University of New England

EXPLORING PRE-REGISTRATION NURSING STUDENTS' EXPERIENCE OF AND ATTITUDES TOWARDS INTENTIONAL ROUNDING WITHIN CLINICAL PLACEMENTS

Submitted by

Liz Ryan, BN, GCACN, CGACN (trauma/critical care),
MN (clinical education) UNE

School of Nursing, Faculty of Medicine and Health

University of New England

Submitted in fulfilment of the requirements of the degree of
Doctor of Philosophy

July, 2021

Abstract

Aim:

The aim of this study was to explore pre-registration nursing students' knowledge, perceptions, attitudes and experiences of intentional rounding.

Background:

Intentional rounding is a patient safety intervention ensuring patients within a clinical setting are checked on a regular basis, to enhance patient safety and comfort. Previous intentional rounding research has focused on nursing staff, consumers and organisational perspectives, yet pre-registration nursing students' knowledge, attitudes and experiences are absent. As nursing students frequently participate in intentional rounding on clinical placement, it was necessary to explore their attitudes, perceptions and experiences within the context of learning and education and patient safety, and the perceived benefits and barriers of participating in this intervention.

Methods:

This study used an explanatory mixed methods design. Participants (n=533) were pre-registration nursing students enrolled at six Australian universities. An online survey (Nurse's Perceptions of Patient Rounding Scale) was used to examine pre-registration nursing students' perceptions of intentional rounding, followed by qualitative interviews with students who had previously completed the survey (n=18). Quantitative data were analysed using SPSS while qualitative data were thematically analysed. These collective data were then synthesised to draw conclusions.

Findings:

The quantitative survey data highlighted positive attitudes toward intentional rounding, improved by adequate engagement and sufficient education. Pre-registration nursing students reported positive attitudes towards intentional rounding overall, and in the three survey subscales of patient communication, patient benefits and nurse benefits. Three major themes with additional subthemes were identified from the qualitative interview responses. These were: *Having the skills but not the knowledge – following the lead; Learning the ropes – feeling part of the team*; and *Ticking boxes at the end of the shift.*

The synthesis found three overarching themes. *The source of education and understanding of key concepts within nursing* – This theme focussed on where and how students gained their knowledge of intentional rounding, with previous workplace experience playing a vital role. The next theme was: *The enhancement of learning experiences*, which identified confidence, time management, assessment, rapport building and team work skills were also gained through participation in intentional rounding. *Patient safety and the provision of quality care* was the final theme – role modelled behaviours by other nurses provided students with examples of high- and low-quality patient care which led to a determination on the type of patient care that they will strive to provide in the future. Pre-registration nursing students became aware of the influences and hindrances to providing safe care, and could work toward eliminating anything that would negatively impact their behaviour, thus enhancing the quality and safety of the care these students provided in the future.

Conclusion:

Pre-registration nursing students are the nursing workforce of the future. These students gain knowledge in patient safety and quality care, and additional necessary nursing skills through observing and participating in intentional rounding. Role modelled behaviours enhance students' ability to understand and provide quality care and a safe environment for patients in the future.

It is vital that the relationship between clinical and academic settings is collaborative, utilising current trends and interventions, to avoid assumptions of prior learning occurring. Mentorship, role modelling and andragogical principles should be more considered within both clinical and academic areas, and supported participation in safety interventions encouraged for students. If students are actively taught and involved in intentional rounding, this ensures that all students have the opportunity to gain vital learning within their placements and nursing school training, regardless of previous experience, moving forward to be safe and competent registered nurses.

Certification of Thesis

I, Elizabeth Jo Ryan, do certify that the ideas, analyses, results, and conclusions reported in this thesis are entirely my own effort, except where otherwise acknowledged. I certify that the work is original and has not been previously submitted for any other award.

30.5.2021

Signature of Candidate

ENDORSEMENT

30.05.2021

Anthology of publications

Five papers were written as a result of this research. For all of these works, I was the lead author, and were co-authored by my supervision team. These papers were collated to form parts of this thesis.

These are as follows:

Ryan, L., Jackson, D. Woods, C. & Usher, K. (2019). Intentional Rounding – an integrative literature review. Journal of Advanced Nursing. 2019 (75). 1151-1161. https://doi.org/10.1111/jan.13897

Ryan, E.J., Jackson, D., Woods, C. & Usher, K.J. (2020). Pre-registration nursing students' perceptions and experience of intentional rounding: A cross-sectional study. Nurse Education in Practice. 42 (2020) 102691. https://doi.org/10.1016/j.nepr.2019.102691.

Ryan, E.J., Jackson, D., Woods, C., East, L. & Usher, K. (2020). Intentional rounding in the context of student learning. Collegian. 28 (3), 289-295 https://doi.org/10.1016/j.colegn.2020.09.008

Ryan, E.J., Jackson, D., East, L., Woods, C. & Usher, K. (2021) Mixed Methods Study Integration: nursing student experiences and opinions of intentional rounding. Journal of Advanced Nursing. Under review.

Ryan, L., Jackson, D., Woods, C., East, L. & Usher, K. (2020). Pre-registration nursing students' provision of safe care – are we leaving too much to chance? Journal of Clinical Nursing. 30(5-6), e10-e12. https://doi.org/10.1111/jocn.15494

Oral Presentations:

Ryan, E.J. Exploring pre-registration nursing students' experience of and attitudes towards intentional rounding within clinical placements. School of Health Higher Degree Research Intensive. UNE (2017, May).

Ryan, E.J. Pre-registration nursing students' experience of and attitudes towards intentional rounding within clinical placements. Armidale Rural Referral Hospital Education Evening (2018, August).

Ryan, E.J. Intentional rounding – student perspectives: a cross-sectional survey. University of New England Higher Degree Research Conference. UNE (2019, January).

30.5.2021

Signature of Candidate Date

Acknowledgements

The following thesis is the result of a long journey of learning and growth, and during this time I have been accompanied and supported by many people. I am delighted to now have the opportunity to express my sincere gratitude and appreciation to all of them.

This thesis is for my parents, who always believed in the potential within everyone, despite being told otherwise, and who have always been so cussedly proud of their children's achievements. Always believing in us unwaveringly enabled us to reach for the stars.

To my friends and family, who have supported me throughout this journey, putting up with the stress, the weekends of work, and the ongoing – 'it's nearly there'….To my children - I the hope that showing you what I have been able to achieve gives you the faith and tenacity to know that you can also achieve whatever you want in life.

To my supervisors, Professor Kim Usher, Professor Debra Jackson, Dr Cindy Woods and Associate Professor Leah East, who have all provided fantastic support and guidance throughout this thesis production; you have given me positive encouragement, direction, motivation, and a boot when needed, in an effort to get me through. Your ability in research and writing has been marvelled, and I hope that you can be proud of the collective achievement culminating in the completion of this thesis. Each of you have brought different skills and talents that have been woven together to provide what was needed at each phase of the study, and I thank you all from the bottom of my heart.

And last but not least to the participants of this study, who so willingly gave of their time and opinions, sharing their experiences happily in order to improve the experience for future nursing students. I could not have done it without you, and am so appreciative of everyone who completed the survey, with particular mention to those that agreed to be interviewed – thankyou.

Table of contents

Table of Figures

Table of Tables

Chapter 1. Introduction

1.1. Definition of key terms

1.1.1. Intentional rounding

Intentional rounding within the clinical settings is a means of pre-emptive care, anticipating patient needs, and checking the patient on a regular basis, most often using scripted reminders. Deitrick, Baker, Paxton, Flores and Swavely (2012) describe intentional rounding as 'a systematic, proactive nursing driven evidence-based intervention to anticipate and address needs in hospitalised patients' (p.13), that also increases a nurse's awareness of patient conditions (Flowers et.al., 2016). The term intentional rounding is used interchangeably in the literature with the terms purposeful rounding, hourly or scripted rounding. For the purposes of this thesis, the term 'intentional rounding' is used.

1.1.2. Pre-registration nursing students

This study focusses on the attitudes and experience of the student nurse. Within this thesis student nurses are classed as those students who are in the process of completing an undergraduate pre-registration baccalaureate degree in order to gain registration as a Registered nurse within Australia. The terms pre-registration student nurse, nursing student, and student are used interchangeably throughout this thesis depending on how much clarity was required and are referring to the same group of students.

1.2. Background to study

Intentional rounding was a strategy previously instilled in nursing practice, though never formalised. Regular ward rounds, hourly or second hourly repositioning of patients, ward tidies and regular patient assessments were a part of usual nurse practice, and a given ritual (Hutchinson & Jackson, 2015). With the increase in technology, paperwork, staff shortages, patient acuity, workload and increased pressures in nursing, at times these checks were not completed. There was an abandonment of previously followed task-based approaches to nursing care in the 1980's and 1990's to a more person-centred approach, which reduced the focus of intentional rounding. This ensued a perceived loss of quality of care, which resulted in intentional rounding being formally reinstated (Duffield, Gardner & Catling-

Paull, 2008; Francis/ Mid Staffordshire NHS Foundation Trust, 2013; Garling/ Special Commission of Inquiry, 2008).

Intentional rounding when introduced focussed on patient comfort rounds, aiming to ensure that each patient was comfortable, and that basic care needs such as pain and other personal and environmental needs were met (Forde-Johnston, 2014). It was anticipated that this regular intervention, guided by regularly timed and scripted reminders would reduce the amount of time that nurses were interrupted by answering buzzers within the ward, and that there would be increased patient safety and satisfaction (Meade, Bursell & Ketelsen, 2006; Forde-Johnston, 2014). Scripted rounding is frequently utilised, with acronym reminders such as the 4 P's – such as pain, positioning, personal needs and placement (Emerson, Chmura & Walker, 2013). Other examples are potty (toileting), personal items / attention, pressure care, proximity, paperwork, and devices or documentation (Fabry, 2015; Flowers et.al., 2016; NSW Health / Hunter New England Health District, 2013). Such acronyms can be adapted to suit the individual needs of the particular setting they are a part of.

Historically the formal concept of intentional rounding was derived from the results of a study by the Studer Group in the United States of America (USA), who attempted to ascertain the effectiveness of intentional rounding in such aspects as patient safety and satisfaction, and call bell utilisation (Meade, Bursell & Ketelsen, 2006, Studer Group, 2007). In the United Kingdom (UK), political impetus led to the introduction of intentional rounding for safety reasons, though there was some contention as to the lack of evidence behind the widespread implementation (Snelling, 2013). The British Prime Minister in 2011 had called for changes in the delivery of nursing care, and one of the recommendations that was directed by the government was the introduction of hourly nursing rounds (Dewing & O'Meara, 2013; National Nursing Research Unit, 2012). Though successful on many fronts, there are still mixed opinions as to the purpose and outcomes of intentional rounding (Hutchinson & Jackson, 2015; Forde-Johnston, 2014). Many nurses expressed frustration at the imposition of intentional rounding, and the perceived added workload encompassing cumbersome documentation (Tucker, et al., 2012).

In Australia, there has been an impetus in recent years to promote and improve patient safety and satisfaction. A New South Wales example is the establishment of the Clinical Excellence Commission, launching various projects to 'promote and support improved clinical care, safety and quality across the New South Wales public health system' (Clinical Excellence Commission, n.d., para 2). Intentional rounding was used as part of these projects, with particular reference to patient safety and satisfaction, falls, pressure injury prevention, and communication (NSW Department of Health, 2004; Clinical Excellence Commission, 2014). Similar approaches including intentional rounding have also been introduced in other Australian states, territories, Private hospitals and medical facilities (Australian Private Hospitals Association, 2013; Gardner et al., 2009; Department of Health, 2013; Daniels, 2016).

1.2.1. Local influences and interest in the topic

Formally, intentional rounding was first implemented in New South Wales in late 2012 in some metropolitan health services (Sydney Local Health District, 2012), and was subsequently implemented state-wide. In the local Rural Referral hospital where I worked, the implementation of hourly intentional rounding was officially commenced in 2013, as part of the Excellence Innovation in Health Care Program, Essentials of Care Project. A 'Patient care essentials rounding care plan' was developed and implemented (NSW Health/ Hunter New England Health District, 2013). Prompts in this checking system included Personal needs, Position, Patient environment, Discomfort or pain, Devices, Documentation, as well as attending to a scripted additional check – is there anything I can do for you?' (NSW Health, Hunter New England Health District, 2013). There were positive results in the local New England Area Health District, particularly in the reduction of falls, although anecdotal evidence, supported by other literature indicated that compliance with the intervention was hard to maintain (A. Miller, personal communication, 2016; D. Saladine, personal communication, 2016; Brosey & March, 2014; McLaughlin & Olsen, 2015).

My interest in intentional rounding stemmed from observing the implementation of intentional rounding within this rural hospital facility. Working at the facility intermittently allowed me to objectively observe the way in which staff embraced or rejected intentional rounding, and listen to various viewpoints on the acceptability and effectiveness of the

intervention. Perceptions of the intervention varied depending on personal viewpoints, the influence of managers within wards, and the workload and acuity of patients. As I worked only sporadically within this facility, I received no formal training on intentional rounding, though did receive from fellow colleagues their thoughts and understanding of the intervention. Considering I did not have any training, I wondered how others had received information about intentional rounding and how this influenced their perceptions.

My role as a lecturer in an undergraduate nursing program influenced my particular emphasis on the experience of the student nurse. From a student nurse perspective, my assumptions were that the education and subsequent involvement in and understanding of intentional rounding would be influenced by the facility in which they were placed, and the staff attitudes they experienced. They may have received very little formal education on intentional rounding, so may not understand the reasons behind the structured rounding process. As these student nurses are our future registered nurses, they need to have a thorough understanding of the process of intentional rounding and the reasons and evidence behind the intervention in order to carry it on and make appropriate changes to better improve patient care in the future.

For the student nurse locally, there was little instruction from the University regarding intentional rounding, nor anything within prescribed textbooks at the time of my initial exploration of the phenomenon. According to the local Health Service Educator the topic was covered only within hospital orientation sessions if students happened to be able to attend whilst on placement, but otherwise it was up to the facilitator or registered nurse with whom a student was assigned to role model and educate on intentional rounding behaviours (A. Miller, personal communication, 2016). Anecdotally, there was no input to student nurses from the Clinical Excellence Coaches who were generally responsible for training and auditing intentional rounding practices within the organisation (D. Saladine, personal communication, 2016).

The following study was therefore developed to explore what was experienced by student nurses locally, and in other health districts and universities. Pre-registration nursing

students' perceptions, attitudes and experiences of intentional rounding was explored within this study.

1.3. Aim and Objectives

Research aim

The aim of this study was to explore pre-registration nursing students' perceptions, experience of and attitudes towards intentional rounding as a patient safety intervention.

Research Objectives

- To measure pre-registration nursing students' attitudes to intentional rounding and their understanding of its purpose
- To explore the relationship between any variables such as previous experience
- To explore and describe pre-registration student nurses' exposure to and experience of intentional rounding throughout their clinical placements
- To determine these students' perceived benefits or disadvantages, barriers or enablers to performing intentional rounding, along with any suggested improvements to intentional rounding
- To determine the contextual factors influencing effective student engagement in intentional patient rounding
- To determine the approaches to education on intentional rounding nursing students had experienced.

1.4. Significance

Exposure to intentional rounding for pre-registration student nurses occurs whilst on clinical placement. The experience is thus dependent on the skill, attitudes and understanding of the registered nurse with whom they are buddied. This research aimed to explore how this exposure occurred, and what impact the experience had on the student nurses' perceptions of intentional rounding. Student nurses' experiences and attitudes toward intentional rounding emanating from their clinical experience could influence their personal ongoing commitment or indifference to intentional rounding, thus impacting the long-term

effectiveness, continuation and sustainability of intentional rounding and other patient safety interventions.

At the commencement of this thesis there was no evidence related to the experience of student nurses within the intentional rounding or related literature. There was also no consistent demarcation documented as to who attends to intentional rounding across various clinical settings. It had been reported however, that intentional rounding is often delegated to more junior or less qualified staff (Fabry, 2015), which may or may not include pre-registration student nurses. Emerson, Gregory and Gamm (2016) stated that there was more positivity towards intentional rounding from those registered nurses with less experience. Given the importance of this variance in attitude it was decided to explore the student experience and attitudes toward intentional rounding, to understand this phenomenon and the future workforce' experience in greater depth.

1.5. Originality

Throughout the available literature, patient, organisation and nursing staff perceptions of intentional rounding have been explored. There was however, no current mention of the student nurse perspective. The emphasis in previous literature related to registered nurses, patients, and organisational benefits such as patient safety. This highlights the gap relating to the pre-registration student nurse, as there is no voice to their experience. It was thought that this could be a result of not being engaged or exposed to intentional rounding, but it has been found that this is not always the case, as it was found that students were frequently involved. It is important to ensure that nursing students are equipped with the skills and knowledge to be able to undertake such interventions, and be supported adequately in their learning. As student nurses are the registered nurses of the future, it was important that their attitudes towards and experiences of intentional rounding were explored, hence the establishment of this study.

1.6. Learning theories

Coming from an academic perspective, it was important to address the learning for these students, and how we can best assist them. There are many learning theories that can be

associated with learning within clinical placements, and I felt that because the experience of intentional rounding for students was influenced by their learning and education, that this was important to explore in some way. Some examples are andragogy, social or situated learning, and experiential learning (Patton, Higgs & Smith, 2013).

Andragogy, or adult learning theory, was introduced in the 1970's by prominent learning theorist Malcolm Knowles. Andragogy focusses on the needs of the learner as an individual, understanding that everyone has different experiences, needs, and motivation for learning. This differs from pedagogy or more child-based learning, where the teacher is the decision maker and expert around what needs to be learned, including why, how and in what context the learning occurs (Knowles, Holton & Swanson, 2015). This is pertinent for the adult learners that are pre-registration nursing students.

The core learning principles of andragogy as described by Knowles, Holton and Swanson (2015) are:

> *Adults need to know why they need to learn something before learning it*
>
> *The self-concept of adults is heavily dependent upon a move toward self-direction*
>
> *Prior experiences of the learner provide a rich resource for learning*
>
> *Adults typically become ready to learn when they experience a need to cope with a life situation or perform a task*
>
> *Adults' orientation to learning is life-centred; education is a process of developing increased competency levels to achieve their full potential*
>
> *The motivation for adult learners is internal rather than external (p.88).*

Within the confines of this study, the principles of adult learning were important concepts to address when exploring the learning experience of the pre-registration student nurse, and will be discussed further in Chapter Seven (page 132) of this thesis.

The other learning theories that could be drawn on as a result of this study were social and experiential learning theory. These take into consideration the context and environment of the learning that is occurring, in this case the clinical setting (Taylor & Hamdy, 2013). Students are influenced by the ward dynamics and setting, the staff team environment and their position and social standing within this team, role modelled behaviours and their individual skill set and ability.

Experiential learning was originally derived from the work of Dewey, Piaget, Lewin, and later Kolb (Kolb, 1984). Experiential learning theory implies that knowledge, understanding and meaning is constructed from lived or 'real-life experience' (Yardley, Teunissen & Dornan, 2012), and through grasping, understanding and transforming the experience, knowledge is gained (Kolb, 1984). To this end, clinical placements offer practice-based experience in the role of nursing for pre-registration nursing students. Students experience the role of being a beginning registered nurse through completion of intentional rounding and other practices, and gain understanding through this experience. Students grasp concepts through *concrete experience* – learning and feeling through the experience of being on placement; *abstract conceptualisation* – analysing ideas and sourcing understanding. Students transform their experience through *reflective observation* – observing and looking for meaning in what they see; and *active experimentation* – trialling their ability to replicate what they have seen and understood in an active manner. This is all completed in a cyclical manner (Kolb, 1984).

Experiential Learning Theory is not without criticism however. Bergsteiner, Avery and Neumann (2010) state that there should be in fact two learning cycles – one learning through primary, active or concrete learning such as students conducting and observing practice such as intentional rounding, and another somewhat opposite learning style containing more passive, abstract or secondary learning via reading or hearing about intentional rounding in the academic setting. Student learning using experiential learning theory is also influenced

by their previous experience and the environment that they are in, pertinent to this study, but has been used successfully to assist student learning (Chan, 2012; Kolb & Kolb, 2017).

Social learning theory stems from the work of Bandura (1977) and later Vygotsky (1986), and is closely entwined with experiential learning theory, as life experiences and the learning that surrounds it have a social context, all of which influences and is influenced by the learner. The clinical team comprising of each individual role, encompassing the relationships and hierarchy within the team effect the learning experience that students are a part of (Yardley, Teunissen & Dornan, 2012). The four stages of social learning theory with examples related to student nurses are: *attention* – continuous observation and taking note of role modelled behaviours. Students are more attentive if the behaviour is in alignment with the students' own values, and there is the ability for continuity of observation of particular role models, such as a teacher, facilitator or buddy nurse. *Retention* – through assessing and reflection of information provided; trying to internalise what is perceived to be important to remember from students' observation and interactions. *Reproduction* – actioning observed behaviour through proactive creation of opportunity, and considering feedback provided on behaviour in order to improve. Lastly, *motivation* – reinforcement of the reproduced behaviours through direct or vicarious responses (Horsburgh & Ippolito, 2018). As students' progress within the academic world and clinical placements, their learning changes from an observational role to being more self-directed and participatory in nature, and this is influenced by the support that is provided to them (Bahn, 2001). Again, these learning theories are explored further in Chapter Seven (page 132).

1.7. Structure and organisation of the thesis

The thesis takes on a chapter format, as per the suggestions of the University of New England and supervisors. As this thesis is a PhD by publication, it includes a number of publications that have been published and/or under review. Format is therefore also guided by the University of New England's Thesis by Publication guideline (University of New England, 2015).

1.7.1. Publications/ presentations

Table 1-1 depicts the publications and presentations related to this research, including those utilised within this thesis.

