many other systems where there is potential for intense dysfunction or anxiety (Bowen Center 2017). Triangling, emotional process and differentiation (Table 7.1) are the most common components of BFST applied to organisations (Bowen 2012). Most often, in healthcare, BFST has been applied to mental health clinical practice, caring for patients (Leon & Knapp 2008; Miller & Winstead-Fry 1982) and their families (Duba Sauerheber, Nims & Carter 2014; Haefner 2014) rather than to the health service itself. However, organisational change consultants have supported the use of this theory to better understand and manage workplace operations, with a view to improving relationships and productivity (Kott 2014).

7.4.2.1 Anxiety in the workplace

Anxiety is now more prevalent in the workplace than ever, due to the unprecedented rate of change and its multiple drivers such as technology, consumer expectations, rapid communication and higher education in the populations of advanced market economies (Kott 2014). This is important because employees' level of function is impacted by increasing anxiety within a work system (Kerr 2012). Anxiety was first examined by Freud in 1925, with Klein (one of his pupils) continuing his work (Armstrong & Rustin 2015). Menzies (1960) drew on Kleinian perspectives to examine anxiety in the hospital setting, specifically among nurses. She was surprised at the level of anxiety nurses endured in the work situation that she suggested aroused strong feelings of 'pity,

compassion, love, guilt and more anxiety' (Tutton & Langstaff 2015, p. 113). Of course, nursing has evolved since then, with changes in education, a more patient-centred approach, increased documentation, greater awareness of patient safety issues and performance targets (Tutton & Langstaff 2015); however, anxiety endures.

Many scholars have reflected on Menzies (1960) work, often comparing it to contemporary nursing (Cooper 2010; Lawlor 2009); others note she did not consider the system behind the anxiety, but rather focused on individuals within the system (Chernomas 2007). Papadopoulos (2015), for example, looked at Menzies' work through a lens that saw the source of anxiety as the dominant hierarchy of medicine contributing to the pressure nurses had to conform to and endure. Notwithstanding these critiques, anxiety levels for health professionals, and for critical care nurses in particular, have been recognised as particularly high, due to the closeness and intimacy required with patients who may or may not survive (Beckstrand et al. 2017; Menzies 1960).

Anxiety can be defined as a response to a threat, real or imagined (Kerr & Bowen 1988). According to Bowen's theory, differentiation and anxiety are processes explaining the functioning of a family or group, and BFST has been described as a 'map for managing' oneself within a system (Stern 2012) during periods of high anxiety. Less differentiated and more anxious individuals are less able to adapt to stress (Kerr & Bowen 1988). Their objectivity can be maintained during periods of low anxiety but as anxiety increases, perspective is often lost. High levels of stress and anxiety have been found to impact cognitive abilities (Figley 1995; Kott 2014), potentially affecting

problem solving and decision making - essential skills for critical care nurses to deliver safe and effective patient-centred nursing.

Symptoms of anxiety depend on the level of stress and adaptive ability of the individual. Bowen's theory suggests that an understanding of the emotional processes within the workplace takes some of the mystery from behaviours such as adaptiveness, reaction and response for which there may not appear logical explanation (Bowen 1978). This awareness, informed by Bowen's theory, may also assist management groups and healthcare services in the support of their critical care teams without being caught up in the emotional process. Bowen Family System Theory is a way of thinking about the social processes and interactions within intensive care units that may provide a distinctive understanding of how relationships work in this context. Application of BFST to the intensive care unit may provide an effective approach to alleviate or at least acknowledge anxieties in this often chaotic environment (Kott 2014).

7.4.2.2 Bowen Family Systems Theory critique

Bowen's theory has its critics. Some view BFST as paternalistic, and a large body of work was undertaken by feminist scholars in response to these claims (Knudson-Martin 1994). Nursing has a similar history, with medical dominance being aligned with paternalistic ideals (Germov 2014). Supporting this point, Deborah Leupnitz, a well-known psychoanalytic couples therapist, suggested Bowenian therapy focused on the mother as a catalyst to symptom development in children (Leupnitz 1988); others viewed overprotective mothers as being or causing un-differentiation. Some of these claims were clearly warranted, at least to some extent, as fathers were barely mentioned

in Bowen's early work. Conversely, other scholars supported Bowen's work, hailing it as a theory that fitted well with feminist practice in assisting women to meet the challenge of remaining connected with their family (or group), but becoming differentiated (Knudson-Martin 1994); having 'one's own voice' while still listening to others. Likewise, intensive care nurses want their voice to be heard, especially when advocating for their patient, and to be included in shared decision making around treatment plans and goals (Jakimowicz, Perry & Lewis 2017c).

A further criticism of BFST has been the lack of importance placed on feelings, focusing on rational objectiveness rather than the emotional processes so often used in therapeutic settings (Leupnitz 1988). However, Knudson-Martin (1994) found the experience of exploring the 'tapestry' of the family system emotionally powerful. This is not unfamiliar to nurses. Historically, 'ways of nursing' were passed from nurse to nurse, based on precedents and traditional models (Wiechula, Conroy & McLiesh 2016); a generational aspect also identified in healthcare. Although a profession now dominated by the rhetoric of evidence-based practice, the long tradition of experienced nurses 'showing the ropes' to junior nurses continues and is perpetuated in contemporary nursing (Wiechula, Conroy & McLiesh 2016). Evidence suggests that Bowen Family Systems Theory is a worthwhile form of therapy for individuals and groups, in families or any system, including organisations; empirical studies support the ideas and concepts of the model (Charles 2001). The basic principles of BFST may be used to map a framework aimed at supporting critical care nurses, improving their wellbeing and the quality of care they provide.

7.5 Data Sources

This paper is based on published literature and texts that focus on Bowen's Family Systems Theory and results of a constructivist study examining patient-centred nursing and compassion in Australian intensive care units (Jakimowicz, Perry & Lewis 2017a, 2017b).

7.6 Discussion

This paper examines the potential to apply BFST to nursing in the intensive care unit. Studying a family, system or group rather than an individual is a key element underpinning Bowen's theory; consequently, this discussion focuses on the intensive care unit as a group (family), with critical care nurses the index individuals (family members).

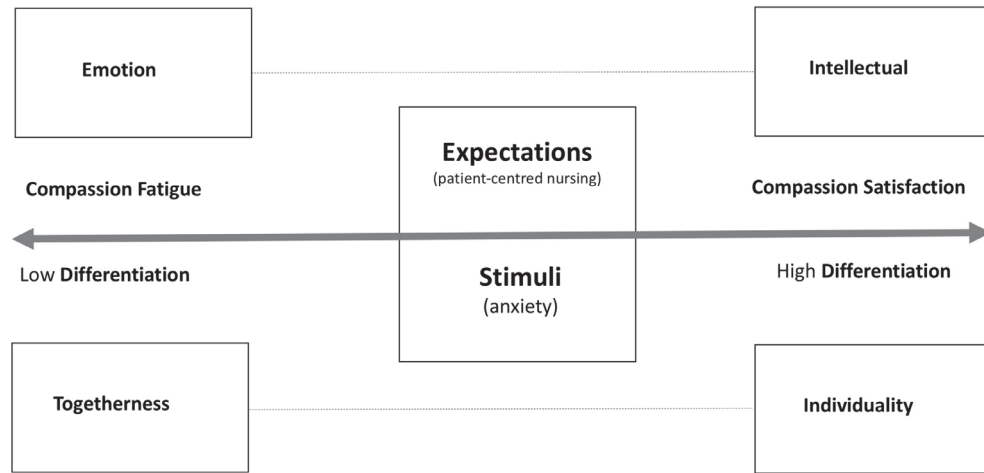
7.6.1 Recent study findings

Findings from a constructivist study that examined compassion and patient-centred nursing in critical care are used to explain how BFST may be applied in intensive care units. The authors surveyed and interviewed critical care nurses from two Australian general adult intensive care units of one Sydney metropolitan and one regional hospital in Australia in 2016. Participants completed the Professional Quality of Life Survey V5 (PROQOL) (Hudnall Stamm 2012) to determine their level and factors predictive of compassion satisfaction and compassion fatigue, and participated in individual interviews. Data from the quantitative phase were analysed using descriptive and inferential statistics (Jakimowicz, Perry & Lewis 2017a); qualitative analyses used

Charmaz's constructivist methodology (Charmaz 2014); themes were identified and theory developed (Jakimowicz, Perry & Lewis 2017b).

Findings revealed early to mid-career critical care nurses at higher risk of fatigue than their more experienced, older colleagues; place of work differentiated and post graduate education pointed to higher levels of compassion satisfaction (Jakimowicz, Perry & Lewis 2017a). Critical care nurses' experience of compassion satisfaction and fatigue influenced their delivery of patient-centred critical care nursing. They were not satisfied when not able to deliver the care they believed their patients needed and deserved (Jakimowicz, Perry & Lewis 2017b). Nurses travelled backward and forward along a continuum between moments of compassion satisfaction and of compassion fatigue (Figure 7.1). Workplace culture and relationships were significant to critical care nurses' experiences of compassion satisfaction and fatigue, and in their delivery of effective patient-centred nursing (Jakimowicz, Perry & Lewis 2017b). An over-arching, core category of 'expectations' emerged, signifying tension between critical care nurses' biomedical, clinical skills and knowledge against compassionate, patient-centred nursing. Subthemes explaining this tension included 'life in the balance', 'passion and pressure', 'understanding and advocacy' and 'tenacity and fragility'. Critical care nurses' experiences of compassion and patient-centred nursing within their role and their working environment can be considered by mapping the study findings to components of BFST.

Figure 7-1 Differentiation and expectations

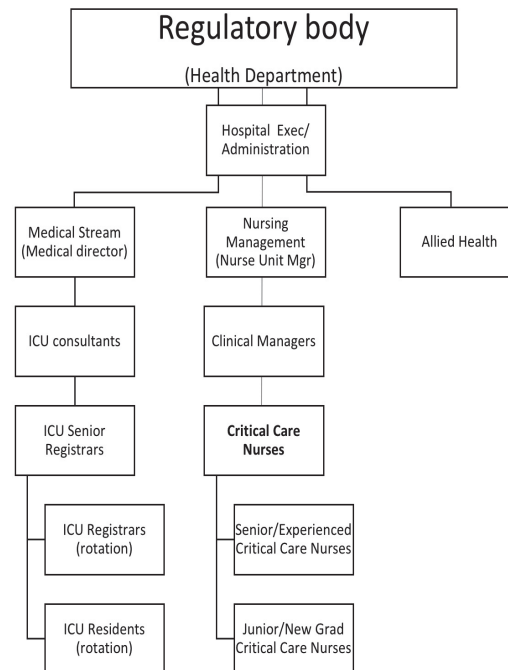


7.6.2 Bowen Family Systems Theory in the intensive care unit

The first step of BFST is to identify patterns of anxiety within a family or group (Bowen 1978). The intensive care environment is prone to episodic anxiety due to patients' immediate requirements for treatment for critical illness or injury. As a consequence of this atmosphere critical care nurses participating in the study felt the effects of anxiety experienced by their colleagues and other health professionals working in the intensive care units. Those interviewed explained feelings such as stress, distress, wanting to escape; all symptoms of anxiety within a group. The high standards and expectations they took as their own, and those they perceived others had of them, added to the pressure. Balancing biomedical interventions with compassionate patient centred nursing whilst managing multiple complex relationships was also anxiety provoking. These patterns of anxiety may impact compassion and patient-centred nursing in intensive care units.

Awareness of anxiety patterns and analysis of the emotional processes, including stimuli, reaction and response, can be facilitated through the general principles of Bowen's theory. Generally, symptoms of anxiety appear in the form of conflict, projection or illness (Bowen 1978). In a family situation, there may be marital conflict, and a child or children who may be the focus of projection and illness (Bowen 1978). In the case of intensive care, medical roles (such as physicians) could be represented as 'masculine' and nursing roles as 'feminine' due to the medical dominance paradigm and historical paternalistic ideals (Germov 2014). Conflict may occur between critical care nurses (Jakimowicz, Perry & Lewis 2017c), physicians (Aslakson et al. 2012; Hansen et al. 2009), management teams (Jakimowicz, Perry & Lewis 2017b) and/or patients and families (Engström, Uusitalo & Engström 2011) (see Figure 7.2 for ICU organisational structure). Newcomers or newly graduated nurses, the less established members of the group, are often objects of projection from managers or more experienced critical care nurses during stressful periods. This was reflected in the constructivist study, where early and mid-career nurses were found to be at higher risk of fatigue (Jakimowicz, Perry & Lewis 2017a); they voiced their dismay and feelings of burden as their responsibilities within the unit increased. Some or all of these manifestations may be expressed, dependent upon the level of stress and the responses of other members of the group. These symptoms were apparent in the constructivist study findings, where some nurses suffered compassion fatigue and others described feelings of anxiety and despair when they felt unsupported in providing biomedical care and patient-centred nursing simultaneously to their patient.

Figure 7-2 Unit organisational chart



7.6.2.1 Differentiation of Self

The second step in BFST entails identifying and maintaining an individual position in an anxious setting, or an ‘I’ position’(Bowen 2012). Differentiation of self is a concept that forms the basis of understanding maturity within a system. Put simply, it means the learned ability to think as an individual while remaining meaningfully connected to other members of a group (Kerr & Bowen 1988). It allows for healthy relationships where the individual may operate intellectually and emotionally independently without disengaging or distancing themselves (Bowen 1978). While the importance of the group is acknowledged, the individual is able to endure rejection, criticism and conflict, being less dependent on others emotionally. Self-differentiation is a measure of individuals’

intellectual or emotional functioning (Bowen 1976). Poor differentiation sees the individual requiring approval and acceptance from others for what they are thinking, doing and saying.

Differentiation, the cornerstone of BFST, may be applied to any work environment (Kott 2014). Behaviours such as disengagement, nonconformity to protocols or bullying are unacceptable and symptoms of a system suffering anxiety (Kerr 2012). Disengagement is a symptom of compassion fatigue; critical care nurses in the study experienced, on average, mid-range levels of compassion fatigue, with mid and early career nurses suffering more (Jakimowicz, Perry & Lewis 2017a). The individual work environment was an influence on their experience of compassion fatigue and satisfaction; this supports consideration of group-based ways of working, and the BFST focus on patterns that develop in groups as a way to diffuse anxiety.

Anxiety may impact individuals' level of perspective and function (Bowen 2012). Systemic rules, guidelines, professional and societal expectations trigger anxiety in some individuals (Kerr 2012), dependent upon their level of self-differentiation. According to study findings, critical care nurses perceived provision of patient-centred nursing as an expectation of the regulatory body and the management team. They saw themselves as expected to act and work autonomously. Self-differentiation allows critical care nurses to be able to meet this expectation. Well differentiated critical care nurses are likely to be more self-confident of their abilities to meet perceived expectations. Study findings revealed that more experienced critical care nurses reported lower burnout and increased compassion satisfaction. This could have been

due to their increasing differentiation as they became more confident in their ability to meet expectations and grew healthy relationships within the unit.

Individuals with post graduate education had greater compassion satisfaction (Jakimowicz, Perry & Lewis 2017a), which could align with higher differentiation leading to greater independence and more autonomous working within the group. Higher burnout was related to lower compassion satisfaction. Nurses described feelings of satisfaction when they felt respected, were able to provide effective compassionate patient-centred nursing, maintain professional boundaries, felt confident in their ability to meet their own, their patients' and the management team's expectations. These characteristics all point to greater differentiation, being able to separate thoughts from emotions in a positive and productive way. Greater compassion satisfaction may accompany lower burn out in more differentiated individuals, in an altogether less anxious group. Self-differentiation works to take the pressure off individuals as emotions about high self-expectations are taken out of the equation allowing a more logical and measured approach (Bowen 1976). The end result may be critical care nurses who experience greater compassion toward their patients, while maintaining professional boundaries.

7.6.2.2 *Triangling*

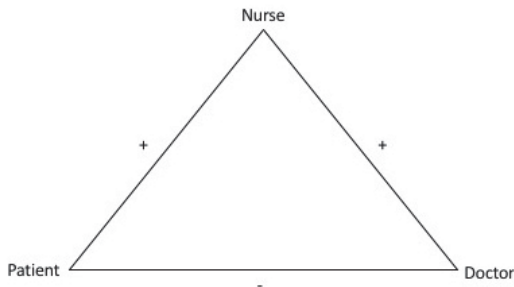
'Triangling' describes the fluid equilibrium of a three-person configuration or system. Triangled relationships can be continuous or generational, meaning that individuals can move in and out of triangle relationships within a group (Kerr & Bowen 1988). During calm times a two-person relationship may be stable but become strained when the

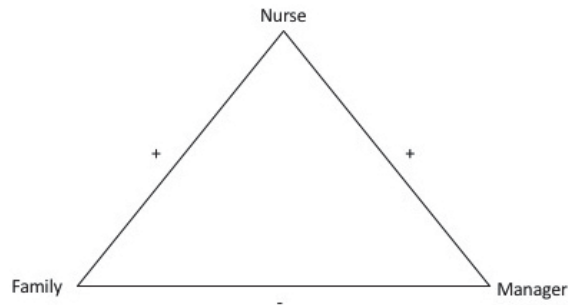
emotional environment becomes more stressful, requiring a third individual or entity to stabilise the situation. The level of comfort felt by each point of the triangle (or individual) is dependent upon the level of environmental stress. As anxiety levels increase, comfort levels may decrease and the emotional processes within a triangle relationship alter its characteristics (Kerr 2012). The intensity of ‘triangling’ differs for each group and over time as individuals change and adapt. Triangles may be a result of lack of differentiation, where emotional reactions are stronger than intellectual thinking, which may explain the variety of processes among different groups (Bowen 2012). ‘Triangling’ may result in ‘togetherness’, a term used by Bowen to describe individuals’ inclination to be connected and respond to directions from others (Kerr & Bowen 1988). Triangles, or relationships, may become interlocked and spread when anxiety levels are high (Kerr 2012). Examples of triangles in a critical care context are outlined in Table 7.2.

Societal as well as professional expectations may be components of a triangled relationship. Meeting expectations played a large part in the constructivist study of critical care nurses’ role (Jakimowicz, Perry & Lewis 2017b). The ability to develop a therapeutic relationship is expected of critical care nurses and an essential component of patient-centred nursing in any healthcare setting (Stein-Parbury 2009), including critical care (Jakimowicz & Perry 2015). At times, this may be compromised in intensive care as a large number of patients are sedated, intubated or cognitively impaired (Jakimowicz, Perry & Lewis 2017c). However, critical care nurses become creative and often get to know their patient through developing close relationships with family members (Jakimowicz, Perry & Lewis 2017c).

Therapeutic relationships with family or patients are often calming in a tense setting (hence the implementation of the Patient and Family Centred Care model), but in an anxious system, individuals may withdraw from outside relationships and attempt to compartmentalise or align themselves with others in the system. For example, critical care nurses may feel anxious about their workload, or about their enmeshed or fused relationships with their colleagues, physicians or the management team. This intense ‘togetherness’ and ‘emotion’ may snowball to increase anxiety within themselves and the team as a whole. Patients may become the centre of this projection process, as anxiety builds during these stressful periods. Critical care nurses reported that as their stress and fatigue increased, provision of compassionate patient-centred nursing was negatively impacted.

Table 7-2 Triangling examples

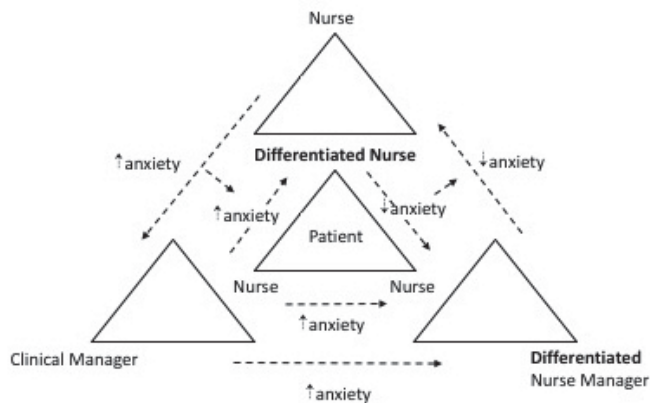

<p><i>Patient-nurse-doctor</i></p> <p>A nurse attempting to advocate for their patient’s treatment plan is caught in a patient-nurse-doctor triangle. As critical care nurses spend a lot of time with their patient, they know their patients well. Moral distress may occur if continuing treatment for a patient with a poor prognosis. If the nurse reacts emotionally when disagreeing a treatment plan outlined by the doctor, the nurse appears to be ‘taking the patients’ side’ emotionally. This triangle may meet a need in the nurse, but creates a situation of dismissal, endorsing medical dominance. A more differentiated nurse may use their biomedical knowledge to advocate for their patient in a more professional, less emotional manner.</p>



Nurse-family-manager

A critical care nurse caught in an intense situation with family members may actively recruit the involvement of a clinical manager. Conflict may still exist between the new players, so the nurse withdraws from the situation. The family may then attempt to draw the nurse back into the triangle to precipitate conflict between the nurse and clinical manager. When the anxiety decreases and the clinical manager withdraws, the family may then move closer to the nurse again, dismissing the clinical manager.

Interlocking Triangles



Nurse-clinical manager –Nurse Manager

Hospital administration set targets in-line with government policy (eg 4-hour Emergency Room rule). The clinical manager is accountable to the nurse manager and must enforce these targets. The critical care nurse may be pushed to meet these targets by the clinical manager. A well differentiated critical care nurse, while advocating for their patient must take an ‘I’ position (differentiated) in this situation, maintaining a calm stance, connected to their patient, without reacting emotionally. If less differentiated, anxiety may increase and a third or fourth person drawn in, forming an interlocking triangle. Dependent upon the level of differentiation within each individual the anxiety may increase if emotionally reactive, or decrease if responding in an intellectual manner. A well differentiated clinical manager would also take an ‘I’ position. Differentiation results in both critical care nurse and clinical manager finishing their shift without a negative response and the system, including the nurse.

7.6.2.3 *Emotional processes within intensive care*

Emotional process is the transmission of the parents' lack of differentiation to the child in a family situation (Kerr & Bowen 1988). This could align with a situation in which anxiety in the management team impacts bedside critical care nurses. 'Place of work' was revealed to be predictive of the extent of compassion satisfaction and fatigue nurses experienced. This is indicated by the outcomes for the level of anxiety within one unit compared to another, impacting critical care nurses' wellbeing and signifying differences in management team differentiation. *Multi-generational transmission* is a concept that may align with management styles within a workplace (Table 7.1). The different management styles in the two units where participants worked may have contributed to the predictive power of 'place of work' for both compassion satisfaction and fatigue. In any group or system each individual is a participant; members of the management team, in particular, are not able to dismiss their part in the success or demise of the team (Stern 2012). As anxiety builds at more senior levels it permeates through each member of the group. Relationships were important to participants of the study; they wanted healthy supportive connections including mentoring, practical and emotional support from their management team. Anxiety contributes to compassion fatigue, putting critical care nurses at risk, but from a systemic viewpoint, no one individual is responsible; the issue resides within the group (Kerr & Bowen 1988).

Bowen's theory suggests that the mechanics of an emotional system revolve around the interplay of individuality and togetherness. The way individuals think and behave may

be altered by the feelings and emotions experienced in the interplay of a two, three or four-person relationship (Bowen 1978). According to Kerr and Bowen (1988), this process is regulated by 'individuality' or 'togetherness'. Critical care nurses in the study confirmed the importance of relationships with their colleagues; collaboration within the work environment could be dependent upon the individual teams. Each person within the group may be impacted by the emotional atmosphere, resulting in fused, blended, unhealthy or healthy relationships (Kerr & Bowen 1988).

Emotional reactivity is the response to environmental events. For example, anxiety within an environment such as an intensive care unit may invoke emotional reactions of varying degrees. Bowen proposes emotional reactivity may move along a continuum, aligning with more or less differentiation, ranging from hyper to hypo activity with one extreme being emotional paralysis (Kerr & Bowen 1988) (Figure 7.1). Bowen (1976) suggests that the lower the degree of differentiation, the more intense fusion within/between relationships, leading to more emotive than intellectual reactions to situations of increased anxiety. 'Sibling position' and 'Emotional cut-off' (Table 7.1) are Bowenian concepts that align with emotional processes within intensive care. Examples of these concepts mapped to study findings are outlined in Table 7.3.

Table 7-3 Emotional process examples

Sibling Position

Critical care nurses with longer tenure or experience may be more differentiated than their less experienced colleagues; in the study, more experienced nurses had greater compassion satisfaction and less burnout. Early or mid-career nurses were more fatigued and may become an ‘identified’ problem, within the group, due to less differentiation, especially in times of increased anxiety (Bowen 1976).

Emotional Cut-off

Critical care nurses experienced greater engagement and displayed more care toward their patient when they felt supported by their colleagues and management team, resulting in compassion satisfaction. These nurses experienced less capacity for compassion toward their patient where they perceived they were impeded from their expectation of providing patient-centred nursing.

An example of Emotional cut-off based on qualitative data (Chapter Six) follows: Critical care nurses may have experienced moral distress or emotional turmoil when becoming close to patients and their families prior to either withdrawal or continuance of treatment which they did not concur with, or a death or conflict; as a result, they may distance themselves from future patients as a form of self-protection. Conscientious and engaged nurses, if they felt unsupported by their management team in times of crisis or high anxiety, became disengaged and cynical about their work. These are symptoms of compassion fatigue. Individuals develop patterns of coping with increased anxiety, fused or unhealthy relationships, and for some this entails ‘cutting off’ emotionally.

7.7 Implications and recommendations for nursing

Critical care nurses are key members of the intensive care unit and their wellbeing may be impacted by the anxiety levels that exist in the healthcare system or unit where they are working (Bowen 2012). In turn, their capacity to provide compassionate patient-centred nursing may also be affected. Working with individual critical care nurses to improve anxiety levels within these groups may be important but given their strong affiliations with the systems, such as an intensive care unit, working at a system level initially may be more powerful (Corey 2008).

The goal of Bowen's therapy is to decrease blaming and reactivity and increase individual members' differentiation and self-responsibility. Once the system anxiety has been identified (as previously discussed) Bowen's therapy can be administered across the different subgroups within the group (Kerr 2012), for example, managers and the bedside critical care nursing workforce. Primary benefits of working with a group include instillation of hope, universality, altruism, imitative behaviour, interpersonal learning, cohesiveness and catharsis (Yalom & Leszcz 2005). Therapy consists of three broad phases: 1) helping individuals identify patterns of behaviour/anxiety within the system; 2) assisting individuals to resist the pull of 'togetherness', remaining strong to themselves and not returning to old habits; 3) educating individuals in differentiating themselves from the system, increasing their self-responsibility and decreasing anxiety. Bowen's theory is not focussed on technique; rather it provides a basis on which to structure therapy, dependent upon the system (Kerr & Bowen 1988).

According to Bowen (2012), identification of anxiety within a system and assisting team members in greater differentiation are important factors in improving the workplace. The episodic and underlying causes of anxiety within an intensive care unit can be attributed to the acuity of patients, the essential immediacy of treatment, pressures around bed management and adherence to healthcare system guidelines and protocols. Recognition of emotional processes within the system is a fundamental step in improving workplace culture (Bowen 2012).

Assisting critical care nurses to resist the pull of 'togetherness' will allow for development of greater differentiation. This is a progressive interplay, moving between autonomy (individuality) and connectedness (togetherness) (Kerr & Bowen 1988).

Differentiation is a platform on which to grow and develop personally and professionally. Bowen conceptualises individual functioning as occurring along a continuum, from those least to most differentiated (Kerr & Bowen 1988). Similarly, the constructivist study found that critical care nurses moved backward and forward along a continuum between compassion satisfaction and fatigue (Figure 7.1) (Jakimowicz, Perry & Lewis 2017b). Self-differentiation aligns with how nurses experience compassion satisfaction and fatigue. Experienced at various times throughout a critical care nurse's professional life, some recover from the fatigue to recapture their compassion satisfaction (Coetzee & Klopper 2010), while others are less resilient. Better differentiated nurses may still suffer symptoms when stressed or at times of high anxiety, but they recover well. Less differentiated nurses may find it more difficult to recover; may leave the profession or become more unwell.

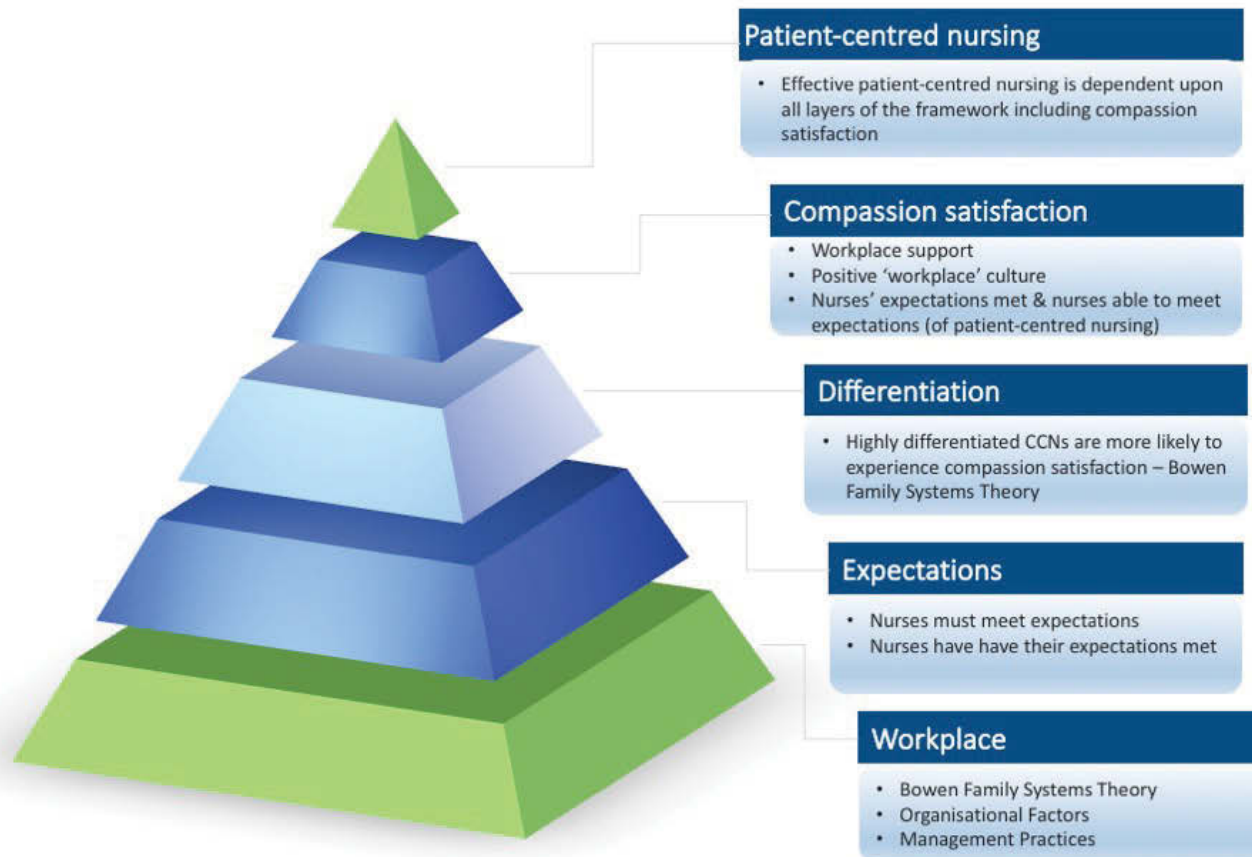
Self-care, reflective practice and clinical supervision are some strategies often suggested to assist healthcare workers cope in their highly stressful roles (Brunero & Stein-Parbury 2008; Chan & Perry 2012). Reflective practice is in line with Bowen's system, however the emphasis is on the sensitivity that individuals have toward and between each other biologically. This sensitivity is described by Bowen as the 'emotional system' (Bowen 1978); a concept important to family systems theory providing a basis on which to understand human behaviour, by examining patterns of stimuli and response. A developed understanding and acknowledgement of these emotional processes, as individuals and within the intensive care unit, is essential in achieving a more positive workplace culture (Bowen 2012).

7.8 Conceptual framework

Conceptual frameworks provide a means to explain and understand what exists. In other words, a conceptual framework links existing knowledge with newly formed knowledge that has evolved from examination of specific concepts (Crookes & Davies 2004). Sound and well organised conceptual frameworks provide an insight into how conclusions have been made (Crookes & Davies 2004) and provide an easily understood script connecting conclusions to recommendations.

This framework brings together this program of work and describes what is currently known about patient-centred nursing and compassion satisfaction and fatigue in Australian intensive care nurses, before highlighting new knowledge generated from this research. As the researcher, it was my intention to carefully examine the concept of patient-centred nursing in the context of intensive care and thoroughly explore any possible relationship between compassion satisfaction and fatigue and patient-centred nursing; examining the processes of patient-centred nursing and compassion in intensive care nursing. A concept analysis of patient-centred nursing in the context of intensive care (Appendix 1) allowed me to carefully unpack or deconstruct patient-centred nursing in the context of the critical care environment. This close examination resulted in a clear outline of the concept's antecedents, attributes and consequences, providing a firm grounding to move into an integrative literature review of barriers and facilitators of delivery of patient-centred nursing (Appendix 3). The concept analysis and literature review were the first steps in constructing the conceptual framework described in this chapter. A diagram representing the conceptual framework is illustrated in Figure 7.3.