Table 1-1 Publication and presentation list

Publications within thesis:
Ryan, L., Jackson, D. Woods, C. & Usher, K. (2019). Intentional Rounding – an integrative literature review. Journal of Advanced Nursing. 2019 (75). 1151-1161. https://doi.org/10.1111/jan.13897
Ryan, E.J., Jackson, D., Woods, C. & Usher, K.J. (2020). Pre-registration nursing students' perceptions and experience of intentional rounding: A cross-sectional study. Nurse Education in Practice. 42 (2020) 102691. https://doi.org/10.1016/j.nepr.2019.102691
Ryan, E.J., Jackson, D., Woods, C., East, L. & Usher, K. (2020). Intentional rounding in the context of student learning. Collegian. 28 (3), 289-295 https://doi.org/10.1016/j.colegn.2020.09.008
Ryan, E.J., Jackson, D., East, L., Woods, C. & Usher, K. (2020) Mixed Methods Study Integration: nursing student experiences and opinions of intentional rounding. Journal of Advanced Nursing. Under review.
Ryan, L., Jackson, D., Woods, C., East, L. & Usher, K. (2020). Pre-registration nursing students' provision of safe care – are we leaving too much to chance? Journal of Clinical Nursing. https://doi.org/10.1111/jocn.15494
Oral Presentations:
Ryan, E.J. Exploring pre-registration nursing students' experience of and attitudes towards intentional rounding within clinical placements. School of Health Higher Degree Research Intensive. UNE (2017, May).
Ryan, E.J. Pre-registration nursing students' experience of and attitudes towards intentional rounding within clinical placements. Armidale Rural Referral Hospital Education Evening (2018, August).
Ryan, E.J. Intentional rounding – student perspectives: a cross-sectional survey. University of New England Higher Degree Research Conference. UNE (2019, January).

1.7.2. Organisation of thesis

The thesis is structured in chapters, each providing unique insight into the research. The publications forming part of this thesis are embedded within each relevant chapter, to show comprehensively each section or findings within the thesis.

Chapter One has provided a contextual basis, background and reasoning for the study to be conducted, as well as a description and explanation of the term intentional rounding. The overall structure of the thesis, including papers published is also included. The chapter also includes the reasoning why this research was undertaken, and the importance of hearing the voice of the pre-registration nurse in relation the intentional rounding.

Chapter Two includes the literature review in the form of a publication outlining the integrated literature review that was conducted on intentional rounding, and its subsequent findings. The chapter also mentions further literature that has since been published in this area, and highlights the voice of pre-registration nurses within this literature.

Chapter Three details the research methodology used in this study, exploring a pragmatic approach within a mixed method design. The decision-making process around the type of mixed method study design is outlined. The chapter also discusses the recruitment process, the participants that were involved, how the data were collected and analysed throughout each section of the study, and how data synthesis occurred to produce the final result of this research, which can be used to inform future clinical practice and education for pre-registration nursing students.

Chapter Four presents the second published paper describing the findings from the quantitative phase of the study. This brings to the forefront the fact that pre-registration nursing students perceive intentional rounding positively, although education around the intervention needs further attention.

Chapter Five presents the third paper, outlining the findings from the face-to-face interviews conducted within the qualitative section of the study. Being involved as part of the team was essential in pre-registration nursing students' participation in intentional rounding, and the educational deficit was again highlighted, showing a misunderstanding of educational and involvement expectations between staff and participants.

Chapter Six synthesises the quantitative and qualitative data through the mixed method lens, as the essential final phase of a mixed method study. Using thorough integration and analysis the results of the findings are made more transparent, displaying key overarching themes: the importance of understanding key concepts in nursing, student learning of patient safety as a whole, and enhancing the learning experience for students. Included in this chapter is a paper outlining synthesised results.

Chapter Seven discusses the gaps in education and missed basic concepts that were highlighted throughout this study, revisiting the principles of andragogy and other learning theories as a means to ensure that those that support nursing students are aware of what students need to know. It includes a published editorial around the gaps in education and understanding found in patient safety concepts for student nurses including interventions such as intentional rounding.

Chapter Eight will provide an overall conclusion, strengths and weaknesses and future recommendations, bringing together the highlights found within the study.

Figure 1.1 provides an overview of the thesis.

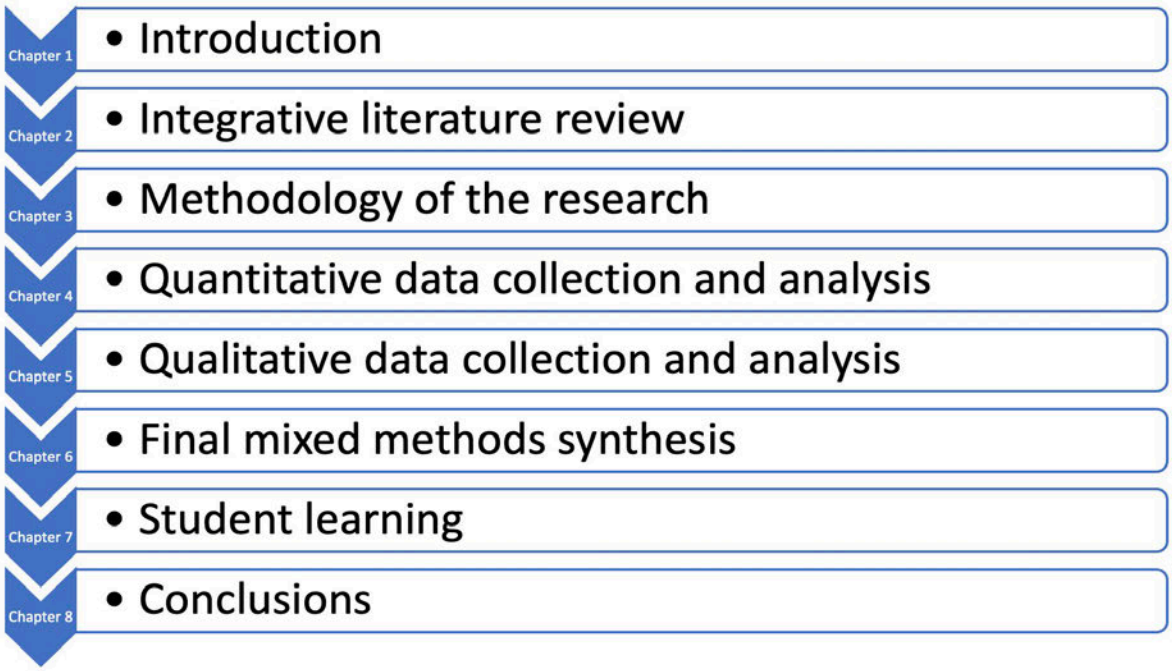


Figure 1-1 Overview of thesis

1.8. Chapter Conclusion

This chapter has provided an introduction and overview of the topic of intentional rounding, its history and relationship to the researcher. The chapter has outlined the research aim and objectives, the relevance of the study undertaken, and how it will contribute to literature in a new and original manner. The structure and format of the thesis has also been explained, and relevant publications and presentations listed. The following chapter (Chapter Two) will outline the conceptualisation and implementation of the integrative literature review that was conducted as a means of exploring current literature.

Chapter 2. **Literature Review**

Title of Article: Intentional rounding – an integrative review

Authors:

Liz RYAN RN, MN

Debra JACKSON AO, RN, PHD FACN[2]

Cindy WOODS BEd, MPH, PHD

Kim USHER AM RN, MNSt, PHD, FACMHN

Manuscript submitted to: Journal of Advanced Nursing

Status of Manuscript: Published

Submission dates: Sent to IJNS 10th May 2017; Sent with revisions 18th July 2017; Sent to JAN 12th December 2018; Sent with revisions 4th July 2018; Further revisions sent 14th August 2018; Accepted 9th November 2018.

Citation information:

Ryan, L., Jackson, D., Woods, C. & Usher, K. (2019). Intentional rounding – an integrative review. *Journal of Advanced Nursing.* 2019 (75), 1151-1161. https://doi.org/10.1111/jan.13897

Signed:

[redacted] [redacted]

Candidate **Principal Supervisor**

2.1. Relevance to thesis

The literature review provided an overview of the available evidence related to intentional rounding. In this way, the following studies were structured to address the identified gaps in the literature, and explore unanswered questions.

As the voice of the pre-registration nurse was not identified in the results of this literature review, it was deemed important for this to be further explored.

2.2. Chapter Preface

Chapter One outlined an introduction to the topic of intentional rounding, the background and reasoning behind choosing this particular topic of study, and outlined the aim and objectives of the study. Chapter One also described how the thesis is presented.

This chapter (Two) is based on an integrative literature review of intentional rounding presented as a published manuscript. The intent of this literature review was to explore the current evidence regarding intentional rounding as a patient safety intervention.

The integrative review was undertaken to answer the research question:

What is known about intentional rounding?

Objectives included:

- What is the effect of intentional rounding on patient satisfaction?
- What are the perspectives of nurses around intentional rounding?
- What effect does intentional rounding have on patients and patient safety indicators?

This review explores whether intentional rounding is considered an effective intervention, and whether it has been accepted and embraced as a beneficial patient safety practice by the staff, students and patients involved. To this end, an integrative literature review was conducted, using literature published between 2000 and 2017. The available literature identified an absence of research or discussion around the input of pre-registration nursing students to the task of intentional rounding, which was the impetus to explore further the experience and understanding of intentional rounding from the student perspective. This chapter includes a published manuscript. The manuscript presents an integrative review

conducted to determine the current evidence related to intentional rounding and identified outcomes of the intervention. Hence, this chapter presents the manuscript accepted for publication. All supplementary documentation discussed in this chapter is provided in Appendix A.

2.3. Paper

Title

Intentional rounding – An integrative literature review

Abstract

Aims

To establish current knowledge about the efficacy and acceptance of intentional rounding in current practice, from the perspective of nurses, patients, patient satisfaction and safety indicators.

Background

Intentional rounding is a formal means of nursing staff checking care needs of patients in hospital settings on a regular basis.

Design

An integrative literature review conducted following the Joanna Briggs Institute manual.

Data sources

A literature search from 2000 – 2017 was conducted using the following electronic databases: The Cumulative Index to Nursing and Allied Health Literature, ProQuest, PubMed, Informit, Sage and Scopus.

Review methods

Articles were assessed for quality and rigor using the Critical Appraisal Skills Program tool and the Effective Public Health Practice Project Quality Assessment tool for Quantitative Studies. A sequential explanatory mixed studies approach was used to combine qualitative and quantitative evidence in a single review. In-depth parallel reviews of the quantitative and qualitative evidence were undertaken, and then a synthesis of the combined qualitative and quantitative evidence conducted.

Results

Intentional rounding has positive outcomes on patient satisfaction and safety. Nurses perceive benefits related to intentional rounding; however, some nurses perceive it as an additional, unnecessary task. The effectiveness of intentional rounding is influenced by external factors including leadership and formal rounding education, workload, ward layout, staffing and experience level.

Conclusion

Intentional rounding is a positive intervention in patient safety and satisfaction generally, but needs further research and consideration about actual impact, staff delegation, education and engagement, student nurse involvement, documentation and specializing the structure of intentional rounding.

Keywords

clinical rounds, nurse-patient relationship, patient satisfaction, review literature, nursing education, patient safety, clinical decision making, nursing, falls

Summary statement

What problem did the study address?

- To establish current knowledge about the efficacy and acceptance of intentional rounding practices

What were the main findings?

- Intentional rounding practices have many positive outcomes for patients, staff and organizations
- Nurses' negative perceptions of intentional rounding persist
- There are discrepancies and lack of clarity surrounding documentation, delegation and the use of student nurses in this role

Where and on whom will the research have impact?

- Stakeholder involvement, education and leadership of nursing staff are important for the success of intentional rounding
- Further research should focus on clarifying delegation practices of intentional rounding.

2.3.1. Introduction

Intentional rounding (IR) in health facilities is a means of proactive patient care. Intentional rounding is a systematic approach to checking individual patients at set intervals, anticipating patient needs, reducing adverse advents, offering greater comfort and reducing anxiety for patients. Intentional rounding started as "patient comfort rounds," in an effort to ensure that each patient was comfortable and that fundamental care needs such as pain assessment and control, personal comfort and environmental needs were met (Flowers et al., 2016; Forde-Johnston, 2014; Meade, Bursell, & Ketelsen, 2006; Morgan et al., 2016; Kirk & Kane, 2016). This rationale for regular rounding is to give holistic care and to meet all medical, social and behavioural needs. It is timely for a synthesis of current literature to occur, as intentional rounding is attracting increasing interest in the international nursing community (Fabry, 2015; Flowers et al., 2016; Morgan et al., 2016; Negarandeh, Hooshmand Bahabadi, & Aliheydari Mamaghani, 2014).

Background

The formal concept of intentional rounding originated from a healthcare organizational improvement company called the Studer group in the USA, which went on to study the

effectiveness of rounding on patient safety, satisfaction and call bell use (StuderGroup, 2007). It was followed in the UK in 2012 with a government directive by the Prime Minister to introduce intentional rounding in the National Health Service to enhance patient safety. This Prime Ministerial directive was a response to care quality concerns raised through various public enquiries; which highlighted issues such as pain relief, hygiene and nourishment deficits in hospital settings (Francis, 2010, 2013). Though successful on many fronts, there were mixed opinions as to the evidence and rationale behind such a rollout (Snelling, 2013).

In Australia, intentional rounding was introduced as part of the Clinical Excellence Commission and Essentials of Care Program, which were developed to promote and support improved clinical care, safety and quality across New South Wales (NSW) in the public health system. Particular target areas were patient falls and pressure injury prevention (Clinical Excellence Commission, 2014; NSW Department of Health, 2004). Since then, it has also been introduced more widely across Australia to other states and into private facilities (Australian Private Hospitals Association, 2013; Daniels, 2016; Department of Health, 2013). It is also used internationally as a patient safety and care quality endeavour.

Other terms used to refer to intentional rounding include regular, hourly, routine or systematic rounding and structured nursing rounds interventions. On most occasions, acronyms are used to assist nurses in remembering each of these steps, such as the "4 P's" – pain, potty (toileting), positioning and possessions. Intentional rounding has been implemented internationally with many positive outcomes, but the practice is not without barriers and problems (Flowers et al., 2016; Hutchinson & Jackson, 2016; Kirk & Kane, 2016). This review was conducted to assess the current acceptability and efficacy of intentional rounding from nursing staff and consumer perspectives and to identify any gaps in the literature.

2.3.2. The Review

Aims

The aim of this mixed studies review was to establish what is known about the efficacy and acceptance of intentional rounding in current practice, from the perspective of nursing staff and patients.

Review questions were:

1. What is the effect of intentional rounding on patient satisfaction?
2. What are the perspectives of nurses around intentional rounding?
3. What effect does intentional rounding have on patients and patient safety indicators?

Design

A sequential explanatory design was used for this mixed study review of the literature, using a systematic review framework followed by convergent synthesis of results as a means of integrating evidence from both quantitative and qualitative studies. This method allowed for perspectives on the topic from a variety of viewpoints, sources and methodologies and through this, the ability to develop a better understanding of the phenomena (Pluye & Hong, 2014). The work of Pluye and Hong (2014) and the Joanna Briggs Institute Reviewers Manual (2014) guided the analysis and synthesis process.

Search methods

Before undertaking the literature search, the research team collaboratively developed a review protocol. Although the protocol was not registered a priori, the review methods did not deviate from this protocol. A systematic electronic literature search (Cinahl, ProQuest, PubMed, Informit, Sage, Scopus) was conducted in collaboration with a university librarian. Search terms included combinations of patient rounds/rounding, nurse/nursing, patient comfort rounds, proactive patient rounds, intentional rounding and hourly rounding. Inclusion criteria comprised English language studies published in peer-reviewed journals between 2000 and 2016 that focused on patient and nurse perspectives on intentional rounding and outcomes. The date range was selected because intentional rounding was introduced from 2000 onwards (Supporting Information Data Appendix A5, page 203).

Search outcomes

Initially, 2,453 articles were retrieved from the database search. An additional 45 articles were identified through screening of reference lists. After duplicates were removed, 724

article titles and abstracts were screened by ER. A total of 51 full-text articles appeared to match the selection criteria. These abstracts were screened independently by ER and DJ. The 51 abstracts were then discussed in detail by ER and DJ and any discrepancies with inclusion/exclusion criteria were discussed and a consensus was reached to exclude a further 17 articles. The full text of the remaining 34 articles was screened against the inclusion/exclusion criteria, further excluding 16 articles based on the lack of robustness, detail in sampling, sample size or results, or if literature reviews or pilot studies. This left 18 articles to be included in this mixed methods synthesis (Figure 1; Table 1; Supporting Information Data - Appendix A4, page 191).

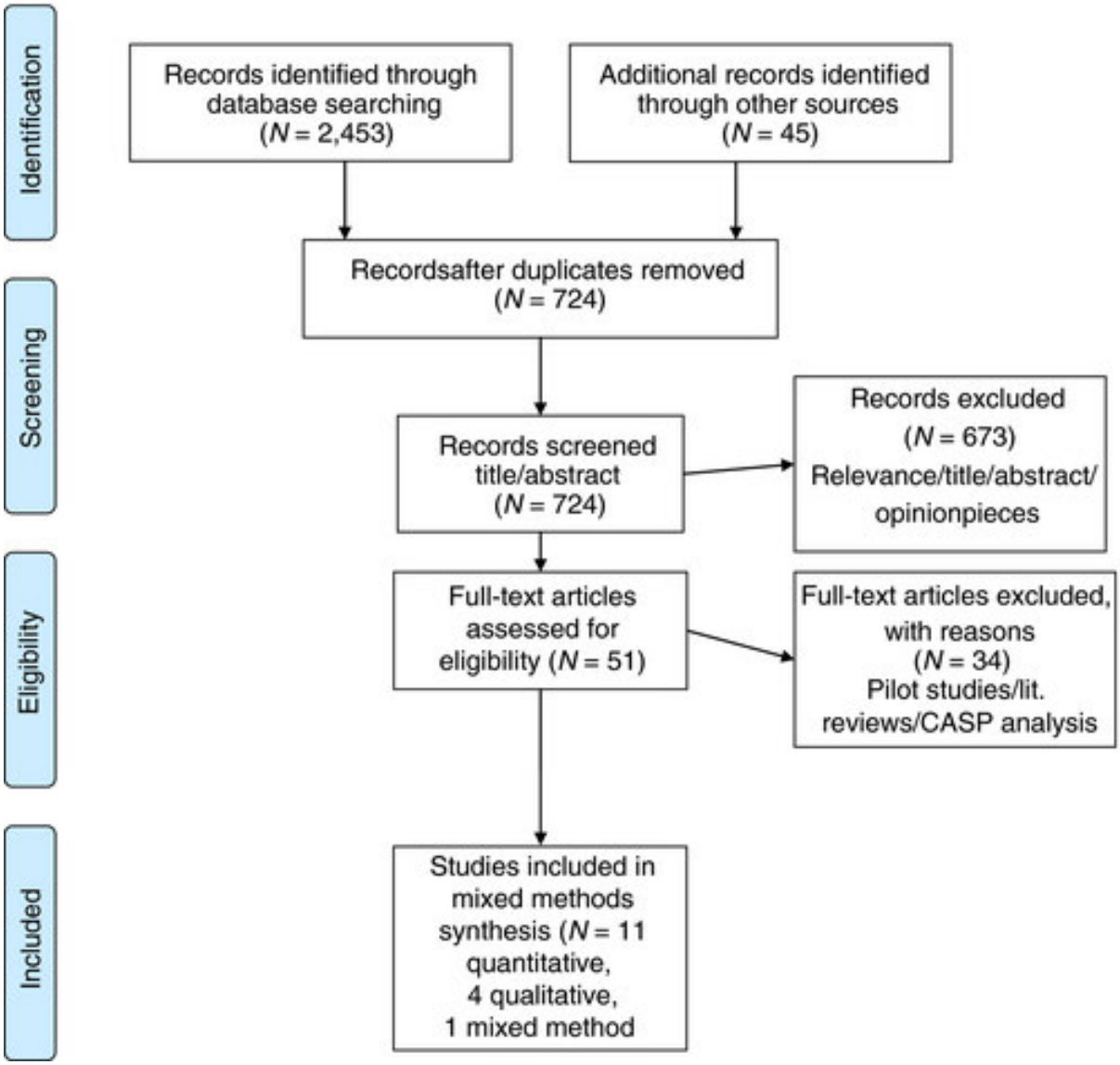


Figure 2-1 PRISMA flow diagram

Table 2-1 Brief Characteristics and outcomes of selected articles

First author, year, country of origin	Characteristics and outcomes of selected articles – brief. (Full description in Supporting Information Data S4)
1. Berg (2011), USA	Quantitative intervention study evaluating pre/post rounding effect on call bell use and patient satisfaction. Significant differences in Call light usage
2. Brosey (2014), USA	Quantitative intervention study evaluating pre/post rounding effect on patient satisfaction, falls, and HAPUs. Significant differences in falls, HAPUs, patient satisfaction
3. D'Alessio (2010), USA	Quantitative intervention study evaluating pre/post rounding effect on patient satisfaction. All measures except pain and comfort increased
4. Edwardson (2010), USA	Quantitative cross-sectional survey, evaluating influence of organization tenure on workplace initiatives such as IR. Some statistical differences between new and veteran nurse perspectives
5. Emerson (2014), USA	Quantitative intervention study evaluating pre/post rounding effect on communication and satisfaction. No statistical differences on call bells/patient satisfaction
6. Fabry (2015), USA	Quantitative cross-sectional survey examining nurse perspectives of IR. Descriptive findings showing positive perspectives
7. Meade (2006), USA	Quantitative case- control intervention study, examining impact of hourly vs. 2 hourly rounds on call light use, falls and patient satisfaction. Significant difference in patient satisfaction, falls and call light use
8. Meade (2010), USA	Quantitative case-control intervention study, examining impact of hourly vs. 30-min vs. individualized patient care tactic on call light use and patient satisfaction
9. Morgan (2016), UK	Quantitative intervention study evaluating pre/post rounding effect on falls and interaction. Significant difference in falls and interaction
10. Negerandah (2014), Iran	Quantitative controlled clinical trial (non-equivalent) examining impact of rounding on patient satisfaction with nursing care. Significant increase in patient satisfaction scores
11. Neville (2016), USA	Quantitative cross-sectional study exploring the impact of shift work on perceptions of IR. Statistical differences in perceived nurse benefits
12. Neville (2012) USA	Quantitative case/control intervention study, analysing the effect of IR on call light use, patient satisfaction and falls. No statistical differences
13. Woodard (2009), USA	Quantitative controlled trial evaluating the impact of IR on patient uncertainty, falls, call light use and patient satisfaction. Descriptive findings show positive impact
14. Tucker (2012), USA	Sequential explanatory mixed method study examining feasibility of IR in reducing patient falls. No statistical differences, descriptive findings showing negative influences

First author, year, country of origin	Characteristics and outcomes of selected articles – brief. (Full description in Supporting Information Data S4)
15. Deitrick (2012), USA	Qualitative ethnography study examining problems with implementation of IR. Descriptive findings show problems with understanding, workflow, accountability, attitudes and communication
16. Flowers (2016), Australia	Descriptive qualitative study examining the implementation, practice and sustainability of IR. Staff/patient satisfaction increases, documentation problems, delegation difficult
17. Rondinelli (2012), USA	Qualitative action research identifying structures, process and outcomes with IR. Acronyms/visual cues helpful, nurse leadership, positive outcomes in safety and satisfaction
18. Willis (2016), Australia	Qualitative case study examining the imposition of IR by management. Introduction impacts on engagement, positive risk management tool, frustration around practices

Quality Appraisal

Qualitative studies/sections were appraised using the Critical Appraisal Skills Programme (CASP) tool. Quantitative studies/sections used the Effective Public Health Practice Project (EPHPP) Quality Assessment Tool for Quantitative Studies. Two authors independently appraised the studies, discrepancies were discussed, and a consensus was reached about the quality and rigor of each study alongside consultation with the research team (CASP, 2018; EPHPP, 2009) (See Supporting Information Data- Appendices A1 and A2, pages 183 and 185 respectively).

The methodological quality of the quantitative studies was assessed as moderate to weak overall. There were strong data collection methods by one quantitative study, but other aspects were weak, lowering overall scores. More than half mentioned *p* values and other precision estimates, but confidence intervals were not reported in half of the studies, creating a risk of bias in reporting and subsequent interpretation of results problematic. These studies were however still included with caution due to the importance of the content to the concept of intentional rounding.

The methodological quality of the qualitative studies was also assessed as weak to moderate, with missing information about the relationship between researchers and participants not mentioned clearly in any of these studies. Most other aspects of the checklist were however successfully addressed.

Data abstraction/synthesis

Data extraction and synthesis followed the methods of the Joanna Briggs Institute Reviewer's manual (2014). Data were extracted from quantitative and qualitative studies to describe their characteristics and outcomes, then parallel in-depth reviews were undertaken of the quantitative and qualitative evidence (Supporting Information Data – Appendix A3, page 187). Extraction of numerical data from quantitative studies was undertaken to establish evidence of effect of intentional rounding. Data were extracted in numerical format and synthesised in an evidence table. The data extracted included detailed information about the interventions, populations, methods used and outcomes of significance to the review question and objectives.

Content analysis of qualitative studies was undertaken to identify characteristics, impact and acceptance of intentional rounding on and by nurses and patients. Data were extracted in textual format and synthesized into an evidence table. Extracted data included detailed information about the interventions, populations, methods used and outcomes of significance to the review question and objectives.

Each of the parallel sub-reviews included quality appraisal, descriptive information, research methods and study outcomes (Supporting Information Data – Appendices A1, A2 and A4, pages 183, 185 and 191 respectively) and summaries of the evidence were presented. The quantitative and qualitative findings were then merged, and a thematic approach was taken to identify the main themes across all studies, by an iterative process of reading and evaluating repeatedly, comparing the literature and its content to reveal three overarching themes (Supporting Information Data – Appendix A9, page 224) (Oliver et al., 2005). These themes are then presented in a narrative summary (Pluye & Hong, 2014).

2.3.3. Results

Eighteen studies were included in the review, all of which were reported on using PRISMA guidelines for quantitative studies and the Enhancing Transparency in Reporting the Synthesis of Qualitative Research guide, shown in Supporting Information Data –

Appendices A7 and A8, pages 211 and 218 (Moher, Liberati, Tetzlaff, & Altman, 2009; Tong, Flemming, McInnes, Oliver, & Craig, 2012).

Study characteristics – Quantitative studies/mixed method studies

A total of 14 articles used a mixed method or quantitative study design (Supporting Information Data – Appendix A4: 1-14, page 192).

Patient satisfaction

Overall, patient satisfaction was measured in eight quantitative studies. Five of the eight studies reported a positive increase in patient satisfaction postimplementation of rounding, as outlined below.

Pre-post intervention studies (level 4 evidence)

Patient satisfaction was measured in four pre-postintervention studies. Two of the studies showed a significant increase in patient satisfaction postimplementation of intentional rounding. Brosey and March (2014) measured patient satisfaction pre- and postimplementation of rounding and 1-year postimplementation, using the HCAHPS survey, in medical-surgical ward patients in one community hospital. Overall patient satisfaction increased from 48.6% to 72.3%. All subscale scores, apart from "responsiveness of hospital staff," also increased. D'Alessio, Magsalin, Neville, and Patten (2010) measured patient satisfaction pre- and postimplementation of rounding, using the PPSCQ survey, with small groups of maternity patients ($N = 30$). Overall patient satisfaction significantly improved from a mean score of 38–45, $p = 0.001$. All subscales, apart from *pain* and *comfort* also increased from pre- to postintervention. By contrast, Berg, Sailors, Reimer, O'Brien, and Ward-Smith (2011) found no improvement in patient satisfaction in a small group of patients ($N = 35$) in a rural medical ward pre- and postintervention. Emerson, Chmura, and Walker (2014) also found no significant change in patient satisfaction in a larger sample of parents of paediatric patients ($N = 200$).

Case-control studies (level 3 evidence)

Three case-control studies measured patient satisfaction and two found a significant difference in satisfaction scores postintervention. Meade et al.'s (2006) large-scale study (27

units in 14 hospitals) found that baseline patient satisfaction increased with hourly rounding (79.9 vs. 91.9, p = 0.001) and 2-hourly rounding (70.4 vs. 82.1, p = 0.001). Patient satisfaction scores were not provided for control units; however, Meade et al. (2006) noted that they were slightly higher than intervention units at baseline (4-week period) but declined over the 4-week intervention period. Meade, Kennedy, and Kaplan (2010) also found a significant difference between baseline patient satisfaction for pain and care and postintervention satisfaction (p = 0.001). Olrich, Kalman, and Nigolian's (2012) large-scale study measured patient satisfaction in two medical-surgical units (N = 4,418) but did not find a significant difference between pre- and postintervention patient satisfaction.

Controlled trials (level 2 evidence)

One study conducted a controlled trial that measured medical-surgical patients' (N = 100) satisfaction using the PSNCQQ survey instrument (Negarandeh et al., 2014). Negarandeh et al. (2014) reported no difference between the intervention and control groups' satisfaction on day-2 of the intervention but by day-5 the intervention groups' satisfaction was significantly higher compared with the control group ($p < 0.05$).

Falls

Falls were reported in seven quantitative studies. A significant reduction in falls incidence occurred in six of the seven studies, while the seventh reported a clinically significant reduction.

Pre/postintervention studies (level 4 evidence)

Fall incidences were evaluated and reported to be reduced significantly in two pre/post intervention studies (Brosey & March, 2014; Morgan et al., 2016). Morgan et al. (2016) assessed the incidence of falls in one medical-surgical ward in a large community hospital. The incidence of falls reduced by 50% from pre-intervention (N = 44) to postintervention (N = 22), p = 0.006. By comparison, the control group demonstrated a slight increase in falls incidence (3.48%). Brosey and March reported a pre-post reduction in falls in one 24-bed medical/surgical unit, from 7.02 to 3.18 falls per 1,000 patient days in

12 months, $p = 0.015$ (2014). Tucker, Bieber, Attlesey-Pries, Olson, and Dierkhising (2012) examined falls in two orthopaedic units and reported that although the rate of falls was lower during implementation compared with baseline, the decrease was not significant ($p = 0.088$), with 14 falls at baseline, six during implementation and nine falls recorded 1-year post intervention.

Case-control studies (level 3 evidence)

Meade et al. (2010) found significant reductions in falls in their study of 28 hospital emergency departments. Falls reduced by 58.8% from a baseline of seventeen to seven during the rounding intervention ($p = 0.003$). One study found an improvement in falls with hourly intentional rounding (25 vs. 12 falls, $p = 0.01$), but no significant difference with 2-hourly rounding (19 vs. 13 falls) or in the control group (18 vs. 17) (Meade et al., 2006). Olrich et al. (2012) reported a 23% reduction in the fall rate in two medical/surgical units during the intentional rounding intervention compared with 6 months prior to the intervention (2.6/1,000 patient days vs. 3.37/1,000 patient days), which was considered clinically significant but not statistically significant ($p = 0.672$). Falls were continually reduced over the years since intentional rounding in Woodard's (2009), but no p values were reported (level 2 evidence).

Hospital acquired pressure ulcers

Two studies measured the incidence of pressure ulcers pre- and postimplementation of intentional rounding. According to Brosey and March (2014), hospital acquired pressure ulcers (HAPUs) decreased significantly during the course of the study (4–0/1,000 patient days) (level 4 evidence). A cross-sectional study by Fabry (2015) reported that 76%–90% of nurses surveyed perceived pressure ulcers were reduced with the implementation of intentional rounding (level 4 evidence).

Call light use

Six studies examined call light use and four studies reported a significant reduction.

Pre/post intervention studies (level 4 evidence)

Berg et al. (2011) conducted a pre/post intervention study with 35 patients in one rural medical ward and reported call bell use reduced by an average of 3.7× per patient per day

(mean use 11.32 vs. 7.62), $p = 0.001$. By contrast, Emerson et al.'s (2014) study of parents of paediatric patients in a paediatric emergency department found call light use increased by 50% pre- and postimplementation (102 vs. 150 calls); however, significance was not reported.

Case-control studies (level 3 evidence)

Call light use was assessed in three case-control studies and usage reduced significantly in two studies. Meade et al. (2006) reported that call light use in the 1-hr rounding condition reduced significantly across all three time periods (baseline, week 3–4, week 5–6) compared with the control group ($p = 0.007$) and the 2-hourly rounding condition also showed significant reductions across all three time periods compared with controls ($p < 0.05$). Meade et al. (2010) found call light use in 28 hospital emergency departments reduced by 34.7% from baseline to intervention period (25,203 vs. 16,443, $p = 0.003$). Olrich et al.'s (2012) study of two medical-surgical units collected call light data for 2-weeks prior to the intervention and for 4-weeks during the intervention. A significant call light usage was recorded in week-1 of the intervention, but the final week of call light usage showed no significant change. Call light used was described as improved in Woodard's (2009) mixed method retrospective study, examining quantitative call light use data and patient satisfaction survey results in 27 hospital wards, but no *p* values were mentioned.

Nursing perspectives

Intentional rounding was depicted as being generally beneficial to nursing staff in five different studies (Supporting Information Data – Appendix A4: 4, 8, 9, 11, and 14, p. 189). Nursing staff included nurse unit managers, charge nurses, registered nurses, enrolled nurses and other non-licenced care workers. Eighty-three per cent of staff surveyed by Meade et al. (2010) reported intentional rounding as valuable based on qualitative comments, but no *p* value was recorded. Neville, DiBona, and Mahler (2016) reported intentional rounding led to increased nurse satisfaction, control over care and teamwork $p = 0.01$ (level 4 evidence). Morgan et al.'s (2016) study found intentional rounding provided significantly increased patient interaction with staff (1.47 vs. 3.32 mean staff visits to patients per hour $p = 0.013$ (level 4 evidence).

Intentional rounding documentation was seen as being problematic for nursing staff in four studies. Morgan et al.'s (2016) pre/post intervention study found that accurate reporting occurred 50% of the time, while only 28% of nursing staff reported that rounding logs were a true depiction of what actually happened in Fabry's (2015) cross-sectional survey. Neville et al.'s (2016) cross-sectional study reported inconsistencies in completion of rounding logs.

Five studies mentioned external influences having an impact on the success or attitudes towards intentional rounding from the perspective of nursing staff such as level and length of experience and level of qualifications. Fabry (2015) found more Associate Degree RNs (90.9%) agreed that intentional rounding is carried out consistently on their shifts compared with Bachelor Degree prepared RNs (67.8%). In addition, Fabry reported more Associate Degree RNs agreed that the education they received clearly communicated the benefits of intentional rounding for patients (90.9%) and nursing staff (100%), compared with Bachelor Degree RNs (67.9% and 75% respectively). Higher numbers of Personal Care Assistants agreed that intentional rounding improves patient safety by preventing falls (80%) compared with RNs (69.2%), while a greater number of RNs agreed that intentional rounding prevents pressure ulcers (76.9%) compared with Personal Care Assistants (66.7%) (Fabry, 2015). Edwardson, Gregory, and Gamm (2016) reported nurses with less experience (<1 year) thought more favourably of intentional rounding in terms of impact on patient care than veteran nurses (>5 years), $p = 0.031$. Other impacts on the success or attitudes towards intentional rounding include the amount of education, support and leadership provided (Fabry, 2015; Neville et al., 2016; Tucker et al., 2012), the acuity of patients and the busyness of the ward (Neville et al., 2016; Tucker et al., 2012; Woodard, 2009). The level of perceived support available for intentional rounding varied depending of time of shift (Fabry, 2015; Neville et al., 2016). Fabry reported 75% of RNs working day shift felt there was sufficient support and resources available postimplementation of intentional rounding, compared with less than 19% of RNs working night shift (Fabry, 2015). Negative opinions were also included in the studies. A total of 14% of nurses in an emergency department reported that an emergency department was too busy to conduct intentional rounding (Meade et al., 2010).

Nurses' length of tenure was explored in one cross-sectional survey study, finding that newer nurses perceived greater benefit from intentional rounding, $p = 0.001$ (Edwardson et al., 2016) (level 4 evidence). Another study looked at the influence of shift work, with

those working 8 hr shifts finding more value in intentional rounding than 12-hr shift workers, though this was not statistically significant, $p = 0.05$ (Neville et al., 2016) (level 4 evidence).

Study characteristics – qualitative studies

Four studies provided qualitative results (Supporting Information Data – Appendix A4: 15-18, p. 189; Appendix A2, p.183). The introduction, education and leadership of nursing staff around the concept of intentional rounding were reported as very important in the success of intentional rounding in three studies. A lack of communication and understanding had a negative impact on the implementation of intentional rounding (Deitrick, Baker, Paxton, Flores, & Swavely, 2012) and active role modelling, adequate education and staff involvement and ownership had a positive impact on intentional rounding (Rondinelli, Ecker, Crawford, Seelinger, & Omery, 2012; Willis et al., 2016). Delegation practices and accountability confusion were mentioned in three studies (Deitrick et al., 2012; Flowers et al., 2016; Rondinelli et al., 2012), as well as documentation and how this occurs (Deitrick et al., 2012; Flowers et al., 2016). Tucker et al.'s (2012) qualitative focus groups with nurses reported they found documentation burdensome. Two studies discussed the use of individualized rounding, acronyms and visual cues as beneficial in the implementation (Flowers et al., 2016; Rondinelli et al., 2012). Intentional rounding was described positively as an outcome for staff in all studies, such as increased staff satisfaction and efficiency. Many negative attitudes, opinions or influencing factors were also discussed; however, for example frustration and confusion, (Deitrick et al., 2012; Willis et al., 2016) workflow and understanding (Deitrick et al., 2012), context, environment and staffing levels (Flowers et al., 2016), thus having an impact on the success or failure of the intervention, creating questions around sustainability of the practice (Rondinelli et al., 2012).

Intentional rounding was seen as advantageous for patient and staff satisfaction (Flowers et al., 2016; Rondinelli et al., 2012) and improving the safety of patients overall (Deitrick et al., 2012; Flowers et al., 2016; Rondinelli et al., 2012) though influenced by several external factors.

Thematic synthesis of quantitative and qualitative studies

Three common themes were identified from the data, which were conceptualized as a pathway from "application towards engagement" with intentional rounding. The first dimension of this pathway, conceptualized as "implementation" unpacks how the rounding intervention was implemented and the reciprocal/triangular relationship between stakeholder engagement, education and acceptance. The next dimension, "patient safety," incorporates patient safety indicators which give tangible outcomes of the intervention and may motivate stakeholders towards acceptance and satisfaction. The final dimension is "satisfaction," which emerged as positive or negative aspects of the intervention and is linked with the previous two themes. An example of direct quotes relevant to each theme were reported in Supporting Information Data – Appendix A6, page 204, as per PRISMA reporting guidelines.

Implementation

The theme of "implementation" of intentional rounding emerged from the data. The implementation of intentional rounding was more effective and accepted when stakeholders were involved in the planning process and felt a sense of ownership (Fabry, 2015). Evidence suggests that the introduction, education and leadership of nursing staff around the concept of intentional rounding are important for the success of intentional rounding (Morgan et al., 2016; Neville et al., 2016). A lack of communication and understanding of the benefits of intentional rounding had a negative impact on the implementation (Deitrick et al., 2012; Fabry, 2015) and active role modelling, adequate education, staff involvement and ownership had a positive impact on implementation of intentional rounding (Rondinelli et al., 2012; Willis et al., 2016).

Patient safety

This review showed that patient safety outcomes of intentional rounding interventions focused mainly on the physical aspect of health, but also included improved engagement and communication with health professionals. The majority of studies that measured patient safety outcomes (falls, pressure ulcers, call light use) reported an improvement (Berg et al., 2011; Brosey & March, 2014; Meade et al., 2006, 2010; Morgan et al., 2016; Tucker et al., 2012; Woodard, 2009). The safety of the patient on the whole was increased with

intentional rounding; however, as patients were observed more frequently, care was more proactive rather than reactive, thus pre-emptive risk management occurred (Willis et al., 2016). There was increased communication and teamwork with staff and patients through the use of intentional rounding, thus creating a safer environment in which to both work and receive care.

Satisfaction

To engender patient satisfaction with intentional rounding interventions, the design needs to incorporate all holistic care needs and frequent, open and accessible communication should be provided to patients and families (Flowers et al., 2016; Meade et al., 2010). The willingness of nurses to accept intentional rounding was found to be critical for engagement and success (Fabry, 2015; Neville et al., 2016). The findings of these studies have implications for health services, suggesting the need for thorough preparation prior to implementation, including education and training and the importance of involving stakeholders to facilitate engagement (Deitrick et al., 2012; Rondinelli et al., 2012; Willis et al., 2016). The review provided evidence that intentional rounding was considered advantageous for staff satisfaction, workload, ward dynamics and time management, creating a better, more productive work environment (Edwardson et al., 2016; Meade et al., 2010; Neville et al., 2016). Intentional rounding reduced disruptions for nurses (Berg et al., 2011) and nursing staff were more efficient and expert in their work practices and time management improved (Meade et al., 2010; Rondinelli et al., 2012; Willis et al., 2016). Professional satisfaction improved, with greater ability to understand patient care, educate and reassure patients through the use of intentional rounding (Flowers et al., 2016). Despite the benefits, without engagement intentional rounding can be viewed by nurses as frustrating, time-consuming, inappropriate and intrusive (Tucker et al., 2012; Willis et al., 2016; Woodard, 2009). Without nurses' input into the design and development of intentional rounding interventions, nurses may perceive intentional rounding to be degrading to nurses' critical thinking skills, decision-making and professional autonomy (Tucker et al., 2012).

2.3.4. Discussion

This literature review aimed to identify the current knowledge on efficacy and acceptance of intentional rounding in the literature. Evidence from this review demonstrates that intentional rounding has implications for satisfaction levels in both nursing staff and patients, but its success is influenced by many factors and can be seen both positively and negatively. Clinical safety outcomes have been vastly improved with the implementation of intentional rounding, through increased pre-emptive care and contact, leading to reductions in falls, HAPUs and call light use and greater recognition of acuity.

Nursing staff described positive benefits and increased satisfaction in areas such as more effective time management, less interruptions from call bells, being able to predict and pre-empt care needs and having closer connections and awareness of patients' needs. Nursing staff expressed comfort and reassurance in the practice of intentional rounding, that patients were observed at least hourly and that interactions were able to be recorded. Intentional rounding was seen as beneficial, especially to newer nursing staff, as it is a means of clarifying needs, giving direction and reminders to ensure quality care for patients.

The success of intentional rounding is dependent on individual wards, staff commitment, patient acuity, comprehension and open communication and external influencers. Individual wards may benefit from individualized intentional rounding prompts, rather than using a generic structure. Interactions must be meaningful, rather than just a token gesture, as can happen with generic and specified wording often used (Kennedy Sheldon, 2014). Nurses miss the point of intentional rounding when they become too dependent on the checklist to direct and do not personalise the rounding procedure for patients. There must be consumer engagement in the process rather than just ticking of boxes on the part of the nurse (Hall, 2011). The specific wording however may be useful when intentional rounding is implemented by unregistered care personnel to ensure consistency (regardless of who conducts intentional rounding).

Though there were many positive advantages to intentional rounding, attitudes were expressed that were less accepting of intentional rounding, particularly from a staff perspective and certain factors negatively influenced the efficacy and acceptability of intentional rounding. Intentional rounding can be seen as "dumbing down" nursing to some extent, not allowing critical thinking and clinical judgment.