Figure 7-3 Conceptual framework



The framework comprises five levels, with each level drawn from results of the research. Concepts include: workplace, expectations, differentiation, patient-centred nursing and compassion. Existing knowledge and new knowledge (Bowen Family Systems Theory alignment to intensive care nursing) is threaded through the framework. Each level is dependent on another with workplace factors providing the foundation at the base of the pyramid. According to the critical care nurses, organisational factors and management practices provided the basis for both their successes and failures in fulfilling their role and satisfaction or fatigue (Jakimowicz, Perry & Lewis 2017b). Implementation of Bowen Family Systems Theory in the 'workplace' provides a foundation on which to build a positive workplace culture (Bowen 2012).

The second layer of the pyramid represents the critical care nurses' expectations, of themselves and of others including their management team. The third level outlines differentiation (thinking intellectually rather than emotionally reacting to a situation or event), a concept seeing individual critical care nurses empowered in their role and contributing to their own success and satisfaction, as well as enhancing the workplace culture. The second and third levels of the pyramid may interchange dependent on the level of differentiation nurses achieve. The last two layers form a virtuous cycle, where delivering patient-centred nursing enhances compassion satisfaction and compassion satisfaction supporting delivery of effective patient-centred nursing. This hierarchical figure signifies a pivotal point, with critical care nurses balancing movement backward and forward along a continuum between experiencing either compassion satisfaction or compassion fatigue. Each concept within this pyramid specifies a balancing point for critical care nurses' experiences of compassion satisfaction and fatigue.

7.9 Limitations

Bowen Family Systems Theory was conceptualised in the 1960's and could be considered 'dated' in dealing with organisational issues in contemporary healthcare. However, BFST has evolved over time, has been easily adapted by organisational change consultants across many settings and successfully integrated into those settings to improve productivity and staff wellbeing (Kerr 2012; Kott 2014). Additionally, any anxiety nurses may be experiencing outside the workplace may impact the way they approach other equally stressful situations. Data were not collected on this aspect of the nurses' lives as part of this study, however it is a consideration worth researching in the future.

7.10 Conclusion

Application of BFST to the intensive care unit may be used as a tool to improve health professional wellbeing, workforce retention and patient satisfaction. This paper has made plain the importance of having a clear understanding of the anxiety that exists within the intensive care unit as a system, so that individual members of the system, such as critical care nurses, can be supported appropriately. Anxiety levels within organisations impact the wellbeing and functioning of members within that system (Bowen 1976). Critical care nurses rely on each other and their management team for support to ensure they meet the expectations of their role. Where organisational factors and management approaches fall short in supporting critical care nurses to meet their expectations BFST can offer a perspective on the social processes within the unit that impact nurse wellbeing and quality of care. Every system, whether a family, business or

healthcare unit, functions differently; assessment and intervention to improve workplace culture and relationships should be based on the unique characteristics and needs of the group. BFST offers one approach to achieve this.

A summary of conclusions aligned with the conceptual framework is presented in the next chapter 'Conclusion and Recommendations'.

7.11 Chapter summary

New knowledge emerging from this program of work has been presented in this chapter. Bowen Family Systems Theory (an existing theory) has been aligned with intensive care nursing. The novelty of aligning Bowen Family Systems Theory to intensive care nursing has been further illustrated by the formulation of the conceptual framework making it clear how important a stable and positive workplace culture is in supporting critical care nurses in provision of compassionate patient-centred nursing.

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8 Recommendations and conclusion

8.1 Chapter introduction

This chapter serves to conclude this dissertation by summarising primary findings and bringing the practical implications of the study into clear focus before acknowledging the strengths and limitations of this program of work. Finally, recommendations for practice informed by discussion of the framework are outlined.

8.2 Primary findings

The overarching aim of this program of work was to develop a conceptual framework to exemplify the processes involved in patient-centred nursing, and compassion satisfaction and compassion fatigue in the context of critical care nursing in Australia. This thesis reports the development of a conceptual framework linking existing and newly created knowledge with newly emergent knowledge about the concepts. Each chapter of this thesis answered research questions and the key findings are summarised below.

8.2.1 Concept analysis

The Concept Analysis answered the first research question *How is patient-centred nursing in intensive care defined?* Patient-centred nursing in the context of intensive care differs to other areas of healthcare. Patient-centred nursing in the intensive care unit (ICU) incorporates antecedents of a physiologically compromised patient requiring

biomedical intervention, a professional and competent nurse and organisational support. Defining attributes include maintenance of patient identity by a compassionate and professional nurse exercising biomedical expertise. Its consequences involve patient satisfaction, positive patient experience, nurse job satisfaction and better nurse workforce retention.

8.2.2 Integrated literature review

Following the concept analysis, an integrative literature review was conducted to answer the second research question: *What acts as a facilitator or barrier to nurses' provision of patient-centred-nursing in the intensive care unit (ICU)?* It revealed that factors that act as barriers rather than facilitators to critical care nurses fulfilling patient-centred nursing were prominent. Five themes were identified: nurse identity, organisation, communication, relationships and ideology of ICU. The critical care environment and complex challenges faced by critical care nurses may compromise their ability to provide effective patient-centred nursing.

8.2.3 Cross-sectional survey

The quantitative phase of this work answered the third research question: *To what extent do Australian ICU nurses experience compassion satisfaction and compassion fatigue and what are the predictive factors?* Overall, participant critical care nurses in Australian intensive care units participating in this study had mean scores within the 'average' or mid-range (according to Hudnall Stamm (2010)) for compassion satisfaction and fatigue. Bivariate correlations and multiple linear regression tests confirmed predictive and contributing factors to compassion satisfaction and fatigue

include workplace, education, tenure, age and experience. Early to mid-career critical care nurses were at greatest risk. Working relationships and collaboration were important to critical care nurses' level of compassion satisfaction and fatigue.

8.2.4 Qualitative enquiry

This phase of the program of work serves to answer the research question: *How does the intensive care nursing role impact critical care nurses' feelings of compassion-satisfaction and compassion-fatigue?* The experience of compassion satisfaction or fatigue impacts the ability to deliver compassionate patient-centred nursing. Moments of compassion satisfaction and compassion fatigue may occur along a continuum, keeping time with critical care nurses' expectations being met and their ability to meet perceived expectations (theirs as well as others). When expectations are met compassion satisfaction is enhanced. However, when critical care nurses perceive they are not meeting expectations or their expectations are not met, they experience more moments of compassion fatigue.

8.2.5 Application of Bowen Family Systems Theory to intensive care nursing: a discussion

Chapter Seven outlines an existing theory, Bowen Family Systems Theory, that when applied to intensive care nursing, assisted in answering the last research objective: *To identify strategies to assist critical care nurses' provision of patient-centred nursing.* This innovative approach has resulted in new insights into processes surrounding patient-centred nursing, compassion satisfaction and compassion fatigue in intensive

care nursing, and has contributed to the development of the conceptual framework, the production of which fulfilled the overarching aim of the study.

Bowen Family Systems Theory focuses on patterns within a group, aiming to defuse anxiety and empower individuals. This focus is three-phased: 1) helps individuals identify patterns of behaviour/anxiety within the unit; 2) assists individuals to resist the pull of ‘togetherness’, staying strong to themselves rather than returning to old habits; and 3) educating individuals in the process of differentiating themselves from the system, empowering them in self-responsibility and decreasing anxiety. Workplace culture and relationships play significant roles in critical care nurses’ compassion satisfaction and compassion fatigue experiences as well as in their delivery of effective patient-centred nursing. The application of Bowen Family Systems Theory to intensive care nursing may assist understanding of the anxiety within the unit and the impact this has on nurses’ experience of compassion satisfaction or fatigue. Application of this theory informed development of a conceptual framework with a foundation of workplace, then layers of expectations, differentiation, patient-centred nursing and compassion. This conceptual framework provides an evidence base on which to formulate and develop strategies to enhance compassion satisfaction, nurse wellbeing and ultimately patient experience of intensive care.

8.3 Strengths and limitations of this study

All research methodologies have their limitations. Within this mixed-method study, my choice to use Constructivist Grounded Theory methodology and to incorporate a quantitative phase has resulted in many lively discussions. I acknowledge the

controversy in this regard, especially to purist Grounded Theory experts who support the use of one single approach, rather than a mix of approaches. Nevertheless, the use of the Charmaz (2014) approach resulted in ‘all data’ contributing to the development of a conceptual framework to provide a rich understanding of the processes of patient-centred nursing, compassion satisfaction and compassion fatigue in the context of intensive care. At the beginning of my research journey I was fortunate to attend a Constructivist Grounded Theory workshop. I was able to talk through my methodological stance with Kathy Charmaz, and with her encouragement my resolve was strengthened to continue.

Additional limitations were acknowledged in each phase of the study. For example, in the concept analysis (Chapter Two) the acknowledged weakness of the Walker & Avant (2011) methodology in drawing meaning in literature was recognised (Paley 1996). However, the authors point out that the intention behind their method and its use as an introductory tool in development of theory and knowledge is to encourage thinking and understanding of concepts. Similarly, Whittemore and Knalf (2005) have been criticised for their lack of guidance on methods of data analysis for an integrative review. To redress this deficit, an established method of qualitative analysis was adopted. Limitations acknowledged in the quantitative phase of the study included sample size (n=117) and participation rate (58.6%) leaving the generalisability and transferability of findings a matter for the reader’s judgment. Nonetheless, these sites and studies represented a microcosm of Australian critical care units.

Vocabulary choices may also be seen as a limitation of this study. The choice to use the phrase ‘patient-centred’ rather than ‘person-centred’ was not taken lightly. The

justification is outlined in Chapter One, after consultation with an expert linguist. The consequence of this choice has been dissemination of the work in the critical care arena without being asked to make adjustments to language, as it suits the study context.

8.4 Recommendations

The purpose and objective of study recommendations is to enhance compassion satisfaction. Compassion satisfaction is important for enriched nurse engagement, wellbeing and a more positive patient experience, but also acts as a protective factor to deter compassion fatigue (Chapter Five). The layers of the conceptual framework will be briefly outlined as proposed recommendations are discussed. Recommendations that have been drawn from the findings of this program of work are based on underlying principles outlined in Table 8.1.

Table 8-1 Recommendations: underlying principles

- The purpose of the thesis is to guide organisations into implementation of interventions to enhance critical care nurses' experience of compassion satisfaction and ease compassion fatigue to enable successful delivery of patient-centred nursing.
- The recommendations consider the wellbeing of critical care nurses at the bedside, team leaders, other health professionals and the patient and their families/significant others.
- The recommendations are based on Bowen Family Systems Theory applied to intensive care as a system/group with the goal of improving workplace culture.
- The recommendations reflect the importance of expectations, how and whether they are met, to critical care nurses' wellbeing and delivery of patient-centred nursing.
- The recommendations could be introduced across intensive care units in a range of locations around Australia and possibly more widely.
- The recommendations are clear and concise and able to be implemented in current critical care environments.

8.4.1 Recommendation One

Develop initiatives to improve organisational culture. Roll out professional development packages to management and leadership teams, providing a framework for identifying and understanding anxiety, emotional processes and patterns of behaviour within the workplace (as well as within their own individual ways of working).

The unit where critical care nurses work was found to be a predictor of compassion satisfaction (Chapter Five). ‘Workplace’ is the foundational layer of the conceptual framework (Figure 7.4 page 228) on which all the other layers rest. Positive workplace culture and practices are key to enhanced compassion satisfaction and delivery of patient-centred nursing (Chapter Six). Management practices, unit culture and environment vary within health districts, including staffing, workload and ways of working (Duffield et al. 2011). Kerr (2012) suggests that every workplace operates differently based on the unique characteristics and needs of the group. However, when there is dysfunction or dissatisfaction among the group, management practices and ways of working may need examination (Bowen 1978). Investigating individual workplace culture and ways of working is justified and an important component that could include exploring existence and operation of human resource policies and practices like those that govern staffing, rostering and leave allocation; important matters for critical care nurses (Chapter Six).

Management practices and emotional support impacted critical care nurses’ experience of compassion satisfaction (Chapter Five). Critical care nurses felt impeded in delivery of patient-centred nursing if they were not provided with the necessary support,

encompassing human (emotional) support, equipment and resources (Chapter Six). A large number of critical care nurses participating in this research stated they relied on support from their management team (Chapter Six); this was reinforced in the literature review (Chapter Three) and backed up by the intensive care patient-centred nursing concept analysis, where organisational support was identified as an antecedent to effective delivery of patient-centred nursing (Chapter Two). A unit with well differentiated management team members and critical care nurses will be more functional (Charles 2001) and communicate and collaborate more effectively (Kerr 2012), providing a foundation on which to build positive workplace culture, meet expectations of all concerned and enhance compassion satisfaction.

Organisational factors may have contributed to critical care nurses' greater experience of compassion satisfaction at one unit compared to another. As outlined in Chapter Seven, anxiety within organisations impacts all its members (Bowen 1978), and, in healthcare, also patient outcomes (Duffield et al. 2011). Critical care nurses are key members of the intensive care team and their functioning (Bowen 1976; Figley 2002) may be impacted by anxiety within the unit. Identification and understanding of underlying anxiety within the unit may support the management team to provide a stable and supportive culture for the individual critical care nurses to meet the expectations they have of themselves and of their role (Chapter Seven).

'Expectations' comprise the second layer of the conceptual framework, sitting between 'workplace and 'differentiation'. Reciprocity of expectations enhances compassion satisfaction if critical care nurses meet expectations of themselves (by completing all tasks, delivering care expected of them to their best of their ability) *and* they have their

expectations met by their colleagues, management team and the community. If expectations are not met or they feel impeded in meeting expectations they feel fatigued. Improved self-differentiation (the ability to respond intellectually rather than react emotionally) is an important component of Bowen Family Systems Theory (BFST) and may contribute to individual nurse wellbeing as well as a more positive culture (Bowen 1976). A more collaborative culture may assist critical care nurses in advocating for their patients, specifically having a 'voice' in decision-making, treatment and care plans. Bowen Family Systems Theory (BFST) interventions provide a platform to initiate change, improve individuals' function and provide a positive workplace culture. These benefits are conducive to assisting critical care nurses meet the expectations of their role in a supportive environment.

The first phase in Bowen's therapy is to identify patterns of behavior and anxiety within a work system (Bowen 2012). An initiative for organisational culture change could include the development of a package delivered to management and leadership teams, to identify anxiety, emotional processes and patterns of behavior of individuals and groups within the unit. As discussed in previous chapters, critical care nurses perceived themselves as under significant pressure (Chapter Six), and some critical care nurses reported suffering recurring compassion fatigue (Chapter Five). Factors obviously impacting their anxiety and contributing to their patterns of behavior and emotional processes include provision of emergency biomedical treatment to critically ill patients, continual vigilant monitoring and managing complex relationships around a crowded bed space. Anxiety (Menzies 1960) and compassion fatigue (Hegney et al. 2014) are well-known phenomena occurring in both historical and contemporary healthcare

systems, impacting critical care nurses' capacity to be compassionate toward their patients or each other (Chapter Six).

Identification of anxiety, emotional processes and patterns of behaviour within a group may lead to instillation of hope, universality, altruism, imitative behaviour, interpersonal learning, cohesiveness and catharsis (Yalom & Leszcz 2005) assisting individuals to increase differentiation and self-responsibility.

8.4.2 Recommendation Two

Develop and roll out professional development education packages and/or workshops to critical care nurses providing a framework for understanding and increasing self-confidence and differentiation, empowering them in their role.

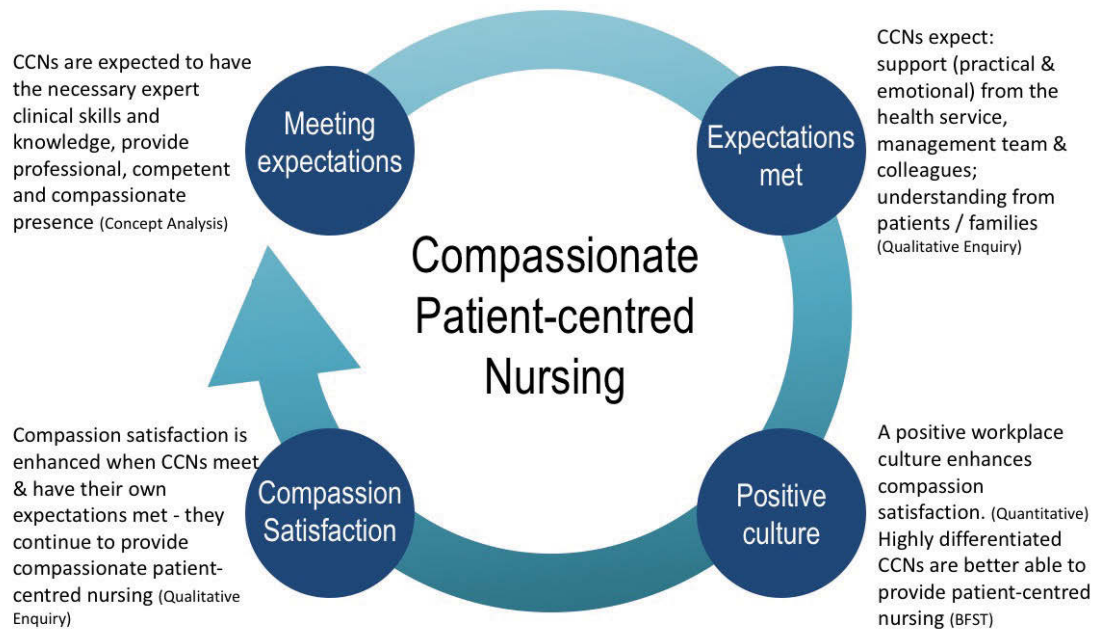
The purpose of this recommendation is to empower individual nurses, with a three-fold benefit of: 1) enhanced nurse wellbeing; 2) enhanced compassion satisfaction; and 3) building a positive workplace culture.

The next phase of Bowen's therapy involves the individual (the critical care nurse) within the unit. The recommendation is that they are provided with the tools to increase self-differentiation (the ability to think intellectually, rather than react emotionally to a situation or event). Increased self-differentiation improves the functional level of the individual (Charles 2001). Provision of this type of education is a form of self-care and relates to the first three layers of the conceptual framework, especially 'expectations', supporting compassion satisfaction and patient-centred nursing.

The importance of supporting critical care nurses in their provision of patient-centred nursing is also recognised and supported in other research (Jones et al. 2016) but it does not always translate into practice (McCormack & McCance 2016). Change in culture or practice is a shared responsibility of all members of the group or unit (Jones et al. 2016; Kerr & Bowen 1988). Critical care nurses participating in this research viewed patient-centred nursing as an *expectation* of their role (Chapter Six), confirmed in job descriptions and international guidelines (ACCCN 2016; WHO 2014). Critical care nurses experienced moments of compassion satisfaction where there was reciprocity in meeting expectations: if they met their own expectations by providing effective patient-centred nursing (completed all tasks and delivered care expected of them to the best of their ability) and their expectations of colleagues and the management team were met (Chapter Six). Critical care nurses' expectations of themselves incorporated the intensive care patient-centred nursing framework (Chapter Two). High differentiation assists critical care nurses cope with anxiety, complex relationships and other barriers, to meet the requirements outlined in the patient-centred nursing framework and to meet their own expectations. A virtuous circle of patient-centred nursing and compassion satisfaction framed around expectations exists (illustrated in Figure 8:1); when expectations are met all round, workplace culture and compassion satisfaction are enhanced and delivery of patient-centred nursing is achieved. If critical care nurses are not able to provide patient-centred nursing, meet perceived expectations or feel impeded in this regard, workplace culture declines and they are likely to become fatigued, breaking the circle.

Figure 8-1 Patient-centred nursing and compassion satisfaction

Patient-centred Nursing and Compassion Satisfaction



Differentiation is a cornerstone of Bowen's theory (Kerr & Bowen 1988) and pivotal to understanding dynamics and relationships within a group or system (Bowen 1978). The well differentiated individual is able to separate emotion from intellect or cognition; respond intellectually rather than react emotionally (Bowen 1978). Bowen (1978) advocated that the higher the degree of differentiation the better the understanding of group relationships. Empirical evidence suggests that higher levels of differentiation in individuals predict lower levels of anxiety and better adjustment to situations (Hill, Hasty & Moore 2011); lower levels of anxiety and an understanding of emotional processes in working relationships are fundamental to improving workplace culture (Bowen 2012).

Early to mid-career nurses were found to be at the greatest risk for compassion fatigue (Chapter Five). Early to mid-career critical care nurses may increase their differentiation level through education, resulting in increased self-confidence and less dependency on others' approval (Hill, Hasty & Moore 2011). Currently vulnerable nurses may learn to operate intellectually and emotionally independently (Hill, Hasty & Moore 2011), rather than developing fused (or unhealthy) habits and relationships (Bowen 1978), disengaging or distancing themselves due to specific experiences or incidents that create anxiety (Hill, Hasty & Moore 2011). As individual members of the team become more differentiated the group as a whole benefits with reduced workplace anxiety and improved workplace culture (Kott 2014).

To achieve this recommendation participation should be mandatory and include individual and group work based on self-reflection and teamwork. Operationalisation may involve follow up interventions such as daily team briefings, reflective practice (Bowen 2012) or incorporating the Bowen concepts into clinical supervision. Critical care nurses (and other health professionals within intensive care) would be exploring a deeper understanding of themselves, as individuals and realising the impact of their own reactivity and behaviour on the team as a whole.

8.4.3 Recommendation Three

The initiatives of Recommendations One and Two, once fully developed, delivered, evaluated and modified as required to achieve their aims, need to be embedded programs within the workplace. These programs need to be managed in ways that make them sustainable as part of the ongoing team support, and not one-off activities.

This recommendation supports all layers of the conceptual framework ensuring long term benefits; integration of and follow up cultural change interventions such as BFST within the unit may grow a more collaborative, respectful and supportive environment (Charles 2001; Kerr 2012; Kott 2014). Supporting the recommendations by scaffolding Bowen therapy into the unit culture at all levels in an immersive fashion may achieve stronger long-term results.

8.4.4 Recommendation Four

Support critical care nurses in postgraduate education and provide structured educational opportunities for critical care nurses to remain current with ever changing technology and research.

Recommendation Four relates to the ‘expectations’ layer of the conceptual framework. Critical care nurses with postgraduate qualifications experienced more compassion satisfaction than those without (Chapter Five). Critical care nurses expect to be supported, both emotionally and practically, with access to education, collegiality, collaboration and teamwork (previously discussed). Post-graduate education should be encouraged, supported and available in critical care nursing. Workforce Standards set by the Australian College of Critical Care Nurses recommend a minimum of 50% of critical care nurses in every unit have a relevant postgraduate qualification (ACCCN 2016). Sponsorship, study leave and support from healthcare services could aid critical care nurses in attaining postgraduate qualifications. Some centres already support these measures, dependent upon available resources to release staff. Structured educational opportunities and resources to enable critical care nurses to provide safe biomedical

treatment and interventions may provide confidence (Hegney et al. 2014), incentive to stay in the workforce (Sawatzky, Enns & Legare 2015) and may alleviate compassion fatigue, enhancing compassion satisfaction (Chapter Five).

8.4.5 Recommendation Five

Provide critical care nurses with time (away from the bedside) for self-care activities. These activities should align with the BFST philosophy to empower, develop differentiation, build confidence and resilience.

This recommendation also aligns with the ‘expectations’ layer of the framework. Critical care nurses require support in self-care, especially early to mid-career nurses as they were found to be more at risk of fatigue compared to their older, more experienced colleagues (Chapter Five). Critical care nurses should be provided with time away from the bedside for self-care (such as education packages previously recommended, structured self-care programs or forums to discuss the emotional side of their role with other like-minded staff (Goodrich 2014)); other researchers also advocate for this (Jones et al. 2016). This could incorporate a peer support program where nurses provide an avenue for one-on-one peer support. Critical care nurses participating in this study spoke of their need to have time to share their experiences with each other (Chapters Three and Six). They were not necessarily asking for a formal debriefing space, but one where they felt safe discussing their feelings and emotions (Chapter Six). Effective processes might incorporate an informal space where critical care nurses (and possibly other health professionals) can discuss social and emotional aspects of caring for their patients in a safe, but structured forum. This type of intervention has been found

extremely beneficial in supporting healthcare professionals to gain an understanding of both the rewards and challenges (Goodrich 2014) of provision of patient-centred nursing and may assist by meeting critical care nurses' expectations. Critical care nurses experience compassion satisfaction when they meet and have their expectations met (Chapter Six); they also have greater capacity for compassion toward their patient.

Critical care nurses participating in this research wanted improved collaboration and communication; to be given a voice within the team, and autonomy; to be understood, respected and provided with time for self-care. Each of the above recommendations supports these aspects and links back to the foundational 'workplace' layer of the conceptual framework.

8.5 Future research and professional development

In the process of examining patient-centred nursing and compassion satisfaction and fatigue in intensive care a number of complex issues were raised that should be explored further. The study clearly indicates that compassion satisfaction and patient-centred nursing are entangled or intertwined, where each relies on the existence of the other. Patient-centred nursing and compassion satisfaction (supported by the foundational layers of the conceptual framework) are pivotal to nurses' movement along the continuum between compassion satisfaction and compassion fatigue.

Critical care nurses participating in this research described a 'disconnect' between those in management positions and the nurses at the bedside (Chapter Six). It is important for members of the management team to consider this. Menzies (1960) suggested that more senior nurses distance themselves from direct patient care as a form of protection or

defense against the stress that occurs due to the required intimacy of the role, leaving the nurse closest to the patient exposed to high emotional pressure (Campling 2015). This pressure should be a shared one of the unit (Jones et al. 2016), and critical care nurses given the essential protective measures, such as opportunities to enhance compassion satisfaction. Further research into a better understanding of the disconnect between management and bedside nurses may lead to development and testing of interventions or strategies that could bridge this gap.

Critical care nurses expect to be treated with respect and understanding from the management team, other health professionals, their colleagues and patients and families (Chapter Six). Therapeutic interventions in line with BFST may assist in this regard. However, educating patients and families about the critical care nurses' role requires further research to identify ways to help them have a realistic understanding of intensive care and the role that critical care nurses play in caring for their family member or friend.

Critical care nurses expect to be included in conversations about treatment goals and decision-making for their patients (Chapters Three and Six). Critical care nurses expect to be able to effectively advocate for their patient (Chapter Two), but often find themselves left out of family conferences, or decisions about the patient they 'know'. They understand the legal and ethical parameters within which physicians work, however they feel distressed when treatment has continued for patients for whom they deem a poor prognosis, without any consultation (Chapters Three and Six). Critical care nurses often feel they lack a 'voice' in the highly medicalised environment of intensive care; a more collaborative and positive work culture may ease this issue. Further work is

required to develop a more structured approach to communication between physicians, patients, allied health and critical care nurses in family meetings and other media, to improve communication and develop better avenues for patient advocacy.

Study findings indicate the potential utility of an approach that may result in culture change. Bowen Family Systems Theory has been used widely in business organisational change (Bowen 2012; Kerr 2012; Kott 2014), however not in healthcare. This theory could be used to provide a framework for understanding and identifying anxiety, emotional processes and patterns of behaviour within the workplace, with a view to improving organisational culture. Research is needed to develop and test a pilot program of professional development using education packages and/or workshops based on Bowen Family Systems Theory for management and leadership teams and/or critical care nurses within intensive care units.

8.6 Conclusion

The aim of this program of work was achieved with the delivery of a conceptual framework exemplifying the processes involved in patient-centred nursing and compassion satisfaction and compassion fatigue in the context of critical care nursing in Australia. Each phase of development of the conceptual framework linking existing to new knowledge is reported in this thesis. The novel approach of applying Bowen Family Systems Theory to intensive care nursing resulted in new knowledge and recommendations to develop workplace culture, enhance critical care nurses' compassion satisfaction and improve patient experience. This approach guided development of a conceptual framework outlining the processes involved in patient-

centred nursing and compassion in the context of critical care nursing. The body of this work contains important insights into critical care nurses' experience of compassion satisfaction and compassion fatigue and the impact on delivery of patient-centred nursing in Australian intensive care units.

The findings from this program of work contribute to the search for better understanding of patient-centred nursing and compassion satisfaction and fatigue in Australian intensive care units. The need to enhance critical care nurses' compassion satisfaction is made clear in this thesis. Critical care nurses' experience of compassion satisfaction and compassion fatigue influence their delivery of patient-centred critical care nursing, and this is important not just for the nursing workforce but because nurse wellbeing is an antecedent to patient wellbeing (Goodrich 2014). Implementing cultural change and systematically addressing critical care nurses' needs to successfully balance biomedical with compassionate nursing care may lead to greater wellbeing in the critical care nursing workforce and improve patient experience of intensive care.

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CONCEPT ANALYSIS

A concept analysis of patient-centred nursing in the intensive care unit

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Abstract

Aim. To report an analysis of the concept of patient-centred nursing in the context of intensive care.

Background. Clarification of patient-centred nursing in the intensive care unit is important because consensus definition of this concept is lacking. The severely compromised physiological state of these people and the sequelae of this differentiate patient-centred nursing in intensive care from that occurring in other hospital settings. While the broad concept has been analysed, it has not been examined in the context of intensive care.

Design. Concept analysis.

Data sources. CINAHL, PsycINFO, Medline and PubMed databases (2000–2014) were searched. Peer-reviewed papers were identified and reference lists of relevant articles searched.

Methods. Walker and Avant's eight-stage approach was used.

Results. Patient-centred nursing in the intensive care unit incorporates antecedents of a physiologically compromised patient requiring biomedical intervention, a professional and competent nurse and organizational support. The concept's defining attributes entail maintenance of patient identity by a compassionate and professional nurse exercising biomedical expertise. Consequences include patient satisfaction, positive patient experience, nurse job satisfaction and better nurse workforce retention.

Conclusion. Patient-centred nursing in intensive care is differentiated from other healthcare areas by the particular characteristics of critically ill patients, the critical care environment and the challenging bio-psycho-social demands made on intensive care nurses. Effective patient-centred nursing in this environment promotes beneficial outcomes for patients, nurses and healthcare service. Decision-makers and policymakers should support critical care nurses in this challenging role, to maintain delivery of patient-centred nursing and grow an effective nursing workforce.

Keywords: compassion, compassion-fatigue, concept analysis, critical care, intensive care, nursing, nursing workforce, patient-centred, person-centred

Why is this research or review needed?

- The concept of patient-centred nursing has been described in some healthcare settings, but has not been clarified in the context of the intensive care unit.
- Elements of patient-centred nursing as generically defined have been shown to contribute to patient satisfaction and positive patient experience in the critical care environment.
- Intensive care is a setting where it can be difficult to operationalize general nursing frameworks addressing patient-centredness.

What are the key findings?

- Defining attributes of the concept of patient-centred nursing in the ICU include maintenance of patient identity, biomedical nursing practice, compassionate and professional nursing presence.
- Antecedents required include a biophysically compromised patient, a committed, compassionate and professional nurse and organizational support; consequences include patient satisfaction and beneficial outcomes, nurses' job satisfaction and improved nurse retention.
- The extremely vigilant and demanding bio-psychosocial role of the intensive care nurse differentiates patient-centred nursing in the intensive care from general healthcare settings.

How should the findings be used to influence policy/practice/research/education?

- This concept analysis offers a middle-range descriptive theory of patient-centred nursing in the intensive care unit and clarifies its definition and meaning for future operationalization and research.
- Appropriate instruments need to be developed to measure and evaluate defining attributes of this concept in practice.
- Research is needed to identify factors that act as barriers or facilitators to provision of patient-centred nursing in the intensive care unit.

Introduction

Recent reports of poor quality care, dehumanizing experiences and lack of compassion in health professionals' interactions with patients have led to increasing scrutiny of healthcare delivery (Garling 2008, Francis 2013). In response, governments and international bodies have recognized patient-centred care as an approach to counter such deficits in delivery of health services (Kitson *et al.* 2012). Furthermore, a global strategy intended to achieve health

care that is 'people centred' not 'disease centred' is being developed by the World Health Organisation (WHO) (WHO 2014). However, as individuals entrust others to meet their healthcare needs they frequently experience feelings of fear, vulnerability and anxiety (Stein-Parbury 2009). Consequently, pursuit of improved health services and delivery has resulted in a paradigmatic shift in nursing and healthcare frameworks from a 'one-size-fits-all' model to a more personalized holistic approach (Gillespie *et al.* 2004). Ensuing research has focused on patient decision-making, emotional support, discharge and admission procedures, end-of-life care and environmental design (McMillen 2008, Hobbs 2009).

Patient-centred care has been difficult to operationalize across the mixed and varied settings where health care is delivered but attempts have been made to meet this challenge (McCormack & McCance 2010). Frameworks resulting from this research are not easily adapted to the intensive care unit (ICU) environment (Pearson *et al.* 2005, Kelleher 2006), primarily due to critically ill patients' immediate need for biomedical intervention and their inability to communicate. Consequently, there is lack of consensus on what constitutes patient-centred nursing in the context of ICU and critical care nurses have mixed perceptions of this. Some nurses are convinced that due to the one-to-one ratio in ICU nursing, they must be providing patient-centred care; other nurses, grounded in the biomedical 'cure-oriented' model, maintain that patient-centred nursing is based on the physical well-being of their patient (Pearson *et al.* 2005, Kelleher 2006). Against a background of consensus that patient-centred nursing care is not 'technology centred, doctor centred, hospital centred or disease centred' (Stewart 2001, p. 444), it remains poorly understood in the critical care environment. The purpose of this analysis is to clarify the concept of patient-centred nursing in the context of the ICU.