More clarity in role responsibility would benefit the application of intentional rounding, and greater and more accessible education to all staff involved. Delegation to less qualified staff may be beneficial in basic nursing care aspects, but ineffective delegation can lead to missed care instances and unsafe practice (Gravlin & Bittner, 2010; Johnson et al., 2015). Delegation skill, though not mentioned in the literature, may be something that needs to be addressed from the perspective of the pre-registration nurse and other staff delegated to the role in relation to intentional rounding (Blevins & Millen, 2016; Hasson, McKenna, & Keeney, 2013).

The way intentional rounding is introduced and the initial and ongoing education and level of support provided plays a part in staff satisfaction and the success and continuity of the intervention. Adequate and affirmative leadership will influence others positively, particularly newer nurses and new graduates. Nursing students were not mentioned in any of the literature, so it is unclear whether or not they were participating in or assisting with this role. Further research needs to be conducted to establish their level of involvement. This practice could be advantageous for the student nurse, as time management, prioritization and delegation are key for the successful new graduate nurse (Blevins & Millen, 2016) and are often sources of stress (Pascale Blakey & Jackson, 2016).

Intentional rounding is a successful practice in enhancing patient satisfaction and clinical safety outcomes, reducing the number of falls and pressure areas as an example. Pre-emptive care can help prevent potential safety issues. Patient satisfaction scores also improved after the implementation of intentional rounding. The increased connection with patients makes a positive difference to their hospital stay and is associated with enhanced open communication (Meade et al., 2010) Patients need to feel able to get help without being a burden on nursing staff. Intentional rounding needs to be individualized and person centred; however, as patients find it intrusive and an invasion of privacy (Willis et al., 2016). The idea of intentional rounding being “one size fits all,” developed so that all patients receive equal care, does not always work effectively for patients or staff (Willis et al., 2016).

Strengths and limitations

A mixed studies review was undertaken to incorporate a variety of studies in this review, thus providing various perspectives and data. However, limiting factors also exist.

The limited robustness of many studies and weak study designs reported could have an impact on the credibility of review findings. In many cases information that adequately depicted rigour in research was missing in the reviewed studies, which had an impact on the quality of the findings. These studies were included regardless of the quality score, so caution must be taken in interpretation of the review results.

2.3.5. Conclusion

Intentional rounding practices have proved to be beneficial for staff, healthcare organisations and patients. It has created a safer, more organised and informed environment which is more cost effective and satisfying. It does not come without negative connotations however, influenced by management, education, workload and perception. This review highlights existing attitudes toward intentional rounding in the international nursing arena and shows areas of improvement and further research.

Implications for practice:

Intentional rounding, it is argued, creates a safer, more controlled environment, where staff can be more productive and effective in their care and patients and families have fewer unaddressed concerns (Meade et al., 2010). In addition, financial benefits to the wider organisation are linked to intentional rounding (Brosey & March, 2014).

Intentional rounding should be used as a guide but customized to the ward environment where it is occurring, as well as to the individual patient and their needs. Documentation is not necessarily reliable or consistent, indicating that current documentation practices may need to be revised. It needs to be clarified whether intentional rounding logs are in fact legally binding.

Delegation of the role of intentional rounding, as well as escalation processes need to be clearly articulated to ensure patient safety and successful achievement of intentional rounding. Student nurse and new graduate involvement in intentional rounding must be

clarified and appropriate education provided in the university and clinical environments as needed.

Implications for research

Further research needs to be conducted on the role delineation of staff conducting intentional rounding, as this did not seem to be clear and there are implications for both patients and staff, with increased supervision workload, unclear reporting processes and risk of patients getting missed if delegation is not clear.

Pre-registration nursing students were not included in any of the literature and as this is a task that they may well be involved in, their level of participation, education and training needs to be clarified.

The specialisation of intentional rounding structure in specific wards could be explored further, to establish efficacy and usefulness. This seems to be beneficial on many occasions rather than using generic questioning and the effectiveness of more specific intentional rounding structured to patient needs could be followed up.

Implications for education

Ongoing education and support is imperative for the continuation of intentional rounding and strong, consistent, positive leadership is required from management and senior staff (Flowers et al., 2016; Meade et al., 2006). The fact that some staff could not link patient safety benefits to intentional rounding highlights the need for appropriate education to assist ongoing compliance (Fabry, 2015).

Staff must understand why they are conducting this practice, rather than just being told to do it. The general reduction in falls and pressure injuries shows that intentional rounding is a significant patient safety improvement strategy that has a great impact on some of the nursing sensitive indicators for quality care. However, students and staff need to be educated about the supporting evidence and involved in future practice changes to increase engagement and effectiveness of practices (Flowers et al., 2016; Morgan et al., 2016; Ryan, 2016).

Author contributions

All authors have agreed on the final version and meet at least one of the following criteria (recommended by the ICMJE*):

1) substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;

2) drafting the article or revising it critically for important intellectual content.

* http://www.icmje.org/recommendations/

2.4. Chapter Conclusion

This chapter provided detail of the results of the integrative literature that was conducted as part of this study. The purpose of the review was to understand the current evidence associated with the use of intentional rounding, in particular looking at patient safety indicators and the satisfaction and various perspectives of key people involved and identifying whether or not it was thought to be effective. The review has highlighted that there were varying perspectives on intentional rounding, but it was thought overall to have benefits for patients, staff and patient safety. There was no mention of the pre-registration student nurse in the original literature search.

Since conducting the original literature review there have been other large reviews and analyses of intentional rounding as an intervention, with the benefit of intentional rounding being questioned (Sims et al., 2018; Harris et al., 2019). Student nurses were mentioned briefly in one review, stating that intentional rounding was at times delegated to students (Harris et al. 2019). Reports from students found similar opinions, such as the benefit of intentional rounding on rapport building and structured accountability (Harris et al., 2019; Sims et al, 2018). There was also mention of student nurses missing opportunity to provide essential care as intentional rounding took precedence, and the students seemed unsure of how to deal with some situations (Harris et al., 2019).

The following chapter (Three) will describe and discuss the methodology chosen for this study. The way in which the study was conducted will be explored, including recruitment of participants, how data were collected and analysed, and the phases of this mixed methods study.

Higher Degree Research Thesis by Publication

University of New England

STATEMENT OF ORIGINALITY

Chapter 2 – Literature review

We, the PHD candidate and the candidate's Principal Supervisor, certify that the following text, figures and diagrams are the candidate's original work.

Type of work	Page number/s
Manuscript	Pages 16-37
Supplementary files (Appendices A1-9)	Pages 183-224

Name of Candidate: Elizabeth Jo RYAN

Name/ title of Principal Supervisor: Professor Kim USHER AM

Candidate [redacted] Date 26.10.2020

Principal Supervisor [redacted] Date 26.10.2020

Higher Degree Research Thesis by Publication

University of New England

STATEMENT OF AUTHOR'S CONTRIBUTION

Chapter 2 – Literature Review

We, the PHD candidate and the candidate's Principal Supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the Candidate's contribution as indicated in the *Statement of Originality*.

	Author's Name	**% of contribution**
Candidate	Liz Ryan	55%
Other authors	Professor Kim Usher	15%
	Professor Debra Jackson	15%
	Dr Cindy Woods	15%

Name of Candidate: Elizabeth Jo RYAN

Name/ title of Principal Supervisor: Professor Kim USHER AM

Candidate  Date 26.10.2020

Principal Supervisor  Date 26.10.2020

Chapter 3. Methodology of the research

3.1. Chapter preface

Chapter Two presented the results from the integrative literature review focused on intentional rounding, where it was highlighted that although many perspectives were researched, the voice of the pre-registration student nurse did not exist in the intentional rounding literature. This chapter (Chapter Three) will outline the aim and objectives of the study, the research design, methodological framework and theoretical perspective chosen to underpin the research, and the methods of collecting, analysing and synthesising the data within each phase. The participant cohort including recruitment will be explained, and the ethical considerations, validity, reliability and trustworthiness within the study will also be discussed.

3.2. Study aims and objectives

As previously mentioned in Chapter one, the following aim and objectives were developed:

3.2.1. Aim

The overarching aim of the study was to explore pre-registration nursing students' perceptions, understanding, attitudes and experience in relation to intentional rounding as a patient safety intervention. The research question was: What is the experience and understanding of pre-registration nursing students in regard to intentional rounding?

3.2.2. Objectives

To meet the aim and research question of the study, the objectives were:

- To measure pre-registration students' attitudes to intentional rounding and their understanding of its purpose
- To explore the relationship between any variables (initially within survey responses) such as previous experience

- To explore and describe student nurses' exposure to and experience of intentional rounding throughout their clinical placements
- To determine students' perceived benefits or disadvantages, barriers or enablers to performing intentional rounding, along with any suggested improvements to intentional rounding
- To determine the contextual factors influencing effective student engagement in intentional patient rounding
- To determine the approaches to education on intentional rounding students had experienced.

3.3. Research Paradigm

A paradigm in research is a set of opinions, perspectives, values and assumptions that underpin the research as a background philosophy or worldview (Creswell & Plano Clark, 2018). Pragmatism was chosen as the philosophical stance to support this mixed methods study. By utilising pragmatism as the underlying worldview there was a focus on the outcomes of research and answering the research question, rather than the method of research undertaken. When the assumptions of pragmatism are used as a guide it is recognised that there are multiple methods of data collection, and a pluralistic view focussing on a 'what works' epistemology. Pragmatism is frequently used to underpin mixed methods research, and many mixed methods experts proport a pragmatic stance as most suitable for this type of research (Creswell & Plano Clark, 2018). The ontological stance for pragmatism is that reality is seen from multiple perspectives (Creswell & Plano Clark, 2011). In this study, obtaining only quantitative data would have been insufficient to comprehensively understand the pre-registration nursing student experience, thus a qualitative component was used to enhance and clarify the answers to the aim and objectives within the study (Creswell et al., 2011). Both qualitative and quantitative data were then mixed, to integrate the multiple perspectives.

Pragmatism stems from the historical works of Dewey and his counterparts, up to Murphy in 1990. In later years, Tashakkori and Teddlie made a more formal link between pragmatism and mixed methods. They developed the area further to conclude that research

should have a more practical and applied philosophy guiding methodological choices (Creswell & Plano Clark, 2011). Previous to this there was the conflict of having to choose between the two differing methodologies used in quantitative and qualitative research (Greene & Hall, 2010). Additionally, there were 'paradigm wars' that had previously ensued through trying to combine separate paradigms that aligned with individual methodologies within the one mixed methods research project (Bryman, 2006; Hesse-Biber, 2015). Pragmatism as a methodological overview acknowledges that research is frequently complex and diverse in nature and settings, and in order to be able to answer certain questions there must be methodological flexibility; therefore, it can be logical to utilise a number of methods of data collection that are associated with differing methodologies (Creamer, 2018; Greene & Hall, 2010). Pragmatism aligned with this particular research plan and proposal, where multiple methods of data collection were required in order to answer the research aim and objectives of this study.

3.4. Mixed methods research

3.4.1. History of mixed method study design

Mixed method and multimethod study design in literature had their beginnings in the 1950's (Creswell & Plano Clark, 2011). Maxwell (2016) alleged however that the mixing of methods has occurred as early as the 1600's, with the astronomer Galileo utilising both observational data and quantitative mathematical measurements to describe sunspots on the surface of the sun, and deliberately linking both sets of data to come to a conclusion. Maxwell (2016) stated that the method used by Galileo was later referred to as triangulation, and was used extensively in the sciences. Hesse-Biber (2015) also noted the work of social researchers in the late 1800s utilising the mixing of methods in research, though this was not named as such at that time. In contrast, Richardson-Tench et al (2014) asserted that mixed method work was not accepted in the sciences, and only commenced being used in medical work since the 1970's. Regardless, the use of mixed methods has continued to grow. Best Practice Guidelines for mixed methods were formulated in 2011 for the Behavioural and Social Sciences (Creswell et al., 2011), and mixed methods are also being used more and more in health research (Giddings & Grant, 2006; Liamputtong, 2017; Taket, 2017).

Historically, there has been controversy between the use of the term 'mixed methods', and confusion over the difference between multimethod or multiple method research and mixed methods research as a methodology (Morse & Niehaus, 2009). A number of other names were used to describe mixed methods research, such as combined, hybrid, integrated, mixed methodology and mixed research (Creswell & Plano Clark, 2018). There were also disagreements amongst researchers as to paradigms that were suited to a mixed method approach, as previous paradigms were more associated or aligned with either qualitative or quantitative approaches independently (Creswell & Plano Clark, 2018). In early definitions of mixed methods, it was the mixing or utilisation of multiple methods – qualitative and quantitative – whereas there has been a shift now to mixing of methods as a methodology – combining data sources at each stage of the research (Creswell & Plano Clark, 2018). The difference between these terms is reflected by the enhanced integration of the data from multiple data collection types that occurs in mixed methods studies.

Current approaches to mixed methods design have been refined and improved from the use of mixing methods through the use of multiple methods only, to be a more recognised methodology now accepted as much as stand-alone quantitative or qualitative methodological designs. It is now seen as the third methodological movement (Liamputtong, 2017), and the paradigm disparity that was previously problematic has been shifted with more pragmatic approaches within mixed methods being utilised (Halcomb & Hickman, 2015; Greene & Hall, 2010).

Creswell & Plano Clark (2011; 2018) portray the stages of mixed method research evolution and development as follows:

- The *formative* period (1950-1980): the commencement of the notion of mixing methods in research
- The *paradigm debate* (1970-1990): addressing the difficulty of attempting to find an answer to the conflicting paradigms and philosophical assumptions within qualitative and quantitative research, wherein pragmatism was first used as an overarching philosophy for mixed method research

- *Procedural development (*1990's): Mixed methods research expanded to include different types and procedures that could be used in mixed method designs
- *Advocacy and expansion* (beyond 2003): Where mixed methods design was accepted as a stand-alone methodology, and was utilised and accepted by a wider range of disciplines
- *Reflection and refinement* (beyond 2003): Major developments have occurred in the field of mixed methods research, including a critique of discourse and assumptions, literature and frameworks used within mixed methods research.

The increased value in mixed methods research, improving validity, designs and procedures, the development of appropriate mixed methods questions and enhanced integration and representation of data are just some of the advances that are currently occurring in the mixed methods research field (Creswell & Plano Clark, 2018). Thus, mixed methods research is continually evolving and being refined within research fields.

3.4.2. The nature of mixed method study design

There are many definitions of mixed methods research touted by leaders in the field including Creswell, Mertens, Morse, Newman, Sandelowski, Tashakkori and Teddlie to name a few (Johnson, Onwuegbuzie & Turner, 2007). Based on the insights from many of these leaders in mixed methods research, Johnson, Onwuegbuzie and Turner (2007) defined a mixed methods approach as the combination of 'elements of qualitative and quantitative research approaches for the purposes of breadth and depth of understanding and corroboration' (p.123), and their definition is applicable to this current study. Mixed method designs are used when two methods of research design can complement each other, leading to a more comprehensive understanding of a phenomena as a result of utilising the strengths of both quantitative and qualitative approaches (Creswell & Plano Clark, 2011). For the purposes of this study, using mixed methods assisted in gaining information from a number of sources and using various methods in order to adequately answer the research question. In mixed method research, there can be emphasis on one approach, or each can be of equal value. The mixing of methods can be sequential or combined throughout the entire study (Johnson, Onwuegbuzie & Turner, 2007). In this study, the qualitative and quantitative data collection was of equal priority, the mixing sequential, and data collection were content

focussed rather than focussing on how it was achieved, as guided by pragmatism (Kroll & Neri, 2009).

This study used a fixed or previously set mixed methods design, where the quantitative and qualitative methods were predetermined at the commencement of the study, as opposed to an emergent design where as a result of conducting the research, adaptations were made to include other methodologies in order to gain further understanding of the topic (Creswell & Plano Clark, 2018). In this approach, quantitative data were collected, and the analysis of the data were then used to guide the qualitative phase in a chronological manner, where further exploration and explanation occurred (Creswell & Plano Clark, 2018). All data collected were then synthesised through the use of methodological data mixing and data transformation, forming a narrative of the cumulative results in a qualitative format (Bazeley, 2018). This study drew on both qualitative and quantitative approaches through the use of a multiphase, explanatory sequential mixed method design to investigate the knowledge, experience, understanding and attitudes of pre-registration nursing students towards intentional rounding.

3.4.3. Mixed methods in this study

The decision to use mixed methods stemmed from the desire to be able to comprehensively explore the pre-registration nursing student perspective of intentional rounding; their experience and understanding of the intervention, and the barriers and influencers with which this education and experience occurs in the context of clinical placements. It was deemed that one method of data collection could not achieve the answer to all the objectives independently, and by using a variety of data collection methods results could enhance and build on each other in order to systematically answer the research aim and objectives posed. By the combining of qualitative and quantitative data extraction and analysis, the 'what, when, how and why' of a phenomenon could be explored in greater detail rather than using one approach independently (Creswell & Plano Clark, 2018), drawing on the strengths of each method used (Halcomb & Hickman, 2015).

When planning mixed methods research, Creswell (2014) suggests that the sequence of the data collection, prioritisation of data collection and analysis, stages of integration and

underlying theoretical perspective needs to be decided. The plan for this study was to have a sequential explanatory design, collecting quantitative, followed by qualitative data as guided by the results and gaps in the quantitative data. The quantitative and qualitative data would have equal priority, and would be fully integrated in the final stage of the research. The mixing of the data that were collected provided answers to the research objectives, and through detailed analysis outlined the implications of these results on future nursing curricula and clinical placement support.

3.5. The research design

Utilising a pragmatist paradigm, the sequential explanatory mixed method design previously discussed was chosen to answer the overarching research question: What is the experience and understanding of pre-registration nursing students in regard to intentional rounding? In doing so the underlying objectives were able to be addressed, these being:

- The measurement of pre-registration nursing students' attitudes to intentional rounding and their understanding of its purpose;
- Exploration of the relationship between variables such as previous experience;
- A discussion of pre-registration student nurses' exposure to/ experience of intentional rounding throughout their clinical placements;
- Students' perceived benefits or disadvantages, barriers or enablers to performing intentional rounding, along with any suggested improvements to intentional rounding;
- Determination of any contextual factors influencing effective student engagement in intentional patient rounding; and
- What approaches to education on intentional rounding nursing students had experienced.

Morse and Niehaus (2009) discuss the importance of understanding the theoretical drive of the research proposed. In this instance, the theoretical drive was one of induction – trying to discover meaning and understanding from the real-world experience of the pre-registration nurse, and being able to find generalisations from the data and analyses provided from the mixed data collection methods. In this way, data were collected through

quantitative collection methods and then these data were used to guide the exploration in more detail through qualitative data collection (Kroll & Neri, 2009). Further integration and triangulation of the data were achieved in order to comprehensively answer the research question. Figure 3-1, found on page 48, outlines the structure and flow of the research design, and further portrayal of the implementation of each phase is discussed throughout this chapter.

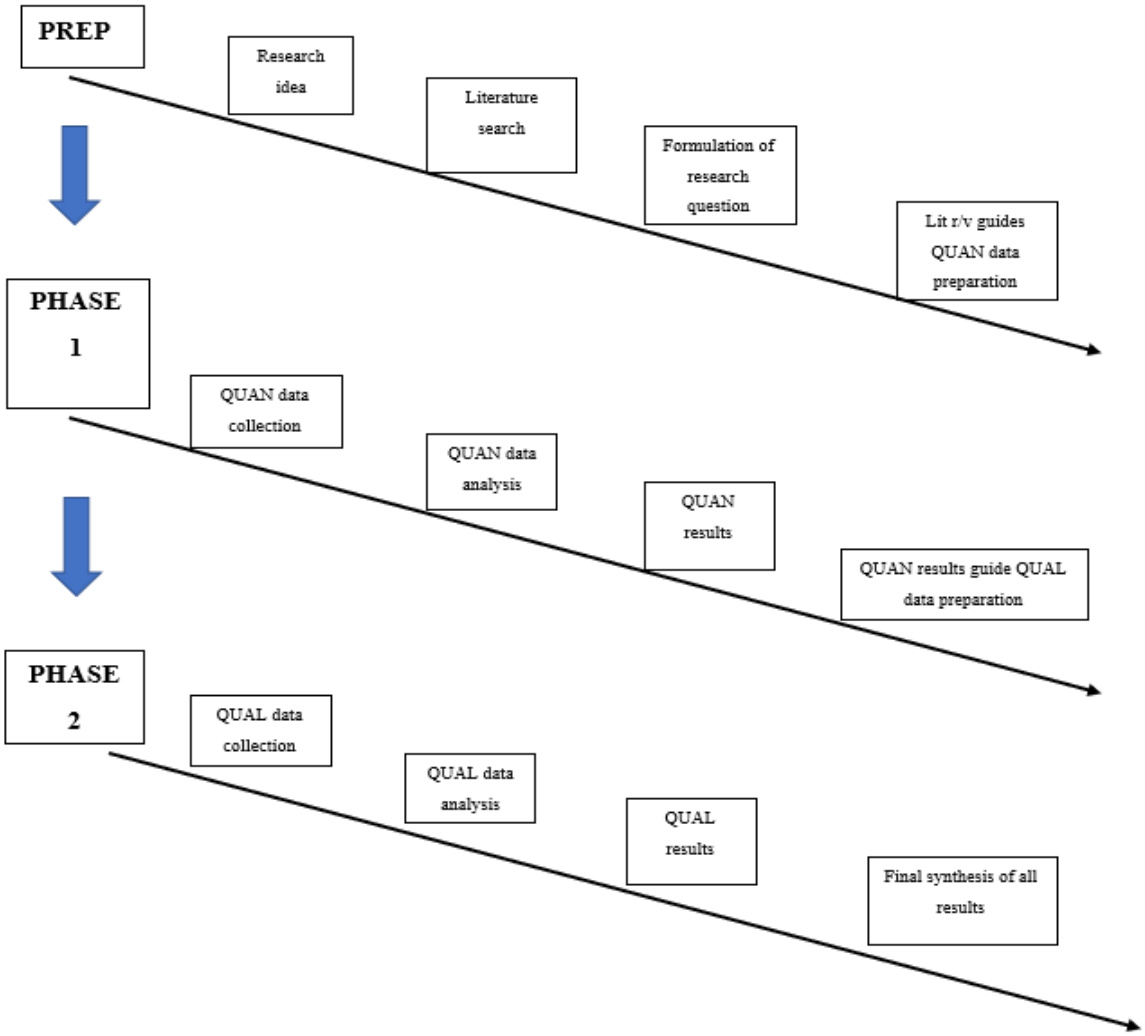


Figure 3-1 Research project structure and flow

3.6. Phase one: Quantitative phase

A quantitative cross-sectional survey was chosen for phase one of the research, exploring the perceptions of the cohort populations of each participating Australian university focused on intentional rounding. The survey provided a snapshot of the attitudes and experiences of the cohort at one given time, rather than over time, as is consistent with a cross sectional approach (Babbie, 2017). Quantitative research methods systematically utilise instruments such as surveys to gather quantifiable information, converting it to numerical data in order to explore relationships and cause and effect, using inferential statistics to analyse and explain (Hickman & Disler, 2019). Quantitative data collection methods can be used to 'describe, explore, explain and predict observable and measurable conditions' (Hickman & Disler, 2019, pp.113, 114). Phase one aimed to explore the study objectives including students' exposure to and experience of intentional rounding within their clinical placements, their understanding and initial thoughts on benefits and barriers to this intervention, and what education they may have received on the topic. Phase one results (provided in Chapter Four, page 59), were also used to provide a guide in which to form the questioning for phase two, so any unanswered questions from phase one could be achieved.