Background

Clarification of the concept of patient-centred nursing in the ICU is important as critical care nurses have differing perceptions of what this means in relation to the needs and expectations of their patients (Aro *et al.* 2012). ICU patients can seldom guide their nurses in this because most are unable to communicate during at least part of their ICU admission (Maxwell *et al.* 2007). It is therefore important that nurses are supported in their relationships with their patients with agreed care philosophies and processes; patient-centred nursing is one commonly discussed approach to achieve therapeutic nurse-patient relationships

(Esmaili & Salsali 2013). However, while the broad concept of patient-centred care has been analysed, it has not been examined in the context of ICU. The concept of patient-centred nursing in the context of ICU remains clouded, with no consensus on a clear definition.

Historically, 'person-centred' was a term first coined by Rogers (1961), a humanistic psychologist in the 1940s. In health care it has been suggested that the expression 'person-centred' is used internationally in an effort to move the focus from disease and illness to the 'person' experiencing this (Hobbs 2009). This is not new; Florence Nightingale differentiated nursing from the medical fraternity when she focused on the patient instead of the disease (Lauer *et al.* 2002, Timmins & Astin 2009). More recently, Kitwood's (1997) seminal work in dementia prompted others to advocate for wider adoption of person-centredness (Dewing 2008) and this was embraced in the UK National Health Service prior to it becoming a worldwide movement.

Patient-centred care became prominent at a time of substantial transformation in nursing, with changes in education, advanced nursing roles and new technologies (Hobbs 2009). The evolution of patient-centred care has resulted in the development of several frameworks. Mead and Bower's (2000, p. 1088) five-dimensional literature-based medical model of patient-centred care included ideas of the 'bio-psycho-social perspective and patient as person'. UK researchers, prompted by Kitwood's work, initially began investigating person-centred care in gerontology in the 1980s (Nolan *et al.* 2001, Dewing 2002, McCormack 2003). In 2010 McCormack and McCance developed a four element framework for general nursing; intended to operationalize patient-centred care in everyday nursing practice, this framework does not address the complexities, intense relationships and acuity of physiologically compromised uncommunicative patients in the ICU.

Critical care nursing is a multidimensional role with competency criteria that differentiate it from general nursing (Riitta-Liisa *et al.* 2007). International guidelines confirm this claim, advising the complexity and acuity of the patient influences the skill level required of the nurse (ACCCN 2003, RCN 2003, AACN 2008). Further distinctive features include the need for highly developed decision-making strategies to anticipate and prevent complications (Aitken 2003, Abbey *et al.* 2012). Critical care nurses are presented with unpredictable challenges as their patients' conditions can change rapidly and necessitate skilled and prompt intervention. Vigilant monitoring of the patient and use of life sustaining technologies have been described as a form of patient-centredness (Galvin 2010) while Price (2013) expressed the contrary view that machinery can block

nurse-patient interactions, negating the caring aspect of patient-centred nursing. Research and discussion in the United States has viewed technology as an important element in holistic, patient-centred nursing (O'Connell & Landers 2008, Aro *et al.* 2012, Price 2013). However, continuing resistance to this notion indicated nurses can 'hide' behind technology and use it as self-protection (Slatore *et al.* 2012). The severely compromised physiological state of ICU patients differentiates the requirements and provision of patient-centred nursing in this from other hospital settings (Kelleher 2006). To develop a supportive theoretical framework specifically to operationalize patient-centred nursing in the ICU this concept requires clarification.

This paper addresses the question: 'What defines the concept of patient-centred nursing in the context of the ICU?' Walker and Avant's (2011) methodology was chosen to analyse this concept due to its structured and systematic approach. This model involves an eight-stage process: (1) Selecting a concept; (2) Determine the aims or purposes of analysis; (3) Identify all uses of the concept that you can discover; (4) Determine the defining attributes; (5) Identify a model case; (6) Identify borderline, related, contrary, invented or illegitimate cases; (7) Identify antecedents and consequences; and (8) Define empirical referents. Walker and Avant (2011) advise this process is not linear; rather, there is backward and forward movement between the steps to construct a rigorous analysis of the concept in context. An extensive review of literature was conducted to give an evidence-based foundation for this concept analysis.

Data sources

The Cumulative Index of Nursing and Allied Health (CINAHL), PsycINFO, Medline (EBSCO) and PubMed (NCBI) databases were chosen to identify literature examining patient-centred nursing in the intensive care context. An initial limited literature search was conducted to identify optimal keywords, search and index terms with syntax variations for each database, creating a group of optimal search terms (Table 1). Inclusion criteria were: written in English; published 2000–2014; adult (≥ 18 years of age)

Table 1 Search results.

#1	(patient* OR person*) AND (cent*)
#2	Nurs* (explode all trees)
#3	#1 AND #2
#4	'critical care' OR 'intensive care' OR 'high dependen*' OR 'intensive therapy'
#5	#3 AND #4

human subjects. ‘Intensive care unit’ included any adult critical care unit described as ‘intensive care’, ‘critical care’, ‘coronary care’, ‘high dependency’ or where the nurse: patient ratio was 1:1 or 1:2. Research designs included peer-reviewed research studies using mixed methods, quantitative or qualitative methodologies together with discussion and review papers focussing on patient or person-centred nursing care in the adult ICU. Papers discussing patient or person-centred nursing care in any other contexts were excluded, as were papers set in paediatric or neonatal intensive care units. Reference lists of relevant papers were searched.

Data selection and analysis

The database search and selection process resulted in 28 papers for inclusion in the concept analysis (Figure 1). Eighteen of these papers described research using mixed, qualitative or quantitative methodologies (Table 2). Ten papers were literature review or discussion articles (Table 3). Key themes and significant findings related to patient-centred nursing in the ICU were identified and categorized, then subjected to a meta-synthesis and collapsed into four key attributes. The iterative Walker and Avant process confirmed these as the defining attributes of the

concept. Risjord (2008) supports this method and justification of choice of defining attributes through thorough literature review and synthesis with use of ‘cases’. Cases provide a contextual foundation on which to base analysis and Walker and Avant (2011) also agree that reflection on context is important to decisions on defining attributes.

Results

Uses of the concept

The Oxford Dictionary (2014) in English was consulted for definition. As patient-centred and person-centred appear to be used interchangeably in the literature, both terms were sought. ‘Person’ is defined as ‘a human being regarded as an individual’ and ‘patient’ as ‘a person receiving or registered to receive medical treatment’. The adjective of ‘centred’ is defined as ‘placed or situated in the centre’. When ‘centred’ is used in combination (as in this concept) it is defined as ‘having a specific subject as the most important or focal element’. ‘Nursing’ is defined as ‘the profession or practice of providing care for the sick and infirm’. With ‘patient’ and ‘person’ used interchangeably, for consistency, ‘patient’ is used throughout this paper as the definition of patient refers to a ‘person’. The combined definition is therefore ‘a human being, regarded as

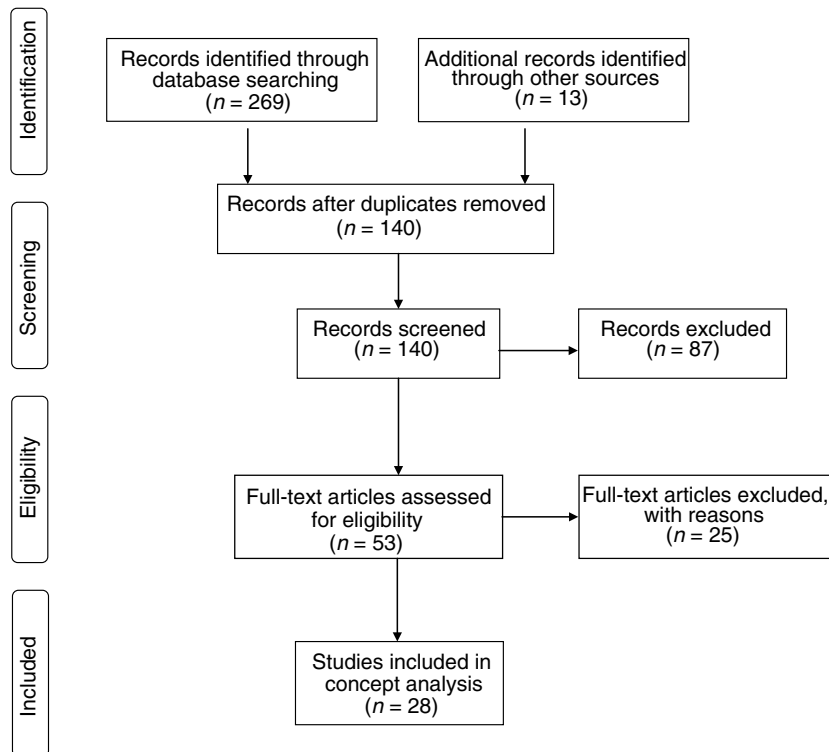


Figure 1 Data search and selection process.

Table 2 Primary studies about patient-centred nursing in the intensive care unit.

Citation	Sample/setting	Methods	Aim	Findings
Aro <i>et al.</i> (2012)	166 patients 16 ICU units in 6 hospitals (Estonia)	Quantitative Descriptive questionnaire Analysis – descriptive statistics, correlation analysis and statistical tests.	To describe perceptions of intensive care patients about the importance of their needs and how they are met.	Patients' needs varied. Some found their needs were not met. Most important needs to patients were physical comfort and feeling safe. Additionally, privacy, involvement in decision-making and involvement of their family were also important.
Crocker and Scholes (2009)	ICU nurses weaning patients from mechanical ventilators (United Kingdom)	Ethnography – observation 6-month period, 250 hours Glaser & Strauss – content analysis	To understand how nurses use technology when weaning patients from mechanical ventilation.	The central theme evolved as 'knowing the patient'. Subthemes included: <ul style="list-style-type: none"> • ways of knowing; • continuity of care; • role of the patient
Cypress (2011)	15 patients and their families and nurses in an intensive care unit (United States)	Phenomenology – Merleau-Ponty's perspective In-depth, open ending interviews vanManen's selective line-by-line analysis	To describe & understand the lived experience of nurses, patients & families during illness in ICU.	Common themes: <ul style="list-style-type: none"> • Physical comfort/care • Physiological care • Psychosocial support • Transformation Family-centred care is a dimension of PCC -intro
Davidson <i>et al.</i> (2007)	Multidisciplinary task force of experience in critical care (United States)	Development of clinical guidelines using consensus process	To develop clinical practice guidelines to support the patient and family in adult, paediatric or neonatal ICU.	43 recommendations made involving: <ul style="list-style-type: none"> • Communication and Shared decision-making • Involvement of family and Patient engagement/autonomy • Training of ICU staff, staff debriefing • Continuity of care • Staff communication and acknowledgement of staff stress as they try to provide PCFC care. • Cultural, language, nurse matching (Synergy model) • Spiritual & religious support • Open family visitation and Patient privacy/confidentiality • ICU design for patient comfort • Family access to teams and Family presence at resuscitations
Eriksson <i>et al.</i> (2011)	7 patients admitted to ICU 5 of their relatives (Sweden)	Hermeneutic phenomenology Open-ended Interview technique Gadamerian analysis	To interpret and understand meanings of lived experiences of visiting of patients in an ICU and their families – presented as a play.	Data separated into patient and family. Real Life Experiences <ul style="list-style-type: none"> • Patients remembered that their family was at their bedside. • A feeling of security from family presence. • Patient & family appreciated diary kept. • Recalling unreal life experiences • Patients can be traumatized by ICU stay.

Table 2 (Continued).

Citation	Sample/setting	Methods	Aim	Findings
Esmaeili <i>et al.</i> (2014)	21 nurses with at least 2 years experience working in critical care units. (Iran)	Qualitative Exploratory methodology Semi-structured interviews Content Analysis	To explore the perception of nurses working in critical care units about patient-centred care.	Themes: <ul style="list-style-type: none"> • From accepting to understanding the patient. • Improved care as the result of skill and expertise. • Managerial skills in caring. • Importance of getting to know the patient. • Adherence to patients' rights.
Hardy <i>et al.</i> (2002)	Four nurse participants – 1 ICU nurse (United Kingdom)	Discourse analysis Method – all participants provided a self-assessment of their expert practice and examples	A pilot study to explore the discourse of nursing expertise as a 'catalyst' that alters treatment pathways and maximizes patient-centred care.	Nursing expertise is the ability to use knowledge and self seamlessly. The nurse-patient relationship and knowing your patient through communication and observation represent aspects of clinical expertise. High levels of assessment and observation skills and attention to non-verbal communication elements can promote patient choice and empowerment.
Hinkle and Fitzpatrick (2011)	101 relatives, 28 physicians and 109 nurses working with the same group of patients in six adult intensive care units. (United States)	Prospective descriptive study. Used Critical Care Family Needs Inventory (CCFNI) Analysis – SPSS descriptive and inferential statistics	What were the perceptions of needs for American critically ill patients as identified by relatives, physicians and nurses?	Three important needs to be met for the patient that were agreed upon by relatives, physicians and nurses were: <ul style="list-style-type: none"> • To have questions answered honestly. • Be assured of the best care possible for the patient. • Feel the hospital personnel care about the patient. Research question justifies inclusion
Johnson (2004)	Nine former patients from 3 critical care units in QLD – 6 male and 3 female 21 to 69 years old (Australia)	Qualitative – phenomenological methodology Influenced by Heidegger Unstructured, in-depth interviews vanManen thematic analysis	Explore, describe and interpret the meaning a group of patients attributed to their experience of long-term mechanical ventilation in an Australian critical care unit.	Patients <ul style="list-style-type: none"> • Gain comfort from the presence of nurses and their families • Sought control over their treatment • Questioned and interpreted their environment to reclaim self. Other items of importance: <ul style="list-style-type: none"> • Continuity of care – seeing the same nurse • Communication and information sharing

Table 2 (Continued).

Citation	Sample/setting	Methods	Aim	Findings
Jones <i>et al.</i> (2003)	18 men aged 21-54 years who had been patients in an intensive care unit. Recruited immediately before discharge. Allocated to 3 groups: 1) life review group; 2) home visit group; 3) no intervention group (United Kingdom)	Case study – mixed methods Qualitative interviews and Quantitative results from standardized measures e.g. tools to measure post-traumatic stress symptoms. Analysis – Dey's model of narrative synthesis together with descriptive statistics	Explore possible use of life review and reminiscence interventions with young men following critical illness.	Regarding ICU nursing <ul style="list-style-type: none"> • In near death experiences many patients reported hallucinations or 'mystical consciousness' • Experienced bizarre frightening dreams. • Feelings of confidence in nurses and appreciation for their kindness and support. Implications <ul style="list-style-type: none"> • ICU nurses need to remember the person behind the tubes and technology. • Can be satisfying for nurse to give holistic care to patient.
Kydonaki <i>et al.</i> (2014)	33 ICU nurses 9 doctors who were looking after 10 Scottish and 9 Greek ventilated patients (Greece & Scotland)	Ethnography Fieldwork – observation, 5 months Semi-structured interviews NVivo – thematic analysis	To examine elements of the ICU environment and the impact of nurses involvement in decision-making during weaning patients from mechanical ventilation.	Main themes: <ul style="list-style-type: none"> • Organization of the unit (time structure, staff levels/allocation e.g. 12 hour shifts) • Inter-professional relationships • Ownership and accountability in weaning decision-making • Role of weaning protocols Additionally, weaning practice should be considered in relation to the environment, so individualized patient-centred weaning approach can be taken
O'Connell and Landers (2008)	40 nurses 30 relatives Critical care setting (Irish)	Quantitative Convenience sampling. Adapted version of the Caring Behaviours Assessment Tool	To compare perceptions of nurses and relatives on the importance of caring behaviours of critical care nurses.	There was congruence between nurses and relatives on the most and least important caring behaviours of critical care nurses. A higher value was placed on caring behaviours that demonstrate <ul style="list-style-type: none"> • technical competence, • the altruistic and emotional aspects of caring.
Price (2013)	Purposive sampling 8 nurses observed, 13 nurses, 1 doctor and 2 physiotherapists were interviewed from a district general hospital intensive care unit (United Kingdom)	Qualitative Ethnography Observation, document review and semi-structured interviews Glaser & Strauss – constant comparative analysis	To discover what aspects affect registered health professionals' ability to care for patients within the technological environment of intensive care.	The main theme that developed was 'crafting process'. Subthemes emerged: <ul style="list-style-type: none"> • 'vigilance', • 'focus of attention', • 'being present' and • 'expectations'. The ultimate goal was to achieve the best outcome for the individual patient.

Table 2 (Continued).

Citation	Sample/setting	Methods	Aim	Findings
Slatore <i>et al.</i> (2012)	33 nurses in a 26 bed cardio = medical intensive care and a 26 bed general intensive care unit (United States)	Qualitative Ethnography 315 hours observation and 53 semi-structured interviews NVivo – thematic analysis	To perform a qualitative analysis of nurses' communications	Themes: Communication occurred in <ul style="list-style-type: none"> • biopsychosocial information exchange, • patient as person, • sharing power and responsibility • therapeutic alliance • clinician as person. • Nurses act as interpreter between physician and patients and their families. • Nurses can suffer stress as they play the enhanced role in the delivery of patient-centred care.
Tayebi <i>et al.</i> (2014)	Purposive sampling 6 critical care nurses, 3 head nurses and 2 patients with 4 family/visitors (Iran)	Qualitative Semi-structured interviews Thematic analysis	To identify rationales for restricted visiting hours in adult ICU's in Iran.	Themes: <ul style="list-style-type: none"> • Health protection – mental health protection (need for peace and calm for healing) and physical health protection (risk of infection transmission). • Safety promotion – risk for malice, legal abuse (family dynamics), unsafe nursing care (visitors interfere with ability to provide nursing care). • Privacy preservation
Wählin <i>et al.</i> (2006)	11 patients from two intensive care units (Sweden)	Qualitative Phenomenological Open-ended interviews Karlsson 5-step analysis process	To describe patient empowerment in an intensive care situation.	Five typological structures or themes: <ul style="list-style-type: none"> • One situated structure – Patients felt less anxious and more confident in some nurses than others. Some nurses showed that they cared about them and others did not. The nurses 'had a way of being' – might be a touch or the way they did things. • Creating a safe environment • Encouraging feelings of value and motivation • Providing additional care e.g. a hug or pat, help with little things. • Encouraging patient participation – taken seriously, listened to • Strengthening and stimulating the patient's own inherent joy of life and will to fight Patient empowerment in ICU involves confirming the patient and their opinions, wants and needs to be valuable.

Table 2 (Continued).

Citation	Sample/setting	Methods	Aim	Findings
Wahlin <i>et al.</i> (2009)	11 patients, 12 next of kin, 8 nurses and 4 doctors (Sweden)	Qualitative Phenomenological Open-ended interviews Thematic analysis	Compare intensive care patients' experiences of empowerment with next of kin and staff beliefs.	<p>Themes:</p> <ul style="list-style-type: none"> • Experiencing joy in living and will to fight • Feeling motivated for struggling to get better • Feeling safe • Experiencing atmosphere as positive • Self-esteem • Experiencing good relationships • Knowledge creation • Involvement in care <p>Although there were many similarities found between patient experiences, next of kin and staff beliefs, on the whole next of kin and staff believed the patient to be more unconscious and unable to participate than patients did. If the patient could have more involvement in their care, the relationship between nurse and patient would be changed in a positive way.</p>

an individual, receiving or registered to receive medical treatment', with patient-centred nursing as: 'a sick or infirmed individual human being is the focal element, registered for or receiving medical treatment from a professional care provider' (Oxford Dictionary 2014).

In nursing literature the term 'patient-centred' is used to move from routinized or task-oriented ways of describing practice to one more focused on a therapeutic relationship with the patient (O'Connell 2008, Aro *et al.* 2012). In an effort to explain patient-centred nursing, Kelleher (2006, p. 36) cited Peplau (1952) who defined nursing as a 'human relationship between an individual who is sick or in need of health services and a nurse specially educated to recognize and respond to the need for their help'. An ethnographic study found that nurses contribute to patient-centred nursing through communication about biopsychosocial issues, treating the patient as a unique individual and development of a therapeutic relationship (Slatore *et al.* 2012). Review of the uses of the concept has identified some of the characteristics of patient-centred nursing without representing the notion in its entirety. This, together with material from included studies will provide a more complete picture of patient-centred nursing in the context of the ICU.

Defining attributes

Identification of the attributes of a concept occurs during analysis of literature, development of cases and is 'the heart of concept analysis' (Walker & Avant 2011, p. 162). Synthesis of key themes and significant findings from included literature determined the defining attributes of patient-centred nursing in the context of intensive care as: (a) biomedical nursing practice; (b) patient identity; (c) compassionate presence; and (d) professional presence (Figure 2).

Biomedical nursing practice

Biomedical nursing interventions, following complex protocols and routines on a patient's arrival to ICU ensure patient safety and prompt medical treatment. The patient's survival is the priority. ICU nurses require expertise and a high level of clinical skills and knowledge to administer effective, evidence-based, biomedical patient-centred nursing (Davidson *et al.* 2007, Hynes *et al.* 2008, Crocker & Scholes 2009). Nursing knowledge and expertise enable observation and assessment of the patient's haemodynamic status and titration of interventions such as mechanical ventilation or inotropic drugs to optimal levels (Hardy *et al.*

Table 3 Other peer-reviewed literature about patient-centred nursing in the intensive care unit.

Citation	Article type	Aim	Conclusion	Notes
Ciufo <i>et al.</i> (2011)	Systematic Review Mixed Method	To appraise and synthesize evidence on visitation models used in adult ICU's and to explicate their congruence with the core concepts of patient- and family-centred care (PFCC)	Flexible visiting polices allow concepts of PFCC to be incorporated into practice. Nurses believe that flexible visiting hours means increased workload and are an impediment to practice even though it may benefit the patient.	Joanna Briggs methodology & software tools used
Crocker (2009)	Discussion Paper	To discuss the role of nurse in weaning patients from mechanical ventilation.	Knowing the patient is important in the process of weaning from ventilation.	Development of person-centred weaning plans can be incorporated into the process.
Efstathiou and Clifford (2011)	Literature Review	To discuss the challenges faced by critical care nurses when caring for patients at the end of their life.	Themes: <ul style="list-style-type: none"> • Communication • Patient & family-centred decision-making • Continuity of care • Emotional & practical support for patients and relatives • Symptom management & comfort care • Spiritual support • Emotional and organizational support for clinicians 	Critical care nurses require more education around patient-centred end-of-life care skill development.
Galvin (2010)	Discussion Paper	In development of person centred care this paper introduces the notion of 'caring science' as a way to develop types of knowledge that relate to caring practices in critical care environment.	Caring requires integration of: <ul style="list-style-type: none"> • Holism about kinds of knowing in general • Holism about the nature of the person • Holism about the nature of care Critical care nursing is complete when the nurse draws on their specialist knowledge, evidence, expertise and capacity to show compassion and caring through relational understanding.	Critical care nurses can be challenged to know how to manage the balance 'hand' (technical skills) and 'head' (protocol & evidence) with 'heart' (ethical and human dimensions).
Kelleher (2006)	Discussion Paper	To examine the provision of patient-centred care in the intensive care unit when the autonomy of patients could be compromised.	Person-centred care is difficult to apply in the ICU context where patients' autonomy is often compromised. Aspects of person-centred care: <ul style="list-style-type: none"> • Unique individual (individualized care) • Communication • Need to feel safe (lessen anxiety) • Creativity of nurse (to help improve patients' well-being) • Nurse-family relationship 	Until ICU nurses move from 'functional understanding' to a more philosophical understanding of their role, the true nature of person-centred nursing will not be realized.

Table 3 (Continued).

Citation	Article type	Aim	Conclusion	Notes
Hynes <i>et al.</i> (2008)	Discussion paper	To describe an intervention where patient and family members and community partners were included in the ICU 'membership'.	States core concepts of PFCC: <ul style="list-style-type: none"> • Dignity and respect • Information sharing • Participation • Collaboration 	Discusses importance of commitment to PFCC as a philosophical approach encompassing patient and family involvement in planning of care, delivery and evaluation.
O'Connell (2008)	Reflective analysis	To gain a greater understanding of the emotional intelligence needed to develop therapeutic nurse-patient relationships in the context of critical care.	Therapeutic nurse-patient relationships are central to patient-centred nursing. These relationships depend on the context of the care delivery. These relationships leave nurses open to emotional pain, dependent upon boundaries set. Reflective practice and clinical supervision could potentially facilitate ICU nurses in learning how and where to set appropriate boundaries that are beneficial to both nurses and patients.	Themes: <ul style="list-style-type: none"> • Particularity – knowing the patient in the context of their illness and in the context of their lives • Reciprocity – the nurse-patient relationship requires an exchange of concern, knowledge and caring. • Mutuality – a partnership in the care of the patient. Often not able to be reached in ICU due to the acuity of the patient – this can be achieved by involving the family of the patient. • Graceful care – where the nurse uses their physical, humanistic and spiritual abilities in an effort to promote healing and personal growth. Giving of oneself, while maintaining professional boundaries, in an effort to build trust through congruence
Ratray and McKenna (2012)	Editorial	To discuss person-centred care in intensive care units.	It is possible that much care delivered in the ICU is person-centred in general, but it is important to reflect on care delivery. Demonstration that ICU care is both safe and effective as well as person-centred is important to not only satisfy our patients, but also the governments. Privacy and continuity of care are two aspects of PCC that are often overlooked in the critical care environment. Is it the culture of the unit?	It is important to understand the concept of person-centred care in the context of intensive care. Softer skills like compassion and caring can be difficult to measure. Do shift lengths affect delivery of person-centred nursing? Is this driven by staff request rather than patient consideration?

Table 3 (Continued).

Citation	Article type	Aim	Conclusion	Notes
Stein-Parbury and McKinley (2000)	Literature review	A review of selected literature to allow ICU staff to understand experiences of their patients.	Themes: <ul style="list-style-type: none"> • Impaired cognitive functioning – often led to or was part of increased anxiety and discomfort. • Discomforts – Sleeping, pain, comfortable positioning and feeling trapped and out of control were unsettling and distressing to patients. This together with ability to communicate and feelings of helplessness contributed to the overall discomfort of patients. • Comforts and promotion of safety – patients felt safe when they had the presence of the ICU nurse. They perceived that they were supported by the highly skilled nurse and appreciated their understanding; this led to development of trust and confidence. 	Patient's level of acuity affected their ability to communicate, gave them feelings of helplessness and affected their experience of ICU.
Timmins and Astin (2009)	Editorial	Discuss delivery of patient-centred care.	<ul style="list-style-type: none"> • Communication • Continuity of care • Concordance 	Authors suggest that due to the lack of psychological support that nurses receive they may use task-centred, rather than patient-centred nursing as a coping mechanism.

2002, Davidson *et al.* 2007, Crocker & Scholes 2009). Nurses' ability to develop a gestalt of the situation using forms of communication together with observations and assessments of the clinical and emotional situation is an important aspect of holistic biomedical evidence-based expertise, which is required to provide patient-centred nursing in the ICU.

Patient identity

Maintaining the patient's own personal identity is also a defining attribute. Patient's personal identity is at risk due to their vulnerability consequent to their compromised physiological state. Treating the patient as a unique human being and not dehumanizing them by referring to them as to a particular procedure, disease, injury or bed number, contributes to effective patient-centred nursing (O'Connell 2008, Timmins & Astin 2009, Slatore *et al.* 2012). Fear, lack of control and inability to participate in their health care due to physical or cognitive barriers, threaten the identity of the patient (Kelleher 2006,

Cypress 2011, Eriksson *et al.* 2011, Aro *et al.* 2012). It is important for the nurse to understand the patient in the context of their normal lives and their illness (O'Connell 2008); understanding the 'patient's unique personality outside their illness' contributes to effective patient-centred nursing (Slatore *et al.* 2012, p. 413). Involvement of patients' family or significant others can be useful in achieving this. Shared decision-making and strengthened patient autonomy, through family participation, allows the patient to be treated with dignity and as an individual, respecting unique cultural values and beliefs (Davidson *et al.* 2007, Ciufo *et al.* 2011, Cypress 2011, Eriksson *et al.* 2011, Hinkle & Fitzpatrick 2011, Aro *et al.* 2012).

Compassionate presence

The compassionate presence of the nurse is significant in patient-centred nursing and was also identified as a defining attribute (Jones *et al.* 2003, Johnson 2004, Kelleher 2006, O'Connell 2008, Galvin 2010, Hinkle & Fitzpatrick 2011, Price 2013, Esmaili *et al.* 2014). The presence of a caring and

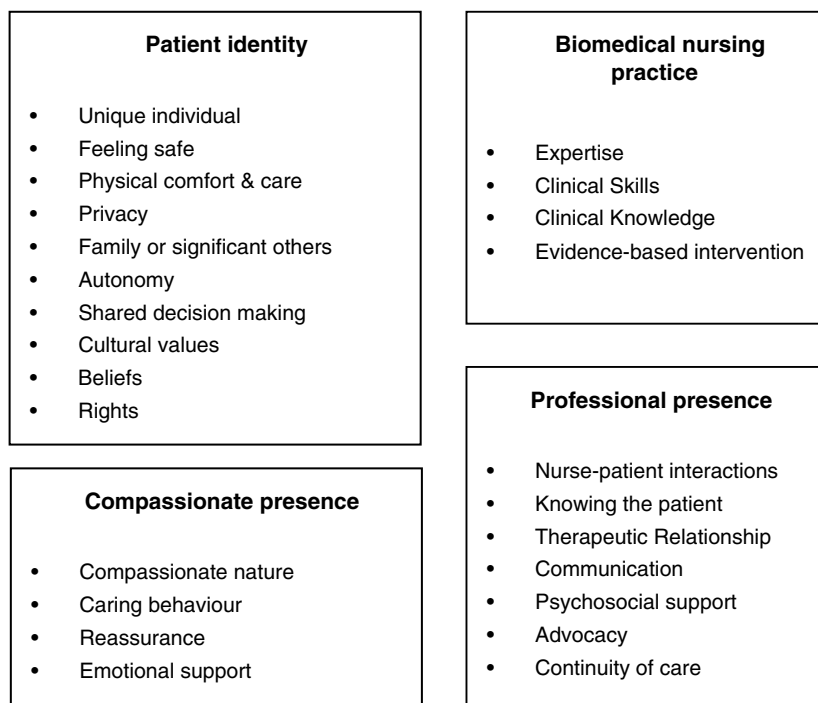


Figure 2 Defining attributes.

compassionate nurse provides reassurance and emotional support to the patient at a time when they are frightened and vulnerable. Patients were reported as stating: 'I may not always have been able to see (nurse),. . .but I just knew, or I felt that they were always close', 'she got me through it. . .it made such a difference . . .' (Johnson 2004, p. 195). O'Connell (2008) called this 'graceful care'; the humanistic and spiritual abilities required of the nurse to provide a compassionate presence to the critically ill patient.

Professional presence

The final defining attribute is the professional presence of the nurse. Nursing is bound by professional and ethical standards of practice aiming to protect the public and to maintain trust and confidence in the profession (NMBA 2008, AHPRA 2014, NMC 2014). The intensive care nurse has highly developed clinical reasoning, problem-solving and decision-making skills (Davidson *et al.* 2007). The ICU nurse is able to demonstrate technical competence, altruistic and emotional caring qualities, which provide patients with confidence, building trust and allowing therapeutic engagement (Stein-Parbury & McKinley 2000, O'Connell & Landers 2008, Price 2013). Thus, as part of providing a professional presence, the nurse needs to develop a therapeutic relationship with the patient (Kelleher 2006, Wählin *et al.* 2006, O'Connell & Landers 2008), which has a

positive impact on patients' experience and is a key component of patient-centred nursing (Stein-Parbury & McKinley 2000).

Communication, both formal and informal, is an important element of professional presence and in establishing a positive nurse-patient relationship. Formally, critical care nurses are the key providers of information, both good and bad, to patients and their families in the ICU. Nurses often act as translators of clinical information into language understood by patients and their families, enabling shared-decision-making, an important component of patient-centred ICU nursing (Davidson *et al.* 2007, Hynes *et al.* 2008, Cypress 2011, Efstathiou & Clifford 2011, Hinkle & Fitzpatrick 2011, Tayebi *et al.* 2014). Informally, analysis of communication by ICU nurses observed them sharing good-natured jokes and non-verbal communications with patients and family members by touch or putting their arm around the person (Slatore *et al.* 2012).

Other characteristics embedded in professional presence and patient-centred nursing include patient advocacy, provision of psycho-social support and protection of privacy (Tayebi *et al.* 2014); sometimes these can be overlooked in the critical care environment due to attention given to bio-medical interventions (Rattray & McKenna 2012). Continuity of care is also important, enabling patients to build confidence and trust in their nurses (Johnson 2004,

Davidson *et al.* 2007, Crocker & Scholes 2009, Efstathiou & Clifford 2011, Kydonaki *et al.* 2014). Hence, the professional presence of the ICU nurse is a defining attribute of patient-centred ICU nursing.

Model case

Cases in this process are used to reveal and confirm evidence of defining attributes of the concept; they are not merely illustrative examples (Walker & Avant 2011).

A Registered Nurse (Ashley) and doctor entered the ICU with a frightened 65-year-old woman, critically ill and unable to speak. Ashley followed complex protocols required for an ICU admission and compassionately reassured Laurel (the patient) in a caring and calm voice while gently touching her shoulder. Another nurse recorded her vital signs and Ashley provided a professional presence to the patient while working alongside her colleagues. Laurel's airway was compromised due to oral surgery. The intensivist requested equipment for intubation. Ashley used her expert clinical skills and knowledge to prepare for the procedure, using simple language to communicate and share information with Laurel. Together with another nurse they assisted with the procedure while using highly developed communication skills to promote a therapeutic relationship with Laurel. Once Laurel was haemodynamically stabilized, Ashley explained the situation to her family. Providing patient-centred nursing Ashley maintained the patient identity by getting to know her patient, developing therapeutic relationships with both patient and family. Laurel was provided with continuity of care through roster allocation. Provision of all the defining attributes in this case contributed to a positive patient experience of critical care. In this exemplar case the antecedents, defining attributes and consequences of the concept were all evident.