3.6.1. Measurement tool

The Nurse's Perceptions of Patient Rounding Scale (NPPRS), developed in the United States of America, was the previously validated survey tool that was utilised, focussing on perspectives and perceptions of frontline nursing staff (Neville, 2012, 2016). The NPPRS consisted of a 42-item scale, and was scored using a 5-point Likert format from one [1] (strongly disagree) to five [5] (strongly agree). There were three subscales within the survey, relating to communication, nursing benefits and patient benefits (Appendix G, page 241).

Cronbach's alpha testing was conducted on each subscale of the NPPRS to assess for reliability and internal consistency, with results similar to previous testing results by Neville (2016) (communication $\alpha = 0.70$ compared to 0.83, patient benefit $\alpha = 0.78$ (0.87), and nursing benefits $\alpha = 0.82$ (0.73). This showed that reliability was acceptable (≥ 0.7) to good (≥ 0.8) (Tavakol & Dennick, 2011). Piloting of the survey occurred with a group of second year pre-registration nursing students to ensure clarity and understanding prior to formal distribution, and there was no need for any changes.

The researcher gained permission from the author to use this survey without modifications. The owner of the NPPRS requested a copy of raw data collected, which was subsequently provided. An additional demographic section was added to the beginning of the survey, along with 2 open-ended questions, and testing with a cohort (n = 56) of third year Australian pre-registration nursing students was conducted for content validity and reliability in the Australian context. Pre-testing a survey is advantageous in reducing problems or confusion in the reading of questions (Presser, et.al. 2004). No problems with the survey were reported in this testing phase, and all wording was clearly understood. This survey with the additional demographic section was then distributed to all participants.

SurveyMonkey © (www.surveymonkey.com) software was used to distribute and collect survey results. This is an online password protected platform that can be used to develop surveys and record data collected. Further detail regarding the survey and data collection can be found in Chapter Four (page 59) of this thesis.

3.6.2. Participants and recruitment

Student participants were recruited via convenience sampling from a number of universities that offered a pre-registration nursing program and had agreed to advertise the study. The participating universities were Charles Sturt University, University of New England, University of Newcastle, University of Tasmania, University of Technology and Western Sydney University. Convenience sampling is a form of non-probability sampling that utilised participants available within the universities that had agreed to distribute the survey. This approach endeavoured to reach a large number of students, from both metropolitan and rural/regional areas and gain understanding of the wider experiences from across New South Wales and beyond, as some universities had multiple campuses. Participants included were second- or third-year pre-registration nursing students enrolled at one of the distributing universities that had been on at least one clinical placement. Participants were excluded if under 18 years of age or if they had not attended any clinical placements. Participation in the study was voluntary, and participants could choose to withdraw at any time.

The reason for choosing second year or above was to ensure that students had completed a clinical placement. Another advantage to this cohort was that it included converting

Endorsed Enrolled nurses and international students with previous health related or nursing qualifications, who bring with them preceding clinical experience. This broadened the perspectives found within the research, widening from those that only have the experience from clinical placements within their university degree.

All of the abovementioned universities were contacted via email through their nursing faculty Discipline Leads or Course Coordinators, and a representative from each was asked if they could distribute the initial survey to their pre-registration nursing cohort. This was completed through each university's online learning platform. The key contacts within each university were provided with information about the study, and the link that included participant information and consent instructions that formed the initial pages of the survey (For further information see Appendices B, C, D, E, F, page 225, 228, 229, 230, and 236 respectively).

For the purposes of the quantitative phase of this study, a sample size analysis was conducted for analysis of variance (ANOVA), showing that 305 respondents were needed within the survey to ensure that results were significant. An alpha of 0.05, power of 0.95, and effect size as moderate was utilised within G*Power (Faul, Erdfelder, Buchner & Lang, 2009).

Response rates for surveys can often be low, and incentives have been found to assist this problem (Fowler, 2009). Incentives for participation in this study were offered to increase the response rate. Participating students could elect for their details to be entered into a spreadsheet from which one name was drawn by an independent person via a numerical process (names randomised and allocated a number) at the end of the survey data collection period. A gift voucher for $200 was offered to the participant whose name was drawn using that process.

3.6.3. Data analysis

The survey data collected in SurveyMonkey were then imported and analysed through the utilisation of SPSS v24 (IBM Corp, 2016). Any negatively worded questions were reverse coded. All subscales were then summed, and a total scale score was summed, with reliability analysis performed for each subscale, and total scale. Data were also checked for normality

of distribution, and other analyses included independent-sample t-tests and ANOVA to assess differences between total scales, subscales, and previous experience.

Descriptive statistics were used to describe the demographical data. Means and standard deviations were calculated, and Pearson's correlational analyses conducted to assess the relationships between variables, for example previous experience, qualifications and number of clinical placements. Any open-ended questions were analysed using content analysis, and subthemes were then merged into the quantitative data collection, as to integrate all qualitative and quantitative findings through data transformation, thus analysis of both types occurred collectively (Creswell & Plano Clark, 2018). Further details of the types of data analyses used for the survey results can be found in Chapter Four of this thesis (page 59), which provides further detail of the quantitative phase of the study. The data that were collected and analysed were then assessed for any gaps and ideas that lent themselves to further questioning, which was used to formulate qualitative questions for the second phase of the study in order for all of the objectives to be answered in a comprehensive manner (Morse & Neihaus, 2009).

3.6.4. Rigour, validity and reliability

To ensure validity and reliability within phase one of this study, a number of approaches were adopted. A previously validated survey was used in the initial data collection, and this survey was also trialled in a small pre-registration nursing student cohort to ensure that the survey was appropriate for these participants as previously discussed. It is important that data collection methods used are suitable for the research question, and the sample size sufficient to obtain causal relationships or differences (LoBiondo-Wood & Haber, 2017). Data analysis utilised apt methods, utilising a reliable computerised analysis tool, so that the relevant measures and comparisons could be undertaken by the user of the tool, and results were seen to be consistent, with no significant outliers or skewed results. Bias was also considered, with the blinding of participant responses and the exclusion of incomplete survey responses achieved. Statistical and clinical significance was also examined within the results (Hutchinson, East & Wilson, 2019). This is discussed in greater detail in Chapter Four of this thesis (page 59).

3.7. Phase Two: Qualitative phase

Post analysis of the survey results, a semi-structured interview guide was developed to explore themes derived from the quantitative study phase, and to clarify any gaps in the study objectives that were not answered in the quantitative phase. Qualitative methods of data collection utilise non-statistical methods such as interviews, observation, storytelling or focus groups to gain information that is rich in content. The analysis of the interview data was conducted through finding themes and patterns in the data. The interviews that were conducted were a typical way of collecting qualitative data, and utilised a conversational style of discussion (East, Neville & Galvin, 2019). The interviews occurred either face to face in a neutral office at a university or via telephone, depending on each participant's preference. Though it can be said that telephone interviews can sometimes not provide as much information as face-to-face interviews due to the inability to see additional cues such as body language and other non-verbal cues (Polgar & Thomas, 2013), there was little difference in the data collected regardless of interview mode.

All interviews were recorded and transcribed verbatim with permission of the participants, and privacy and confidentiality were maintained at all times with all participants data being de-identified. Further information about the interviews can be found in Chapter Five of this thesis (page 81), and examples of the interview questions in Appendix H, page 254. The opening question was 'Can you tell me what you know about intentional rounding? What is your perception / understanding of the practice?'. Follow up and probing questions were then used to gain clarity and greater understanding of participants' responses (Appendix H, page 254).

3.7.1. Participants and recruitment

A final page in the initial quantitative survey from phase one invited participants to nominate to participate in an interview after collection of the survey data, so that the second phase of the study could be implemented, drawing on data from the first phase to explore in more detail anything that was not clear or needed further investigation. Participants were asked to provide contact details should they wish to participate in the follow up interview, and this information was removed from survey results and collected separately, so that confidentiality could be maintained (Appendix F, page 236).

Creswell and Plano Clark (2011) recommend using the same participants for both quantitative and qualitative phases of mixed methods studies to ensure continuity, and so that the responses can be further explored and explained through this process of collecting qualitative data. Participant numbers did not need to be as large in the qualitative phase of the study (Creswell & Plano Clark, 2011), as the importance lies in collecting sufficient qualitative data in order to establish and explain themes. It was deemed that sample size required for the qualitative section of the study was when data saturation had been reached, and no new themes were forthcoming within the interviews, which was achieved after interview fifteen. Further, as there may have been a difference in rural, regional or metropolitan student responses, an attempt was made to interview students from all cohorts, although this was dependent on participant respondents, and no differences were noted.

3.7.2. Data analysis

Interview data were transcribed verbatim, checked for accuracy, and then analysed using thematic analysis. Further insight into the analysis of qualitative interviews conducted in this research can be found in Chapter Five (page 81). This method of analysis is recommended for qualitative data, including clear coding of themes and relationships between such themes (Creswell & Plano Clark, 2011). Rather than using an analysis tool such as NVIVO (Creswell & Plano Clark, 2018), it was decided that the researcher would find more depth of understanding and connection with the data by hand coding. Thematic analysis occurred in an inductive manner through data immersion via frequent reading of the transcripts, and then coding and gleaning themes and subthemes from the reading, then reviewing the themes, defining and naming them, and then writing up the data analysis. The work of Braun and Clarke (2013) was used to guide this analysis, and is discussed further in Chapter Five (page 81). The transcripts were listened to and read repeatedly, in order to fully immerse in the data, and commence in depth analysis of what was said in the interviews. Codes were then derived through this systemic analysis of the data, identifying the meaning behind what was said, and including all data that may be relevant to the research questions. Themes were then constructed by searching the coded data, finding any patterns, overlap or similarity within the codes, and clustering these related data codes to form overarching themes and sub-themes. Themes were then reduced and reassessed to a

manageable number, and checked against the entire dataset, ensuring clarity and consistency, and sufficient meaning and importance was within each defined theme. Finally, a narrative was written around each theme, describing and explaining the conclusions that were found (Chapter Five, page 81).

3.7.3. Trustworthiness

Within the qualitative data collection section of this study, interviews were conducted until data saturation was reached and no new themes were extracted. The study was assessed for trustworthiness and credibility through the matching of recording and transcription; the data responses were found to be replicated across a number of universities (Hutchinson, East & Wilson, 2019; Polgar & Thomas, 2020). Participant quotes were utilised throughout the presentation of the findings, and analysis was conducted by a number of researchers, providing intercoder agreement (Creswell & Plano Clark, 2018). Reflexivity was part of the interview process and the analysis. This is explained further in Chapter Five of the thesis which describes the qualitative phase of the research (page 81).

3.8. Mixed methods synthesis

To be a mixed methods study, synthesis of results from both qualitative and quantitative data collection must occur. After the collection and analysis of each phase, analytic techniques looked at both quantitative results and qualitative findings to ensure that the initial questions in the study had been answered clearly, and ensured that there was reconciliation of any divergent findings (Creswell & Plano Clark, 2011). In this study, mixing occurred in the design, methodology, analysis and reporting phases, drawing out a summary of final inferences related to the study question, aim and objectives (Creswell & Plano Clark, 2011; Grbich, 2017). This type of pragmatic, correlational mixed methods design of gathering and interpreting data was used to explore in detail the nursing students' experience of, and attitudes towards intentional rounding within clinical placements.

There are different ways in which data is analysed and integrated within mixed method designs: convergent design - using simultaneous integration; explanatory sequential design - connecting qualitative data to build on the quantitative data that were collected and analysed in a sequential manner; and exploratory sequential design – where qualitative data is analysed to propose and collect quantitative data, and then analysed (Creswell & Plano

Clark, 2018). A convergent mixed method design was utilised in the analysis of the initial quantitative survey results (discussed in Chapter Four, page 59), and then an explanatory sequential design was utilised, forming qualitative interview questions, based on the results of this quantitative analysis. The qualitative data collection and analysis is explained further in Chapter Five (page 81).

Once both quantitative and qualitative data were collected, a synthesis of all data needed to occur through the use of a convergent design, comparing and contrasting both results to explore similarities or differences, and enhancement or reduction of key themes. This was conducted using a Pillar Integration Process, analysing data and listing, matching and checking to combine insights from both sets of collection types (Bazeley, 2018; Johnson, Grove & Clarke, 2017). As a result, overarching pillars or themes were deciphered. This is explained further in Chapter Six of this thesis (page 103).

3.8.1. Synthesis: Rigour, validity and reliability

When all data were collected, the use of convergent mixed methods provided an appropriate method of final analysis, and the integration was represented utilising a narrative approach, and visual depiction using the Pillar Integration Process (Johnson, Grove & Clarke, 2017). This provided an open and transparent depiction, displaying clearly any consistencies and discrepancies between each dataset, and was an appropriate methodology for combining data collected through an explanatory sequential design. In this manner the mixed method questions could be clearly answered and data triangulation could be used to ensure the reliability of the findings (Creswell & Plano Clark, 2018; Johnson, Onwuegbuzie & Turner, 2007). This was undertaken through thematic analysis and merging of both sets of data, and combining and comparing responses into a matrix or tabular format, pooling data into a similar format and thus clarifying joint analyses of the data (Bazeley, 2018; Creswell, 2014).

This will be further discussed in Chapter Six of this thesis (page 103).

3.9. Ethical processes and consideration

An ethics application was submitted to the University of New England's (UNE) Human Research Ethics Committee (HREC) as part of this study. The HREC undertook a rigorous assessment of the application, ensuring that the study was ethical and safe for the participants, and all aspects of ethical integrity were upheld. Approval was granted by the HREC (HE17-100), and further regular reports were requested, provided and approved by the Ethics Committee throughout the progression of the study, ensuring that continuing ethical rigour was upheld, and that the stipulated timeframe was adhered to. Reciprocal ethics approval was also requested and provided by one other participating university (University of Newcastle -H-2018-099), and the same reporting mechanisms were provided. No other universities requested reciprocal ethics approval and the same ethical rigour was maintained for all participants. Details of ethics approvals can be found on page 259, Appendix I.

3.9.1. Ethical considerations

All participants were treated fairly and equally, all being provided with the identical information regardless of which university they attended, and the same opportunity to participate in both sections of the study (online survey and interview). Participants were able to ask any questions prior to participation, and were free to withdraw from any part of the study at any time with no repercussions.

The primary researcher was also a lecturer teaching in a pre-registration nursing course at UNE, the primary university. In order to reduce the power disparity and alleviate the dependent relationship between the researcher and the student, it was ensured that any participants studying at the same educational facility were not directly approached by the primary researcher, rather an unrelated third party (professional staff member). The primary researcher was not teaching any of these students at the time of data collection, in case of any feelings of coercion or reprisal by the participants from the researcher. All participants were given the choice as to their mode of participation in the interview (face-to-face, via telephone or video chat) so as not to discriminate in any way those that lived a distance from the researcher. All participants chose to use telephone or face-to-face.

Participants in the survey were offered the chance to win a $200 gift voucher on completion, of which funds were taken from the researchers' Academic Pursuit Funds. All identifying participant information was deleted from the survey. Information sheets can be found in Appendices E and F, pages 230 and 236 respectively.

3.10. Data management and storage

All data, both in paper or recorded form were kept in a locked cupboard at the primary university (UNE) to ensure protection and safety of all data. Any online or computerised data is kept using a password protected computer, and stored in a research specific cloud managed account by UNE. All data will be kept for five years after the completion and submission of the thesis, and any publications relating to this thesis. After this time, the primary supervisor, primary researcher or appropriate delegate will be responsible for destruction of all data after this time. This complies with the *UNE Human Research Ethics Committee requirements* (UNE, 2019), the *Management and Storage of Research Data and Materials Policy* (UNE, 2015), and the *Australian Code for the Responsible Conduct of Research* (National Health and Medical Research Council, 2018).

3.11. Chapter Conclusion

This chapter has outlined how the research was conducted to explore the student perceptions, attitudes and experience of intentional rounding, using quantitative and qualitative collection methods, and mixing results. An explanation of the chosen methodology of mixed method design and the reasoning behind this choice was provided. This chapter also discussed the participants, how they were recruited, and how data were collected and analysed, interpreted and stored throughout each stage of the research undertaken. The following chapter (Four) will address the collection, analysis and findings of the initial quantitative phase of the research. The chapter will further describe the survey tool that was utilised, how this was distributed and collected, and the subsequent analysis of the data collected.

Chapter 4. **Phase one: Quantitative findings**

Title of Article: Pre-registration nursing students' perceptions and experience of intentional rounding: a cross-sectional study

Authors:

Liz RYAN RN, MN

Debra JACKSON AO, RN, PHD FACN2

Cindy WOODS BEd, MPH, PHD

Kim USHER AM RN, MNSt, PHD, FACMHN

Manuscript submitted to: Nurse Education in Practice

Status of Manuscript: Published.

Submission dates: Received: 27th November 2018. Revised 27th November 2019. Accepted: 17th December 2019.

Citation information:

Ryan, E.J., Jackson, D., Woods, C. & Usher, K.J. (2020). Pre-registration nursing students' perceptions and experience of intentional rounding: a cross-sectional study. Nurse Education in Practice, 42(2020), 102691. https://doi.org/j.nepr.2019.102691

Signed:

[redacted] [redacted]

Candidate **Principal Supervisor**

4.1. Chapter preface

Chapter Three of this thesis outlined the methodology and research design that was utilised within this study. This chapter will describe the results of the initial quantitative data that were collected through the use of the NPPRS survey as described in the previous chapter. The following paper was accepted by the journal – Nurse Education in Practice. This is a copy of the original unpublished manuscript without formatting.

4.2. Paper

Title

Pre-registration nursing students' perceptions and experience of intentional rounding: A cross-sectional study

Abstract

This paper examines pre-registration nursing students' perceptions of the practice of intentional rounding and perceived benefits for nurses and patients.

Intentional rounding was developed to ensure nursing staff regularly check on patients to ensure that all care needs are met. It has been linked to a reduction in falls and call bell use, and an increase in patient safety. No previous studies have examined pre-registration nursing students' role in the practice of intentional rounding during clinical placements nor the perceptions of rounding practices, important from a future workforce perspective.

A cross-sectional multisite study was undertaken, and pre-registration nursing students completed the Nurses' Perceptions of Patient Rounding Scale between August 2017– June 2018, distributed using online education platforms and email. Strobe reporting guidelines were used to report findings. Participants perceived positive benefits in intentional rounding for nurses and patients. Mixed opinions surrounded the sufficiency of education received around the intervention. Previous nursing experience was linked to opposing opinions of intentional rounding, depending on education levels. Participants had a positive perception of intentional rounding practices overall. Education surrounding intentional rounding needs

to be consistent, and introduced before students are expected to actively participate in the practice of rounding on clinical placement.

4.2.1. Introduction

Intentional rounding, or regular focused/hourly rounding, is a standard practice across many acute inpatient settings. It has been used internationally as a patient safety tool within clinical settings to ensure regular checks on patients – ensuring comfort and safety clinically, environmentally, and socially. Intentional rounding was reintroduced to contemporary practice as a response to safety issues and episodes of missed care (Duffield et al., 2008; Francis/Mid Staffordshire NHS Foundation Trust, 2013; Garling/Special Commission of Inquiry, 2008) and rolled out in many countries including Australia (Clinical Excellence Commission, 2014). Through the implementation of intentional rounding, it was proposed that nurses would enter patients' rooms, visualise and communicate with patients on hourly or two hourly bases.

Background

Literature on intentional rounding has focused on patient satisfaction and benefits, demonstrating increases in satisfaction and a reduction in patient safety elements such as falls, hospital acquired pressure ulcers and call light use. Nursing perspectives are also examined in the literature showing intentional rounding to be beneficial to nursing staff due to increased communication, control over patient factors leading to pre-emptive care and teamwork, but documentation was problematic, often cumbersome and unrealistic (Ryan et al., 2019).

Education, level of experience and leadership influenced the attitudes of nursing staff towards intentional rounding, and success was influenced by other factors such as workload, staffing, and environment. While recent evidence supports the benefits of intentional rounding for both patients and nurses (Morgan et al., 2016; Flowers et al., 2016; Brosey & March 2014), controversy exists over its usefulness among nurses (Neville et al., 2012; Fabry, 2015; Snelling, 2013). Factors influencing effective and regular intentional rounding remain, such as workload, management support and education provided, and conflicting opinions and a lack of clarity exists in regard to the delegation of intentional rounding tasks, documentation practices and its reliability (Ryan et al., 2019). Although intentional

rounding is a task delegated to pre-registration nursing students on many occasions, there has been no research undertaken to examine their perceptions about this role. Nursing students are the future health workforce so it is vital to assess their knowledge and attitudes towards intentional rounding and to identify if education, training or support is required at the university or clinical level.

4.2.2. The study

Aims

The aim of this study was to examine pre-registration Bachelor of Nursing students' perceptions of the practice of intentional rounding and perceived benefits for nurses and patients.

The objectives of the study were to:

1. Measure pre-registration nursing students' perception(s) of whether intentional rounding improves communication between nurses, patients and patients' famil[ies].
2. Examine nursing students' perceptions of nurse and patient benefits of intentional rounding.
3. Assess any relationship between number of placements, or previous nursing experience and perceptions towards intentional rounding.

Design

A cross-sectional multisite study was undertaken using an online survey to examine pre-registration nursing students' perceptions towards the practice of intentional rounding.

Sample

Using a convenience sample approach, seven Australian university nursing schools were contacted to assist with distribution of the online survey link to their pre-registration Bachelor of Nursing students, and six agreed to participate. One university chose not to assist, citing a conflict of interest. Five of the universities' main campuses are located in New South Wales (NSW) and one located in Tasmania. The universities have campuses

located across five states: NSW, Queensland, Victoria, Tasmania and Australian Capital Territory. Explanation and description of the survey was sent via email to contacts within each university nursing program, and a person was then appointed through each university to assist with circulation of the online survey link to students.

Sample size analysis

Sample size analysis for analysis of variance (ANOVA) was conducted in G*Power to determine a sufficient sample size using an alpha of 0.05, a power of 0.95, and a moderate effect size (f=0.25). Based on the aforementioned assumptions, the desired sample size was 305.

Participants

The survey was distributed to second- and third-year students in Bachelor of Nursing programs, as it was thought that these students would have attended at least one clinical placement. Students were 18 years or over. All universities offered a 3-year undergraduate nursing bachelor's degree.

Data collection

Using a convenience sampling approach, student nurses were approached through the nursing department of each university using online education platforms and emails. The survey link was distributed to students via their online learning sites, and open between August 2017 and June 2018. Some universities wished to delay distribution of the survey link due to students' workload and availability. An information sheet formed the first page of the online questionnaire, and consent was implied by completion of the survey. Participants were offered the chance to go into a draw to win a prize as an incentive to participate, and were asked to provide an email address if they wished to enter, which was stored in a separate data bank. They were advised that their contact information would be separated from their responses to ensure anonymity. All responses were de-identified.

Data collection instrument

The Nurses' Perceptions of Patient Rounding Scale (NPPRS) (Neville et al., 2012, 2016) was used with permission from the authors. A demographic section was added to establish participants' age, level of placement experience, and previous nursing experience, and a few

student specific questions were added. There was no further modification of the survey, as per the request of the survey author. The NPPRS tool had been previously validated and effectively used by the authors to measure nursing staffs' understanding and utilisation of intentional rounding (Neville et al., 2012, 2016).

Reliability analysis using Cronbach's alpha was conducted to measure the internal consistency of each NPPRS subscale. Subscale Cronbach's alpha results were: communication 0.70, patient benefits 0.78, and nurse benefits 0.82. These were similar to Neville et al. (2016) results for subscales (communication $\alpha = 0.83$, patient benefits $\alpha = 0.87$, nurse benefits $\alpha = 0.73$), indicating acceptable (≥ 0.7) to good (≥ 0.8) reliability (Tavakol and Dennick, 2011). The survey was initially piloted with a small cohort of second year pre-registration students prior to the formal distribution, for feedback and checking due to the instrument originating in the US. Feedback from Australian students was positive, with all items easily understood and no changes to the wording required.

The questionnaire consisted of 42 questions in Likert scale response format, as well as three open–ended questions. Items were scored on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. A score of three indicated a neutral response, while scores of less than three indicated an overall negative response (disagree), and scores above three indicated an overall positive response (agree). Thirty-two of the questions formed three subscales: communication (15-items), patient benefits (7-items) and nurse benefits (10-items) (Neville et al., 2012, 2016). Other questions were relevant to intentional rounding, but related to confidentiality, ethics, culture and rounding schedules.

Three open ended questions were part of the survey. These were:

1. In your own words, how would you define hourly rounding at your institution?
2. What patient issues might influence your practice of rounding?
3. What suggestions/recommendation would you make regarding rounding at your institution?

Ethical considerations

Ethics approval was granted through the primary university. One other university requested and obtained reciprocal ethics approval.

Data analysis

Data were downloaded into an SPSS v24 database (IBM Corp, 2016). Descriptive statistics were used to describe demographic characteristics of the sample. Negatively worded subscale questions (n = 10) were reverse coded. Subscales were summed, and a total scale score was summed based on 40 questions (scale users are instructed to exclude item-26 and item-29 from the total score). Total possible scores ranged from 40 to 200 and higher scores indicate more positive responses. Although there is some controversy over whether ordinal data (Likert scale data) can be treated as interval data, given the adequate sample size and the normal distribution of the data, a decision was made to use parametric tests (Jamieson, 2004; Norman, 2010). Means and standard deviations were calculated for subscales and the total scale. Pearson's correlational analysis was conducted to assess the association between number of clinical placements and NPPRS subscale scores. Analysis of variance (ANOVA) was conducted to assess the relationship between NPPRS subscale and total scale scores and type of previous nursing experience. Post hoc analyses were conducted using Tukey's test. A Bonferroni correction was used to reduce the chance of type 1 errors, therefore a p value of 0.013 was considered statistically significant. Missing responses were excluded pairwise from each analysis.

Open ended responses were analysed using content analysis techniques (Bengtsson, 2016; Erlingsson and Brysiewicz, 2017). Each answer was read repeatedly and coded into subjects, searching for common themes within content. Subthemes from the quantitative questions were also utilised as inductive codes, so that content could be linked to the quantitative data that were in the survey.

4.2.3. Results/findings

Participants

Overall, 533 nursing students responded to the online questionnaire, though some only completed the demographics section. Of the 533 responses – 504 answered yes to having

been on clinical placement; 26 answered no so therefore did not continue the survey. Some participants chose to complete some or all of the quantitative section of the survey only, and these responses were included. In all, there were 424 valid responses. Some universities had a greater response than others, ranging from 7 to 214 responses. This may have been a result of survey timing, other requests, and the distribution of the survey at each university. An analysis of variance (ANOVA) showed that there were no significant differences in scale and sub-scale responses from students in universities with low and high response rates. Nearly 90% of participants were female, with a mean age of 26. Most had some form of previous nursing experience, of varying educational levels. The majority of students (71%) had been on two or more placements (see Table 4-1).

Table 4-1 Participant characteristics

	N (%)
Mean Age	26 years
Gender	
Male	45 (10.7)
Female	374 (89.3)
Previous experience in nursing:	
None	166 (39.2)
Registered nurse (RN)	46 (10.8)
Enrolled nurse/ Endorsed enrolled nurse (EN/EEN)	72 (17.0)
Assistant in Nursing/ Personal Care Assistant (AIN/PCA)	114 (26.9)
Other	26 (6.1)
Number of placements attended	
1	122 (28.8)
2	60 (14.2)
3	74 (17.5)
4	68 (16.1)
5+	99 (23.4)

Table 4-2 Nurses' Perceptions of Patient Rounding Scale (NPPRS) and subscales

	N	Range	Midpoint	Mean	SD
Total NPPRS	250	40-200	80	143.90	16.77
Patient benefits subscale	294	7-35	14	25.936	3.98
Nurse benefits subscale	284	10-50	20	36.05	6.04
Communication subscale	265	15-75	30	51.50	5.59

There was a positive perception of intentional rounding overall, as per Table 4-2 (M = 143.90), as well as within each subscale. The majority of students reported that intentional rounding was a part of their clinical placement experience (71%), and that they understood the intervention (74%). Education about intentional rounding mainly came from their experience on clinical placements rather than from the universities that they attended (69%). The responses to the adequacy of information provided around intentional rounding were inconclusive; nursing student opinions were divided about whether they had received enough education (50%), or whether it was insufficient (50%).

Sixty-one percent reported that intentional rounding was a task that was delegated to them as pre-registration nurses, and 70% stated that it was a part of their role in looking after a patient load. Participants reported confidence in their ability to escalate any problems to a suitable staff member (87%) and felt that intentional rounding was a helpful intervention for the student nurse with regard to organisation and time management strategies (79%).

Table 4-3 Nurses' Perceptions of Patient Rounding Scale Items

Subscale: Communication	N-valid	Mean	Median	SD
Rounding promotes more effective communication between nurses and patient (pt) care technicians	335	3.97	4.00	0.98
Rounding does not facilitate improved communication	333	2.41	2.00	1.03
Rounding affords pts and families the opportunity to communicate more effectively with the nursing team	316	4.13	4.00	0.84
Having to inform pts and families about their care during rounding takes too much time	299	2.61	2.00	1.00
Eye contact with my pts makes me uncomfortable	299	1.80	2.00	0.87
Frequent nurse/pt communication at the beside is an unnecessary task	289	1.77	2.00	0.89
During rounding, I tailor my terminology to facilitate effective communication with pt and families	289	4.10	4.00	0.87
I frequently engage in open ended questions when I interact with patients	289	4.02	4.00	0.75
If I am uncomfortable about a topic, I avoid face to face contact with my patients.	289	2.08	2.00	0.89
I use appropriate body language to communicate that I am receptive and open to effective communication	289	4.21	4.00	0.68
Rounding is a practice that facilitates improved verbal and nonverbal communication	288	4.03	4.00	0.82
Patients are more secure knowing that I will be back in 2 hours to communicate with them and address their needs	289	3.88	4.00	0.88
I am confident that I have the appropriate knowledge base to effectively communicate with my pts	288	3.95	4.00	0.83
Rounding provides the opportunity for me to address my pts informational needs and preferences	273	4.09	4.00	0.73
I am comfortable saying I don't know, but will find the answers when patients ask me questions.	272	4.30	4.00	0.74

Subscale: Nurse benefits	N-valid	Mean	Median	SD
Rounding is a constructive use of nurses' time	335	3.91	4.00	1.01
Call bell use has not decreased through the use of rounding	334	3.26	3.00	1.01
A more cohesive collaborative nursing team effort is fostered through nursing rounds	335	3.79	4.00	1.00
The benefit of rounding is that it creates a quieter, less chaotic	334	3.54	4.00	1.01
Rounding significantly increases my workload	334	2.76	3.00	1.04
2-hour rounding reduces my stress levels	316	3.34	3.00	0.96
By rounding on my pts every 2 hours, I can more easily recognise changes in the health status of my pts	317	4.08	4.00	0.85
Rounding affords me the opportunity to get to know my pts better	317	4.04	4.00	0.92
Effective rounding allows me to have more quiet time to manage my nursing care	214	3.33	3.00	1.02
Rounding will assist me in planning my day.	289	3.97	4.00	0.89

Subscale: Patient benefits	N-valid	Mean	Median	SD
Rounding is an approach that facilitates improved nursing care	335	4.10	4.00	0.91
Through rounding, pts experience less anxiety about their care	315	3.86	4.00	0.87
There is no increase in pt satisfaction from rounding every 2 hours	313	2.51	3.00	0.87
My pts are more comfortable and can rest assured knowing that I will return at designated time during my shift to address their needs	300	3.82	4.00	0.87
Rounding reduces pts and family uncertainty about their illness	299	3.66	4.00	0.91
Pts benefit from my visible presence every 2 hours	300	4.01	4.00	0.75
Rounding has enabled me the opportunity for more comprehensive, safer, pt care, and to more quickly identify and meet the nursing needs of my patient	300	3.91	4.00	0.89

Other	N-valid	Mean	Median	SD
I routinely round at least every 2 hours	336	3.93	4.00	1.02
Based on my assessment, I often round more frequently than 2 hours	331	3.71	4.00	0.97
If I get delayed with one of my pts, my rounding routine of every 2 hours is not realistic	317	3.40	4.00	0.97
I would experience greater satisfaction in my work if I could round (care) for the same pts each shift that I work	317	3.78	4.00	0.97
Once I receive my shift report, I need time to plan my day	315	4.20	4.00	0.84
My pts take too much of my time to allow effective rounding on all pts to occur every 2 hours	298	2.87	3.00	0.98
If pts were assigned nurses they are familiar with, pts would be more satisfied with their care	300	3.73	4.00	0.98
I consistently round on my pts within 2 hours of beginning my shift	289	3.99	4.00	0.88

Communication subscale

Responses to all communication items were positive. The responses showed nursing students perceive that intentional rounding improves communication between the nurse/patient/family, that communication is an important part of their role, they feel confident communicating with patients and families, and that intentional rounding assists patients to feel more secure knowing that a nurse will check in with them and attend to their needs regularly.

Nurse benefits subscale

Participants' responses to nurse benefits of intentional rounding items were positive. Students perceived one of the most positive benefits of intentional rounding is that regular checking of patients allowed them to recognize changes in or deterioration of patients' health status. Intentional rounding allowed students to get to know their patients better,

helped with planning their day and fostered collaboration amongst the nursing team. However, nursing students note that intentional rounding did not reduce call bell use.

Patient benefits subscale

Participants perceived that intentional rounding improved care and patient perceptions of care, allowing students to identify and meet the needs of patients, reducing patient and family uncertainty and anxiety. Correlational analysis showed no significant association between the number of clinical placements students had attended and intentional rounding subscales, though there was a small non-significant inverse relationship between the number of placements and nurse benefits subscale, $r(281) = -0.107$, $p = 0.074$. The more clinical placements students had experienced, the less positively intentional rounding was perceived.

Experience

Using a one-way ANOVA, with Bonferroni adjusted alpha levels of 0.013, results indicated that there was a significant association between the type of previous nursing experience and the perception of patient and nurse benefits of intentional rounding (Table 4-1). Those with previous experience as a Registered Nurse (international registration) had the most positive perception of patient benefits in intentional rounding ($M= 27.79$), compared to AIN/PCA experience ($M = 26.62$) and EN/EEN experience ($M = 24.21$), $p < 0.001$. Those with AIN/PCA experience were more positive about patient benefits than those with EN/EEN experience ($p = 0.002$).

Within the subscale of nurse benefits similar outcomes were found, with more positive perceptions of nurse benefits reported by those with RN experience ($M = 39.38$) compared with EN/EEN experience ($M = 33.64$) ($p < 0.001$). In the subscale of communication, the difference between previous types of experience and perceptions of intentional rounding benefit was approaching significance, $p = 0.036$. Those with RN experience ($M = 54.13$) reported more positive perceptions of intentional rounding communication compared with those with 'other' health/nursing experience ($M=49.78$). The association between the total NPPRS mean score and type of nursing experience was not significant, $p = 0.066$.

Content analysis – qualitative data

Qualitative data were subject to content analysis as previously described, and findings have been categorised into four major themes: why we do intentional rounding, concerns and negative opinions, patient issues influencing intentional rounding and suggestions and recommendations to improve intentional rounding. Detailed findings pertaining to each of these themes is provided below.

Why we do intentional rounding

Two hundred and sixty-two participants responded to the open-ended question: 'How would you define hourly rounding at your institution' and responses provided some insight into participants' understandings of the purpose(s) of intentional rounding. Over half of respondents mentioned the patient (n = 153, 58%). For many (n = 114, 44%) the focus was on 'checking' the patient on a regular basis – a means of making sure that each patient is checked on a regular basis to ensure there are no issues (Participant response (PR) 3). A majority of participants (58%) mentioned specific patient care practices such as ensuring safety (n = 27, 10%), comfort and satisfaction, care of the patient, and anticipating needs (n = 97, 37%), and monitoring for deterioration from a nursing perspective (n = 30, 11%). A small number of participants defined intentional rounding as observations and medication administration rounds (n = 34, 13%). Thirty percent (n = 78) of participants perceived intentional rounding as beneficial to the nurse/nursing student, either by being able to anticipate changes in patient health status, assisting with organisation and time management or having a heightened awareness of a patient's condition. Efficient and helpful in maintaining time management, as a student it gave me a clear role that I was to undertake (PR24).

Concerns and negative opinions

Concerns and negative opinions were also included in participant responses, with 21 (8%) participants observing frequent disparities between documentation, and what actually occurred – often overlooked and many times records were filled in fraudulently (PR21). Intentional rounding documentation was of concern to a number of participants (n = 24, 13%), with documentation completed inaccurately on many occasions. Students reported that staff seemed unconcerned about the ticking of boxes, and it was frequently incorrect (n

= 10) – nurses just signed the sheet for all the hours at the start or end of the shift (PR132). Theory and practice discrepancies were mentioned, for example, intentional rounding was a good idea in theory (PR55, 234) but in practice it did not occur effectively from the observations of these participants. Participants also stated that it was not well implemented (PR31), a waste of time (PR83, 245), and influenced by workload and availability of staff (PR42). Twenty-one participants (8%) had never conducted or been educated on intentional rounding, had not heard of it previously, or thought that it was something that was only done in mental health settings.

Patient issues influencing intentional rounding

When asked what patient issues might influence the practice of intentional rounding, 220 participants responded. The main influence reported was the illness/acuity of the patients that were being cared for (n = 79, 36%). Patient load and staffing issues were seen as problematic (n=55, 25%) in conducting intentional rounding effectively, and having to deal with emergencies reduced the ability to be able to conduct intentional rounding (n = 47, 21%).

Communication was also an emerging theme (n = 46, 21%). Issues associated with communication were patients who spoke another language, those with morbidities affecting communication such as dementia, mental illness, strokes, and family and personality issues that students found difficult to deal with. Participants reported that some patients were more demanding and difficult than others, and therefore took up more time, citing issues such as anxiety, aggression and complaints as influencing factors (n = 35, 16%). On a positive note, intentional rounding made it easier for participants to develop rapport with patients – Patients get more comfortable with me after each rounding and it also helps to develop trustworthy relationships with them (PR200).

Suggestions and recommendations to improve intentional rounding

Participants (n = 178) offered suggestions to improve intentional rounding practices, with the most frequent suggestion related to education about intentional rounding (n = 46, 26%). Suggestions included increasing staff and students' understanding of the rationale and

benefits of intentional rounding, increasing the resources available, and greater staff participation. Those ‘newer’ to nursing are great at it. Those who have been nursing (and often the ones students are paired with) don't tend to do it. They are more task orientated (PR147).

The theory and practice of intentional rounding was not adequately covered within Bachelor of Nursing courses, and participants perceived prior introduction and education about intentional rounding as advantageous to students - if the students were provided effective information about the importance of rounding before going to the first placement it will be more beneficial (PR163)

Time management improvements were recommended (n = 26, 15%) through better planning and allocation of time to conduct intentional rounding. Greater allocation of time was perceived to be difficult however, due to busy wards and high workloads. Some felt that hourly rounding was unachievable, and it would be more practical to have rounds spread further apart (n = 11), while others thought that nurses were in patient rooms far more frequently than every 2 h (n = 8).

4.2.4. Discussion

As pre-registration student nurses are tomorrow's workforce, it is imperative that they receive sound educational and practice experiences surrounding patient safety practice models such as intentional rounding. To date students have not been explored in the literature, rather, the opinions of registered and other employed nurses have been sought (Neville et al., 2012). Many findings in this study were similar to previous studies using this survey tool with registered nurses (Neville et al., 2016) but the total perception score overall was lower in comparison (Neville et al., 2016). Pre-registration students in this study perceived intentional rounding as more useful to nurses than in previous studies, where intentional rounding was described as more beneficial for patients (Neville et al., 2012). As the first study to report on this issue, the important findings of this multisite study highlight the influencers of student pre-registration nurses’ perceptions regarding education and practices. The study highlights a significant deficit in education surrounding this contemporary patient safety model. This impacts on the preparation of student nurses and their confidence in implementing intentional rounding as a new graduate. Former research identifies the importance of sufficient understanding, education and leadership surrounding

the implementation of interventions as paramount for nursing staff to enable buy-in, and that accountability and ownership of the task is required for positive outcomes to occur (Goldsack et al., 2015; Orr et al., 2007; Ryan, 2016; Shepard, 2013). Pre-registration nursing participants reported that they needed further education on intentional rounding, as on many occasions there were inconsistencies in practice, and intentional rounding was not always positively role modelled. Education surrounding patient safety practices such as intentional rounding must occur prior to clinical placements so that when students are delegated this task, it is understood and conducted effectively. Participants indicated this is not currently the case; rather, they tend to learn about intentional rounding from clinical facilitators or clinical mentors, or informally through observing nurses' behaviour on clinical practicums. Students will be more effective and engaged, learn more, and have less anxiety when they have sufficient education and preparation prior to clinical placement (Levett-Jones et al., 2015; Killam and Heerschap, 2013).

There is a plethora of literature reporting on the theory-practice gap between university and clinical practice (Monaghan, 2015; Safain et al., 2015; Scully, 2011), and this concurs with results in this study where participants indicated that intentional rounding was not a clear part of university learning. Universities must be up to date with current policies, procedures, and models used within the clinical setting so that students can be adequately prepared and feel comfortable in the task. Clearly strategies need to be put in place to include intentional rounding in university teaching, possibly incorporating it into clinical lab sessions and simulation activities (Levett-Jones et al., 2015). If intentional rounding is deemed worthy for patient safety, then our student cohort and future workforce must also be aware of the importance of intentional rounding and suitably prepared to implement this strategy. Hospital facilitators and nursing preceptors must also be clear on the intervention and provide positive role modelling of intentional rounding behaviour for students to develop a positive attitude towards intentional rounding. According to previous studies (Ion et al., 2015; Fagan et al., 2016; Falk et al., 2016), students are reluctant to speak up regarding negative role modelling, and seeing bad behaviour casts doubt onto their own behaviour. Guided debriefing and discussion around observed practices seen in the clinical setting would enable students to learn from their observations, gain insight into best practice

decisions, and reflect on how they might choose to conduct themselves as future registered nurses (Dreifuerst, 2015).