Borderline case

Tina walked into the lunchroom and announced 'my patient with sepsis in Bay 9 is demanding. I have done everything for her. She's stable now but keeps talking about how her family are selling her house. She said I'm abrupt and don't seem to care. Well, I have done everything I have to'. Tina has completed all task oriented, or biomedical interventions required for her patient, but she is missing compassionate and professional presence. She has depersonalized her patient by calling her by her diagnosis. This is a borderline case illustrating the need for *all* aspects of the concept process. Has Tina received organizational support?

Does she require extra support from her colleagues to provide effective patient-centred nursing care?

Antecedents and consequences

Antecedents are precursors to the occurrence of the concept; consequences the outcomes or incidents that transpire as a result (Walker & Avant 2011). Antecedents of patient-centred nursing in the ICU are: a physiologically compromised patient requiring biomedical intervention; a professionally competent critical care nurse trained to the level required to work effectively in an ICU; organizational support in patient allocation, rostering, provision of adequate education and training and promotion of a culture of patient-centredness. These resources combined with access to the facilities expected of an ICU, e.g. technological equipment, machinery, medical and allied health services etc., are antecedents to patient-centred nursing in the ICU (Davidson *et al.* 2007, Hynes *et al.* 2008, Cypress 2011, Efstathiou & Clifford 2011, Hinkle & Fitzpatrick 2011, Aro *et al.* 2012, Tayebi *et al.* 2014).

Several beneficial consequences have been linked to patient-centred nursing in the ICU: patient empowerment, patient satisfaction and positive clinical outcomes/experiences; nurses' job satisfaction and improved nurse retention rates. Patients can feel less vulnerable, more empowered and engaged in their healthcare as a consequence of nurses' compassionate attitudes and caring behaviours (Wählin *et al.* 2006). Patients' satisfaction with, experiences and outcomes of their ICU stay may be impacted by defining attributes such as biomedical interventions and the presence of a compassionate and professional nurse (Johnson 2004, Kelleher 2006, Davidson *et al.* 2007, Hinkle & Fitzpatrick 2011, Aro *et al.* 2012).

Antecedents and defining attributes support the consequences of the concept. This is apparent as patient-centred nursing meets nurses' altruistic desires and satisfaction in their role as the concept 'draws on their specialist knowledge, evidence, expertise and capacity to show compassion and caring' (Galvin 2010). If nurses are supported by the organization and their altruistic desires are met they are more likely to continue in their nursing career (Davidson *et al.* 2007, Slatore *et al.* 2012, Esmaeili & Salsali 2013). Antecedents, defining attributes and consequences make up the process of the concept (Figure 3).

Empirical referents

Identification of empirical referents to measure defining attributes is the concluding stage in the concept analysis

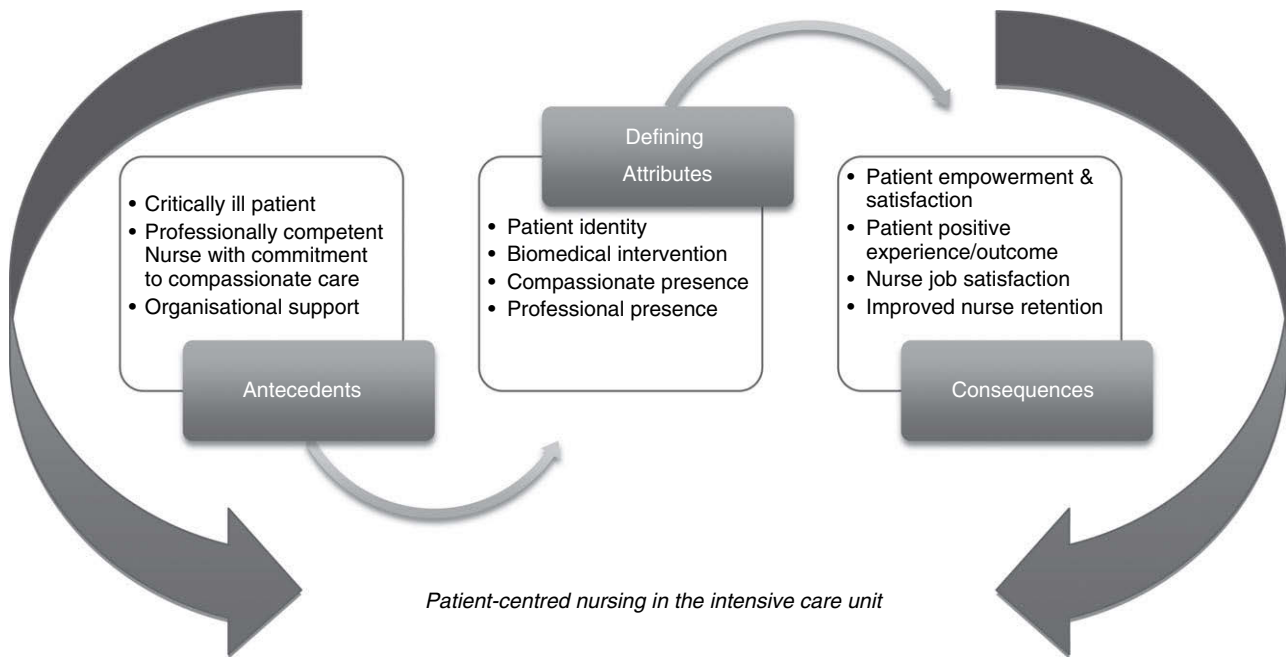


Figure 3 Concept process.

model (Walker & Avant 2011). To demonstrate the actual existence of the concept, measurement of recognizable characteristics contributes to defining the theoretical foundation of the concept. Maintenance of patient identity, compassionate and professional presence can, to some extent, be measured by gauging patient and family satisfaction (Jones *et al.* 2003, Davidson *et al.* 2007, Cypress 2011, Eriksson *et al.* 2011, Aro *et al.* 2012). Two instruments used for this purpose are the Family Satisfaction with Care in the Intensive Care Unit (FS-ICU 24) and the Critical Care Family Needs Inventory (CCFNI). Biomedical nursing practice may be assessed in a partial and indirect way by evaluation of patient outcomes. A patient may improve clinically as a result of effective biomedical nursing practice; or they may be afforded a dignified death (Davidson *et al.* 2007). Patient or family input in appraising this attribute is necessary, together with patient outcomes.

Discussion

This paper analysed the concept of patient-centred nursing in the context of ICU, contributing to development of middle-range descriptive theory. Middle-range theories may bridge the gap between nursing theory and practice (Peterson & Bredow 2009). The Walker and Avant philosophy is aligned with middle-range theory development (Walker & Avant 2011) and serves to operationalize a phenomenon by integrating theory and empirical research as an approach to

theory construction (Merton 1968). Middle-range descriptive theories explain a phenomenon and encompass the concept by simply naming its commonalities across individuals or situations (Fawcett 2005).

This concept is well positioned in several grand nursing theories that have assisted nurses to respond to patients' health needs from a theoretical perspective, for example Peplau's interpersonal relations in nursing theory and Watson's human science and care theory (Walker & Avant 2011). Some findings from this concept analysis map closely to the more recently developed middle-range theory of the 'person-centred nursing framework' by McCormack and McCance (2010). The antecedents, defining attributes and consequences identified in this analysis describe the phenomenon in context and provide a foundation on which to operationalize patient-centred nursing in intensive care.

Concepts have been said to have different meanings in different contexts (Paley 1996). This is exemplified in this analysis, where the vigilant and extremely demanding bio-psycho-social role of the intensive care nurse was confirmed to differ from that of general nursing (RCN 2003, Riittaliisa *et al.* 2007, Abbey *et al.* 2012) and as a consequence the phenomenon of patient-centred nursing appears differently in the context of the critical care environment compared with other healthcare areas. More recently, Risjord (2008) confirmed this notion, concluding that by contextualizing a concept during analysis, the epistemological and ontological footing is strengthened. To examine a concept

in context not only means the actual setting, for example a hospital ward, but also the everyday routines, language, interrelationships and discourse of staff and culture of the setting. Risjord (2008, pp. 688–689) suggested that a concept analysis based on purely scientific or quantitative data concentrates on the theoretical analysis, whereas if qualitative evidence is included, a ‘colloquial concept analysis’ can be prepared to ‘represent concepts of a particular group of people’. A colloquial concept analysis aims to characterize the concept in a community or group of people. In an effort to capture not only the theoretical meaning of the concept but also the colloquialisms of the concept in the intensive care setting, the literature included in this analysis covered quantitative, qualitative and discussion papers.

Successful operationalization of patient-centred nursing in the ICU requires recognition of the antecedents, defining attributes and consequences of the concept. Critically ill patients often require unique and sometimes creative forms of nursing interventions. Critical care nurses must cope with pressures of a bio-medically unstable patient and build a therapeutic relationship with an uncommunicative patient, while providing psychological and spiritual comfort to distraught family, all in the confines of a technologically crowded bed space. Expert critical care nurses use patients’ clinical data and prior experience to inform decisions when identifying potential biomedical issues; this is vital in ‘getting to know’ the patient (Chaboyer & Hewson-Conroy 2012). Cultural and psycho-social aspects of patient-centred nursing are not always obvious, making it imperative for ICU nurses, to have agreed care processes to support relationship building with patient and their families.

Nursing interventions that empower patients and maintain their identity often involve family members or significant others in care and decision-making (Hardy *et al.* 2002), which has been indicated as important to positive patient outcomes (Burr 1998, Ciuffo *et al.* 2011, Aro *et al.* 2012). Family presence has also been found to impede and may add to nurses’ work pressures (Ciuffo *et al.* 2011), particularly the intense one-to-one nature of critical care nursing and the extended bedside vigils undertaken by families of these patients. Critical care nurses require ‘softer skills’ to cope with supporting families (Slatore *et al.* 2012). This is an additional obligation of ICU nurses and an added stressor to an already complex nursing situation (Esmaili & Salsali 2013).

Nurses require an underpinning altruistic philosophy to enable compassionate patient-centred nursing to the level expected by patients, their relatives and healthcare systems (O’Connell 2008, Galvin 2010). Some say compassion is an innate quality; many nurses enter the profession aiming to

provide compassionate care (O’Connell 2008). Compassion-satisfaction, the sense of pleasure derived from providing help and support in nursing, can bring about a sense of achievement and gratification and this positive aspect of caring is attractive to those who choose professional nursing. However, compassion has both positive and negative consequences for nurses (Stamm 2010). The nursing workforce ‘bears the full, immediate and concentrated impact of stresses arising from patient care’ (Menzies 1960, p. 97) and this has, at times, a negative impact on care processes and patient outcomes (Garling 2008, Francis 2013). ICU nurses are particularly vulnerable; intense and continuous contact with patients and prolonged exposure to high-stress situations are precursors to compassion-fatigue in critical care nurses (Jenkins & Warren 2012). Critical care nurses are at high risk of intense fatigue and anxiety, with no assurance their patients will recover despite their best efforts at patient-centred nursing (Menzies 1960, Davidson *et al.* 2007, Campbell 2013).

Tensions exist in healthcare systems driven by efficiency and effectiveness benchmarks where members are simultaneously expected to meet patient-centred standards and give dignified and sensitive care in a pressured time-poor work environment (McCormack & McCance 2010, van Dam *et al.* 2013). To support the process of effective patient-centred nursing in ICU, Davidson *et al.* (2007) recommend that ICU nurses are included in treatment planning, receive training and debriefing to reduce stress levels. Engagement in planning and decision-making encourages autonomy in practice and adds to job satisfaction. Offering a stimulating work environment supported with education, training and development opportunities increases retention rates of expert critical care nurses (Attree *et al.* 2011, van Dam *et al.* 2013). Training and development in the field of compassion, relationship building and ‘softer skills’ are as important to critical care nurses as medical and technological education (Davidson *et al.* 2007, O’Connell 2008). Supportive measures such as these link antecedents to the attributes of professional and compassionate presence.

It is important that decision and policymakers recognize the need to support critical care nurses in their challenging role, to maintain and grow an effective nursing workforce. The work pressures that ICU nurses are expected to sustain to deliver patient-centred nursing are enormous and contribute to high staff turnover (van Dam *et al.* 2013). Recognition of the complex nature of critical care nursing and the possibility of fatigue and other consequences justifies provision of early interventions to manage negative effects on nurses and consequently on patient care (Elkonin & van der Vyver 2011). Organizational support is important, including provision of a

safe working environment, education and training resources, access to up-to-date technological equipment and fostering a patient-centred culture. Meeting nurses' needs and acknowledging their emotional well-being is also a key element of patient-centred nursing in ICU. Critical care nurses need tools, education, resources and stimulation to be supported in their important role (Davidson *et al.* 2007, Slatore *et al.* 2012, Tayebi *et al.* 2014).

Limitations

This analysis has clarified the concept of patient-centred nursing in ICU. However, some limitations exist. Firstly, choice of methodology could be criticized, with claims that the Walker and Avant methodology is weak in drawing meaning from literature (Paley 1996). In response, Walker and Avant (2011) point out the intention behind their method is its use as an introductory tool in development of theory and knowledge; to encourage thinking and understanding of concepts. Finally, restricting inclusion criteria to empirical literature might have provided a more objective outcome, but inclusion of discussion and review papers broadened the analysis.

Conclusion

This concept analysis supports a middle-range descriptive theory of patient-centred nursing in the ICU. Middle-range nursing theories may be used to reduce the gap between theory and practice (Peterson & Bredow 2009) and this analysis assists to clarify implications for future theoretical development, operationalization and research.

Patient-centred nursing in the ICU is different to that in other healthcare areas; the need for extraordinary qualities in the critical care nurse has been highlighted. Further development of instruments measuring patient-centred culture and nursing professional quality of life specific to the context of ICU is warranted to provide a basis for future decision and policy-making. This analysis opens up avenues for research examining the concept from the critical care nurses' perspective. These investigations may produce a foundation from which to formulate policy and practice guidelines to support delivery of effective patient-centred nursing, while at the same time developing and testing interventions that provide support to encourage and attract critical care nurses to remain in the workforce.

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Author contributions

All authors have agreed on the final version and meet at least one of the following criteria [recommended by the IC-MJE (http://www.icmje.org/ethical_1author.html)]:

- substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;
- drafting the article or revising it critically for important intellectual content.

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Academic journal justification

Overarching statements justifying the choice of journals are provided below for each publication.

<p>Journal of Advanced Nursing</p> <p>Impact factor 1.998 (2016)</p>	<p>The concept analysis (Chapter Two) has been published in the Journal of Advanced Nursing (JAN). The discussion or final phase of this study (Chapter Seven) has also been submitted to JAN for peer review. Wiley publishes this well-established, scientific, internationally peer-reviewed journal monthly. JAN is a well-respected journal showcasing evidence-based research from nursing, midwifery and healthcare arenas. JAN was chosen to disseminate these papers to an international nursing and healthcare audience. The stringent review process offered by this journal resulted in improved work that has now become part of the evidence-based body of nursing knowledge. The concept analysis has been cited numerous times since publication.</p>
<p>Journal of Clinical Nursing</p> <p>Impact factor 1.214 (2017)</p>	<p>The literature review (Chapter Three) and the qualitative phase of this work (Chapter Six) has been published (or accepted for publication) in the Journal of Clinical Nursing (JCN). This journal is also published by Wiley and is an internationally peer-reviewed monthly journal supporting clinical practice through promotion of high standard practice and discipline scholarship. JCN was chosen to disseminate this paper to an international clinical nursing readership. The rigorous review process JCN practises ensured an enriched piece of work that contributes to a collection of high quality nursing evidence.</p>
<p>Australian Critical Care</p> <p>Impact factor 1.907 (2017)</p>	<p>The quantitative phase of this study (Chapter Five) has been published in Australian Critical Care. This is the official journal of the Australian College of Critical Care Nurses (ACCCN) and was chosen to submit the results of the quantitative phase of this research. This peer-reviewed quarterly journal presents current and relevant original research, reviews and evidence based articles to the Australian critical care community. With a substantial local and international audience this journal was deemed the most appropriate to disseminate the results of the extent of compassion satisfaction and compassion fatigue experienced by Australian intensive care nurses.</p>

REVIEW

An integrative review of supports, facilitators and barriers to patient-centred nursing in the intensive care unit

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Aims and objectives: To systematically review the literature describing factors perceived by nurses as impacting the provision of patient-centred nursing in the intensive care unit.

Background: Patient-centred nursing in critical care differs from other healthcare areas, and the aggressive curative environment of the ICU has potential to compromise some of its elements. Understanding critical care, nurses' perceptions of promoting and deterrent factors may inform development of strategies to support effective patient-centred nursing and job satisfaction in this workforce.

Design: An integrative literature review.

Review method: Whittemore and Knaf's method was used with "best-fit" framework synthesis. CINAHL, PsycINFO, Medline and EMBASE were searched for 2000–2016 literature using search terms drawn from the ICU patient-centred framework.

Results: In total, 3,079 papers were identified, with 23 retained after applying eligibility criteria. Five themes were identified: Nurse identity; Organisation; Communication; Relationships; and Ideology of ICU. Almost every theme and related categories referred to factors acting as barriers to patient-centred nursing in the ICU; only four referred to supports/facilitators. Findings showed that provision of patient-centred nursing may be compromised by some factors of the critical care environment, and illustrate the challenges and complexity of providing effective patient-centred nursing in this environment.

Conclusion: Findings should be applied to address barriers and to enhance facilitators of effective patient-centred nursing in critical care. The emotional and physical demands of critical care nursing are major considerations; supporting these nurses to fulfil their challenging role may empower them in their professional quality of life and provide a basis for workforce retention as well as delivery of effective patient-centred nursing.

Relevance to clinical practice: Measures to enhance patient-centred nursing could promote critical care nurses' job satisfaction and workforce retention, and be applied more broadly and collaboratively to promote multidisciplinary patient-centred care.

KEYWORDS

critical care, integrative literature review, intensive care, nursing, patient-centred, stress, workforce

1 | INTRODUCTION

Patient-centred nursing, a clinical model developed around patients, has been widely adopted in the wake of reports of poor-quality health care and degrading patient experiences (Francis, 2013). This approach has been welcomed by advocacy groups and international healthcare providers as an enabling model of care that meets expectations of individuals and health services (Kitson, Marshall, Bassett, & Zeitz, 2013). In addition to the measurable, biomedical aspects of nursing care, patients are offered less tangible, humanising traits such as compassion, relationship building and empathy. These patient-centred clinical frameworks have been found to benefit patients and their experience of health care (McCance & McCormack, 2017).

Patient-centred nursing in ICU differs from that in general nursing for a number of reasons (Jakimowicz & Perry, 2015). In particular, the patients are more biophysically compromised, and the challenges of their care require higher level biomedical nursing expertise and interventions. Furthermore, patients often are unable to receive information or make decisions, challenging the patient-centred premise of shared decision-making and care planning. The attributes of patient-centred nursing that may be compromised in ICU include maintaining patient identity, developing a therapeutic relationship (Jakimowicz & Perry, 2015) and patients partnering in treatment plans and goals (McCance & McCormack, 2017). Whilst components of the patient-centred nursing model pose specific challenges to critical care nurses, the framework is hailed as an important therapeutic approach, benefiting both patients and nurses in delivery of positive patient experience and enhanced nurse job satisfaction.

The core of the critical care nursing role is direct patient care. Specific responsibilities and functions of critical care nurses differ somewhat worldwide, but their common focus includes the critically ill patient's need for frequent, vigilant and prolonged observation and support. Caring for the sickest patients in acute hospitals (BACCN 2010), critical care nurses use advanced decision-making, problem-solving and communication skills to provide effective care including complex assessment and monitoring (AACN 2011). Critical care nurses account for 14% of the nursing workforce in Australia (HWA 2013) and 37% in the USA (AACN 2011). Nurse-to-patient ratios also differ. For example, nurses in Australia (ACCCN 2015) and the UK commonly nurse one (ventilated) patient (BACCN 2010) whilst nurses in the USA are allocated two or more patients (AACN 2011). Models of care also differ. An exclusively registered nursing workforce works within a total patient care model in Australia (ACCCN 2015), whereas unregistered support roles are included in care teams in other countries. Internationally, patients are mostly admitted to ICU because they are suffering life-threatening injury or illness. These conditions require experienced health professionals, expert nursing skills, knowledge, care, compassion, technological equipment and support. Nurses, therefore, have a multidimensional role, providing patients with professional and compassionate care

What does this paper contribute to the wider global clinical community?

- The review highlights the extremely stressful and unpredictable conditions under which critical care nurses work, and their consequent vulnerability to fatigue and stress-related effects.
- Aspects of patient-centred nursing that can be difficult to sustain in this biomedical environment include maintenance of patient identity, communication, decision-making processes, relationship development, nurse well-being and job satisfaction.
- Findings provide information to advance strategy development to support critical care nurses in delivery of patient-centred nursing, promoting positive patient experience and health outcomes, nurse job satisfaction and workforce retention.

where the exercise of their knowledge and skills benefits not only patients but also the nurses, in terms of job satisfaction.

The delivery of quality nursing care has been positively linked to job satisfaction and subsequent workforce retention (Sawatzky, Enns, & Legare, 2015). With worsening shortages predicted for coming years (Buchan, Twigg, Dussault, Duffield, & Stone, 2015), the need to retain highly skilled staff has become a priority. Whilst reflecting the general population in terms of chronic disease, the average age of the general nursing workforce is increasing at a faster rate. The critical care nursing workforce faces similar issues, and a substantial shortage is anticipated as experienced nurses in older cohorts leave or retire (Chan & Perry, 2012). Davidson et al. (2007), however, argue that workforce ageing is not the only issue driving the projected international nurse workforce shortage. Poorly developed policy frameworks, lack of career structures, educational opportunities and incentives (Buchan et al., 2015), burnout and compassion fatigue (Sawatzky et al., 2015) have been reported as challenging job satisfaction and, therefore, the supply and retention of nurses.

Expert nursing staff desire a stimulating work atmosphere (van Dam, Meewis, & van der Heijden, 2013), supported with training, education and career development (Davidson et al., 2007). This presents a tension in financially restrained environments, where patient-centred nursing is expected to flourish alongside the performance and financial targets required by an increasing "corporatisation of care" (van Dam et al., 2013; Tuckett, Winters-Chang, Bogossian, & Wood, 2014, p. 5). This commodification of health care results in competition between the pressures and priorities of patient flow with what is occurring at the bedside, which can result in job dissatisfaction and burnout (Tuckett et al., 2014). Supporting this group of nurses is important as job satisfaction, compassion satisfaction, engagement and burnout have been identified as key predictors of intention to leave critical care nursing (Sawatzky et al., 2015).

As contemporary healthcare organisations refocus to strengthen emphasis on patient needs alongside biomedical and economic priorities, attempts have been made to operationalise patient-centred models of nursing (McCance & McCormack, 2017). This has been particularly challenging for critical care, an environment considered to have an aggressive, curative approach where achieving survival of the patient is necessarily paramount and can dominate all aspects of care (Kelleher, 2006). Within this fast-paced environment, critically ill patients undergo invasive and noninvasive procedures to regulate and monitor their physiological functions, which can impede the provision of patient-centred nursing (Kelleher, 2006). Both the nature of critically ill patients and the vigilant and extremely demanding role of critical care nurses have potential to compromise some elements of patient-centred nursing (Kelleher, 2006). To support nurses to provide effective patient-centred nursing in the intensive care environment, it is important to identify what supports, facilitates and impedes their delivery of high-quality care. This not only benefits the patient but also supports nurse job satisfaction and retention, to create a "virtuous circle" of stable staffing, quality care and positive patient experience.

1.1 | Aim

To systematically review the literature describing factors perceived by nurses as impacting the provision of patient-centred nursing in the intensive care unit.

2 | METHODS

2.1 | Design

This integrative review was informed by the Whittemore and Knaf (2005) methodology. Integrative reviews incorporate assorted sources of data resulting in a comprehensive and rich understanding of the area of interest. This five-stage rigorous process entails a clear search strategy and audit trail; sources are critically analysed, aggregated, synthesised, interpreted and findings disseminated. An adapted version of "best-fit" framework synthesis (Figure 1) was employed for rigorous and transparent analysis and synthesis of mixed methods of data (Carroll, Booth, Leaviss, & Rick, 2013).

2.2 | Search methods

Literature included in this integrative review was located using a systematic approach. Included papers were identified through searches of CINAHL, PsycINFO, Medline and EMBASE databases. Search terms were drawn from the patient-centred nursing framework (Table 1). Inclusion criteria were as follows: written in English; published 2000–2016 "intensive care unit" setting; and human adult patients (≥18 years of age). Literature was filtered to include papers reporting specifically from nurses' perspectives. Papers had to be from peer-reviewed journals; no restriction was placed on research design. Reference lists of relevant articles were searched. Papers

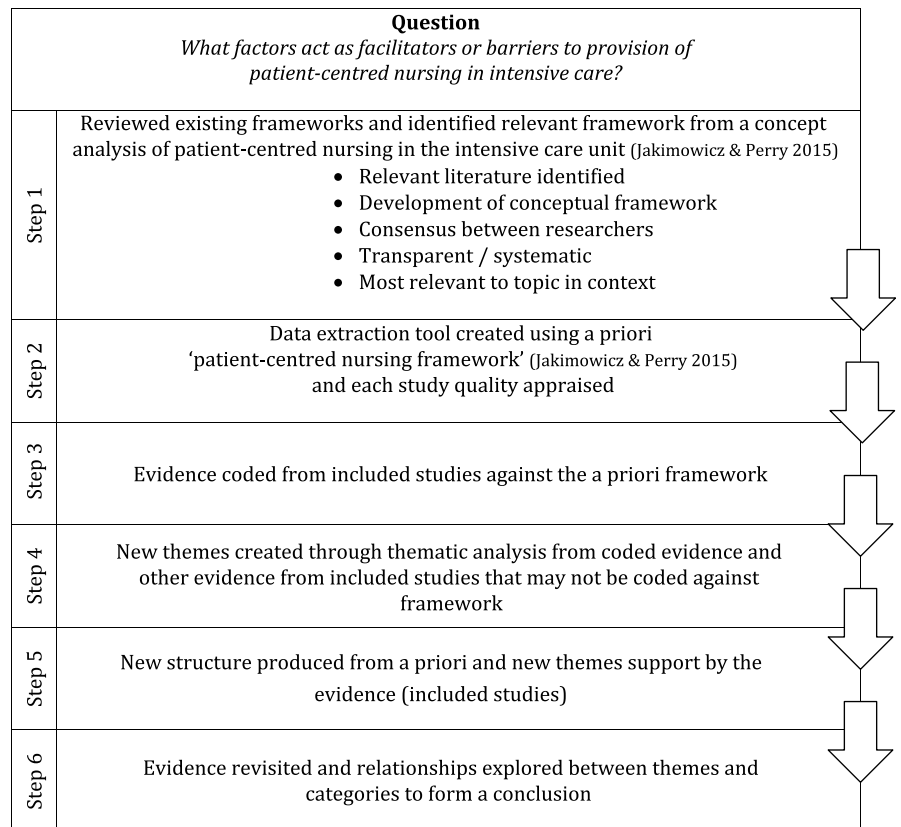


FIGURE 1 Method of synthesis using adapted 'Best-Fit' synthesis framework (Carroll et al., 2013)

TABLE 1 Intensive care unit patient-centred nursing framework (Jakimowicz & Perry, 2015)

Patient identity	Biomedical nursing practice	Compassionate presence	Professional presence
<ul style="list-style-type: none"> • Unique individual • Feeling safe • Physical comfort and care • Privacy • Family or significant others • Autonomy • Shared decision-making • Cultural values • Beliefs & rights 	<ul style="list-style-type: none"> • Expertise • Clinical skills • Clinical knowledge • Evidence-based intervention 	<ul style="list-style-type: none"> • Compassionate nature • Caring behaviour • Reassurance • Emotional support 	<ul style="list-style-type: none"> • Knowing the patient • Therapeutic relationship • Communication • Nurse–patient interaction • Family or significant others • Psychosocial support • Advocacy • Continuity of care
Antecedents		Consequences	
<ul style="list-style-type: none"> • Critically ill patient • Professionally competent nurse • Organisational support 		<ul style="list-style-type: none"> • Patient empowerment and satisfaction • Patient positive experience/outcome • Nurse job satisfaction • Improved nurse retention 	

were excluded if they did not meet the inclusion criteria. The first author conducted the search in consultation with the other authors.

2.3 | Search outcome

Titles and abstracts of search output were reviewed. Following removal of duplicates and papers that did not meet the inclusion criteria, 38 papers were retained for full-text review. Two researchers reviewed and discussed each paper using a data extraction tool detailing inclusion criteria. Papers were discussed to consensus,

which occasionally required consultation with a third researcher. This resulted in 23 papers for inclusion in the integrative review (Figure 2; Table 2).

2.4 | Quality appraisal

Reviewers independently conducted quality assessments of included studies using adapted versions of CASP (Critical Appraisal Skills Programme) and MMAT (Mixed Method Appraisal Tool) (CASP 2013, Pluye et al., 2011). Assessment of the studies informed judgement

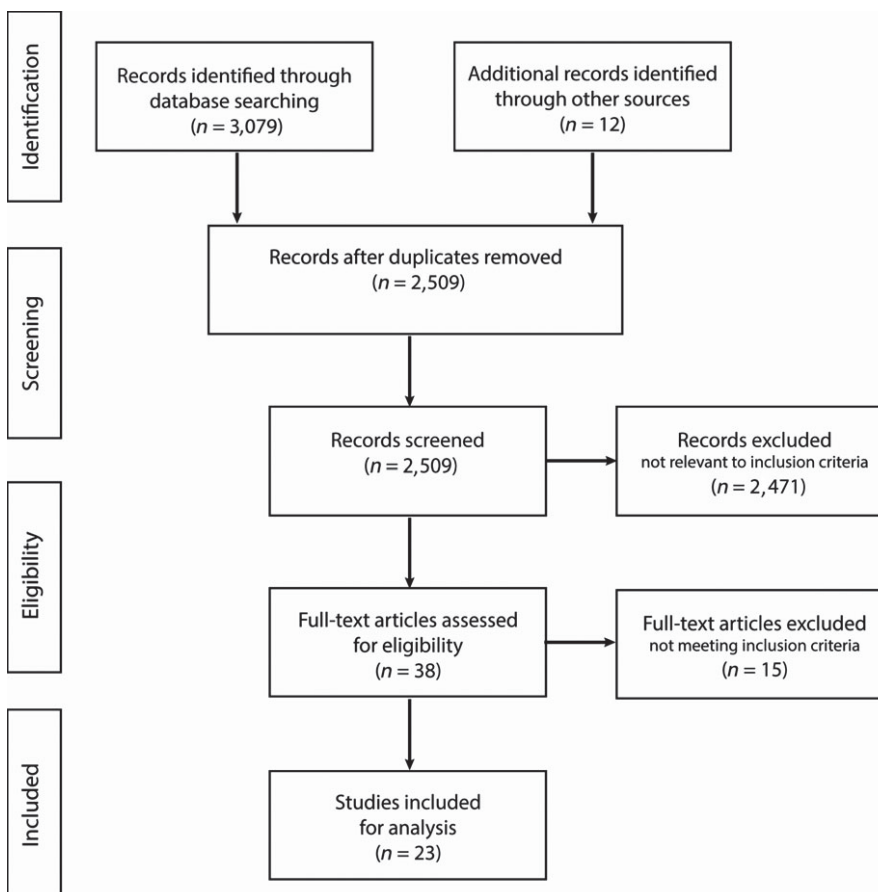
**FIGURE 2** Search outcome.