Literature indicates that students have a lack of confidence in their ability to care for patients safely, and integrate into the culture of nursing on placements (Levett-Jones et al., 2015). New nurses struggle with confidence, competence and feelings of inadequacy, and have difficulty managing and prioritising time, so effective preparation for and practice of intentional rounding can assist with this issue (Pascale Blakey and Jackson, 2016; Kaihlanen et al., 2018; Porter et al., 2013). This enables students to join into ward functions and feel part of the professional team, practicing competence in communication, assessment, time management, planning and other clinical skills, assisting students in preparing for the transition from student to registered nurse (Kaihlanen et al., 2018; Levett-Jones et al., 2015; Usher et al., 2015). Student learning benefits from having responsibility, being able to practice tasks with some autonomy, but also being supported as needed (Lofmark and Wikblad, 2001; Clements et al., 2016).

This study has also shed light on the effect of previous experience and exposure to perceptions surrounding intentional rounding, identifying that enrolled nurses had the most negative response to the intervention. Phillips et al. (2014) agree that previous experience and undergraduate employment influences perceptions of students and supporting staff. Questions arise however, as to why there is such a difference in perceptions of the varying types of students completing pre-registration courses, and what their individual needs and expectations are. The reason for negative perceptions of enrolled nurses may be due to workload and education issues, or there may be a potential gap in their training on the evidence surrounding this intervention (Duffield et al., 2011; Cho et al., 2015). Previous studies have reported that enrolled nurses traditionally complete more of the routine, hands-on tasks whilst RNs may take on more complex tasks (McKenna et al., 2019; Tower et al., 2015). The transition in role from enrolled nurse to student registered nurse can also be difficult, as roles, identities and learning requirements change (Phillips et al., 2014; Tower et al., 2015).

Strengths and limitations

This is the first study to explore pre-registration nursing students' perceptions regarding intentional rounding. The results provide insight into what influences perceptions, and how

students find intentional rounding beneficial to communication, patients and nursing practice. Although this is the first time the survey instrument has been tested in Australia with a nursing student population, the sample were enrolled in multiple universities across Australia, indicating that the results are likely to be generalisable to other nursing student populations within Australia. This survey was originally used in the US with Registered Nurses, and this study in Australia with student nurses showed similar results. Although the findings represent the responses of students in one specific country, the similarity of the USA and Australian findings indicates that the results may be generalisable to other developed countries with similar health care systems.

As in all research, this study has a number of limitations. The use of a non-probability sample can introduce selection bias which is a common problem with survey research (Bethlehem, 2010), as is socially desirable responding (Steenkamp et al., 2010). Numbers of completed questions reduced as the survey went on, which may indicate survey fatigue.

Although no significant differences in responses were detected between low and high responding universities, this does not mean that differences do not exist. The study also used a survey that was designed for use with Registered nurses in the USA, which may have created some confusion for students. Some negatively worded questions had a higher rate of 'unsure' responses.

4.2.5. Conclusion

Intentional rounding is perceived as a positive intervention by pre-registration nurses for enhancing communication and providing benefits to nurses and patients but positive perceptions of intentional rounding could be increased by appropriate and accessible education surrounding the theory and practice, ease of documentation and improved staff engagement within clinical placement. Skills in communication, knowledge of individual patient care requirements and team work will benefit students, so that they can effectively care for their patients and grow in their learning from their experience with intentional rounding.

Clinical implications

Involvement of pre-registration nursing students in intentional rounding is beneficial not only to patients, but also nursing staff and students themselves. Further education and collaboration with staff is needed to ensure that students are actively involved in these kinds of interventions, and they have a full understanding of requirements and evidence-base of intentional rounding. This needs to be highlighted to university educators and those facilitating pre-registration nursing students on clinical placement. The fact that those with previous EN/EEN experience had the lowest perceptions of intentional rounding and its benefits is concerning, and needs to be addressed to improve EN's engagement and understanding of intentional rounding.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Credit authorship contribution statement

Elizabeth (Liz) J. Ryan: Conceptualization, Data curation, Formal analysis, Writing – original draft.

Debra Jackson: Conceptualization, Data curation, Formal analysis, Writing – original draft.
Cindy Woods: Conceptualization, Data curation, Formal analysis, Writing – original draft.
Kim J. Usher: Conceptualization, Data curation, Formal analysis, Writing - original draft.

Declaration of competing interest

None.

Acknowledgments

The authors wish to acknowledge the designer of the NPPRS survey tool, who kindly allowed use of their tool for this research, and the academic staff from the participating universities, who assisted with the distribution of the survey to Bachelor of nursing students.

Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.nepr.2019.102691.

4.3. Chapter Conclusion

This chapter has described in detail the initial quantitative phase of the study, through the provision of the manuscript that was published on this topic. Pre-registration nurses perceived intentional rounding as a positive intervention overall, but were influenced negatively by a lack of education and preparation around intentional rounding. Their workplace and previous experience influenced their attitudes toward intentional rounding both positively and negatively depending on their level of education, and the ability for engagement with intentional rounding within the clinical placement also had an influence on their attitudes. Greater depth of discussion and understanding will be explored in the following Chapter (Five), which explains the second qualitative phase of the study. Interview questions were created as a result of analysing these responses in Chapter Four, and finding a way to further explain and understand any gaps or additional queries that were not fully answered. Additional information regarding interview questions is found in Appendix H, page 254).

Higher Degree Research Thesis by Publication

University of New England

STATEMENT OF ORIGINALITY

Chapter 4 – Phase one - Quantitative findings

We, the PHD candidate and the candidate's Principal Supervisor, certify that the following text, figures and diagrams are the candidate's original work.

Type of work	Page number/s
Manuscript	Pages 60-78

Name of Candidate: Elizabeth Jo RYAN

Name/ title of Principal Supervisor: Professor Kim USHER AM

30.5.2021

Candidate Date

30.05.2021

Principal Supervisor Date

Higher Degree Research Thesis by Publication

University of New England

STATEMENT OF AUTHOR'S CONTRIBUTION

Chapter 4 – Phase one - Quantitative findings

We, the PHD candidate and the candidate's Principal Supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the Candidate's contribution as indicated in the *Statement of Originality*.

	Author's Name	**% of contribution**
Candidate	Liz Ryan	55%
Other authors	Professor Kim Usher	15%
	Professor Debra Jackson	15%
	Dr Cindy Woods	15%

Name of Candidate: Elizabeth Jo RYAN

Name/ title of Principal Supervisor: Professor Kim USHER AM

[redacted] 30.5.2021

Candidate Date

[redacted] 30.05.2021

Principal Supervisor Date

Chapter 5. **Phase Two: Qualitative findings**

Title of Article: Intentional rounding in the context of student learning

Authors:

Liz RYAN RN, MN

Debra JACKSON AO, RN, PHD FACN

Cindy WOODS BEd, MPH, PHD

Leah EAST RN, PHD

Kim USHER AM RN, MNSt, PHD, FACMHN

Manuscript submitted to: Collegian

Status of Manuscript: Published.

Submission dates: Received: 28th January 2020. Revised 20th August 2020. Accepted: 29th September, 2020

Citation information:

Ryan, L., Jackson, D., Woods, C., East, L. & Usher, K. (2020). Intentional rounding in the context of student learning. *Collegian.* 28 (3), 289-295. https://doi.org/10.1016/j.colegn.2020.09.008

Signed:

[redacted] [redacted]

Candidate **Principal Supervisor**

5.1. Chapter preface

Chapter Five explains the second phase of the exploratory sequential mixed methods study, wherein questioning was developed and conducting in response to the data collected in the in the first quantitative phase of the study, identifying gaps or themes of interest that needed to be further explored or investigated. The interview process will be explained, and the method of data analysis and reporting on completion of the data collection will be described. This chapter again utilises a published paper, which is displayed in original format without formal formatting below.

5.2. Paper

Title

Intentional rounding in the context of student learning

5.2.1. Abstract

Problem/background

Intentional rounding or regular patient checks were introduced in to healthcare settings to enhance patient safety and satisfaction. Patient and staff experiences have been explored in the literature, however the student nurse' experience of this intervention has not been explored in the context of their learning on clinical placement.

Aim

This study aimed to explore students' experience and understanding of intentional rounding in the clinical setting.

Methods

Semi-structured interviews were conducted with 18 student nurses.

Findings

Intentional rounding has raised many learning issues for students. The study found that intentional rounding creates a framework to reflect on the nexus between attending to patient need, and the learning student nurses undertake, and creates an avenue for them to be able to operationalise quality patient care.

Discussion

Student nurses need to be part of the ward 'team' to enhance their learning. There are limitations surrounding positive role modelling, sharing of information and formal education in such interventions, which impacts students' confidence, involvement and understanding. If done effectively, participation in intentional rounding can increase students' time management skills, assessment ability, and the safety of the patient.

Conclusion

Modelling positive behaviours, and encouraging active and educated involvement in intentional rounding will enhance confidence and skill, and reduce the theory practice gap.

Keywords

Education; Nursing; Mentoring; Patient safety; Intentional rounding; Pre-registration

Summary of relevance:

Undergraduate nursing students are our future workforce involved in patient safety initiatives.

Problem:

Little is known about nursing students' understanding and experience of intentional rounding on clinical placement.

What is already known:

The benefits and barriers to intentional rounding has been explored from the perspective of nursing staff and patients. Nursing students however have not been asked about their

experience and understandings of intentional rounding during clinical placements.
What this Paper Adds:

There are benefits to learning when students are able to engage in intentional rounding. Factors influencing engagement include education, role modelling and facilitation.

5.2.2. Introduction:

Clinical placement, part of all undergraduate nursing course requirements, enables the student to put learning into practice and work as part of a nursing team. Assisting with patient safety interventions such as intentional rounding, ensuring that patients are seen on a regular basis, and that the patient's needs have been met (Forde-Johnstone, 2014), is a reasonable expectation of student nurses. Intentional rounding is an intervention utilised internationally (The Studer Group, 2007), introduced into clinical practice as a result of missed care opportunities in an effort to ensure additional precautionary interaction measures are undertaken by nursing staff (Francis & Mid Staffordshire NHS Foundation Trust, 2013). It involves a prompting tick box form using acronyms (for example – pain, positioning, potty (toileting) and possessions) to ensure care needs are met (Ryan et al., 2018).

Although responses to intentional rounding, its benefits and barriers have been explored within the literature from perspectives of patients, organisation and nursing staff, a recent review of the literature (Ryan et al., 2018) found no evidence related to nursing students' experiences of intentional rounding. Subsequently, this paper is one of two papers that report the findings of a large study exploring students' perspectives. The first paper presented the findings from a quantitative survey (Ryan et al., 2020). This current paper presents further insight into student nurses' experiences and understanding of intentional rounding through qualitative interviews.

5.2.3. Methods:

Eighteen semi-structured interviews were conducted from July- August 2018 by the primary author. Open-ended questions were derived from responses to the quantitative survey of the study to gain further understanding of the issues identified.

Ethics:

Ethics approval for this study was obtained from the relevant Human Research Ethics Committees (HE17-100; H-20189-0099). Participants were contacted who had indicated further interest in being interviewed within completion of a previous online survey, and were provided an information sheet outlining the study and its requirements. Consent was obtained prior to interview, and participants could withdraw at any time.

Participants:

Participants were pre-registration nursing students enrolled in five Australian universities, who had attended at least one clinical placement as part of their undergraduate program. Ninety-seven participants initially stated that they were willing to be interviewed, but not all responded to the follow up communication. Data analysis concluded after eighteen interviews with agreeing participants, as data saturation was achieved.

Data collection:

Data were collected through semi-structured interviews. Participants (n=18) were interviewed via phone (n=15), or in person (n=3). All interviews were digitally audio recorded, and transcribed verbatim. Transcriptions were checked against recordings to ensure accuracy. Face to face interviews were conducted in an office in a neutral location with the interviewer and participant only present. Interviews were 20-75 minutes in duration, with a mean of 39 minutes. Data saturation was deemed to have been reached when similar content/themes were heard and no new ideas revealed.

Data analysis:

Data analysis was conducted through reading and re-reading of transcribed data using constant comparison then clustering data into themes and subthemes, based on the thematic analysis framework of Braun and Clarke (2013). Using this six-step approach of

familiarising with the data, generating initial codes, searching for themes, reviewing, subsequently defining the themes and then writing up, commonly occurring themes were assigned from the transcribed data, and a thematic map naming themes was developed, and themes further reported (Braun & Clarke, 2013). Two authors undertook initial coding and theme identification (LR and DJ). This was undertaken initially separately, then these initial results were shared with the larger research team. During this meeting, the team reflected on the data and the two analyses and through the team meeting, further analytical synthesis occurred to produce the final themes.

5.2.4. Findings:

Findings were analysed using thematic analysis, and sub-themes reported and described (Figure 4-1). There were some discordance in the findings, consistent with previous literature discussing staff views (Ryan et al., 2018), in that participating students thought of intentional rounding as one aspect of the 'mundane' tasks' they were required to undertake and this was also reflected in participating students impressions that some staff nurses' viewed intentional rounding as simply a token gesture of the quality and safety checks required for their patients, evidenced by students witnessing nurses' simply ticking off a checklist at the end of shift, indicting the checks had been done. However, participant students also were able to articulate the value of intentional rounding to them as students because participating in intentional rounding gave them more confidence in the clinical environment because of the routinised nature of intentional rounding. Each theme is discussed individually in more depth below.

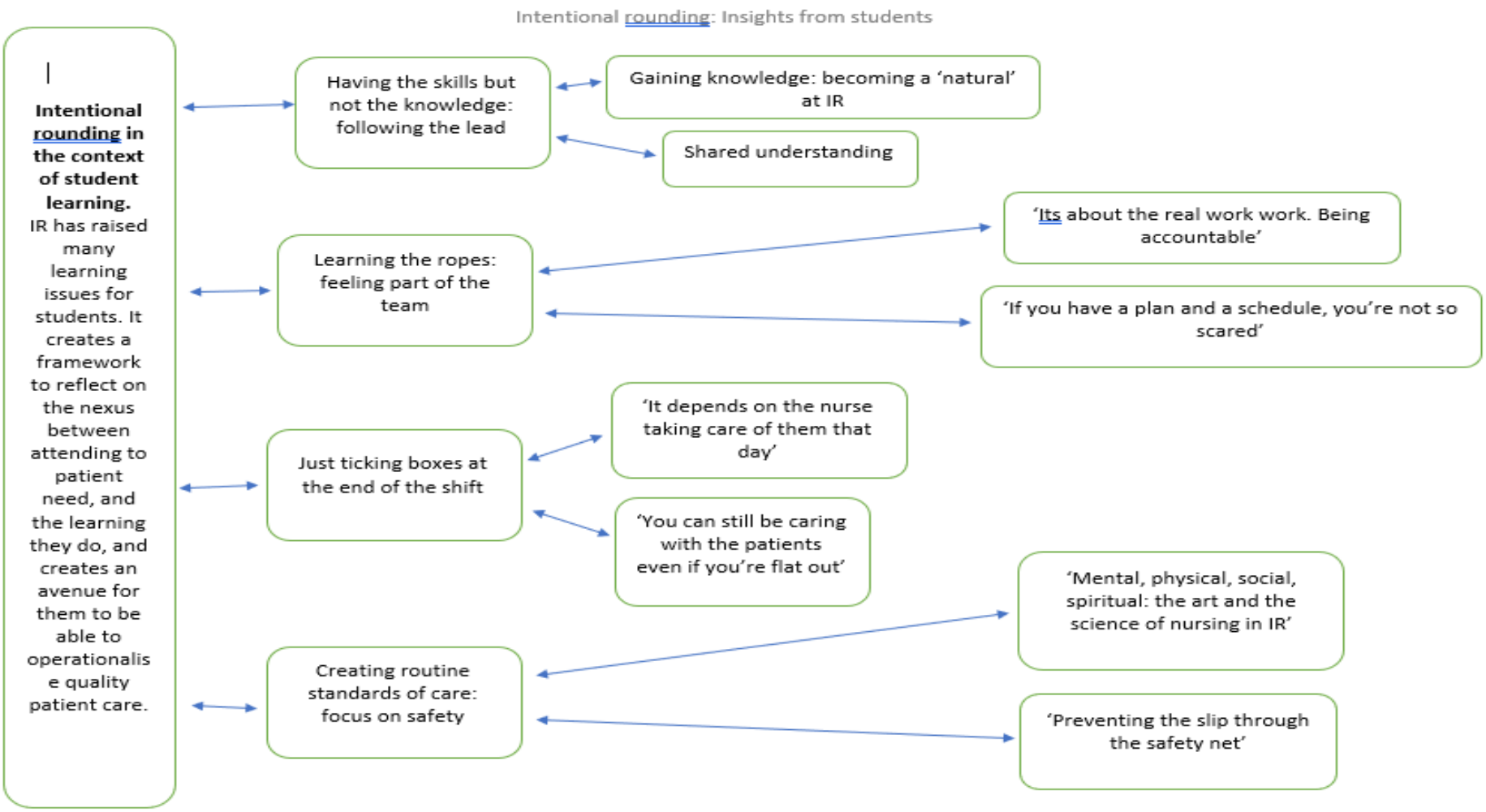


Figure 4-1 Intentional rounding: insights from students.

Having the skills but not the knowledge

While participants had beginning education and skills around activities such as comfort measures, positioning patients and offering fluids, they did not have the knowledge to understand the meaning of intentional rounding in relation to providing an opportunity to assess and authentically engage patients. Participants reported that they had learnt the physical skills required to be able to conduct intentional rounding; however, with further exploration they lacked understanding of the importance of the concept and why it was necessary, instead framing intentional rounding as nothing more than a series of '*mundane'* tasks.

I've heard other students say, like, oh, why are we doing this? This is a silly sort of thing… like, mundane tasks…. (P5).

Participants recognised intentional rounding as a task rather than seeing the need for higher order thinking to integrate the information that had been sourced. Thus, many saw it superficially – as a set series of independent tasks - rather than a more holistic strategy for framing an encounter to engage and assess a patient and provide care to meet their individual needs. Because of this they struggled to see the relevance or the importance of intentional rounding.

'*It was just sort of something that was sort of thrown at you …, 'You just need to do this' sort of thing'* (P6).

As indicated in Figure 4-1, this theme of having the skills but not the knowledge comprises of two subthemes: (1) *gaining knowledge: learning on the job*, and (2) *wanting to know more*.

Gaining knowledge: Learning on the job

Students described learning about intentional rounding predominately within clinical settings rather than university, where participants indicated it was not addressed. Students recognised the value of learning on the job, but also

expressed wanting to have more knowledge about intentional rounding prior to commencing placement, through their academic teaching. As a result, the knowledge level they held about intentional rounding including its rationale, was considered insufficient, resulting in participants' feeling poorly prepared.

'It would be sort of good if we got a little bit more training in uni before we go out, or just go over it in one of our tutes, to say, "Okay, this is what an hourly rounding sheet is. This is what it's for" so by the time we do go out on placement we know what to expect" (P11).

Participants indicated their learning occurred through observing and replicating behaviours seen in the clinical setting. Statements such as '*I mostly just observed her* [clinical nurse] *practice and that was it'* (P10), were common throughout the interviews. This way of learning meant that while participants observed that intentional rounding was accepted and practiced within clinical settings and needed to be incorporated into their clinical working days, they did not necessarily have the opportunity to question or discuss the ideas underpinning the concept of intentional rounding, therefore they were delivering care without fully understanding why. Reflecting on experience, one participant commented, *'no, she didn't really provide like education. I mostly just observed her practice and learnt from that'* (P10).

In the absence of full understanding, student engagement with the intentional rounding process was dependent on a number of factors, including staff and ward dynamics. Their lack of exposure to education around intentional rounding meant that participants had considerable uncertainty: *'Still I don't have complete knowledge of this intentional rounding because we don't have this content in our course... I just see in the clinical practice and that's it and I haven't used it now so I'm not sure it is 100% right. I don't think I got the full knowledge and skills to do the intentional rounding… I'm still in (the) learning phase…'* (P3).

Participants had varied experiences including some where they benefitted from nurses who made the effort to ensure students understood the responsibilities, with one participant commenting *I had some really good buddy nurses, who*

were very thorough in making sure that I understood … the responsibilities that came with the rounding (P16). However, others expressed: *I mean, no one was talking about it where I went. I mean even at uni, no one's talking about it. I think it could be improved a thousand percent. If it was presented and taught, if you know what I mean* (P13*).*

As alluded to in the aforementioned narrative, some participants faced difficulties in the clinical environment, because they felt that intentional rounding and its rationale was assumed knowledge, with clinical staff holding the assumption that they had been provided with relevant education through university.

(Staff)… sort of assumed that you knew. And also, depending on who you're with depends on whether or not they show you the paperwork part as well and what they do. (p6)

Wanting to know more

Participants reported that while they learned most about intentional rounding on clinical placement, not all staff mentioned it on placement or did not bother to share information about intentional rounding with them. Generally, participants saw benefits in intentional rounding, but were disheartened by their lack of knowledge and wanted to know more. They expressed confusion about why they hadn't been better prepared for this aspect of clinical practice.