TABLE 2 Included studies

Citation	Sample/setting/quality	Methods/analysis	Aim/research question/hypothesis	Relevant findings
Alasad and Ahmad (2005)	28 critical care nurses Three ICUs (Jordan) <i>Quality:</i> 10 of 10 criteria met (CASP*)	Qualitative Phenomenological hermeneutic In-depth interviews and observation	To understand experiences of critical care nurses regarding verbal communication with critically ill patients in ICU	Critical care nurses generally perceive communication as an important element of good nursing Communication in the critical care setting is not effective and is seen as a barrier to “getting the job done.”
Aslakson et al. (2012)	32 ICU nurses Four focus groups Four surgical ICUs (Maryland, USA) <i>Quality:</i> 9 of 10 criteria met (CASP*)	Qualitative Focus groups Structured interview Content analysis	To explore barriers to communication and EOL care ^a in ICU as perceived by ICU nurses	<i>Logistics</i> —patient unable to communicate, physicians too busy to communicate <i>Discomfort</i> with discussing prognosis <i>Inadequate skill</i> and training <i>Fear of conflict</i> These four domains acknowledged as barriers to EOL care in the ICU.
Bloomer & O'Connor (2012)	12 ICU nurses, two metropolitan ICUs (Australia) Meets quality appraisal criteria <i>Quality:</i> 8 of 10 criteria met (CASP*)	Qualitative Focus groups Inductive content analysis	Describes ICU nurses' challenges in maintaining professionalism and ensuring self-care whilst caring for dying patient	To provide a “good” death for their patient, spending time with family and maintaining open communication was important Preparing family for death and supporting them after death were primary goals Impact on ICU nurse of caring for the dying Organisational pressures, resources and design made providing ideal care a greater challenge
Cederwall et al. (2014)	19 critical care nurses, three ICUs (Sweden) <i>Quality:</i> 9 of 10 criteria met (CASP*)	Qualitative Semi-structured interviews Content analysis	Explore CCNs approach for management of patients experiencing prolonged weaning in ICU	CCNs manage the weaning process using a targeted and patient-centred approach. Individualised planning, assessing patient capacity and managing team interaction and process were subthemes identified
Choe et al. (2015)	14 critical care nurses, two ICUs (Korea) <i>Quality:</i> 9 of 10 criteria met (CASP*)	Qualitative Phenomenological Giorgi's method In-depth interviews	Explore and understand moral distress from the perspective of critical care nurses	Ambivalence towards treatment and care, suffering from ethical insensitivity, dilemmas resulting from limited autonomy and conflicts with physicians and institutional policy are attributes of moral distress adding to a vicious circle leading to decreased patient satisfaction

(Continues)

TABLE 2 (Continued)

Citation	Sample/setting/quality	Methods/analysis	Aim/research question/hypothesis	Relevant findings
Crocker and Scholes (2009)	12 ICU nurses large teaching hospital (UK) <i>Quality:</i> 10 of 10 criteria met (CASP*)	Qualitative Ethnography Observation, fieldwork Focused interviews, documentary analysis Content analysis	To understand how nurses used technology in the workplace. To explore this, the focus was on observing nurses weaning patients from mechanical ventilation	Knowing the patient—divided into three subthemes: ways of knowing, continuity of care, role of the patient Two main factors are required to know the patient—continuity of care and expertise
Crump et al. (2010)	180 critical care nurses—56 responded Midwestern urban trauma centre (USA) <i>Quality:</i> 9 of 12 criteria met (MMAT ³)	Mixed National Survey of Critical Care Nurses Regarding EOL Questionnaire Includes: 53 Likert scaled questions, four open-ended questions and 15 demographic questions Quantitative descriptive analysis Qualitative—content analysis	Research questions: What are critical care nurses' perceptions of obstacles to, and supports for EOL care in the critical care environment? What do critical care nurses perceive as the knowledge and skills they need to provide quality EOL care?	Obstacles: <ul style="list-style-type: none"> Family and friends continually calling. Ethical issues such as aggressive treatment whilst waiting for family members to arrive, aggressive treatment when prognosis is poor. Having to respond to very emotional family members, language barriers, inability to silence alarms on equipment. Support: <ul style="list-style-type: none"> Having a designated family member as contact person. Provision of a peaceful and dignified bedside scene. Agreement with doctors on direction of care. Allowing family members time to be alone with patient after death. Support staff for paperwork, doctors to meet with family postdeath and having space for family to grieve privately. Have a clinical ethics committee member regularly visit the unit.
Edwards et al. (2012)	16 critical care nurses (convenience sampling) Private office or nursing homes (various ICUs) (Canada) <i>Quality:</i> 10 of 10 criteria met (CASP)	Qualitative descriptive design Interviews Content analysis (concurrent data collection/analysis)	To describe critical care nurses' perceptions of their roles in situations of conflict between family members and healthcare providers in intensive care units	Nurses highlighted the level of stress when conflict arises, the need to be cautious in providing care and communicating with family and the need for support for nurses

(Continues)

TABLE 2 (Continued)

Citation	Sample/setting/quality	Methods/analysis	Aim/research question/hypothesis	Relevant findings
Engström et al. (2011)	Eight critical care nurses (purposive sampling) General ICU (Sweden) <i>Quality: 9 of 10 criteria met (CASP)</i>	Qualitative Semi-structured Interviews Content analysis	To describe critical care nurses' experience of relatives' involvement in the nursing care of patients in an ICU	Relative involvement is seen as a resource for nurses The environment and lack of time were perceived as obstacles to involvement of relatives
Esmaeili et al. (2014a)	21 nurses with at least 2 years experience working in critical care units (purposive sampling) Critical care units of teaching hospitals (Iran) <i>Quality: 9 of 10 criteria met (CASP)</i>	Qualitative Exploratory methodology Semi-structured interviews Thematic analysis	To identify and describe the barriers to patient-centred care from the nurses' perspective and experience	Lack of common understanding of teamwork Personal barriers—Lack of motivation and holistic view Organisational barriers—considering experiences of model workforce in the organisation
Gélinas et al. (2012)	42 Intensive care nurses Five ICUs (Canada) <i>Quality: 10 of 10 criteria met (CASP)</i>	Qualitative—descriptive Focus groups Thematic analysis using NVIVO for coding and categorisation	To describe stressors experienced by nurses in providing EOL care in intensive care units	EOL care is stressful for ICU nurses and education and support programmes should be developed to ensure quality EOL in the critical care environment
Goode and Rowe (2001)	16 ICU nurses (enrolled & registered) 11 bed ICU in major teaching hospital (Ireland) <i>Quality: 8 of 10 criteria met (CASP)</i>	Mixed methods Two-part questionnaire, focus-groups interviews Descriptive statistics and content analysis	To explore nurses perceptions and experiences of concept of primary nursing in ICU	Primary nursing is an effective method of delivery of care in ICU. However, nurses suffer stress and require support due to the long period of one-to-one nursing of patient and their family

(Continues)

TABLE 2 (Continued)

Citation	Sample/setting/quality	Methods/analysis	Aim/research question/hypothesis	Relevant findings
Gross (2006)	<p>23 ICU nurses</p> <p>Northeastern community hospital</p> <p>(Florida, USA)</p> <p>Quality: 11 of 12 criteria met (MMAT)</p>	<p>Mixed methods</p> <p>Exploratory/descriptive design</p> <p>Instrument: The National Survey of Critical Care Nurses Regarding EOL Care—slightly modified</p> <p>Descriptive statistics</p>	To investigate critical care nurses' perceptions of obstacles and facilitators of end-of-life care	<p>Obstacles:</p> <ul style="list-style-type: none"> • Overly aggressive treatment • Physicians overly optimistic • Communication with families • Nurses unaware of patient advance care directives • Numerous contact from members of families • Lack of ethics support and educational needs • Staffing/organisational issues • Disagreement with physicians on direction of care • Nurses morals conflicting with plan of care <p>Supports/facilitators</p> <ul style="list-style-type: none"> • Providing a peaceful beside scene • Allowing families time with patient • Continuity of care—organisational support • Compassionate and caring physicians • Support of family wishes to withdraw treatment • Physicians—communicate with family • Support from fellow nurses
Halcomb et al. (2004)	<p>Convenience sample of ten ICU nurses</p> <p>Three separate ICUs within one health service ranging from a major teaching hospital to a smaller urban centre</p> <p>(Australia)</p> <p>Quality: 9 of 10 criteria met (CASP)</p>	<p>Qualitative</p> <p>Conversational Interviews informed by hermeneutic phenomenology as described by Van Manen</p> <p>Thematic analysis</p>	To explore the experience of ICU nurses caring for clients who have treatment withdrawn or withheld	<p>Provision of care for treatment withdrawal or withheld in ICU represents a significant personal and professional struggle</p> <p>Improved communication between health professionals, debriefing and education would benefit staff, families and improve patient care</p>

(Continues)

TABLE 2 (Continued)

Citation	Sample/setting/quality	Methods/analysis	Aim/research question/hypothesis	Relevant findings
Hansen et al. (2009)	Phase 1—91 ICU nurses Phase 2—127 ICU nurses (USA) Quality: 11 of 12 criteria met (MMAT)	Mixed 5-subscale tool—30 items with 4-point Likert scale—before and after interventions Phase 2—qualitative Analysis?	To describe nurses' perceptions of (1) knowledge and ability, (2) work environment, (3) support for staff, (4) support for patients and their families and (5) stress related to specific work situations in the context of EOL care before and after implementation of approaches to improve EOL care	Better communication: nurses, physicians and families Education—suggested for nurses, physicians and patients families Suggestions for written protocols and nursing management of pain, comfort in death Nurses were not happy with how the patient and families wishes were not followed by physicians and treatment plans Lack of spiritual support for patients
Hoye and Severinsson (2010)	16 critical care nurses (purposive sampling) Three university hospitals (Norway) Quality: 9 of 10 criteria met CASP	Qualitative Multistage focus group interviews of eight groups of three to seven participants Content analysis	To explore ICU nurses' experiences of possible conflicts related to practical situations when encountering cultural diverse families of critically ill patients	Nurses need to negotiate with culturally diverse family members to address conflicts. They should establish a balance between ethnocentricity and cultural sensitivity An implication was found to be that nurses need increased education in diversity assessment
Kirchhoff et al. (2000)	Random sample of eight ICU nurses at two hospitals 21 registered nurses (USA) Quality: 8 of 10 criteria met (CASP)	Cross-sectional descriptive design Focus groups Content analysis	To describe EOL care in intensive care units as perceived by critical care nurses	Disagreement or uncertainty about prognosis and communication problems complicates EOL care in ICU Changes in physical environment, education and EOL care, staff support and better communication would improve care of dying patients and their families
McGrath (2008)	10 critical care nurses purposefully selected Two cardio-thoracic critical care units (Ireland) Quality: 10 of 10 criteria met (CASP)	Qualitative Phenomenological hermeneutics Unstructured interviews Hermeneutic analysis	Explore the lived experiences of critical care nurses within a technological environment	Life-saving technology that supports the lives of critically ill patients can bring nurses close to their patient and families Nurses must transcend the obtrusive nature of technology to be able to deliver expert care to patients Suggests supporting, assisting and educating inexperienced nurses in the critical care area

(Continues)

TABLE 2 (Continued)

Citation	Sample/setting/quality	Methods/analysis	Aim/research question/hypothesis	Relevant findings
Olausson et al. (2014)	14 ICU nurses Purpose sampling Three ICUs—one regional and two university hospitals (Sweden) <i>Quality:</i> 10 of 10 criteria met (CASP)	Qualitative Phenomenological Lifeworld interviews and photovoice methodology	To explore nurses' lived experiences of ICU bed spaces as a place of care for the critically ill	Caring here means being uncompromisingly on call and a commitment to promoting recovery and well-being A place of care comprises observing and being observed, a broken promise, cherishing life, ethical predicament and creating a caring atmosphere The architectural design of the ICU bed space impacts greatly on nurses' well-being, work satisfaction and the provision of humanistic care
Popejoy et al. (2009)	22 ICU nurses Private community hospital (Midwest, USA) <i>Quality:</i> 7 of 10 criteria met (CASP)	Qualitative Focus groups Thematic analysis (two ; researchers)	To explore nurses' perceptions of caring for the dying in order to design a palliative care programme in an adult intensive care unit	Findings support the need to build strong collegial relationships between members of the healthcare team in order to effectively support communication about EOL decision-making
Slatore et al. (2012)	54 intensive care nurses participated with 33 interviewed medical and general intensive care units (Canada) <i>Quality:</i> 9 of 10 criteria met (CASP)	Qualitative Ethnographic 315 hr observation and 53 semi-structured interviews Thematic analysis using NVivo	To perform a qualitative analysis of nurses' communications	Nurses act as interpreter between physician and patients and their families Nurses can suffer stress as they play the enhanced role in the delivery of patient-centred care
Trovo De Araujo et al. (2004)	10 ICU nurses Clinical and surgical ICU (Brazil) <i>Quality:</i> 9 of 10 criteria met (CASP)	Qualitative—discourse analysis Semi-structured interviews Content analysis (Bardin's method)	To assess whether ICU nurses view the establishment of communication with patients beyond therapeutic possibilities as an effective palliative therapeutic resource and which aspects of this communication they valued most	ICU nurses consider communication with dying patients an effective therapeutic resource Nurses view themselves as ill prepared Nurses often distance themselves from their patient due to their own feelings and lack of ability

(Continues)

TABLE 2 (Continued)

Citation	Sample/setting/quality	Methods/analysis	Aim/research question/hypothesis	Relevant findings
Yang and McIlfatrick (2001)	10 ICU nurses Medical, surgical and cardiac ICUs at two teaching hospitals (Taiwan)	Qualitative Phenomenological (Husserl) In-depth interviews	To explore the experience of caring for dying patients in ICUs	Education for ICU nurses must address issues such as nurse attitude to EOL, stressors and coping strategies for EOL care to facilitate better care of dying patients in ICU
Quality: 9 of 10 criteria met (CASP)				

Reports of full quality appraisal outlined in Appendix S1 and S2. Quality assessment using CASP (10 criteria) or MMAT (12 criteria) (CASP 2013; Pluye et al., 2011)^aEOL—end of life.

on research validity as well as synthesis and conclusions. Quality criteria are recorded in Supporting Information. No papers were excluded on quality criteria.

2.5 | Data abstraction

Whittemore and Knafel (2005) suggest methods of analysis that are analytical and systematic assist in providing unbiased and thorough interpretation of primary sources. Supporting the requirement for rigorous and transparent practices the data abstraction process was underpinned by stage three of the multistage method of analysis and synthesis developed by Carroll et al. (2013). Stage three of the “best-fit” framework synthesis requires extraction and coding of evidence from the chosen studies against an a priori framework (Figure 1). NVIVO 10 software was used to code and manage analyses. The attributes of barrier or support/facilitator were also sought. The first author coded the text; the NVIVO file was available to all researchers, and node breakdown, matrix queries and results were discussed on a regular basis to ensure a rigorous data analysis process.

2.6 | Synthesis

The “best-fit” framework synthesis method developed and refined by Carroll et al. (2013) provided a strong foundation from which to generate synthesis. This multistage approach (Figure 1) entails identifying relevant literature from which to generate the a priori framework through thematic synthesis and quality appraisal; coding evidence against the a priori framework; creation of new themes using evidence that does not fit with the a priori framework; combining new themes and those from the original a priori framework; and revisiting the evidence to explore relationships between concepts to generate new ideas or models. The synthesis process for this review adapted from this approach is outlined in Figure 1.

An analysis of the concept of patient-centred nursing in the context of intensive care (Jakimowicz & Perry, 2015) was identified as the most relevant a priori framework. Other conceptual models were considered; for example (McCance & McCormack, 2017), person-centred framework, developed for use with older person care, was discounted as it did not address the complexities, acuity and intense relationships encountered in ICU nursing. The preferred framework was developed using a recognised concept analysis approach. Defining attributes, antecedents and consequences of the concept of patient-centred nursing in the context of ICU were identified and tabled in this framework. Preliminary analysis and determination of the relevance of this framework aligned closely with the first two stages of the “best-fit” framework synthesis method, generating the, “a priori framework from identified publication(s) using thematic analysis” (Carroll et al., 2013, p. 3). The resultant ICU patient-centred nursing framework comprises elements sensitive to identification of barriers or supports/facilitators to patient-centred nursing in the ICU and is an appropriate model on which to frame analysis and synthesis of abstracted data to answer the research question of this review.

New themes were created through thematic analysis from the coded evidence (stage 3). All included research studies were in the context of ICU; however, their topics were heterogenic resulting in a new category that could not be coded against the original framework (stage 4). A contemporary structure and themes were produced, supported by the evidence (stage 5). The “best-fit” framework method required revisiting the evidence and exploration of relationships between themes and categories (stage 6), and data were summarised by category from each paper. It was important to balance reduction in the data with retention of the context and the original meanings. Interpretation of the data involved mapping connections and generating themes from the data set. This iterative process was influenced by the original aim of the research, and conclusions were shaped from the findings. Through the interpretation process, the researchers looked beyond the individual source papers’ primary aims and drew out material that related to factors referred to as supports/facilitators or barriers to patient-centred nursing in the context of ICU.

Meta-analysis of the mixed-methods papers would have been ineffective for this review due to their small number and heterogeneous nature. Although consensus is lacking with regard to the narrative synthesis of quantitative data, the Centre for Reviews and Dissemination systematic review handbook endorses a model that recommends reviewing relationships between the papers’ aim, design and method (CRD 2008, p. 48). Hence, mixed-methods papers were analysed narratively and integrated with qualitative findings, forming a single data set for analysis purposes.

3 | RESULTS

3.1 | Characteristics of the literature

The majority of findings from the included papers discussed barriers to patient-centred nursing; supports and facilitators were less often considered. Material clustered around several elements of the framework: patient identity; biomedical nursing practice; professional and compassionate presence; and nurse job satisfaction. All of the included studies examined issues in critical care settings but related to a heterogenic group of topics: end-of-life (8); communication (4); family (3); technology (3); treatment withheld/withdrawn (1); environment (1); primary nursing (1); moral distress (1); and patient-centred nursing itself (1). These topics are noted and considered in discussion of the results.

Papers originated in Australia (2); Brazil (1); Canada (3); Iran (1); Ireland (2); Jordan (1); Korea (1); Norway (1); Sweden (3); Taiwan (1); the UK (1); and the USA (6). Studies in this review used qualitative (19) and mixed (4) designs, influenced by a range of methodologies. The mixed-methods papers were mainly exploratory/descriptive designs (Table 2).

3.2 | Themes

Five themes were identified, four of which transpired from coding against the a priori framework: (i) Nurse identity; (ii) Organisation;

(iii) Communication; and (iv) Relationships. One theme, derived from evidence, was not a “good fit”: (v) ICU Ideology (stage 5). Theme five was born from matrix queries and not coded directly against the a priori framework; it does, however, contain categories describing factors that may act as barriers, supports or facilitators to elements of the ICU patient-centred nursing framework. Categories of each of the five themes are outlined in Table 3 (and definitions are outlined in Supporting Information). Barriers and supports/facilitators to provision of patient-centred nursing were interwoven through the literature and illustrated in Figure 3.

3.2.1 | Nurse identity

Nurse identity comprises nurses’ values and their experiences. According to the literature, critical care nurses’ experiences, as individuals but also collectively, may affect their provision of patient-centred nursing in both positive and negative ways. Nurses’ stress, dealing with conflict and ethical dilemmas, moral distress and their sense of frustration and detachment from patient care situations limited their ability to provide patient-centred nursing. Moral distress is generally defined as negative feelings that occur when people are not able to act in accordance with their ethical beliefs, or they act in a way contrary to their professional or personal values and integrity (Choe, Kang, & Park, 2015; Epp, 2012). Participants described anxiety, moral distress, stress and frustration caused by pressure of one-to-one nursing and precipitous changes in treatment goals by physicians without their involvement in decision-making. This was illustrated in a study exploring different nursing models, where a participant explained the changing pace: “saving somebody’s life ... And then

TABLE 3 Barriers and facilitators to Patient-Centred Nursing in the ICU

Barriers	Facilitators
<i>Nurse identity</i>	
Stress	Positive values
Ethical dilemma	
Detachment/frustration	
<i>Organisation</i>	
Environment	
Workload pressure	
<i>Communication</i>	
Nurse/physician	Nurse/family/sig other
Nurse/family/sig other	
Physician/family	
<i>Relationships</i>	
Family/sig other	Colleagues
Physicians	Managers
<i>ICU Ideology</i>	
Treat at all costs	Treat at all costs
False hope	Technology
Technology	

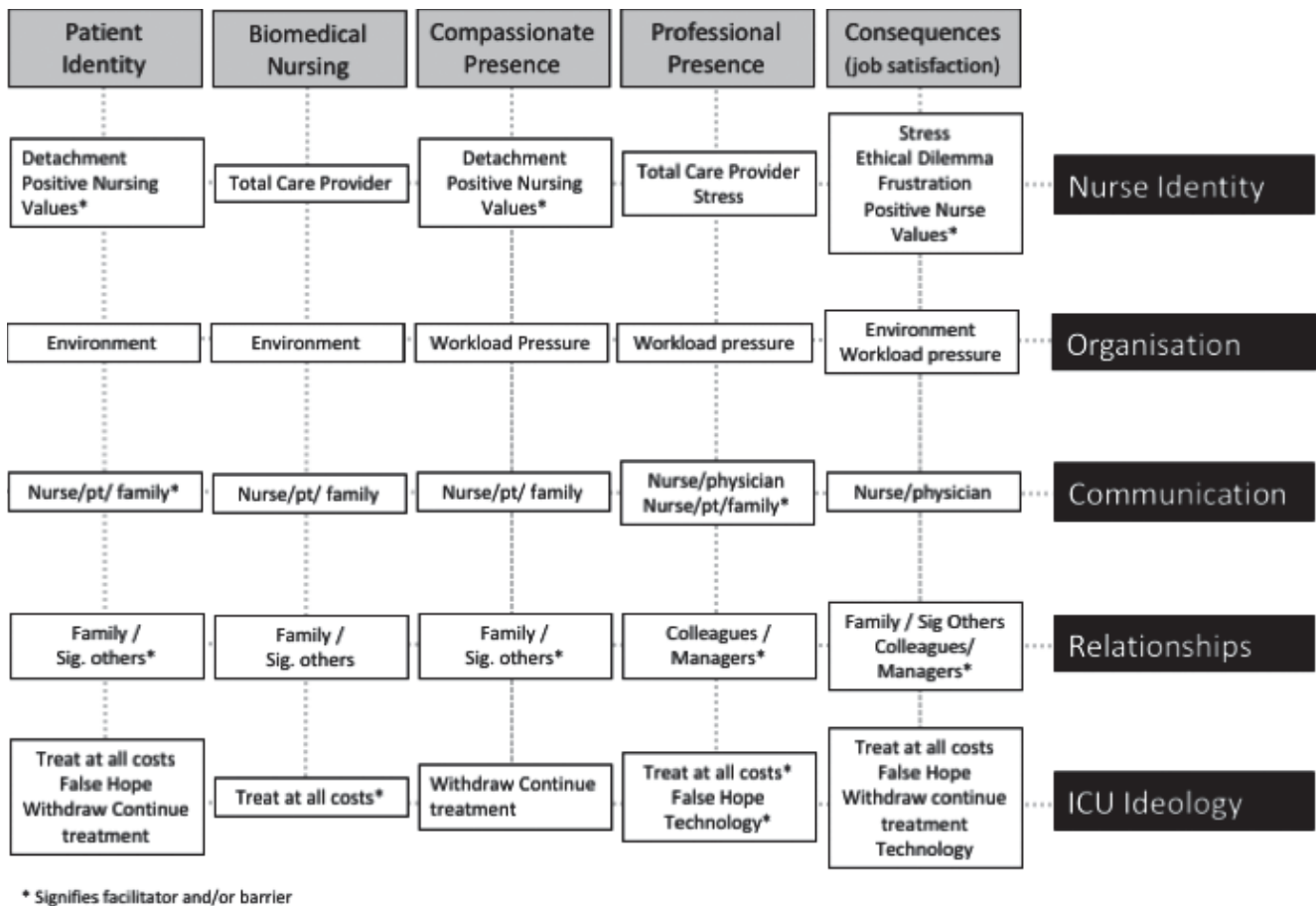


FIGURE 3 Theme and category framework. *Signifies facilitator and/or barrier

the next minute one of the doctors just goes ‘right that’s it’” (Goode & Rowe, 2001, p. 299). Similar findings emerged from other studies where nurses felt powerless and brutal inflicting uncomfortable and painful procedures on patients they deemed had a poor prognosis (Choe et al., 2015; Halcomb, Daly, Jackson, & Davidson, 2004; McGrath, 2008; Popejoy, Brandt, Beck, & Antal, 2009). Notwithstanding the various topics and settings of the included studies, most critical care nurses believed they were not able to provide their patient with the best care, according to their values, if they felt stressed themselves. Conflict with physicians contributed to nurses’ level of stress (Hansen, Goodell, DeHaven, & Smith, 2009) and often created ethical dilemmas, a factor acting as a barrier to patient-centred nursing (Choe et al., 2015).

Positive nursing values played an important role in supporting nurses and acted as a support/facilitator to nurse job satisfaction, compassionate and professional presence. ICU nurses caring for patients who had treatment withdrawn or withheld felt that by providing patient-centred nursing they contributed positively to their patients’ experience in the ICU and this offsets their feelings of failure (Halcomb et al., 2004). Similarly, research describing end-of-life care in ICU discovered that if there was agreement between family–nurse–physician, and the patient was made comfortable, then the nurse felt rewarded and satisfied: “If I can walk away and feel like

this death met what my values are, the family was okay, the patient was comfortable ... I can walk away from that and feel, that is my job, it’s OK” (Kirchhoff et al., 2000). Nurses’ understanding of patients’ needs and meeting these expectations led to feelings of satisfaction and reward during end-of-life care as well as patient recovery. The gravity of the situation often created interconnectedness between nurses, patients and families, generating feelings of joy and hope for the nurses as their patients met treatment milestones and began to recover (McGrath, 2008). The satisfaction experienced in effectively developing therapeutic relationships and advocating for their patient was linked to professional, compassionate presence and job satisfaction. Positive values, agreement on treatment plans or goals and a sense of satisfaction supported and facilitated nurses’ job satisfaction and were key elements of the ICU patient-centred nursing framework.

3.2.2 | Organisation

The limitations of the built environment together with the organisation of the ICU and systemic pressures of the setting negatively impacted critical care nurses’ provision of patient-centred nursing. In this taxing environment, nurses found themselves vying for space to provide treatment to their patient when the family were in

attendance; this became a barrier to nurses' provision of clinical procedures. Furthermore, the close family involvement sometimes impacted nurses' ability to maintain patient privacy. Swedish critical care nurses described patients who, "tried to cover themselves up when relatives came to visit . . . You have to remember to maintain the integrity of the patient" (Engström, Uusitalo, & Engström, 2011, p. 5). Likewise, lack of space and privacy for their patient and family impacted patient-centred nursing especially in an end-of-life situation where maintaining patient identity and compassionate care is vital (Bloomer & O'Connor, 2012; Gélinas, Fillion, Robitaille, & Truchon, 2012; Olausson, Ekebergh, & Österberg, 2014). Participants also acknowledged their need to be able to remove themselves from emotional or stressful situations at the bedside, but found there was "nowhere to escape" (Bloomer & O'Connor, 2012). They needed space to "think, reflect and prepare nursing activities" (Olausson et al., 2014, p. 130). Similarly, nurses felt trapped, which created feelings of anxiety and uncertainty: "I went to the storeroom and had a good howl" (Bloomer & O'Connor, 2012, p. 28). Lack of space and inability to leave the bedside could act as a barrier to both clinical activities and nurse job satisfaction.

Organisational issues such as workload, bed and personnel shortages pressured nurses (Choe et al., 2015; Esmaeili, Cheraghi, & Salali, 2014, p. 5). Participants depicted heavy workload as being responsible for "ethical insensitivity" leading to feelings of remorse and moral distress as they treated their patients "mechanically and with a cool manner" (Choe et al., 2015, p. 1633). Likewise, pressure for beds significantly impacted provision of compassionate and professional nursing when a patient was dying (Bloomer & O'Connor, 2012; Gélinas et al., 2012). Participants described having to negotiate for more ICU time for their patient, and being pushed to relocate a dying patient, causing emotional distress—also a barrier to patient-centred-nursing (Bloomer & O'Connor, 2012; Crump, Schaffer, & Schulte, 2010; Gross, 2006). Researchers investigating end-of-life care in ICU described lack of support for nurses as a stressor: "lack of emotional support could make nurses less available to patients' families and place them at risk for coping problems and intense suffering" (Gélinas et al., 2012, pp. 32–33); an example was voiced by a participant who stated ". . . sometimes I cry once I get home." Participants felt distressed when their workload thwarted efforts of advocating for patients' autonomy and "respecting human dignity" (Choe et al., 2015, p. 1687).

3.2.3 | Communication

Important elements of ICU patient-centred nursing such as development of a therapeutic relationship and provision of compassionate and professional presence could be impacted negatively by poor communication, which was also strongly linked with other themes. Communication with critically ill patients could be difficult due to sedation, reduced level of consciousness and endotracheal intubation. Some nurses mentioned that it was a "one-way" conversation where they "talk all the time to the patient . . . but don't really get anything much back" (Alasad & Ahmad, 2005). This acted as a barrier

to maintenance of patient identity as the nurse often did not know the patient's psychosocial background, beliefs and values. Communication issues compounded patient and family anxiety (Crocker & Scholes, 2009; Gross, 2006; Slatore et al., 2012; Trovo De Araujo, Paes Da Silva, & Geraldo Da Silva, 2004). As in other care areas, language barriers could also make it difficult for nurses to interact with their patient, gain insight into their patient's identity and develop a therapeutic relationship (Hoye & Severinsson, 2010; McGrath, 2008; Yang & McIlfratrick, 2001).

Family or significant others facilitated communication in patient-centred nursing by relaying patient wishes during their illness and maintaining the sense of patient identity (Engström et al., 2011). Swedish researchers reported relatives of the patient "can tell you things about the patient . . . becomes more like a whole human person then" (Engström et al., 2011, p. 4). This communication with family or significant others was important to maintaining patient identity. Additionally, having one designated member of the patient's family as a contact ensured the wider family received information and relieved the nurse of the communication burden (Crump et al., 2010; Gross, 2006). Members of the multidisciplinary team, such as social workers or chaplains within ICU, assisted critical care nurses in providing patient-centred communication to family members or significant others (Popejoy et al., 2009). Chaplains and social workers were a valuable resource, providing support to critical care nurses (Kirchhoff et al., 2000), but also satisfying the emotional and psychosocial needs of the patients' family through communication (Gélinas et al., 2012), a complex and important component of patient-centred nursing in ICU.

3.2.4 | Relationships

Relationships within critical care were reported as complex. The relationship between nurses and physicians was sometimes strained; physicians' actions and behaviours regularly impacted critical care nurses' provision of patient-centred nursing and could not be ignored. This is illustrated by a US study investigating end of life in ICU where participants stated that they were often left "picking up the pieces" with families when "physicians insulate themselves by explaining the patient's condition in technical jargon" and then leave (Kirchhoff et al., 2000, p. 40). Conflict occurred due to differences of opinion regarding continuance or withdrawal of treatment; where nurses perceived false hope was offered by physicians and respect for nurses' role was lacking (Aslakson et al., 2012; Choe et al., 2015; Crump et al., 2010; Goode & Rowe, 2001; Halcomb et al., 2004; Kirchhoff et al., 2000; McGrath, 2008; Popejoy et al., 2009). Tensions were created for nurses by physicians' behaviour when they were not included in care planning, decision-making (Choe et al., 2015; Gélinas et al., 2012) and communication with patient/family (Aslakson et al., 2012; Kirchhoff et al., 2000) and were consequently unable to effectively advocate for their patients (Halcomb et al., 2004; McGrath, 2008). Resultant ethical dilemmas caused nurses to feel their personal integrity was compromised (Aslakson et al., 2012; Choe et al., 2015). Nurses felt left out of decision-making and care

planning, as explained by Canadian participants: “It ended up that both times the doctor didn’t include me in the meeting with the family to find out what had been going on ... so all of a sudden the family arrived .. and he told me ‘okay we are going to unplug everything ... they were looking at me’” (Gélinas et al., 2012, p. 31). Swedish research found collaborative planning and constructive dialogue with physicians positively impacted quality of patient care (Cederwall, Plos, Rose, Dübeck, & Ringdal, 2014). Alternatively, lack of inclusion in communication and decision-making caused nurses to feel frustrated and disrespected, impacting the nurse–physician relationship and their ability to provide effective patient-centred nursing.

Developing a therapeutic relationship with patients and their families is an important component of patient-centred nursing and hindrance poses barriers to quality care. Nurses’ indifference and disengagement from patients and families due to moral distress disrupts the process of building the trust and rapport necessary to develop an effective therapeutic relationship (Choe et al., 2015). Additionally, the often highly emotional environment could trigger conflict and challenging behaviours from families or significant others (Engström et al., 2011). Sometimes this could impede nurses’ ability to provide what is clinically required and concentrate on the fragile condition of their patient (Edwards, Thronson, & Dyck, 2012). Family conflict, within families or through disagreement around treatment plans, also heightened stress for ICU nurses (Hansen et al., 2009); one participant “did not want to come to work” or wanted to “call in sick” rather than deal with a challenging family situation unsupported (Edwards et al., 2012). Fractured relationships in ICU act as a barrier to maintenance of patient identity and nurse job satisfaction, both elements of the ICU patient-centred nursing process.

Colleagues and managers facilitated provision of patient-centred nursing. Nurses believed that support from their peers and managers encouraged and motivated them in their challenging roles. Clinical discussions between nurses of various levels of experience promoted patient safety and treatment goals (Cederwall et al., 2014), improved nurses’ clinical skills, knowledge and expertise, and improved biomedical nursing practice as well as maintaining patient identity (Esmaili et al., 2014; McGrath, 2008). An Irish study participant concurred “I actually like somebody else to come over ... and say ‘oh maybe you should do that or would this help?’” (McGrath, 2008, p. 1101). The cumulative wisdom of nurses provided a level of security and support for individual nurses (Edwards et al., 2012). A Canadian participant felt, “The reason why I think it was handled well was because as a nurse I felt supported ... by my colleagues, ... by my manager. And then you can manage anything, right? When you feel that you’re in a team ...” (Edwards et al., 2012, p. 69). When nurses felt emotionally drained or had been part of a particularly difficult procedure or death, they discussed their feelings with their peers. Kirchhoff et al. (2000, p. 41) recorded “co-workers who have become good friends, and honestly I feel like they are the only people that can understand ... you know unless you live it, you don’t really understand ... you go home and ... it’s like, you know, yeah I had somebody die today, and people who don’t do this, don’t get it.

They just don’t get it.” Colleagues understood, whereas families or friends did not (Bloomer & O’Connor, 2012; Kirchhoff et al., 2000). Collegial relationships powerfully facilitated nurse job satisfaction, compassionate presence and nurse retention, important components of the ICU patient-centred-nursing framework.

3.2.5 | Ideology of ICU

The ideology of the ICU was exposed in the literature as an important factor impacting delivery of effective patient-centred nursing. Treating at all costs, false hope, decisions to withdraw or continue treatment and technology were categories identified as sometimes compromising delivery of patient-centred nursing. Active, aggressive and sometimes inappropriate treatment causing discomfort or pain to the patient led to nurses feeling their clinical skills and knowledge were wasted or being used improperly. False hope offered by physicians led to prolonged decision-making and unnecessary aggressive treatment (Crump et al., 2010) causing ethical dilemmas (Choe et al., 2015) for nurses performing painful procedures on patients they deemed had a poor prognosis (Bloomer & O’Connor, 2012). Moral distress, negative feelings caused by ethical dilemmas (Choe et al., 2015), was presented as a serious issue for ICU nurses, affecting their psychological and physical well-being, linking with job satisfaction (Goode & Rowe, 2001; Halcomb et al., 2004; Yang & McIlfrack, 2001). Nurses found these constraints difficult to work under; they spent extended periods with the patient and their family and believed they had a greater appreciation of the psychosocial and environmental aspects of the patient than many physicians (Hansen et al., 2009). Provision of professional nursing presence and nurse job satisfaction are important elements of the ICU patient-centred nursing framework sometimes impacted by ICU ideology.

The biomedical discourse within the ICU impacted the nurses’ professional and compassionate presence: “I think that at (sic) ICU we end up being too technical ... what we usually see is that the nursing team tends to distance itself” (Trovo De Araujo et al., 2004, p. 146). Additionally, the strict standardised protocols of ICU sometimes did not account for patient’s individual needs; a Swedish study exploring prolonged weaning from ventilation found it important to structure individualised treatment plans and goals to ensure patient identity was preserved (Cederwall et al., 2014). Furthermore, concern for the nurses’ professional standing and the limits of the ICU domain sometimes resulted in nursing that was less patient-centred (Bloomer & O’Connor, 2012). One Canadian participant stated “in the ICU we save people. We’re not end of life in the ICU” (Gélinas et al., 2012). This attitude to end-of-life care in the ICU was seen as a barrier to maintenance of patient identity; consideration of patients’ advance care directives as well as their quality of life, if they survived, could be compromised. Patient-centred elements were often viewed as overlooked in the life-saving, curative environment of the ICU (Kirchhoff et al., 2000).

Alternatively, ICU ideology and the environment were also reported to support patient-centred nursing. Olausson et al. (2014) recounted nurses being drawn closer to the patient. The

technologically intricate environment “defines this place, it transforms the critically ill body from being something invisible to something visible” (McGrath, 2008; Olausson et al., 2014, p. 129). Technology and equipment used by nurses to provide biomedical and clinical patient-centred nursing often became “an extension of the nurses’ bodies, their extended arms and eyes,” constituting safety and security for both patient and nurse (Olausson et al., 2014, p. 129). A study examining weaning from ventilation explained how nurses relied upon the “technology-generated information” to “know” the biomedical aspects of the patient and use their highly developed clinical skills and knowledge, providing patient-centred nursing (Cederwall et al., 2014; Crocker & Scholes, 2009, p. 291). The ICU ideology and the intensive care environment can support nurses in providing effective biomedical nursing practice, an important component of the ICU patient-centred nursing framework.

In summary, these five themes comprised barriers and supports/facilitators to critical care nurses’ provision of effective patient-centred nursing, with barriers more prominent than supports in the literature.

4 | DISCUSSION

This review found provision of patient-centred nursing in ICU may be compromised by some factors of the critical care environment. Nurse identity, Organisation, Communication, Relationships and ICU Ideology were themes identified as encompassing barriers and supports/facilitators to patient-centred nursing in ICU. These themes illustrate the impact of the critical care environment on elements of the ICU patient-centred framework such as patient identity; biomedical nursing practice; professional and compassionate presence; and nurse job satisfaction and retention. Every theme and related categories referred to factors that act as barriers to provision of patient-centred nursing in the ICU, whilst only four referred to supports/facilitators (Table 3). Findings illustrate the challenges and complexity of providing effective patient-centred nursing in this dynamic environment.

Critical care nurses’ inclusion in decision-making processes around treatment options and goals may be impeded in ICU, impacting integral components of the patient-centred nursing framework, such as patient advocacy, identity and nurse professionalism. The importance of supporting patient-centred nursing at “end of life” in ICU was highlighted in reviewed and other studies (Virdun, Luckett, Davidson, & Phillips, 2015). However, access to life-saving technology (McGrath, 2008) and a culture of aggressive treatment (Gross, 2006) can make it difficult to accommodate this ethic in some ICUs, and act as obstacles to patient-centred end-of-life care in the ICU. Hillman and Cardona-Morrell (2015) suggest that intensivists are trained to “do something” to cure or save lives and little consideration is accorded to acceptance of dying or ageing. Transparency in end-of-life care situations is best practice (Hillman & Cardona-Morrell, 2015), but where a physician falls short of open communication with nurses and patients, this can result in false hope (Gélinas et al.,

2012). Both false hope and continuing treatment deemed to be futile due to poor prognosis (Halcomb et al., 2004) cause disharmony and frustration to nurses who spend many more hours at the bedside than physicians. An integral factor for patient-centred nursing, particularly in a palliative or “end-of-life” situation, is effective communication and appropriate treatments aligned with the patients’ wishes (Virdun et al., 2015). When communication falters and the patient’s individual identity is compromised, the dominant ICU ideology may skew decision-making processes resulting in medical procedures not in line with the patient’s wishes, thus impacting delivery of patient-centred nursing.

Decision-making processes and nurse–physician relationships are impacted when communication falters, increasing the challenges for critical care nurses in providing patient-centred nursing. The nurse–doctor relationship is historically complex, particularly in relation to delineation or recognition of nurses’ opinion or voice, a topic that cross-cuts the themes of this review. Involvement in care planning and decision-making is an important component of the critical care nursing role (Davidson et al., 2007). Exclusion restricts nurses voicing their opinion, devalues their contribution, and their ability to advocate for their patient by keeping patients and their families fully informed, thereby impacting maintenance of the patient’s autonomy and identity (Hoye & Severinsson, 2010). Alternatively, collaboration and positive collegial relationships were found to support and facilitate provision of patient-centred nursing. Improved collaboration is necessary to counter discordant relationships in intensive care which can negatively impact patient satisfaction, maintenance of the patient identity, nurses’ professional presence and job satisfaction which are all elements of the ICU patient-centred nursing framework.

Job satisfaction is also impacted when critical care nurses are impeded or obstructed from fulfilling their role. Many areas of health care have been slow to adapt to the expanding role of the nurse, with nurses continuing to be excluded from care planning and decision-making. Increasingly, nurses are demanding a place at the decision-making table, to be recognised as a “voting” member of the patient’s medical team as a means of improving job satisfaction. Specialty areas such as intensive care tend to attract nurses who make the effort to gain the specialist knowledge and skills to be able to contribute an informed opinion. Many desire increased autonomy (Sawatzky et al., 2015), and perceive respect and empowerment in their role as intrinsic to job satisfaction. The relationship between barriers, supports and facilitators to nurses fulfilling and being fulfilled in their role is somewhat paradoxical; on one hand, continuous one-to-one nursing offers an avenue for altruism leading to satisfaction, whilst the interconnectedness and closeness to patients and families may also cause feelings of failure, fatigue and distress. This tension can cause conflict, inner struggle, emotional turmoil and incongruence for critical care nurses, possibly contributing to burnout (Epp, 2012) and compassion fatigue (Jenkins & Warren, 2012).

Burnout and disengagement have been linked to nurses’ intention to leave (Sawatzky et al., 2015) whereas compassion satisfaction, empowerment and increased autonomy (van Dam et al., 2013)

have been associated with improved patient care and job satisfaction, influencing nurses to stay in the critical care nursing workforce (Sawatzky et al., 2015). The predicted increasing nursing shortage is a significant problem in both developing and developed countries. Specialty areas like critical care are especially affected by this crisis (Chan & Lai, 2010) as services expand to accommodate the ageing population and the increasing rate of attrition (AHWAC 2011). The nursing workforce is a vital component of health systems providing service to the world's population (Perry, Lamont, Brunero, Gallagher, & Duffield, 2015). Our review reveals barriers to nurses' fulfilment of their challenging professional role impacting their personal integrity and emotional well-being, resulting in moral distress and fatigue. Other researchers agree (Choe et al., 2015; Jenkins & Warren, 2012) suggesting this reduces their job satisfaction, professional quality of life and desire to stay in the workforce (van Dam et al., 2013; Sawatzky et al., 2015). Increased recruitment has been suggested to alleviate the problem of nurse shortages, whilst efforts to retain existing experienced critical care nurses are all too often lacking (Chan & Lai, 2010).

Recognition of factors that engage and encourage critical care nurses in their challenging work to accomplish effective patient-centred nursing has implications for current and future practice. This review has highlighted factors that act as barriers, supports and facilitators to provision of patient-centred nursing in the ICU. It is tempting to apply frameworks from other areas of health to attempt operationalisation of the patient-centred model and remedy issues in the ICU. The patient-centred nursing model of care is well developed in settings such as palliative and aged care, often underpinned by the McCance and McCormack (2017) framework originally developed for these contexts. It is consistently evident in this review that unique factors act as barriers to critical care nurses' provision of effective patient-centred nursing; therefore, a model unique to ICU is warranted, to empower critical care nurses, improve patient experience and health outcomes.

4.1 | Review limitations

Whittemore and Knafl have been criticised for their lack of guidance on the methods of data analysis for integrative reviews. This review adopted an established method of qualitative analysis, described as particularly appropriate for textual analysis. Nonetheless, there is debate around framework analysis, and it has been claimed that findings may be "quantified" rather than meeting the intention of qualitative research to capture diversity about a phenomenon. To counter this, the authors practiced reflexive engagement with each other and the data, regularly discussing the first author's position of ICU nurse and the influence of her experiences on interpretation.

5 | CONCLUSION

This review provides information to address the factors acting as barriers to critical care nurses' fulfilment of their role, and to

enhance factors that support and facilitate delivery of effective patient-centred nursing in ICU. The complex nature of intensive care nursing and the moral distress and fatigue that nurses may encounter justifies development of a unique model of patient-centred care for the ICU and establishment of early interventions to avert or manage harmful consequences for nurses and consequently for patient care. Strategies are needed to support and empower nurses in their professional quality of life in the ICU and to provide a basis for delivery of effective patient-centred nursing. Research is required for deeper understanding of the concepts and relationships between patient-centred nursing and professional quality of life in critical care areas to sustain, encourage and attract critical care nurses to remain in the workforce and to formulate policy and practice guidelines to support delivery of this unique model.

6 | RELEVANCE TO CLINICAL PRACTICE

For patient-centred nursing to be prioritised, space must be made for both the patient's and nurse's "voice," an element discussed in our review as often compromised in the ICU environment. In developing a model to enable patient-centred care in this unique environment, engagement with emerging patient and consumer groups may result in a deeper understanding of the needs and desires of the patient population, place nurses in a stronger position to advocate for their patients, and lead to improved job satisfaction.

Findings from this review indicate nurses' engagement in provision of patient-centred nursing is linked to role and job satisfaction. The emotional and physical demands of critical care nursing are a major consideration for delivery of effective patient-centred nursing and retention of these nurses in the workforce (Sawatzky et al., 2015). Fostering and encouraging a safe work environment, listening to nurses and respecting their abilities (Tuckett et al., 2014) should enable an empowering and supportive culture, improving nurse job satisfaction and patient-centred nursing. Enhanced workforce retention achieves more stable staffing structures and provides a firm foundation for effective patient-centred nursing.

This review makes plain the importance of good relationships in delivery of patient-centred care. Interprofessional collaboration in clinical practice contributes to relationship building and consequently improved patient-centred care, alleviating the "silo" effect so common in health care. Where necessary this can be underpinned, initially at least, by structured facilitation, to develop better understanding of others' roles and a collegial supportive environment. Leadership in this area is also important to achieve the necessary cultural shifts. Measures to enhance patient-centred nursing can be used to promote critical care nurses' job satisfaction and workforce retention, and can also be applied more broadly and collaboratively to promote multidisciplinary patient-centred care.

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Study design: SJ, LP, JL; data collection and analysis: SJ, LP, JL; manuscript preparation: SJ, LP, JL.

CONFLICT OF INTEREST

No conflict of interest has been declared by the author(s).

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SUPPORTING INFORMATION

Additional Supporting Information may be found online in the supporting information tab for this article.

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Supplementary file 1: Quality Appraisal: a) Qualitative

Question	Alasad & Ahmad		Aslakson et al		Bloomer & Connor		Cederwall et al		Choe et al		Crocker & Scholes		Edwards et al		Engstrom et al		Esmaeili et al	
	Y/N	Comment	Y/N	Comment	Y/N	Comment	Y/N	Comment	Y/N	Comment	Y/N	Comment	Y/N	Comment	Y/N	Comment	Y/N	Comment
Is there a clear statement of the aim/ purpose/ objective of the research?	Yes		Yes		Yes	Drawn from larger study	Yes		Yes		Yes		Yes		Yes		Yes	
Is qualitative methodology appropriate for this research?	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Is the research design appropriate to address the aims of the research?	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Is the sampling of participants appropriate to the aims of the research?	Yes		Yes		Yes		Yes		Yes		Yes		Yes	Participant known to researcher	Yes		Yes	
Has the data been collected in a way that addresses the research issue?	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Has the relationship between the researcher and participants been transparent and adequately considered?	Yes		Yes		No		No		No		Yes		Yes		No		Yes	
Have ethical issues been taken into consideration and appropriate approval sought and given from relevant ethics committee/bodies?	Yes		No		No	Approval in original larger study	Yes		Yes		Yes		Yes	Approval from one association	Yes		Yes	
Was data analysis sufficiently rigorous?	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Is there a clear statement of findings?	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Do conclusions drawn flow from the analysis of the data?	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	

Question	Gelinas et al		Halcomb et al		Hoye & Severinsson		Kirchhoff et al		McGrath		Olausson et al		Popejoy et al		Slatore et al	
	Y/N	Comment	Y/N	Comment	Y/N	Comment	Y/N	Comment	Y/N	Comment	Y/N	Comment	Y/N	Comment	Y/N	Comment
Is there a clear statement of the aim/ purpose/ objective of the research?	Yes		Yes		Yes		Yes		Yes		Yes		Yes	Have to look for it	Yes	
Is qualitative methodology appropriate for this research?	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Is the research design appropriate to address the aims of the research?	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Is the sampling of participants appropriate to the aims of the research?	Yes		Yes		Yes		No		Yes		Yes		Yes		Yes	
Has the data been collected in a way that addresses the research issue?	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Has the relationship between the researcher and participants been transparent and adequately considered?	Yes		No		No		No		Yes		Yes		No		No	
Have ethical issues been taken into consideration and appropriate approval sought and given from relevant ethics committee/bodies?	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Was data analysis sufficiently rigorous?	Yes		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Is there a clear statement of findings?	Yes		Yes		Yes		Yes		Yes		Yes		Yes	Not all findings discussed	Yes	
Do conclusions drawn flow from the analysis of the data?	Yes		Yes		Yes		Yes		Yes		Yes		Yes	No separate conclusion	Yes	

Question	Trovo et al		Yang & McIlfatrick	
	Y/N	Comment	Y/N	Comment
Is there a clear statement of the aim/ purpose/ objective of the research?	Yes		Yes	
Is qualitative methodology appropriate for this research?	Yes		Yes	
Is the research design appropriate to address the aims of the research?	Yes		Yes	
Is the sampling of participants appropriate to the aims of the research?	Yes		Yes	
Has the data been collected in a way that addresses the research issue?	Yes		Yes	
Has the relationship between the researcher and participants been transparent and adequately considered?	No		Yes	Mentioned in limitations
Have ethical issues been taken into consideration and appropriate approval sought and given from relevant ethics committee/bodies?	Yes		No	No mention of ethical approval although consent given
Was data analysis sufficiently rigorous?	Yes		Yes	
Is there a clear statement of findings?	Yes		Yes	
Do conclusions drawn flow from the analysis of the data?	Yes		Yes	

Quality Appraisal b) Mixed Methods

Question	Crump et al		Goode & Rowe		Gross		Hansen et al	
	Y/N	Comment	Y/N	Comment	Y/N	Comment	Y/N	Comment
Are there clear qualitative and quantitative research questions, or a clear mixed methods question or objective?	Yes		Yes		Yes		Yes	
Does the data collected address the research question or objective?	Yes		Yes		Yes		Yes	
Are the sources of qualitative data relevant to address the research question or objective?	Yes		Yes		Yes		Yes	
Is the process of analysing qualitative data relevant to address the research question or objective?	No		Yes		No		Yes	
Is appropriate consideration given to how findings relate to context and/or researchers influence?	No		No		No		Yes	
Is the sampling strategy relevant to address the quantitative research question?	Yes		Yes		Yes		Yes	
Is the sample representative of the population under study?	Yes		Yes		Yes		Yes	
Are measurements appropriate?	Yes		Yes		Yes		Yes	
Is there an acceptance response rate (60% or above)?	No		No		No		No	
Is the mixed methods research design relevant to address the qualitative and quantitative research questions, or the qualitative and quantitative aspects of the mixed methods question/objective?	Yes		Yes		Yes		Yes	
Is the integration of qualitative and quantitative results relevant to address the research question/objective?	Yes		Yes		Yes		Yes	
Do conclusions drawn flow from the analysis of the data?	Yes		Yes		Yes		Yes	

Adapted from McGill Mixed Methods Appraisal Tool (2011)

Supplementary file 2 Barrier and Support/ Facilitator theme statements in relation to antecedents, attributes and consequences of patient-centred nursing in the ICU

NURSE IDENTITY			
Category	Barrier	Antecedent/Attribute/Consequence	Reference/s
Stress	Nurses find patient suffering, vigilant responsibility, lack of consensus regarding treatment, conflict with physicians and families together with feelings of powerlessness and frustration contributes to their level of stress.	<ul style="list-style-type: none"> • Nurse Job Satisfaction • Patient Identity • Professional Presence • Compassionate Presence 	Kirchoff et al. 2000, Goode & Rowe 2001, Yang & McIlfatrick 2001, Halcomb et al. 2004, McGrath 2008, Popejoy et al. 2009, Gelinass et al. 2012, Olausson et al 2014, Choe et al 2015
Ethical Dilemma	Continuing treatment or withholding information from patients and their families created an ethical dilemma for some nurses. Nurses experience grief and suffering whilst caring for clients who are receiving aggressive futile treatment that often goes against their values.	<ul style="list-style-type: none"> • Nurse Job Satisfaction • Patient Identity • Professional Presence • Compassionate Presence 	Kirchhoff et al. 2000, Goode & Rowe 2001, Yang & McIlfatrick 2001, Halcomb et al. 2004, McGrath 2008, Hansen et al. 2009, Popejoy et al. 2009, Crump et al. 2010, Olausson et al. 2014, Choe et al 2015
Total Care Provider	Total care and responsibility and long term continuous nursing can be very tiring and emotionally draining.	<ul style="list-style-type: none"> • Nurse Job Satisfaction • Clinical Skills & Knowledge 	Goode & Rowe 2001, Popejoy et al 2009
Detachment	Often nurses became detached from their patient because they were unable to relieve the patient's distress, together with the lack of emotional support received.	<ul style="list-style-type: none"> • Compassionate Presence • Patient Identity • Nurse Job Satisfaction 	Halcomb et al. 2004, Bloomer & O'Connor 2012, Gelinass et al. 2012, Choe et al 2015
Frustration	Nurses felt frustrated at the lack of respect and involvement in treatment goals and planning for their patient	<ul style="list-style-type: none"> • Nurse Job Satisfaction 	Halcomb et al. 204, McGrath 2008, Popejoy et al, 2009
Category	Support/ Facilitator	Antecedent/Attribute/Consequence	Reference/s
Positive Nursing Values	A sense of altruism and satisfaction in the nursing role and providing comfort, respecting patient wishes and empathy balanced nurses' emotional reactions relieving feelings of failure. Interconnectedness between patient/family/nurse/physician also generated feelings of hope and joy for nurses.	<ul style="list-style-type: none"> • Nurse Job Satisfaction • Patient Identity • Professional Presence • Compassionate Presence 	Kirchhoff et al. 2000, Halcomb et al. 2004

ORGANISATION			
Category	Barrier	Antecedent/Attribute/Consequence	Reference/s
Environment	Stressful environment and lack of space can impact patient privacy, family involvement, clinical procedures and development of therapeutic relationships. Nurses felt they had no space to think or reflect.	<ul style="list-style-type: none"> • Clinical Skills & Knowledge • Patient Identity • Nurse Job Satisfaction 	Engstrom et al 2011, Bloomer & O'Connor 2012, Edwards 2012, Gelinas et al. 2012, Olausson et al. 2014
Workload	Pressure for ICU beds, shortage of staff and lack of resources such as social workers, administration staff or chaplains often led to nurses not being able to provide their patients with standard of care they would expect, sometimes leading to an ethical dilemma. Lack of emotional support from organization contributed to nurses level of stress	<ul style="list-style-type: none"> • Clinical Skills & Knowledge • Professional Presence • Patient Identity • Nurse Job Satisfaction • Compassionate Presence 	Engstrom et al 2011, Bloomer & O'Connor 2012, Gross 2006, Crump et al. 2010, Gelinas et al. 2012, Choe et al 2015
Category	Support/ Facilitator	Antecedent/Attribute/Consequence	Reference/s
Workload	Social workers or chaplains being available for families allowed nurses more time to treat and care for their patient	<ul style="list-style-type: none"> • Clinical Skills & Knowledge • Patient Identity 	Kirchhoff et al. 2000, Popejoy et al. 2009, Gelinas et al. 2012
COMMUNICATION			
Category	Barrier	Antecedent/Attribute/Consequence	Reference/s
Nurse/physician	Physicians discomfort or inability to communicate with patients and families often left nurses in a difficult position. Inter-professional communication regarding altered treatment plans were not always communicated to nurse	<ul style="list-style-type: none"> • Patient Identity • Nurse Job Satisfaction • Professional Presence • Clinical Skills & Knowledge 	Halcomb et al. 2004, McGrath 2008, Hansen et al. 2009, Hoyer & Severinsson 2010, Bloomer & O'Connor 2012, Gelinas et al. 2012
Nurse/patient/family	Sedation, intubation and level of consciousness are barriers to communication with patients. Families' emotional state and language can impede communication.	<ul style="list-style-type: none"> • Patient Identity • Professional Presence • Clinical Skills & Knowledge 	Yang & McIlpatrick 2001, Trovo De Araujo et al 2004, Alasad & Ahmad 2005, Gross 2006, Crocker & Scholes 2009, Stalore et al 2012

COMMUNICATION			
Category	Support/ Facilitator	Antecedent/Attribute/Consequence	Reference/s
Nurse/patient/ family	Family or significant others are able to provide information about the patient when the patient cannot. Nurses' presence at family conferences assists with communication links. One designated family member to communicate allows nurse to continue with treatment plan uninterrupted.	<ul style="list-style-type: none"> • Patient Identity • Professional Presence 	Gross 2006, Crump et al. 2010, Hoye & Severinsson 2010, Engstrom et al. 2011
RELATIONSHIPS			
Category	Barrier	Antecedent/Attribute/Consequence	Reference/s
Families/Significant others	Family involvement in physical care of patient can impede nursing activities and the patient's privacy. Families can often override patient wishes due to emotional turmoil and conflict can occur. Deep bond between family and nurse can impact nurses' emotional wellbeing.	<ul style="list-style-type: none"> • Clinical Skills & Knowledge • Patient Identity • Nurse Job Satisfaction 	Engstrom et al 2011, Edwards 2012
Physician	Conflict between nurses and physicians regarding treatment plans and communication caused stress for nurse, patient and family.	<ul style="list-style-type: none"> • Nurse Job Satisfaction • Patient Identity 	Halcomb et al. 2004, Esmaeili et al. 2014, Choe et al 2015
Category	Support/ Facilitator	Antecedent/Attribute/Consequence	Reference/s
Family/Significant others	Families were able to assist in some instances in providing comfort and care to patient, as well as helping patient feel calm with someone familiar near them. Family thanks and recognition provides positive reinforcement to nurses.	<ul style="list-style-type: none"> • Patient Identity • Clinical Skills & Knowledge • Nurse Job Satisfaction 	Kirchhoff et al. 2000, Engstrom et al. 2011
Colleagues/Managers	Nurses felt supported by talking to their colleagues about their challenging role and emotional stresses. They also supported each other with clinical skills and knowledge. Recognition from colleagues creates a sense of pride and satisfaction for nurses in their role.	<ul style="list-style-type: none"> • Nurse Job Satisfaction • Professional Presence • Clinical Skills & Knowledge 	Kirchhoff et al. 2000, Esmaeili et al. 2004, McGrath 2008, Edwards 2012, Cederwall et al 2014

ICU IDEOLOGY

Category	Barrier	Antecedent/Attribute/Consequence	Reference/s
Treat at all costs	Treating patients at all costs when prognosis is poor was considered by participants to be harmful to the patient and possibly their families	<ul style="list-style-type: none"> • Patient Identity • Nurse Job Satisfaction • Professional Presence • Compassionate Presence 	Kirchhoff et al. 2000, Halcomb et al. 2004, Crump et al. 2010, Bloomer & O'Connor 2012, Choe et al 2015
False Hope	Nurses find it difficult to nurse their patient and families who can be harmed by false hope given by physicians leading to prolonged decision-making and unnecessary aggressive treatment.	<ul style="list-style-type: none"> • Nurse Job Satisfaction • Patient Identity • Professional Presence 	Goode & Rowe 2001, Halcomb et al. 2004, Gross 2006, Popejoy et al. 2009, Aslakson et al. 2012
Withdraw/continue treatment	Continuing treatment or withdrawing treatment after active, aggressive procedures causes nurse job dissatisfaction together with discomfort and pain to patient.	<ul style="list-style-type: none"> • Patient Identity • Nurse Job Satisfaction • Professional Presence • Compassionate Presence 	Halcomb et al. 2004, McGrath 2008, Hansen et al. 2009, Bloomer & O'Connor 2012, Gelinas et al. 2012, Choe et al 2015
Technology	The technological environment can cause nurses to become distant and withdraw from their patient, relying on the equipment. The noisy, cold technological environment can cause distress to patients and families, particularly at EOL.	<ul style="list-style-type: none"> • Patient Identity • Nurse Job Satisfaction • Professional Presence • Compassionate Presence 	McGrath 2008, Crocker & Scholes 2009, Olausson et al. 2014
Category	Support/ Facilitator	Antecedent/Attribute/Consequence	Reference/s
Treat at all costs	The need to be constantly present using technological and biomedical procedures and techniques can cause nurses to draw closer to their patient.	<ul style="list-style-type: none"> • Compassionate Presence • Patient Identity • Clinical Skills & Knowledge 	Cederwall et al 2014, Olausson et al. 2014
Technology	Technology can be lifesaving for patients and provide nurses with feeling of safety and security. Technology can be a way of nurses 'knowing' their patient and provide a connectedness.	<ul style="list-style-type: none"> • Patient Identity • Nurse Job Satisfaction • Professional Presence • Compassionate Presence 	McGrath 2008, Crocker & Scholes 2009, Cederwall et al 2014, Olausson et al. 2014



Interview Guide

Brief Explanation of Research

- Purpose
- Informed Consent
- Confidentiality
- Publication of results
- Participant rights
- Withdrawal from study
- Group processes – focus group ground rules – respect, turn-taking, group confidentiality, audiotaping
- Counseling and follow-up

Introduction of participants

- Participants asked to introduce themselves with brief background

Sample Questions

- What do you understand about the term patient-centred nursing when it's used in ICU?
- What does patient-centred nursing mean to you?
- Is patient-centred nursing different in other areas?
- What makes it different?
- What are the key things?
- What experience have you had with this?
- Can you tell me more about?
- What happens when?
- I didn't quite understand what you meant by Can you explain?
- What do you find helps you ?
- How do you feel about?
- In a previous focus group Was discussed. How does that fit with you?
- We've covered a lot of ground here. It will take me some time to work through this content. Can I come back to you if I have any more questions?
- How do you feel before leaving today?

Interview Conclusion

Thank participants for their contribution. Do they have any questions?

Thesis research questions

How is patient-centred nursing in intensive care defined?	What acts as a facilitator or barrier to nurses' provision of patient-centred nursing in ICU?	To what extent do Australian ICU nurses experience compassion satisfaction and compassion fatigue?	Does intensive care nurses' role impact their feelings of compassion satisfaction and compassion fatigue?	What strategies could assist critical care nurses' provision of patient-centred nursing in ICU?	
Concept Analysis	Integrative Literature Review	Cross Sectional Survey	Qualitative Paper	Discussion Paper	Recommendations/ Conclusion

Aim and objectives

Analyse the concept of patient-centred nursing in the context of intensive care	Review literature describing factors perceived by nurses as impacting provision of PCN in ICU	Examine factors predicting and contributing to compassion satisfaction and fatigue experienced by CCN's in ICU	Explore PCN, compassion satisfaction and fatigue from CCNs perspective	Application of Bowen Family Systems Theory to intensive care nursing	Strategies to enhance Compassion satisfaction and enhance facilitators
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Results

<p>Development of Intensive Care Unit Patient-centred Nursing framework</p> <ul style="list-style-type: none"> • Patient identity • Biomedical nursing practice • Compassionate presence • Professional presence • Patient empowerment/ satisfaction • Nurse job satisfaction • Improved nurse retention 	<p>Five themes identified:</p> <ul style="list-style-type: none"> • Nurse identity • Organisation • Communication • Relationships • ICU ideology <p>Patient-centred nursing may be compromised by ICU environment</p>	<p>Overall CCNs have average levels of compassion satisfaction and fatigue</p> <p>Predicting & contributing factors:</p> <ul style="list-style-type: none"> • Place of work • Education • Tenure • Age and experience <p>Early to Mid-career CCN's at highest risk</p>	<p>Core category of Expectations</p> <p>Sub-categories:</p> <ul style="list-style-type: none"> • Life in the balance • Passion/ Pressure • Understanding/ advocacy • Tenacity / fragility <p>CCN's experience moments of compassion satisfaction and fatigue</p> <p>CCN's feelings of compassion toward patient moves back and forward between positive and negative along a continuum</p>	<p>Application of therapeutic interventions offered through BFST may influence CCNs' satisfaction, fatigue and consequently patient care quality.</p> <p>Self-differentiation allows for health relationships where the individual may operate intellectually and emotionally independently rather than disengaging or distancing themselves from patients and colleagues.</p>	<p>Coping Skills and Strategies</p> <p>Coping Skills:</p> <ul style="list-style-type: none"> • Self-care • Leave it at the door • Talk, Talk, Talk • Colleague/ Relationships <p>Strategies:</p> <ul style="list-style-type: none"> • Look after us • Resources/ time • Let us talk
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Conclusion & Recommendations

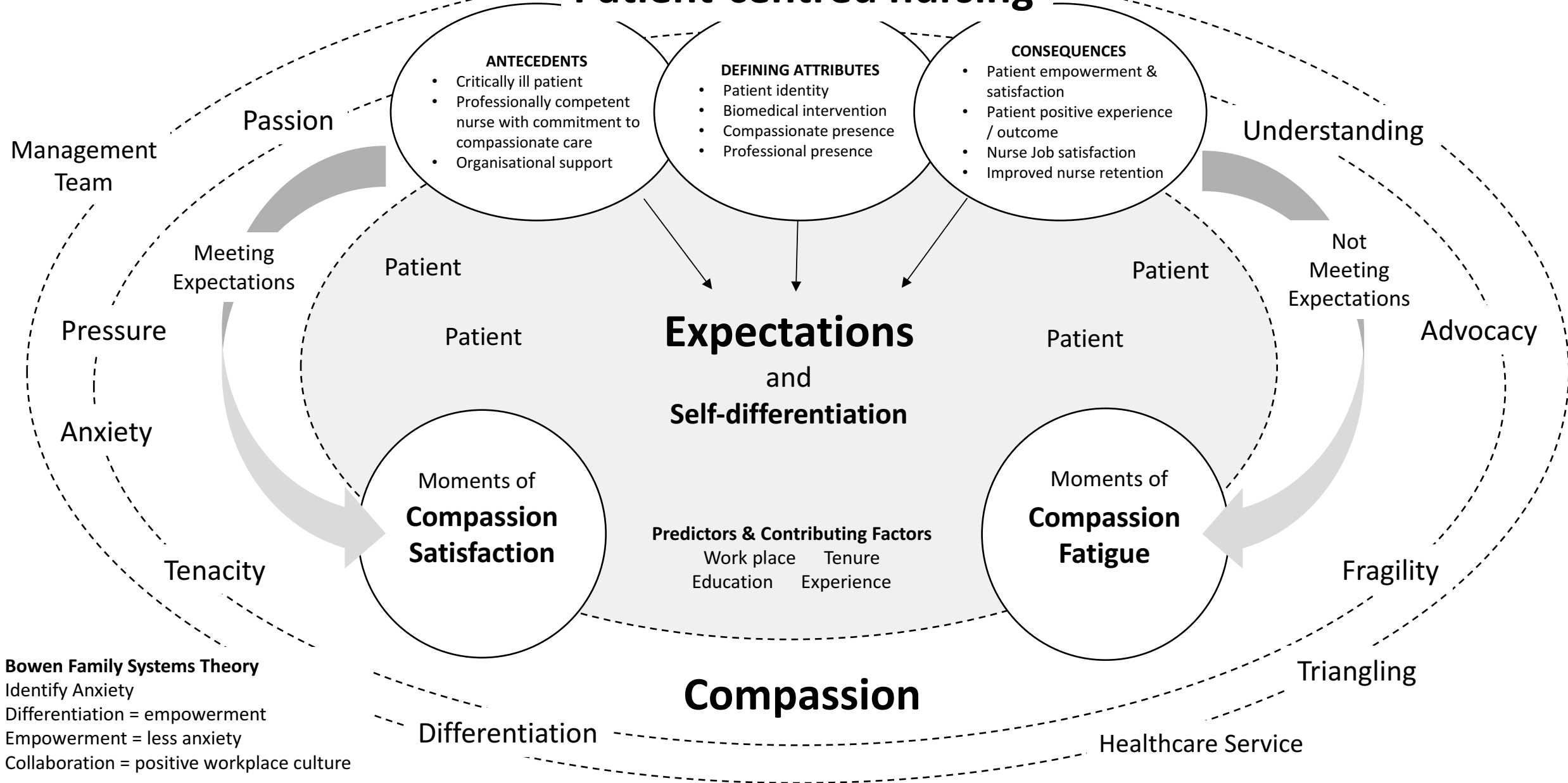
			Workplace cultural and relationships are significant to experiences of compassion satisfaction and fatigue	Application of BFST to ICU may improve health professional wellbeing, workforce retention and patient satisfaction	Where management styles fall short in supporting critical care nurses to meet expectations, BFST can offer a perspective on the social processes that occur within the intensive care unit, impacting nurse wellbeing and quality of care
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LINKS

<p>Framework basis for:</p> <ul style="list-style-type: none"> • literature review • qualitative paper • discussion 	<p>Justifies need to acknowledge and research:</p> <ul style="list-style-type: none"> • Compassion fatigue • Compassion satisfaction <p>Acknowledges relationships as important factor to CCNs role</p>	<p>Compassion satisfaction and fatigue impacted by workplace, tenure, age and education</p>	<p>Compassion satisfaction and fatigue impact delivery of PCN</p> <p>Management team support impacts compassion satisfaction and fatigue and delivery of PCN</p> <p>Workplace culture and relationships impact compassion satisfaction/ fatigue and PCN</p>	<p>Workplace culture including anxiety within group (inc management team) impacts individual (CCNs)</p> <p>Relationships can be impacted by low differentiation within team</p> <p>Self-differentiation may increase as CCN becomes more experienced/ confident</p> <p>Enhance own identity = enhance compassion satisfaction (individual to group)</p>	<p>Use of therapies used in family systems eg differentiation, recognition, normalisation, group therapy, Schwartz Rounds</p>
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Patient-centred nursing and Compassion - Intensive Care Unit Conceptual Mapping Framework

Patient-centred nursing



*Participant Information Statement***Patient-centred nursing and compassion-satisfaction or
compassion-fatigue in Australian intensive care units****Invitation**

You are invited to participate in a research study into compassion-satisfaction or compassion-fatigue and patient-centred nursing in the intensive care environment.

The study is being conducted by:

Principal Investigator: **Samantha Jakimowicz** RN BNurs(Hons), BCHC
(employee of ISLHD), PhD Candidate

Associate Investigators: **Professor Lin Perry** MSc, PhD, RN
Professor of Nursing Research & Practice Development
Faculty of Health, University of Technology, Sydney
Prince of Wales Hospital, Randwick

Dr Joanne Lewis RN MPallC PhD
Lecturer, Faculty of Health, University of Technology, Sydney

Before you decide whether or not you wish to participate in this study, it is important for you to understand why the research is being done and what it will involve. Please take the time to read the following information carefully and discuss it with others if you wish.

1. What is the purpose of this study?

The purpose is to investigate to what extent critical care nurses experience compassion-satisfaction or compassion-fatigue; find out whether there is a link between compassion-satisfaction or compassionate fatigue and patient-centred nursing; and identify strategies to help critical care nurses provide patient-centred nursing. This research is being completed as part of a doctoral study.

2. Why have I been invited to participate in this study?

You are eligible to participate in this study because your experience as a Registered Nursing working in an intensive care unit could provide valuable information regarding this topic.

3. What does participation in this study involve?

If you agree to participate in this study you are able to take part in either, or both, of the survey and focus group.

The survey should take about eight to ten minutes to complete and will involve answering questions about your experience working as a critical care nurse. It will provide an idea of the level of compassion-satisfaction or compassion-fatigue that you experience in your working life. If you would like to know the results of your survey you can put your name and number on the survey or you can contact Samantha (the primary investigator) and quote the number at the top right corner on the survey.

The focus groups will be held on site and will take about 45 minutes. You will join 3 to 10 of your colleagues to talk about your experiences of providing patient-centred nursing in the critical care environment over light refreshments. Participants will be invited to discuss their opinions and understanding about patient-centred nursing in the context of intensive care as well as their experiences in meeting the expectations of their role in relation to this. The primary investigator will act as the moderator of the group process. The focus groups will be audio-taped in order to analyse the information collected. The primary investigator will transcribe the audio-tapes and will hold the transcriptions as electronic documents on a secure, pass word protected hard disk, stored for up to 5 years. You will not be identifiable via the transcribed audio-tapes as names will not be used. Any information obtained in connection with this research project that can identify you will remain confidential. Return of a completed survey will be taken to imply consent to participate in the survey. If you agree to participate in the focus groups, you will be asked to sign the Participant Consent Form.

4. What if I don't want to take part in this study, or if I want to withdraw later?

Participation in this study is voluntary. It is completely up to you whether or not you participate. If you wish to withdraw from the study once it has started, you can do so at any time without having to give a reason. However, if you decide to withdraw from the focus groups, it may not be possible to withdraw your survey data unless you have kept a record of the survey number as the surveys do not include any identifying details. Similarly, withdrawal of focus group data already collected cannot be identified from voice alone.

5. How is this study being paid for?

Funding for this project is provided via a scholarship awarded to the primary investigator. The study is being undertaken as part of the doctoral program of the primary investigator (Samantha).

6. Are there risks to me in taking part in this study?

There are no anticipated harms from participating in this study. However, you may feel that re-living or discussing your experiences is stressful or upsetting. If you do not wish to continue or answer any questions you may stop immediately. Should you become upset or distressed as a result of your participation in the research project, the research team will be able to arrange for counseling or other appropriate support. Any counseling or support will be provided by qualified staff who are not members of the research team. This will be provided free of charge. All care will be taken to maintain privacy and confidentiality and focus group members will be asked to respect confidentiality for what is discussed within the groups.

7. Will I benefit from the study?

There are no specific benefits from participation in this study; however, the survey could provide you with an avenue of self-awareness of your feelings toward your professional role. Participation in focus groups could benefit your relationship with your colleagues. It is also hoped that you and your colleagues will benefit from this study as it aims to produce a foundation from which to form policy and practice guidelines to support critical care nurses in their challenging role to provide patient-centred nursing; as well as to develop strategies for nurses to experience a more positive professional quality of life.

8. Will taking part in this study cost me anything, and will I be paid?

Participation in this study will not cost you anything, nor will you be paid. Light refreshments will be provided while participating in focus groups.

9. How will my confidentiality be protected?

Any identifiable information that is collected about you in connection with this study will remain confidential. Only the researchers named will have access to your details and results that will be held securely at the University of Technology, Sydney.

10. What happens with the results?

If you give us your permission by signing the consent document, we plan to publish the results in peer-reviewed journals and at national and international conferences. In any publication, information will be provided in such a way that you cannot be identified.

11. What should I do if I want to discuss this study further before I decide?

When you have read this information, the researcher, Samantha, will discuss it with you and any queries you may have. If you would like to know more at any stage, please do not hesitate to contact her on:

phone: 0418 753 175

email: samantha.j.jakimowicz@student.uts.edu.au

12. Who should I contact if I have concerns about the conduct of this study?

This study has been approved by the South Eastern Sydney Local Health District Human Research Ethics Committee. Any person with concerns or complaints about the conduct of this study should contact the **Research Support Office**. You should contact them on 02 9382 3587, or email RSOseslhd@sesiahs.health.nsw.gov.au and quote 15/070.

The conduct of this study at the [*name of site*] has been authorised by the [*name of health district*]. Any person with concerns or complaints about the conduct of this study may also contact the [*details of the Research Governance Officer of the health district*].

**Thank you for taking the time to consider this study.
If you wish to take part in it, please sign the attached consent form.
This information sheet is for you to keep.**

Focus Group Participant Consent Form

Patient-centred nursing and compassion-satisfaction or compassion-fatigue in Australian intensive care units

1. I, agree to participate in the study described in the participant information statement attached to this form.
2. I acknowledge that I have read the participant information statement, which explains why I have been selected, the aims of the study and the nature and possible risks of the investigation, and the statement has been explained to me to my satisfaction.
3. Before signing this consent form, I have been given the opportunity of asking any questions relating to any possible harm I might suffer as a result of my participation and I have received satisfactory answers.
4. I understand that I can withdraw from the study at any time without prejudice to my relationship to the University of Technology, Sydney and/or NSW Health.
5. I agree that research data gathered from the results of the study may be published provided that I cannot be identified.
6. I understand that if I have any questions relating to my participation in this research, I may contact Samantha Jakimowicz on 0418 753 175, who will be happy to answer them.
7. I acknowledge receipt of a copy of this Consent Form and the Participant Information Statement.

Complaints may be directed to the Research Ethics Secretariat, South Eastern Sydney Local Health District, Prince of Wales Hospital, Randwick NSW 2031 Australia. Phone: 02 9382 3587, Fax 02 9382 2813, email RSOseslhd@SESLIHS.HEALTH.NSW.GOV.AU and quote HREC 15/070.

Signature of Participant

Print Name

Date

Signature of Witness

Print Name

Date

Signature of Investigator

Print Name

Date

Withdrawal of Consent**Patient-centred nursing and compassion-satisfaction or
compassion-fatigue in Australian intensive care units**

I hereby wish to WITHDRAW my consent to participate in the study described above and understand that such withdrawal WILL NOT jeopardise any treatment or my relationship with the University of Technology, Sydney or NSW Health.

Signature of Participant**Print Name****Date**

This form for Revocation of Consent should be handed to, or forwarded to Samantha Jakimowicz, Principal Investigator, email Samantha.J.Jakimowicz@student.uts.edu.au.

As a **Registered Nurse** you come into direct contact with the lives of your patients. You may have found that the compassion you feel toward your patients can affect you in both a positive and negative way. The questions below are about your positive and negative experiences as a nurse. Consider **you** in **your work situation** as you answer **ALL** the questions. Circle **ONE** number for each question that reflects your frequent experiences honestly over the previous **six months**.



	Question	Never	Rarely	Sometimes	Often	Very Often
1	I am happy	1	2	3	4	5
2	I am preoccupied with more than one patient	1	2	3	4	5
3	I get satisfaction from being able to nurse people	1	2	3	4	5
4	I feel connected to others	1	2	3	4	5
5	I jump or am startled by unexpected sounds	1	2	3	4	5
6	I feel invigorated after working with those I have nursed	1	2	3	4	5
7	I find it difficult to separate my personal life from my life as a nurse	1	2	3	4	5
8	I am not as productive at work because I am losing sleep over traumatic experiences of a person I nursed	1	2	3	4	5
9	I think that I might have been affected by the traumatic stress of those I nurse	1	2	3	4	5
10	I feel trapped by my job as a nurse	1	2	3	4	5
11	Because of my nursing, I have felt 'on edge' about various things	1	2	3	4	5
12	I like my work as a nurse	1	2	3	4	5
13	I feel depressed because of the traumatic experiences of my patients	1	2	3	4	5
14	I feel as though I am experiencing the trauma of someone I have nursed	1	2	3	4	5
15	I have beliefs that sustain me	1	2	3	4	5
16	I am pleased with how I am able to keep up with nursing techniques and protocols	1	2	3	4	5
17	I am the person I always wanted to be	1	2	3	4	5
18	My work makes me feel satisfied	1	2	3	4	5
19	I feel worn out because of my work as a nurse	1	2	3	4	5
20	I have happy thoughts and feelings about those I nurse and how I could help them	1	2	3	4	5



	Question	Never	Rarely	Sometimes	Often	Very Often
21	I feel overwhelmed because my work load seems endless	1	2	3	4	5
22	I believe I can make a difference through my work	1	2	3	4	5
23	I avoid certain activities or situations because they remind me of frightening experiences of the people I nurse	1	2	3	4	5
24	I am proud of what I can do as a nurse	1	2	3	4	5
25	As a result of my nursing, I have intrusive, frightening thoughts	1	2	3	4	5
26	I feel 'bogged down' by the system	1	2	3	4	5
27	I have thoughts that I am a 'success' as a nurse	1	2	3	4	5
28	I can't recall important parts of my work with trauma victims	1	2	3	4	5
29	I am a very caring person	1	2	3	4	5
30	I am happy that I chose to do this work	1	2	3	4	5

Professional Quality of Life Scale - Compassion Satisfaction and Compassion Fatigue (PROQOL) Version 5 (2009)

Please answer the following questions in the spaces provided

Practicing Registered Nurse _____ yrs _____ mths Working in current unit _____ yrs _____ mths

Your Age: _____ Your Gender: _____ Highest level nursing education: _____

Experience of family member as ICU patient YES / NO

THANKS

Thank you for participating in this survey.

If you would like to participate in a **focus group** to be held in your unit to discuss compassion-satisfaction or compassion-fatigue and patient-centred nursing, please contact the researcher or give your name and contact details below.

To **receive your scores** for the professional quality of life scale either contact the researcher and quote the number on this survey, or include your name and contact details and the researcher will contact you (your scores will remain confidential).

Your name & phone number/email if you want to be contacted - your score or for focus group information

Samantha Jakimowicz RN BN(Hons) BChC MACN
 PhD Candidate, Faculty of Health, University of Technology, Sydney Australia
 E Samantha.J.Jakimowicz@student.uts.edu.au M 0418 753 175

Permission for Use of the ProQOL (Professional Quality of Life Scale: Compassion Satisfaction and Compassion Fatigue) www.proqol.org

Accompanied by the email to you, this document grants you permission to use for your study or project

The ProQOL (Professional Quality of Life Scale: Compassion Satisfaction and Compassion Fatigue) www.ProQOL.org

Prior to beginning your project and at the time of any publications, please verify that you are using the latest version by checking the website. All revisions are posted there. If you began project with an earlier version, please reference both to avoid confusion for readers of your work.

This permission covers non-profit, non-commercial uses and includes permission to reformat the questions into a version that is appropriate for your use. This may include computerizing the measure.

Please print the following reference or credit line in all documents that include results gathered from the use of the ProQOL.

Stamm, B. H. (2010). The ProQOL (*Professional Quality of Life Scale: Compassion Satisfaction and Compassion Fatigue*). Pocatello, ID: ProQOL.org. retrieved [date] www.proqol.org

Permission granted by
Beth Hudnall Stamm, PhD
Author, ProQOL
ProQOL.org
info@proqol.org

Help us help all of us. Please consider donating a copy of your raw data to the data bank. You can find more about the data bank and how you can donate at www.proqol.org and www.proqol.org/Donate_Data.html. Data donated to the ProQOL Data Bank allow us to advance the theory of compassion satisfaction and compassion fatigue and to improve and norm the measure itself.



Appendix 12
Health
South Eastern Sydney
Local Health District

HUMAN RESEARCH ETHICS COMMITTEE

Room G71 East Wing
Edmund Blacket Building
Prince of Wales Hospital
RANDWICK NSW 2031

Tel: 02 9382 3587 Fax: 02 9382 2813

RSOESLHD@SESLDHS.HEALTH.NSW.GOV.AU

<http://www.seslhd.health.nsw.gov.au/POWH/researchsupport/default.asp>

12 June 2015

Mrs Samantha Jakimowicz
Faculty of Health
University of Technology Sydney
PO Box 123
ULTIMO NSW 2007

Dear Mrs Jakimowicz

HREC ref no: 15/070 (LNR/15/POWH/181)

Project title: Patient-centred nursing and compassion-satisfaction or compassion-fatigue in Australian intensive care units

Thank you for submitting the above Low/Negligible Risk (LNR) Application for review by the Human Research Ethics Committee (HREC). Based on the information you have provided and in accordance with the NHMRC guidelines [National Statement 2007 – Section 5 Institutional Responsibilities and “*When does quality assurance in health care require independent ethical review?*” (2003)], this project has been assessed as low risk and is therefore exempt from full HREC review.

The project was first considered by the LNR Committee on 5 May 2015.

I am pleased to advise that ethical approval has been granted for this project to be conducted at the following site(s):

- Prince of Wales Hospital
- Wollongong Hospital

The following documentation has been approved:

- Low/negligible risk application, submission code AU/6/E16E111, dated 22 April 2015
- Response dated 5 June 2015, to LNR Committee queries
- Protocol, Version 001, dated 22 April 2015
- Participant Information Statement, Version 003, not dated
- Focus Group Participant Consent Form, Version 001, dated 10 April 2015
- Interview Guide, Version 001, dated 10 April 2015

Prince of Wales Hospital
Community Health Services
Barker Street
Randwick NSW 2031

- Survey, Version 001, dated 10 April 2015

Conditions of approval

1. This approval is valid for 5 years from the date of this letter.
2. Annual reports must be provided on the anniversary of approval.
3. A final report must be provided at the completion of the project.
4. Proposed changes to the research protocol, conduct of the research, or length of approval will be provided to the Committee.
5. The Principal Investigator will immediately report matters which might warrant review of ethical approval, including unforeseen events which might affect the ethical acceptability of the project and any complaints made by study participants.

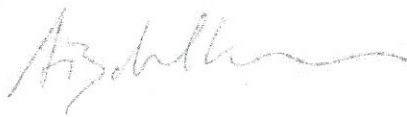
For NSW Public Health sites only: You are reminded that this letter constitutes ethical approval only. You must not commence this research project until you have submitted your Site Specific Assessment (SSA) to the Research Governance Officer of the appropriate institution and have received a letter of authorisation from them.

Should you have any queries, please contact the Research Support Office on (02) 9382 3587. The HREC Terms of Reference, Standard Operating Procedures, membership and standard forms are available from the Research Support Office website:
<http://www.seslhd.health.nsw.gov.au/POWH/researchsupport/default.asp>.

Please quote HREC ref no: 15/070 (LNR/15/POWH/181) in all correspondence.

We wish you every success in your research.

Yours sincerely



Andrew Bohlken
A/Executive Officer, Human Research Ethics Committee

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research (2007)*, NHMRC and Universities Australia *Australian Code for the Responsible Conduct of Research (2007)* and the *CPMP/ICH Note for Guidance on Good Clinical Practice*.



Health
Illawarra Shoalhaven
Local Health District

Research Directorate
Telephone: 02 4253 4800
Facsimile: 02 4253 4803

TRIM NO: DT15/44395
Ref: 15/POWH/181
APPROVAL

Mrs Samantha Jakimowicz
PhD Candidate
Faculty of Health
University of Technology Sydney
P O Box 123
ULTIMO NSW 2007

Dear Mrs Jakimowicz

HREC project number: 15/POWH/181
Project title: Patient-centred nursing and compassion-satisfaction or compassion-fatigue in Australian intensive care units

Thank you for submitting a Site-Specific Assessment Form for Low and Negligible Risk Research application for authorisation of the above project. I am pleased to inform you that authorisation has been granted for this study to take place at the following site:

- Intensive Care Unit – Wollongong Hospital

This approval is valid with a current Human Research Ethics Committee approval.

The following conditions apply to this research project. These are additional to those conditions imposed by the Human Research Ethics Committee that granted ethical approval:

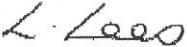
1. Proposed amendments to the research protocol or conduct of the research which may affect the ethical acceptability of the project, and which are submitted to the lead HREC for review, are copied to the research governance officer;
2. Proposed amendments to the research protocol or conduct of the research which may affect the ongoing site acceptability of the project, are to be submitted to the research governance officer.

I would also like to advise that your application for Appointment of Honorary Research Associate with the Illawarra Shoalhaven Local Health District (ISLHD) has been approved.

This appointment is for the purpose of conducting the above project and specifically for activities, approved by ISLHD, undertaken as part of the project and is only valid with a current Human Research Ethics Committee approval.

Please note if you wish to seek an extension of your appointment for further projects you will need to provide details, in writing to this office, of the proposed project and associated ISLHD clinician(s).

Yours faithfully



for **KRISTY PIERCE**
Research Governance Officer

19 June 2015

c.c. Sonia Marshall, HOD – Nursing & Midwifery, Wollongong Hospital
Dr Michael Davis, HOD – Intensive Care Unit
Montserrat Cortijo, Acting NUM – Intensive Care Unit
Nicole Sheppard, General Manager, Northern Illawarra Hospitals Group - FYI

Research Directorate
Level 8, Block C, Wollongong Hospital
(LMB 8808, SCMC NSW 2521)

From: Research.Ethics@uts.edu.au
Subject: UTS HREC Approval
Date: 8 July 2015 at 11:58 AM
To: Samantha.J.Jakimowicz@student.uts.edu.au, Lin.Perry@uts.edu.au, Research.Ethics@uts.edu.au, Joanne.Lewis@uts.edu.au



Dear Applicant

[External Ratification: Sydney East Sydney Local Health District HREC - SESLHDHREC 15/070 (LNR/15/POWH/181) & 12/06/15 to 12/06/20]

The UTS Human Research Ethics Expedited Review Committee reviewed your application titled, "Patient-centred nursing and compassion-satisfaction or compassion-fatigue in Australian intensive care units", and agreed that the application meets the requirements of the NHMRC National Statement on Ethical Conduct In Human Research (2007). I am pleased to inform you that your external ethics approval has been ratified.

Your approval number is UTS HREC REF NO. 2015000240

Please note that the ethical conduct of research is an on-going process. The National Statement on Ethical Conduct in Research Involving Humans requires us to obtain a report about the progress of the research, and in particular about any changes to the research which may have ethical implications. This report form must be completed at least annually, and at the end of the project (if it takes more than a year). The Ethics Secretariat will contact you when it is time to complete your first report.

I also refer you to the AVCC guidelines relating to the storage of data, which require that data be kept for a minimum of 5 years after publication of research. However, in NSW, longer retention requirements are required for research on human subjects with potential long-term effects, research with long-term environmental effects, or research considered of national or international significance, importance, or controversy. If the data from this research project falls into one of these categories, contact University Records for advice on long-term retention.

You should consider this your official letter of approval. If you require a hardcopy please contact Research.Ethics@uts.edu.au.

To access this application, please follow the URLs below:

- * if accessing within the UTS network: <http://rmprod.itd.uts.edu.au/RMENet/HOM001N.aspx>
- * if accessing outside of UTS network: <https://remote.uts.edu.au>, and click on "RMENet - ResearchMaster Enterprise" after logging in.

We value your feedback on the online ethics process. If you would like to provide feedback please go to:
<http://surveys.uts.edu.au/surveys/onlineethics/index.cfm>

If you have any queries about your ethics approval, or require any amendments to your research in the future, please do not hesitate to contact Research.Ethics@uts.edu.au.

Yours sincerely,

Professor Marion Haas
Chairperson
UTS Human Research Ethics Committee
C/- Research & Innovation Office
University of Technology, Sydney
T: (02) 9514 9645
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I: <http://www.research.uts.edu.au/policies/restricted/ethics.html>
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[Level 14, Building 1, Broadway Campus]
CB01.14.08.04

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Research paper

Compassion satisfaction and fatigue: A cross-sectional survey of Australian intensive care nurses

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ARTICLE INFORMATION

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ABSTRACT

Background: Compassion satisfaction and compassion fatigue influence nurses' intention to stay or leave nursing. Identification of compassion satisfaction or fatigue in critical care nurses is important in this high turnover workforce.

Objectives: The aim of this study was to examine factors predicting and contributing to compassion satisfaction and compassion fatigue experienced by critical care nurses in Australian intensive care units.

Methods: A self-reported cross-sectional survey using an established tool collected data from critical care nurses of two adult Australian intensive care units.

Results: Overall, these critical care nurses reported what Professional Quality of Life Scale guidelines designated as 'average' levels of compassion satisfaction and burnout, and 'low' levels of Secondary Traumatic Stress (STS). Compared to Site B, nurses at Site A had significantly higher compassion satisfaction ($p=0.008$) and lower STS scores ($p=0.025$), with site significantly predictive for compassion satisfaction ($p<0.024$) and STS ($p<0.002$). Nurses with postgraduate qualifications had significantly higher compassion satisfaction scores ($p=0.027$), and compassion satisfaction significantly increased with increasing duration of practice ($p=0.042$) as a nurse and in their current ICU ($p=0.038$). Burnout scores significantly reduced with increasing age, years of tenure and practice; burnout was predicted by lower years of tenure ($p<0.016$).

Conclusion: These critical care nurses revealed profiles that, whilst not in crisis, fell short of the ideal high compassion satisfaction and moderate/low fatigue. More recent tenure flags those potentially at higher risk of compassion fatigue, whilst the better scores associated with postgraduate education and from one site need further exploration. Further research should develop understanding and interventions to enhance compassion satisfaction and support retention of this crucial nursing workforce.

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1. Introduction

Nursing workforce retention is a key issue internationally, playing out particularly in the critical care nursing workforce¹ where turnover is high.² The single largest group of registered nurses practicing clinically in Australia work in critical care and emergency.³ Changing demographics and increasing acuity of hospital admissions are resulting in a greater demand for highly skilled care.⁴ This environment necessitates strategies to improve retention of the already skilled workforce.⁵

Intensive care nurses are among the highest skilled nurses in the healthcare workforce.^{6–8} They are presented with critically ill patients suffering traumatic injuries and multi-organ failures requiring vigilant monitoring and intervention.⁹ Constant exposure to unpredictable challenges plus the demands of caring for a biomedically unstable patient and a distressed family in a restricted, technologically congested bed space, places critical care nurses (CCN) at high risk of fatigue and anxiety. However, CCNs' experiences, whether positive and fulfilling or negative and draining, are poorly researched in Australia; this knowledge is important to understand job satisfaction in this environment. Nurses' job satisfaction is important not just in relation to workforce retention and nurse wellbeing, but because it has been strongly linked to quality of care.^{10,11}

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Twitter: @samjak66 (S. Jakimowicz).

Compassion has been identified as a marker of care quality but has all too often been reported as lacking in healthcare.¹² Compassion is a key factor in patient-centred nursing,^{13,14} a model developed to improve patient experience. Compassion is described as an emotive reaction or sensation that is felt when witnessing the suffering or distress of another.¹⁵ This reaction often triggers the desire to relieve the individual's suffering. Compassion satisfaction is a 'positive aspect of caring' and one of the elements that attracts those who choose to work in nursing,¹⁶ providing a means to assist in relieving suffering that results in a sense of satisfaction. Conversely, when nurses are unable to provide relief of suffering, for whatever reason, they experience only negative attributes, which can result in compassion fatigue. This process occurs at times in the professional life of many nurses,¹⁷ and is described as a natural phenomenon resulting from the effort of caring for people who are suffering.¹⁸

Compassion fatigue has been researched across many health professions; empirical research supports the idea that repeated direct and indirect exposure to trauma through 'vivid imagery' risks significant changes in emotional, behavioural and cognitive states.^{16,18–20} Figley's²¹ seminal work explored traumatic stress in 1982. The term 'compassion fatigue' appeared in nursing literature²² in a foundational article describing it as a form of burnout common to nurses who were vulnerable due to the nature of their role. Figley¹⁸ identified empathy, caring and emotional engagement as factors placing health professionals at risk. More recently²³ a more temporal model emerged suggesting compassion fatigue could be a 'sequence of events' leading to 'compassion discomfort or stress' which can be managed or reversed. Compassion fatigue has been confirmed to comprise two components: burnout and secondary traumatic stress (STS).²⁴ Burnout is characterised by emotional exhaustion, depersonalisation or detachment, and low personal accomplishment.²⁵ STS is similar to post-traumatic stress but results from knowledge of traumatic events suffered by others and the consequent stress.¹⁷

Critical care nurses experience daily tensions within healthcare, striving to deliver holistic and patient-centred care with sensitivity whilst maximising efficiency and patient flow, fulfilling financial and performance targets.²⁶ These tensions compound the emotional and physical demands of the already challenging CCN role.² Burnout and job satisfaction have been widely explored amidst mixed and hospital-wide samples but less amongst CCNs. Compassion fatigue can result in nurses suffering debilitating symptoms²⁷ or leaving the profession altogether¹⁰ and has implications not just for present wellbeing but future stability of the workforce. It is therefore important to obtain a measure of the compassion satisfaction and fatigue that CCNs experience to enable development of strategies to support their wellbeing, and to attract and retain nurses in this significant area of healthcare.

2. Aim

The aim of this study was to examine factors predicting and contributing to compassion satisfaction and compassion fatigue experienced by CCNs in Australian intensive care units.

3. Method

3.1. Study design, sample and data collection

This two-phase mixed method study was underpinned by a constructionist, epistemological view. This paper presents phase one, which employed survey design. The second qualitative phase employed interviews and is reported elsewhere.²⁸ A self-reported cross-sectional survey was used to collect data quantifying compas-

sion satisfaction, burnout and STS. Participants were recruited from two adult general ICUs in Australia. Site A was a 16-bed intensive care unit in a tertiary referral hospital; site B an 18-bed intensive care unit in a regional teaching hospital. These hospitals employed 107 and 93 Registered Nurses, respectively. Nurses at both sites worked eight or twelve hour rotating rostered shifts. Purposive criterion sampling was used to obtain a participant sample of registered nurses employed as CCNs on a full-time, part-time or casual basis, with a minimum of six months' post registration experience.

The data collection process occurred over eight weeks in 2015 ensuring maximum opportunity to participate. Participant information sheets and posters were placed in each unit prior to data collection. CCNs were invited to participate in the study by the primary investigator; surveys were distributed in each unit. Completed surveys were deposited in a secure container for collection.

3.2. Ethical considerations

All participants were supplied information packs and offered the opportunity to speak with the primary investigator with any queries. Completion of the survey was taken as consent to participate. Participation in the survey was anonymous, therefore, the researchers were not able to respond to any individual who might be deemed at 'high risk'. A counselling service was detailed in the information packs, and participants advised to contact them if they were concerned. Research governance and ethical approvals were granted by relevant authorities and each site's Human Research Ethics Committee (HREC 15/070-15/G/098 DT15/44395) and ratified by the university.

3.3. Instrument

The Professional Quality of Life Scale version 5 (PROQOL5)²⁹ was used. This 30-item tool uses a 5-point Likert scale and yields three sub-scale scores: compassion satisfaction; burnout; and STS which are psychometrically unique.²⁹ Scores of 22 or less were designated low, 23–41 as average and 42 or above as high.²⁹ The PROQOL5 has demonstrated strong internal consistency with alpha scale reliabilities of: compassion satisfaction = 0.88; compassion fatigue = 0.81 and burnout = 0.75.²⁹ This instrument was chosen for its conceptual fit with study aims,¹⁷ its proven validity and reliability, and track record of usage to measure nurses' professional quality of life.^{30–33} Demographic and occupational data comprised participant age, gender, years of practice, tenure, education level, site and experience of a family member admitted to ICU.

3.4. Data analyses

Statistical analyses were performed using IBM SPSS Statistics Version 23.0 (Armonk, NY: IBM Corp.). A significance level $\alpha < 0.05$ was established. Missing data were replaced by group means provided no more than 5% were missing, as per standard missing data procedures. Participant demographic data were measured using descriptive methods. Bivariate correlations were performed to explore relationships between linear variables using Pearson's and Spearman's correlation coefficients as appropriate. Analysis of variance (ANOVA) and t-tests were executed to determine mean differences in compassion satisfaction, burnout and STS across all continuous and categorical demographic variables. Bonferroni and Scheffe corrections were performed and effect sizes evaluated using Cohen's³⁴ guidelines. Multiple linear regression was used to identify variables that could predict compassion satisfaction, burnout and STS. The backward stepping approach was used; seven demographic and occupational variables showed some significant associations with compassion satisfaction and/or fatigue using bivariate analysis. Choice of variables was theoretically based;

Table 1
 Sample demographic and occupational statistics.

Variable	Frequency (%)	Compassion satisfaction Mean (SD)	Burnout Mean (SD)	Secondary traumatic stress Mean (SD)
PROQOL scores		35.49 (6.00)	25.47 (5.31)	21.43 (4.64)
Gender n = 98				
Female	70 (59.8)	35.03 (6.12)	25.80 (5.17)	21.67 (4.64)
Male	28 (24.0)	35.32 (4.90)	25.04 (4.97)	20.64 (4.62)
Age				
20–35 years	29 (24.8)	34.10 (5.01)	26.97 (4.55)	32.33 (7.35)
36–50 years	45 (38.5)	35.38 (5.41)	25.64 (5.26)	24.09 (5.12)
>50 years	22 (18.8)	32.33 (7.35)	21.62 (5.01)	20.32 (3.79)
Missing	21 (17.9)			
Years of practice				
<5 years	15 (12.8)	35.93 (5.33)	26.40 (4.61)	22.87 (4.92)
5–15 years	49 (41.9)	33.98 (6.46)	26.92 (5.17)	21.82 (4.71)
>15 years	48 (41.0)	36.86 (5.65)	23.98 (5.42)	20.69 (4.57)
Missing	5 (4.3)			
Years of tenure				
<5 years	38 (32.5)	34.08 (7.02)	26.58 (5.64)	21.07 (4.98)
5–15 years	55 (47.0)	35.22 (4.99)	24.65 (4.74)	20.98 (4.50)
>15 years	18 (15.4)	38.22 (5.58)	23.22 (5.73)	20.67 (4.58)
Missing	6 (5.1)			
Education level				
No postgraduate	51 (43.6)	34.89 (4.94)	24.78 (5.48)	20.56 (5.05)
Postgraduate	63 (53.8)	36.46 (5.48)	25.06 (5.19)	21.24 (4.44)
Missing	3 (2.6)			
Family patient in ICU				
Yes	41 (35.0)	35.24 (5.79)	26.15 (5.29)	21.51 (4.86)
No	72 (61.5)	35.24 (5.98)	25.39 (5.30)	21.50 (4.62)
Missing	4 (3.4)			

Scores of 22 or less = 'low'; scores 23–41 = 'average'; scores 42 and above = 'high' (Hudnall Stamm²⁹).

however, all were initially included in the models. No adjustments for multicollinearity were required. No assumptions were violated. An analysis of standard residuals identified outliers and indicated removal of three records to meet model assumptions. A statistician reviewed the analyses for accuracy and clarity.

4. Results

With an overall response rate of 58.5%, most participants were female (71.4%) and held a post-graduate qualification (55.3%); their mean (SD) age was 42.3 (11.4) years, with 16.2 (10.7) years working as a nurse, 8.9 (7.2) years of which had been spent in their current ICU (Table 1). More than one third (36.3%) had experience of a family member as a patient in ICU. Participant response differed somewhat by site (Site A, 52%; Site B, 66%). Most participants at both sites were female, with more males at Site A [38.5%, 22%]. The mean age was similar (42 years) at both sites but age profiles were significantly different; the largest proportion of nurses at Site A were aged 20–35 years [37.8%] but at Site B between 36 and 50 years [57.6%] (Appendix A). Differences in years of experience and tenure (Fig. 1) and the proportion of nurses holding a postgraduate qualification (55.6%, 55%) were not significantly different at the two sites (Appendix B).

4.1. Compassion satisfaction, burnout and secondary traumatic stress

Overall mean scores for compassion satisfaction, burnout and STS were within the 'average' (23–41) range according to Hudnall Stamm²⁹ interpretation (Table 1). Most participants (83%) scored 'average' and 15% scored 'high' (>41) for compassion satisfaction; 71% of participants scored 'average' and 29% 'low' (<23) for burnout.

One third (33.3%) scored 'average' for STS and 66.7% scored 'low' (Fig. 1).

4.2. Relationships with demographic and occupational characteristics

Demographic and occupational characteristics for the sample were examined for relationships with compassion satisfaction, burnout and STS. Duration (years) of practice as a nurse and duration of tenure were significantly and positively related to compassion satisfaction scores although contributing only small effects (for each, 4% of the variation in compassion satisfaction scores, respectively; Table 2). Age, years of practice and tenure were significantly and negatively related to burnout scores. Burnout scores reduced significantly with increasing age, years of tenure and practice; small amounts (6%, 9% and 4%, respectively) of this variation were explained by these relationships (Table 2). Nurses with 5 to 15 years of practice had higher burnout scores than their colleagues with more than 15 years of practice, with significance confirmed by analysis of variance (Table 3) and a post hoc test ($p = 0.023$, 95% CI 0.33, 5.55). There were no significant associations between the demographic and occupational variables and STS scores.

Demographic and occupational characteristics were examined by site for relationships with compassion satisfaction, burnout and STS. Burnout scores significantly decreased with years of practice at both sites, explaining 14% (Site A) and 7% (Site B) of the variation in these scores. Compassion satisfaction scores significantly increased with years of practice at Site A, explaining 8% of this variation; however, this association did not occur at Site B. STS scores decreased as years of practice increased at Site A, explaining 8% of the variation; again, this association did not occur at Site B. Burnout scores increased significantly with tenure at Site B to explain 7% of the variation in these scores; this was not significant at Site A. Tenure

Table 2
Relationships between demographic and occupational characteristics with compassion satisfaction, burnout and secondary traumatic stress.

Variable	Burnout			Secondary traumatic stress			Age			Years of practice			Years of tenure		
	r	CI	p-value	r	CI	p-value	r	CI	p-value	r	CI	p-value	r	CI	p-value
CS	-0.735**	-0.81, -0.64	<0.01	-0.343*	-0.49, -0.17	<0.01	0.085	-0.12, 0.28	0.413	0.191 [†]	0.01, 0.36	0.042	0.197 [†]	0.01, 0.37	0.038
BO	0.544**	-0.66, -0.35	<0.01	0.544**	-0.66, -0.35	<0.01	-0.216 [†]	-0.40, -0.01	0.037	-0.299**	-0.46, -0.12	<0.01	-0.200 [†]	-0.37, -0.01	0.036
STS							-0.127	-0.32, 0.08	0.224	-0.137	-0.31, 0.05	0.148	-0.152	-0.33, 0.03	0.111

Bivariate correlations – Abbreviations: CS – compassion satisfaction, BO – burnout, STS – secondary traumatic stress, CI – confidence interval.

* Significance at alpha level 0.05 (2-tailed).

** Significance at alpha level 0.01 (2-tailed).

† Significance at alpha level 0.01 (2-tailed), r = 0.1–0.29 small; r = 0.3–0.49 medium; r = 0.5–0.69 large correlation (Cohen), n = 117.

at Site B was significantly related to both compassion satisfaction and burnout levels (Table 3). Nurses with more than 15 years of tenure at Site B had significantly higher compassion satisfaction scores than those with less than 5 years of tenure ($p = 0.048$, 95% CI 0.04, 10.86). This latter group of nurses had higher burnout scores than nurses with over 15 years' duration in the same ICU ($p = 0.044$, 95% CI 0.09, 9.35). As expected there was a significant negative relationship between compassion satisfaction and burnout scores at both sites and a similar significant relationship was also found between compassion satisfaction and STS at Site B, but not Site A. No significant findings were revealed at either site for age, gender or education levels.

4.3. Relationships with compassion satisfaction, burnout and secondary traumatic stress scores

Relationships among compassion satisfaction, burnout and STS were significant. Compassion satisfaction scores were significantly reduced with higher burnout and STS scores, explaining 54% and 12% of this variation, respectively. Burnout scores significantly increased with higher STS scores, explaining 30% of the variation in burnout scores (Table 2).

Compassion satisfaction scores differed significantly according to site and postgraduate certification. ICU nurses working at Site A had significantly higher scores for compassion satisfaction than those working at Site B ($p = 0.008$) (Fig. 2). Nurses reporting postgraduate qualifications also had significantly higher compassion satisfaction scores than nurses without ($p = 0.027$) (Table 4). Likewise, STS scores differed significantly according to site; nurses who worked at Site A had significantly lower STS scores than those working at Site B ($p = 0.025$) (Table 4, Fig. 2).

4.4. Predictors of compassion satisfaction, burnout and secondary traumatic stress

Analyses indicated that site (place of work) significantly predicted the level of compassion satisfaction ($\beta = -0.250$, $p < 0.024$). Years of tenure significantly negatively predicted the level of burnout ($\beta = -0.260$, $p < 0.016$), however site was not a significant predictor of burnout. Site (place of work) significantly predicted the level of STS ($\beta = -0.338$, $p < 0.002$), however tenure was not a significant predictor in this case. In summary, site was the strongest predictor of compassion satisfaction and STS, and shorter tenure strongly predicted increasing burnout (Table 5).

5. Discussion

Our analysis revealed that overall, these CCNs reported 'average' levels of compassion satisfaction and burnout, and 'low' levels of STS (according to PROQOL guidelines). Results are not indicative of a cohort of nurses who are struggling, but neither do they signify a particularly resilient workforce. An ideal result would see these nurses experiencing high levels of compassion satisfaction and low burnout and STS scores.¹⁷ However, CCNs are reportedly exposed to traumatic and high stress situations within the intensive care environment.¹¹ Thus, the finding that 30% of the variation in burnout scores was explained by STS scores further underscores the powerful effect on nurses of their role in ICU.

Overall, years of practice, tenure, educational level and place of work significantly influenced compassion satisfaction and fatigue. Less experienced nurses had lower compassion satisfaction and appeared more vulnerable to burnout than nurses who were older, with longer tenure and more nursing experience. This will need to be countered; to facilitate the transition of young nurses into more senior and experienced roles it will be important to address the poorer compassion satisfaction of the more vulnerable early

Table 3
 Variation among and between years of practice and years of tenure groups.

	Sum of squares	df	Mean square	F	Sig.
Years of practice across sample					
Compassion satisfaction					
Between groups	206.317	2	103.159	2.887	0.060
Within groups	3929.913	110	35.726		
Total	4136.230	112			
Burnout					
Between groups	223.358	2	111.679	4.111	0.019*
Within groups	2988.253	110	27.166		
Total	3211.611	112			
Secondary traumatic stress					
Between groups	64.653	2	32.327	1.478	0.233
Within groups	2405.488	110	21.868		
Total	2470.142	112			
Years of tenure – site B					
Compassion satisfaction					
Between groups	206.375	2	103.187	3.298	0.044*
Within groups	1752.202	56	31.289		
Total	1958.576	58			
Burnout					
Between groups	152.524	2	76.262	3.325	0.043*
Within groups	1284.22	56	22.933		
Total	1436.746	58			
Secondary traumatic stress					
Between groups	147.667	2	73.834	3.164	0.050
Within groups	1306.875	56	23.337		
Total	1454.542	58			

Summary of analysis of variance.

* Significance at alpha level 0.05.

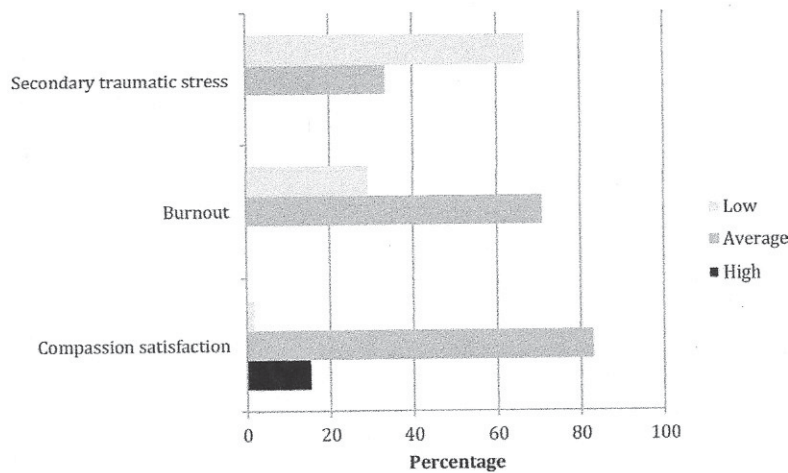


Fig. 1. Compassion satisfaction, burnout and secondary traumatic stress – overall.

and mid-career nurses.³² These findings support earlier research, with similar results from two US studies of CCNs in adult and paediatric ICUs,³³ another of surgical and medical nurses³⁵ and an Australian study of the general nursing workforce.³² Large numbers of nurses leave the profession early in their career for reasons that include burnout.³⁶ Our results are supported by a study exploring the complexity of turnover in the nursing profession; working conditions, ethical dilemmas and inability to provide the desired type of nursing care were shown to impact the intention to leave of early to mid-career nurses.³⁷ Nurses with more experience and longer tenure recorded a higher level of compassion satisfaction, as in other studies.^{32,33,35} The relationships between increased burnout and younger age identified in our study are also supported elsewhere.^{33,35,38}

Whilst not independently predictive (possibly subsumed, for example, by age), postgraduate education was linked with higher levels of compassion satisfaction. An Australian paper reporting results from a general nursing cohort found less educated nurses suffered anxiety and negative moods leading to higher levels of compassion fatigue.³² A recent study examining professional quality of life and clinical competencies reported nurses with greater clinical competence tended to have higher compassion satisfaction and lower fatigue.³⁸ This effect is not limited to the nursing profession; a study examining social workers' professional quality of life identified evidence based practice use and years of experience as buffers to the impact of trauma.³⁹ Another study revealed CCNs' role competence and proximity to capable nurses predicted compassion satisfaction, while structured educational programs were linked to job satisfaction.¹⁰ This being so, management support

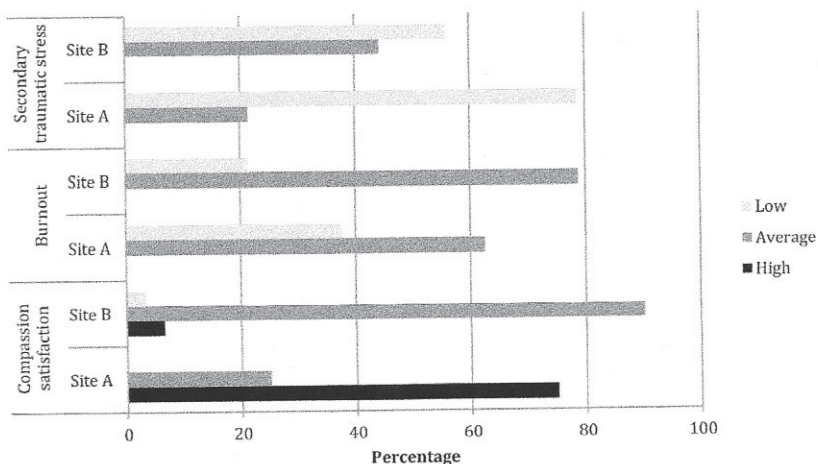


Fig. 2. Compassion satisfaction, burnout and secondary traumatic stress – site comparison.

Table 4
 Comparison of demographic and occupational characteristics to compassion satisfaction, burnout and secondary traumatic stress.

Variable (n)	Mean (SD)	T (df)	Sig. (2 tailed)	95% confidence interval	
				Lower	Upper
Site					
Compassion satisfaction	Site A (56) Site B (61)	37.02 (5.88) 34.08 (5.81)	2.715 (115)	0.008*	0.794 5.078
Burnout	Site A Site B	24.59 (5.48) 26.28 (5.05)	1.734	0.086	-3.619 0.240
Secondary traumatic stress	Site A Site B	20.43 (4.07) 22.34 (4.97)	2.269	0.025*	-3.588 -2.43
Gender					
Compassion satisfaction	Male (28) Female (70)	35.32 (4.90) 35.03 (6.12)	0.226 (96)	0.822	-2.280 2.866
Burnout	Male Female	25.04 (4.97) 25.80 (5.17)	0.688	0.506	-3.037 1.508
Secondary traumatic stress	Male Female	20.64 (4.62) 21.67 (4.64)	0.992	0.324	-3.088 1.030
Education level					
Compassion satisfaction	No P Grad (51) P Grad (63)	34.89 (4.94) 36.46 (5.48)	2.240 (112)	0.027*	-4.674 -0.286
Burnout	No P Grad P Grad	24.78 (5.48) 36.46 (5.48)	1.355	0.178	-0.614 3.271
Secondary traumatic stress	No P Grad P Grad	20.56 (5.05) 21.24 (4.44)	0.644	0.521	-1.175 2.306
Family patient in ICU					
Compassion satisfaction	Yes (72) No (41)	35.24 (5.79) 35.24 (5.98)	0.007 (111)	0.995	-2.299 2.283
Burnout	Yes No	26.15 (5.29) 25.39 (5.30)	0.731	0.467	-2.812 1.297
Secondary traumatic stress	Yes No	21.51 (4.86) 21.50 (4.62)	0.013	0.989	-1.837 1.812

Independent sample t-tests.
 * Significance at alpha level 0.05 (2-tailed).

enabling access to postgraduate education is important not just for a better educated and more clinically competent critical care workforce, but one with potentially greater compassion satisfaction and lower fatigue.

Compassion satisfaction and STS were predicted by place of work, whereas tenure predicted level of burnout. Significant differences were found between the two sites, with CCNs at Site A having greater compassion satisfaction and less STS than those at Site B. There are several potential explanations. Firstly, Site A,

a tertiary referral metropolitan hospital, offered more specialised treatments. Site B offered ventilatory and cardiovascular care, monitoring and renal support, accepted patients from more remote hospitals but transferred patients requiring more specialised treatments to a higher-level critical care setting such as Site A. Findings from a US study support this explanation: that participants working in a higher acuity ICU have higher compassion satisfaction scores.³³ The same research also reported higher burnout for nurses working in a unit undergoing change in management,³³ suggesting that

Table 5
Analysis of variables predictive of compassion satisfaction, burnout and secondary traumatic stress.

Dependent variable/variable entered	Adjusted R ²	F	Standardised coefficient β	Confidence interval	t	Sig.
Compassion satisfaction						
Site	0.031	3.704	-0.250	-4.236, 0.069	-2.302	0.024*
Burnout						
Years of tenure			-0.260	-0.312, -0.032	-2.446	0.016*
Site	0.059	3.748	0.179	-0.306, 3.796	1.692	0.094
Secondary traumatic stress						
Years of tenure			-0.187	-0.263, 0.014	-1.782	0.078
Site	0.098	5.706	0.338	1.221, 5.165	3.220	0.002**

Multiple regression – backward stepping solution was used.

* Significance at alpha level 0.05.

** Significance at alpha level 0.01 $r^2 = 0.1$ –0.29 small; $r^2 = 0.3$ medium; $r^2 = 0.5$ large correlation (Cohen). $n = 114$.

differences in management style and support programs, as well as how well a change process is delivered, may also contribute to differences in staff experience. A recent study exploring key predictors of retention in the critical care nursing workforce found that management support, collaboration, engagement and compassion satisfaction influenced nurses' decision to remain or leave the critical care arena.¹⁰ Features of the context, environment and culture, management style and staff support programs may contribute to the differences between these sites' staff in compassion satisfaction and STS levels.

5.1. Limitations

The sample size ($n = 117$) and participation rate (58.6%) are in line with other similar studies^{10,33}; whilst they may render the generalizability of results uncertain, they may at least represent a microcosm of Australian critical care. Some missing data resulted in discrepancies between total number of participants and data reported, for example, for gender. This was an observational study and could not examine causal relationships; however, this was not the study aim and the instrument chosen to measure professional quality of life was not designed as a diagnostic tool but to provide an indication of workforce wellbeing.²⁹

6. Implications and recommendations

Higher burnout was linked to lower compassion satisfaction; enhancement of compassion satisfaction levels in the CCN workforce may provide nurses protection from compassion fatigue.⁴⁰ Compassion satisfaction is depicted by a sense of achievement or gratification from the act of caregiving itself¹⁶ and being able to meet the requirements of the position,^{41–43} such as provision of patient-centred nursing. Some researchers denote caring or feelings for others as grounded in self-care.⁴⁴ It makes sense, therefore, to incorporate interventions in future planning that buffer the negative effects of compassion fatigue by improving compassion satisfaction and addressing burnout.⁴⁵ With STS explaining 30% of burnout scores, it may be worth considering interventions geared toward decreasing burnout by reducing STS.⁴⁵ Potential strategies to combat this type of stress include mentoring, cognitive techniques, mindfulness and peer discussion.¹¹

Provision and support of continuing education may contribute to greater compassion satisfaction. CCNs are required to have expert clinical skills and knowledge, qualities such as reliability, empathy, kindness and patience as well as ability to deal with stressful situations whilst being stable, agile, exact, alert and systematic.⁹ CCNs gain clinical skills and knowledge from formal university education and/or hospital on-the-job training; often they are neither prepared nor provided with any education around the likely emotional stressors involved with providing

effective patient-centred nursing to patients suffering trauma or multi-organ failure.⁴⁶ High expectations of meeting competency requirements could pressure CCNs; support and opportunities are required to develop experience, understanding and resilience as well as the requisite knowledge and competencies in safe situations, which may lead to enhanced compassion satisfaction.

Individual factors are important, but so too are the organisational and societal contexts in which the nursing care occurs. Place of work was shown to be a predictor of compassion satisfaction and fatigue. Symptoms of compassion fatigue may be indicators of the nature of the organisation's culture and ways of working, influencing nurses' decision to continue or to leave the job or profession.¹⁰ With longer experience in the role linked with lower burnout scores, have these more experienced nurses developed coping or survival skills?^{47,48} Or have the more affected early career nurses resigned – at least from the critical care arena? Could an answer lie in individual coping skills, personality traits or resilience and could such attributes be cultivated by work-based interventions such as debriefing, clinical supervision or peer support? Some of these strategies are already employed in areas such as mental health.⁴⁹ What is needed is a model to suit *this* health workforce population; one to accommodate the unique shift work (often 12 hr) and demands made on CCNs. Further investigation is warranted to answer these questions, and enable identification or development of appropriate interventions to enhance the coping skills and reduce the burnout experienced, particularly, by early to mid-career CCNs.

7. Conclusion

CCNs form the largest group of health professionals within the intensive care unit,³⁸ contributing to positive patient experience by providing effective patient-centred nursing.¹³ The growth and ageing of the population is driving demand for healthcare services, and retention and maintenance of an experienced and competent critical care nursing workforce is essential.⁵ Interventions geared toward improving compassion satisfaction and decreasing burnout, including reducing STS, could lead to both greater wellbeing and longevity in the CCN workforce.

This first phase of a larger research project supports the need to conduct qualitative research to further explore the sources of CCNs' satisfaction or dissatisfaction in their challenging role. Small contributions to the variation in compassion satisfaction and fatigue were explained in this study, and the majority of influences are yet to be determined. Future research is needed to better understand what enhances compassion satisfaction in this high-stress environment and what interventions could be employed to retain and maintain this crucial critical care nursing workforce.

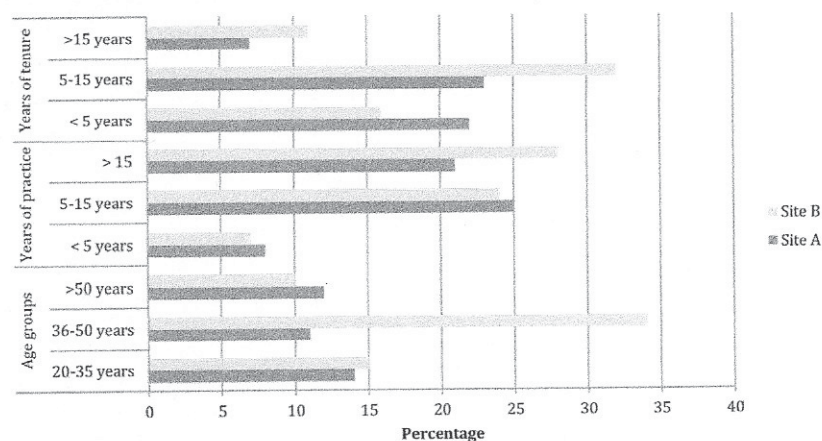
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Appendix A. Age, years of practice and tenure groups – variation between sites



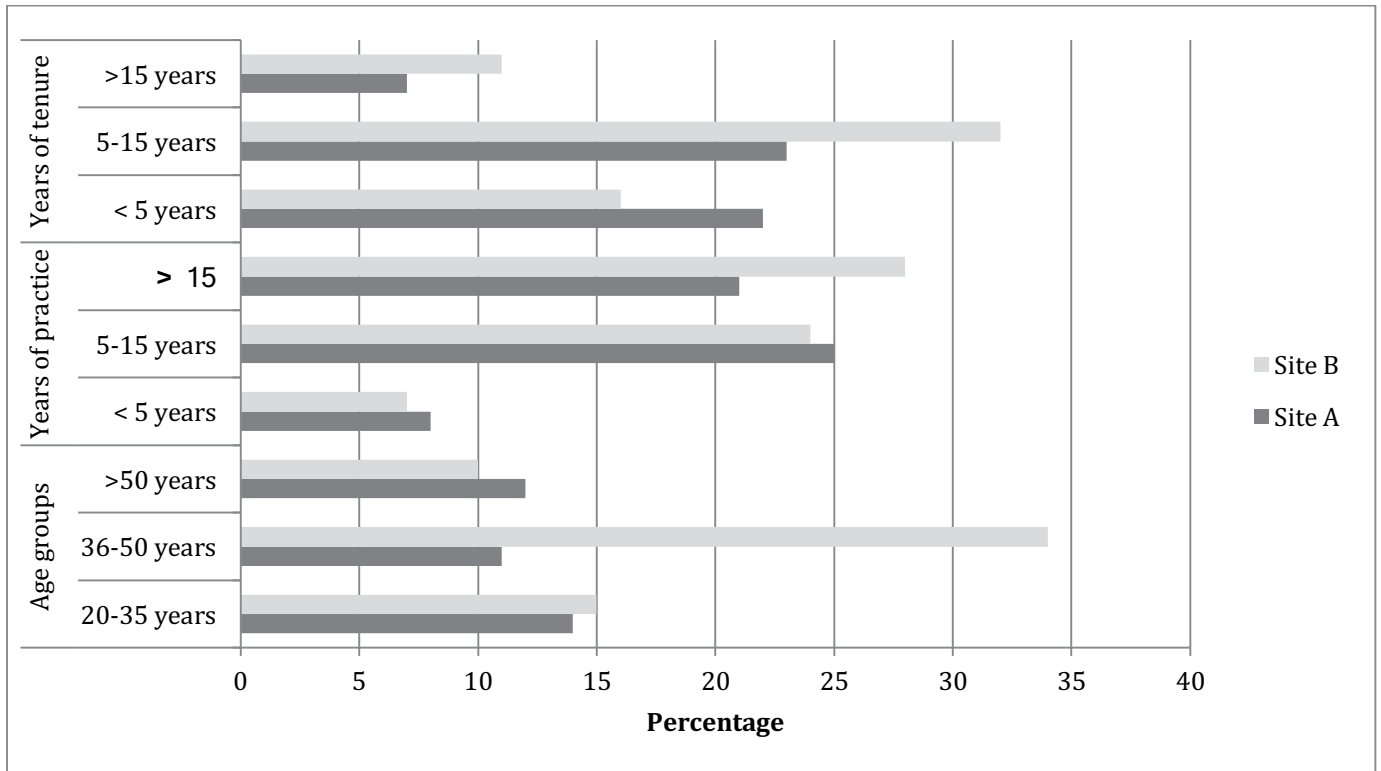
Appendix B. Demographic and occupational statistics compared by site

Variable	Site A (n = 56) Frequency (%)	Site B (n = 61) Frequency (%)	Compassion satisfaction Mean (SD)		Burnout Mean (SD)		Secondary traumatic stress Mean (SD)	
			Site A	Site B	Site A	Site B	Site A	Site B
PROQOL scores			37.02 (5.88)	34.08 (5.81)	24.59 (5.48)	26.28 (5.05)	20.43 (4.07)	22.34 (4.97)
Gender								
Female	24 (42.9)	46 (75.4)	36.79 (5.23)	34.11 (6.39)	24.96 (5.12)	26.24 (5.17)	19.83 (3.88)	22.63 (4.76)
Male	15 (26.8)	13 (21.3)	36.67 (5.38)	33.77 (3.92)	23.33 (4.56)	27.00 (4.85)	19.73 (2.86)	21.69 (6.02)
Missing	17 (30.4)	2 (3.3)						
Age								
20–35 years	14 (25.0)	15 (24.6)	35.79 (4.91)	32.53 (4.72)	26.00 (5.32)	27.87 (3.76)	20.35 (2.76)	23.60 (5.64)
36–50 years	11 (19.6)	34 (55.7)	36.36 (6.32)	35.06 (5.15)	24.73 (5.62)	25.94 (5.19)	20.18 (3.94)	22.09 (5.27)
50> years	12 (21.4)	10 (16.4)	37.92 (4.68)	32.80 (9.14)	22.67 (3.52)	25.80 (6.34)	19.08 (4.12)	21.80 (2.86)
Missing	19 (33.9)	2 (3.3)						
Years of practice								
<5 years	8 (14.3)	7 (14.3)	36.63 (6.92)	35.14 (2.97)	26.13 (6.27)	26.71 (1.89)	22.63 (5.90)	23.14 (3.97)
5–15 years	25 (44.6)	24 (44.6)	35.64 (5.79)	32.25 (6.78)	25.88 (5.99)	28.00 (3.90)	20.68 (3.30)	23.00 (5.66)
>15 years	21 (37.5)	28 (37.5)	38.95 (5.41)	35.29 (5.38)	22.57 (4.23)	25.04 (6.02)	19.19 (4.06)	21.82 (4.67)
Missing	2 (3.6)	2 (3.6)						
Years of tenure								
<5 years	22 (39.3)	16 (11.5)	36.18 (7.07)	31.19 (6.00)	24.95 (6.34)	28.81 (3.61)	21.05 (3.97)	25.00 (5.46)
5–15 years	23 (41.1)	32 (39.3)	36.43 (4.34)	34.34 (5.30)	25.57 (4.99)	26.19 (4.61)	20.52 (3.99)	21.31 (4.86)
>15 years	7 (12.5)	11 (45.9)	40.71 (4.42)	36.64 (5.84)	21.86 (4.26)	24.09 (6.55)	18.57 (5.47)	22.00 (3.55)
Missing	4 (7.1)	2 (3.3)						
Education level								
No postgraduate	24 (42.9)	27 (44.3)	35.67 (6.40)	32.48 (5.98)	25.17 (5.60)	27.48 (4.69)	20.17 (4.61)	23.26 (4.79)
Postgraduate	30 (53.6)	33 (54.1)	37.70 (5.28)	35.33 (5.50)	24.60 (5.24)	25.48 (5.19)	20.83 (3.58)	21.61 (5.14)
Missing	2 (3.6)	2 (1.6)						
Family patient in ICU								
Yes	16 (66.1)	25 (41.0)	36.50 (4.62)	34.44 (6.39)	24.38 (4.03)	27.28 (5.76)	20.19 (3.97)	22.36 (5.25)
No	37 (28.6)	35 (57.4)	36.62 (6.13)	33.77 (5.52)	25.05 (6.06)	25.74 (4.41)	20.70 (4.23)	22.34 (4.92)
Missing	3 (5.4)	1 (1.6)						

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Age, years of practice and tenure groups - variation between sites



Demographic and occupational statistics compared by site

Variable	Site A (n = 56) Frequency (%)	Site B (n = 61) Frequency (%)	Compassion Satisfaction Mean (SD)		Burnout Mean (SD)		Secondary Traumatic Stress Mean (SD)	
			Site A	Site B	Site A	Site B	Site A	Site B
PROQOL Scores								
			37.02 (5.88)	34.08 (5.81)	24.59 (5.48)	26.28 (5.05)	20.43 (4.07)	22.34 (4.97)
Gender								
Female	24 (42.9)	46 (75.4)	36.79 (5.23)	34.11 (6.39)	24.96 (5.12)	26.24 (5.17)	19.83 (3.88)	22.63 (4.76)
Male	15 (26.8)	13 (21.3)	36.67 (5.38)	33.77 (3.92)	23.33 (4.56)	27.00 (4.85)	19.73 (2.86)	21.69 (6.02)
Missing	17 (30.4)	2 (3.3)						
Age								
20-35 years	14 (25.0)	15 (24.6)	35.79 (4.91)	32.53 (4.72)	26.00 (5.32)	27.87 (3.76)	20.35 (2.76)	23.60 (5.64)
36-50 years	11 (19.6)	34 (55.7)	36.36 (6.32)	35.06 (5.15)	24.73 (5.62)	25.94 (5.19)	20.18 (3.94)	22.09 (5.27)
50> years	12 (21.4)	10 (16.4)	37.92 (4.68)	32.80 (9.14)	22.67 (3.52)	25.80 (6.34)	19.08 (4.12)	21.80 (2.86)
Missing	19 (33.9)	2 (3.3)						
Years of Practice								
<5 years	8 (14.3)	7 (14.3)	36.63 (6.92)	35.14 (2.97)	26.13 (6.27)	26.71 (1.89)	22.63 (5.90)	23.14 (3.97)
5-15 years	25 (44.6)	24 (44.6)	35.64 (5.79)	32.25 (6.78)	25.88 (5.99)	28.00 (3.90)	20.68 (3.30)	23.00 (5.66)
>15 years	21 (37.5)	28 (37.5)	38.95 (5.41)	35.29 (5.38)	22.57 (4.23)	25.04 (6.02)	19.19 (4.06)	21.82 (4.67)
Missing	2 (3.6)	2 (3.6)						
Years of Tenure								
<5 years	22 (39.3)	16 (11.5)	36.18 (7.07)	31.19 (6.00)	24.95 (6.34)	28.81 (3.61)	21.05 (3.97)	25.00 (5.46)
5-15 years	23 (41.1)	32 (39.3)	36.43 (4.34)	34.34 (5.30)	25.57 (4.99)	26.19 (4.61)	20.52 (3.99)	21.31 (4.86)
>15 years	7 (12.5)	11 (45.9)	40.71 (4.42)	36.64 (5.84)	21.86 (4.26)	24.09 (6.55)	18.57 (5.47)	22.00 (3.55)
Missing	4 (7.1)	2 (3.3)						
Education Level								
No Postgraduate	24 (42.9)	27 (44.3)	35.67 (6.40)	32.48 (5.98)	25.17 (5.60)	27.48 (4.69)	20.17 (4.61)	23.26 (4.79)
Postgraduate	30 (53.6)	33 (54.1)	37.70 (5.28)	35.33 (5.50)	24.60 (5.24)	25.48 (5.19)	20.83 (3.58)	21.61 (5.14)
Missing	2 (3.6)	2 (1.6)						
Family Patient in ICU								
Yes	16 (66.1)	25 (41.0)	36.50 (4.62)	34.44 (6.39)	24.38 (4.03)	27.28 (5.76)	20.19 (3.97)	22.36 (5.25)
No	37 (28.6)	35 (57.4)	36.62 (6.13)	33.77 (5.52)	25.05 (6.06)	25.74 (4.41)	20.70 (4.23)	22.34 (4.92)
Missing	3 (5.4)	1 (1.6)						

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