'I think it's great like that to be organised like that, but I think, like I said, it doesn't come natural. It's only come natural to me now after, when I can see I'm like… I wish they could have taught me these other things … why couldn't they like, [ask] *do you understand?' (P4)*

While participants considered clinical staff to be sources of knowledge:

'I think I did [understand] *but I had some pretty good nurses. I know a lot of my friends say that they didn't really understand, like they understood why it was*

*important but they didn't, they were just kind of, given the paperwork, and just told to do it. So, it really depends on your nursing preceptors and the environment' (*P16), they also perceived that not all clinical staff were necessarily interested or able to teach, with one participant commenting *'Look, some RN's are great teachers, and others, it's just not their skill'* (P18). As a result of the varied opportunities for teaching and learning, students were not always involved, and there was no shared understanding of expectations or reasoning surrounding intentional rounding. However, because participants wanted to know more about an activity that took up a large amount of clinical time, they actively sought out information from a range of sources. Once they had ascertained that staff were unable or unwilling to provide the necessary information, they looked further afield: *'So the staff can't explain further, so I just Google it but it's like, it makes it hard a bit to understand…'* (P7).

Learning the ropes: feeling part of the patient care team

Participation in intentional rounding practices provided opportunity for students to gain confidence, skills and a greater understanding of their role through active membership in the clinical nursing team. Students saw the value of intentional rounding to patients, and performing intentional rounding contributed to feelings of being a useful team member. Participants felt they were afforded a greater skillset, understanding and surety in their ability if given the opportunity to be involved and accountable for intentional rounding.

Feeling useful, and feeling they made an authentic and important contribution to patient care through their intentional rounding activities was identified as being important to participants, contributing positively to their clinical experience, *'Yes, I feel like you need to be treated like you're a part of the team…it really does change the aspect of the placement…' (*P1*)*.

This theme is represented through two subthemes, (1) *it's about the real world, being accountable*, and (2) *if you have a plan and a schedule you're not so scared*.

'It's about the real work world. Being accountable'

Clinical learning is an important aspect of learning for undergraduate nurses and these participants revealed their desire to fully engage, learning as much as possible during clinical placements. For example:

*'Well we're going to be in the workforce sooner or later, I think we should be doing everything, including documentation, taking all aspects of nursing care including down to things like intentional rounding should be part of the student nurse's role' (*P15*).*

For students to be engaged and learn, they need to be exposed under guidance to all aspects of nursing care, and adequately prepared for the task. Students engaged in intentional rounding expressed feeling as if they were doing 'real' nursing work; they were able to be effective and useful by attending to care involved in intentional rounding, then completing the associated documentation.

*'It really helps with planning your shift, just planning your next hour, and your cares. You don't miss anything' (*P9*).*

Participants indicated that this gave them structure within each shift, and confidence in knowing that they could meaningfully contribute both to the care of patients, and the workload of the nursing team.

'If you have a plan and a schedule you're not so scared' (P4)

Students expressed feeling more confident with intentional rounding, as they could use intentional rounding to plan, be prompted to patient's care requirements, and gain greater familiarity and understanding of their patients.

*'I feel like... by doing rounding... can assist with that… get to know the patients a bit better, get to know how to develop more trust with the clients... and get to effectively work in the team… I feel like it is important to do.... It also develops a confidence as well…'(*P1*).*

Participating in intentional rounding contributed to participants' sense of confidence and autonomy in the clinical environment, evident throughout the narratives.

*'I felt more confident, I felt more like a nurse rather than just me… just being a shadow to my buddy nurse… I felt like I'm part of the team' (*P4*).*

Students could actively plan their day and feel more organised and in control. Through intentional rounding, participants were able to develop schedules and plans for the shift and foster their organisational skills.

'I think it was great [intentional rounding]*, because I had a plan… it was a set plan, and so I knew exactly what to do… I think that helped a lot. Just being more organised, definitely'* (P4*).*

They found the checklist prompts to be beneficial in covering all necessary assessment components in a timely manner. One participant explained additional knowledge as power, and intentional rounding as '*the hidden skill'* that assists them in the organisation and subsequent unfolding of their day (P14). With students conducting these regular assessments, they were armed with a greater amount of knowledge about their patients, and then could feel a greater sense of authority.

'Just ticking it off at the end of the shift' (P13)

Through their clinical placement experiences, current intentional rounding practices were shared with participants. Students observed role-modelled positive and negative behaviours related to intentional rounding. Variability in the quality of the documentation depended on the nurse they were working with. The documenting of intentional rounding was revealed as contentious - '*It's another piece of paper that we have to fill out just to say that we're doing our job'* (P6). Participants reported variances in documentation with some occurring once a shift, *'I never saw anything filled out hourly. I only saw it filled out at the end of the* shift' (P13).

Role modelled behaviour was seen to be important and influential to participants, shaping their views. Participants reported situations where reporting of intentional rounding was seen as onerous and just a tick-the-box exercise with comments such as '*Oh you just need to tick this, this and this, and put this down'* (P6) and '*some nurses that I've had… they were just… yeah, just tick it off' (P16)* common throughout the data.

This theme comprises two subthemes: (1) *it depends on the nurse taking care of them that day,* and (2) *you can still be caring with the patients when you're flat out.*

'It depends on the nurse taking care of them that day' (P1).

Inconsistencies in care were noted by participants between wards and nursing staff. Participants observed a perceived lack of care and interaction with patients, although intentional rounding logs were completed at the end of the day. '*At no time was it ever discussed. The first time I ever saw it was on the paperwork at the end of the shift and the girls that I was sitting with just ticked it off that they'd done it every hour'* (P13).

Some wards formalised intentional rounding, whilst others did not. This impacted on the students' own engagement in intentional rounding.

'*Whereas some nurses will go – no, no, no, you don't have enough time to do that. Just go and do your documentation! Just do your paperwork! It's more important than going to check on them [patients]'* (P4).

Inconsistencies were observed both in the documentation that was completed, and the related interactions with patients. Between each ward variances were found, confusing students. *'You'd go on different wards and different wards had different perspectives about it. So it's not consistent' (P14).*

For example, some wards had formal documentation, their own individual rounding tools, formal education and support, and others had no formal rounding

practices, and little emphasis on the practice. This created contradictions, resulting in participants not seeing the importance of intentional rounding, as practice was so different between wards and facilities.

'*I guess you kind of follow the lead, when you're a student. You do what is the norm of the facility you're at'* (P17). It was apparent to participants that some staff did not effectively engage with intentional rounding, and negativity from staff was noted. *'they [nurses] always said, 'oh yeah, you're meant to be checking this much but it's not practical'* (P4).

'You can still be caring with the patients even if you're flat out' (P13)

Intentional rounding afforded students the opportunity to recognise care provision. Intentional rounding was seen as a positive contribution to patient care, despite the obstacles surrounding getting this done amongst conflicting time constraints.

'If I feel like my patients are happy and comfortable then I feel satisfied, so that would enhance just ensuring that everything was well, and I would feel like I'd done a better job' (P10).

Given the sense participants had of the importance of intentional rounding to patients, they generally felt intentional rounding was a good use of time with one participant noting that *'it doesn't take very long' (*P9*).* The practicalities of hourly intentional rounding however, were perceived to be difficult in a busy ward, and participants felt fellow nurses at times expressed unrealistic expectations; '*I think nurses are always time poor'* (P18). Effective time management, prioritisation of care, and individualising intentional rounding to different ward and patient requirements were suggested improvements from participants.

Creating routine standards of care: focus on safety

The routine of intentional rounding assisted participants in being able to establish positive habits in patient safety, ensuring that patients were checked and assessed regularly, and organising their time as part of contributing to the

safety of the ward. '*I can see positively the benefits and the purposes of how you can achieve best possible outcomes for a patient that way'* (P14).

Some participants were clearly able to articulate the benefits of intentional rounding in keeping focused on patients and contributing to a safer and more engaged clinical environment.

'*I think we all become a bit task oriented, and we forget to focus on our patients, so I think it's really important to reinforce that, you know, to go and do your observations every hour and actually check in'* (P10).

This theme consists of two subthemes. These are (1) *mental, physical, social, spiritual: the art and the science of nursing in intentional rounding* and (2) **'***preventing the slip through the safety net'.* These are discussed in detail below.

Mental, physical, social, spiritual: the art and the science of nursing in intentional rounding

Intentional rounding encompasses underpinning knowledge of pathophysiology, observation, assessment and general patient care, as well as communication, empathy, comfort and engagement. '… *it's an all-rounder really!... communication skills… you can observe things, like their resps, the colour of their skin, you can smell things... you have to be an all-rounder, I think… visualise, touch, talk*…' (P13).

Participants had considerable variability in age and experience. Some participants demonstrated beginning understanding of the significance of intentional rounding in the wider context of holistic care, and were able to link the connections between all of these components. These participants predominately mentioned previous experience or training in the health field and were more mature in age than others who could not articulate the connections as clearly. '*…Cos you're building on your skills all the time. You're monitoring, assessing, tracking. I mean, that's one of the strengths of a nurse, of a nurse who's working day after day looking after the same patient, you're tracking. So*

you're learning how to track really, and observe for change, and so you can see it when it happens' (P18).

'Preventing the slip through the safety net' (P16)

Intentional rounding is seen as an effective pre-emptive and proactive care strategy that can prevent harm to patients and enhance safety culture. '*I think you need, like a basic understanding of patient needs, sort of thing, and a basic understanding of safety. So, I think you definitely need the skills to be able to identify risks and safety hazards and stuff, and obviously if somebody's not well, you need to be able to have the skills to determine if somebody needs like immediate help or something like that'* (P 5).

Participants perceived that patient safety was enhanced through intentional rounding, facilitating monitoring for deterioration and care needs, creating improved general wellbeing and a better work environment for nurses. Some participants recognised the value of intentional rounding to patient safety *'You know, I'm thinking it could save a lot of lives. They've buried a lot of people over the years, haven't they, with their mistakes'* (P 13). Participants also expressed that intentional rounding provides an effective guide for students in knowing what they need to do and when, giving them more security in their ability to complete their required work and provide safe care to patients, '*By the time we get to… be a RN is should be more automatic or it should be more ingrained* (P13).

5.2.5. Discussion:

Nursing students are taught many skills, processes and interventions within their undergraduate degree, but it takes time to transition from knowing the skillset requirements and fully understanding and implementing these requirements utilising clinical judgment, holistic care and higher-level assessment skills. It has been shown in this study that students have a desire to recognise what they are doing and why, but are not provided sufficient information to have a comprehensive understanding. As a result, students feel underprepared. Student nurses want to participate, sense the importance of the task, yet through the

limited education provided, negative role-modelling and reluctance to share information, do not always get a true sense of intentional rounding in a holistic way. Not only is intentional rounding in place to ensure safety and that important aspects of clinical care are undertaken, it is a means to ensure that the patient has regular personal contact and engagement with staff, providing opportunity to build relationships and well-being.

Findings highlight the continued discord between theory and practice, and a lack of understanding of the basic concepts behind intentional rounding from both staff and students. Sufficient preliminary education with a strong theoretical underpinning about interventions such as intentional rounding should be provided through undergraduate education to promote knowledge translation and the application of theoretical knowledge to practice. Greenway, Butt and Walthall (2019) discuss three primary reasons for a theory-practice gap - practice not reflecting theory, theory not perceived as relevant to practice, or relational issues/ discord between universities and clinical practice. All need to be considered in this instance.

The bridging of the theory practice gap can be supported by positive mentorship/preceptorship (Jokelainen et.al., 2011), reflective practice and practical experience combining theoretical knowledge (Hatvelik, 2011). Appropriate staff that have time to assist with the facilitation of further learning for students is important for students' experience. Yet staffing issues are recognised as a contributing factor to missed care, and also the appropriate teaching of students within the workplace (Ball et al. 2018).

This research emphasised that for students to be actively involved in practices such as intentional rounding, they need to feel part of a team within the workplace. This complements the work of Materne, Henderson and Eaton (2017) who proport the importance of social inclusion and assimilation into the ward environment. Students feel more engaged and in control when they are given a task such as intentional rounding, providing them accountability and

organisation practice. A sense of belonging is also linked to increased accountability in learning and empowerment for students, which can be achieved through their participation in intentional rounding (Perry, Henderson & Grealish, 2018; Levett-Jones & Lathlean, 2008).

Students have an expectation that nurses they are buddied with on clinical placement have knowledge and are happy to share it, but this does not always occur (Anderson, Moxham & Broadbent (2018). Jokelainen et.al. (2011) concur that a positive relationship involving sharing of expertise between ward mentors and students does not always naturally arise, thus influencing the learning and overall experience for the student. The role of the registered nurse within clinical placement is integral to students' learning. However, it is reported that nurses with additional education on how to formally precept had greater success in assisting nursing students (O'Brien et.al., 2014). Ion et.al. (2015) found students are often likely to follow the lead of those around them rather than questioning practices, in order to stay under the radar in a move toward the end goal of passing the placement and gaining registration. The observation of missed or substandard care impacts on the student nurse negatively however, and they are more likely to imitate these behaviours (Bagnasco et al, 2017), evident by the results of this study, where participants stated that their actions depended on who they were buddied with and what the ward environment was like. By providing a welcoming and accommodating atmosphere, the student experience can be enhanced and learning increased (Doyle et.al., 2017). Sundler et.al (2013) state that continuity of the mentor/ preceptor is a positive factor in students' experience.

5.2.6. Conclusion:

This study has highlighted the lack of intentional rounding education occurring in university undergraduate nursing courses, putting students at a disadvantage in terms of knowledge, skills and preparedness for clinical practice. To compensate for the lack of education, student's role-model the staff they work with on clinical placement which has implications if staff hold negative perceptions about intentional rounding, or negative practices in documentation.

It is imperative that university undergraduate nursing courses incorporate education about intentional rounding to ensure that the nursing workforce of the future is fully prepared in terms of both the understanding and skills required to provide best practice in patient safety.

5.3. Chapter Conclusion

The previous chapter (Chapter Four) described the results from the quantitative phase of the study, wherein the survey tool was used, and responses gained were analysed using statistical means. This chapter (Chapter Five) described the results from the following qualitative phase, where interviews were used to collect data and thematic analysis conducted to derive themes and sub-themes.

The feeling of inadequate preparedness for clinical placement was highlighted, in addition to the disconnect between academic and clinical learning in relation to intentional rounding. Students found the practice of intentional rounding beneficial to themselves; increasing their confidence and assisting with organisation skills. Intentional rounding participation and observation also highlighted to students the patient safety benefits, and variances in practice between individual staff, wards and facilities.

The next chapter (Chapter Six) integrates the results of both the quantitative and qualitative findings to formulate overarching themes of the data. The chapter also describes how the mixing of methods has occurred throughout this study.

Higher Degree Research Thesis by Publication

University of New England

STATEMENT OF ORIGINALITY

Chapter 5 – Phase Two - Qualitative findings

We, the PHD candidate and the candidate's Principal Supervisor, certify that the following text, figures and diagrams are the candidate's original work.

Type of work	Page number/s
Manuscript	Pages 82-100

Name of Candidate: Elizabeth Jo RYAN

Name/ title of Principal Supervisor: Professor Kim USHER AM

[redacted] 30.5.2021

Candidate Date

[redacted] 30.5.2021

Principal Supervisor Date

Higher Degree Research Thesis by Publication

University of New England

STATEMENT OF AUTHOR'S CONTRIBUTION

Chapter 5 – Phase one - Qualitative findings

We, the PHD candidate and the candidate's Principal Supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the Candidate's contribution as indicated in the *Statement of Originality*.

	Author's Name	**% of contribution**
Candidate	Liz Ryan	60%
Other authors	Professor Kim Usher	10%
	Professor Debra Jackson	10%
	Dr Cindy Woods	10%
	Associate Professor Leah East	10%

Name of Candidate: Elizabeth Jo RYAN

Name/ title of Principal Supervisor: Professor Kim USHER AM

[redacted] 30.5.2021

Candidate Date

[redacted] 30.05.2021

Principal Supervisor Date

Chapter 6. **Mixed methods synthesis**

Title of Article: Mixed Methods Study Integration: nursing student experiences and opinions of intentional rounding

Authors:

Liz RYAN RN, MN

Debra JACKSON AO, RN, PHD FACN

Leah EAST RN, PHD

Cindy WOODS BEd, MPH, PHD

Kim USHER AM RN, MNSt, PHD, FACMHN

Manuscript submitted to: Journal of Advanced Nursing

Status of Manuscript: Under review

Submission dates: Sent 1st March, 2021

Citation information:

Ryan, L., Jackson, D., East, L., Woods, C. & Usher, K. (2021). Mixed methods study integration: nursing student experiences and opinions of intentional rounding. *Journal of Advanced Nursing*. Under review.

Signed:

[redacted] [redacted]

Candidate **Principal Supervisor**

6.1. Chapter preface

The previous two chapters have provided the results of the quantitative and qualitative phases of the study. This chapter provides a summary of how the mixing of methods were used within all aspects of this study, and how the data from both phases was integrated to produce final overarching themes of the study in its entirety. This chapter again utilises a published manuscript to display this process and what the concluding analysis produced.

6.2. Paper

Mixed Methods Study Integration: nursing student experiences and opinions of intentional rounding.

6.2.1. Abstract

Aims:

To explore pre-registration nursing students' understandings and experience of intentional rounding within education and clinical sectors. Intentional rounding is a patient safety intervention used in clinical settings to regularly check and document patients' welfare and environment throughout the course of a shift.

Design:

An explanatory sequential mixed methods design using convenience sampling was utilised for this study, with an underlying pragmatic paradigm. Integration occurred in the design, methods, implementation and reporting phases of the study.

Methods: Data were collected between August 2017 and August 2018 using a previously validated Nursing Perceptions of Patient Rounding quantitative

online survey followed by individual qualitative interviews using the same cohort.

Results:

Using the Pillar Integration Process, this paper displays and discusses the final results. The integration and mixing throughout the study generated insights into the perceived benefits of intentional rounding for nursing students and patients, but also indicated a theory-practice gap that affects nursing students' confidence in undertaking this intervention.

Conclusion:

Students find this patient safety intervention helpful, although further clarity in the education surrounding intentional rounding is required.

Impact:

- **What problem did the study address?** Pre-registration nursing students' understanding and perceptions of intentional rounding
- **What were the main findings?** Intentional rounding benefits nursing students as a patient safety strategy and organisation tool. Educational opportunities around the topic could be enhanced, reducing the ongoing theory practice gap.
- **Where and on whom will the research have impact?** Clinicians, academics and educators who support pre-registration nursing students in clinical and tertiary education settings.

Key words: nurse education, nursing students, quality of care, nurse-patient interaction, mixed methods design, nurses/midwives/nursing, curriculum planning, clinical placements, acute care

Main paper

6.2.2. Introduction

Intentional rounding

Intentional rounding within the clinical setting is a patient safety intervention where patients are regularly checked to ensure that all of their needs are met, and adverse events and injury are prevented (Ryan et al., 2018; Usher et al., 2017). Intentional rounding was first investigated around 2006, and its use increased in response to the Francis inquiry that identified patient care failures. It has since been implemented in various forms within many countries including the United Kingdom, the United States of America and Australia (Francis, 2013; The Studor Group, 2007; Ryan et al., 2018). Hourly or 2nd hourly checking is conducted by nursing staff of all educational levels including students, and all care episodes are documented. Acronyms and tick box forms are frequently used as prompts for staff. This study aimed to explore the experience and understanding of pre-registration nursing students around intentional rounding within their clinical placements, using a mixed method design, methodology and reporting system, as the student voice has not been previously explored. This is the third findings paper from this study. Previously published papers have presented the quantitative (Ryan et al., 2020a) and qualitative findings (Ryan et al., 2020b). In this paper the final integration of results is reported.

Background

Recent literature reviews on intentional rounding found that patient safety outcomes, the patient, staff and organisation perspectives had been explored, yet the perspectives of pre-registration nursing students were unknown, and not mentioned (Ryan et al., 2018; Sims et al., 2018; Christiansen et al., 2018). In addition, current research has explored patient and staff perspectives of intentional rounding using single designs only (Ryan et al., 2018). Considering pre-registration nursing students are frequently undertaking and/or observing

intentional rounding within the clinical setting, it was important that as the nursing workforce of the future, their experiences and understanding were explored in-depth. A pre-determined sequential explanatory mixed methodological approach was chosen as mixed methods studies offer the opportunity to collect, analyse and integrate the findings of multiple research designs in order to provide greater depth of understanding. The underlying chosen paradigm was that of pragmatism, and both qualitative and quantitative data collection were equal in importance (Creswell & Plano Clark, 2018).

THE STUDY

Aims

The overarching research question for this mixed methods study was: What is the experience and understanding of pre-registration nursing students in regard to intentional rounding?

In order to answer this question, the objectives were as follows:

- To measure pre-registration students' attitudes to intentional rounding and their understanding of its purpose;
- To explore the relationship between attitudes and participant characteristics such as previous experience;
- To explore and describe pre-registration nursing students' exposure to and experience of intentional rounding within their clinical placements;
- To determine these students' perceived benefits or disadvantages, barriers or enablers to performing intentional rounding, along with any suggested improvements to intentional rounding;
- To determine the contextual factors influencing effective student engagement in intentional patient rounding;
- To determine the approaches to education on intentional rounding students had experienced.

Knowledge of the experience and understanding of pre-registration nursing students in relation to safety interventions such as intentional rounding can be used to improve practice for students in the future, in turn benefitting the patient, clinical staff and healthcare organisations. Improvements can be made through understanding the needs of the student, the expectations of all parties, and the gaps in providing the necessary support and education required when using patient safety interventions such as intentional rounding. The majority of these objective results will be discussed in this paper; the remainder having been discussed in previous papers. This paper also discusses the methodology that was utilised, incorporating the Pillar Integration Process and mixing data and analysis throughout the study.

Design

The mixing of methods in this research

Mixed method **design** integration

Mixed methods study designs are used more and more within health research (Fetters, Curry & Creswell, 2013). The synthesis of data occurs on a number of levels, including design. This study utilised an explanatory sequential design, where the second qualitative phase of the study is informed by and further explains the initial quantitative phase (Creswell & Plano Clark, 2018). Other forms of mixed methods design include exploratory sequential designs where quantitative follows the qualitative phase, or convergent designs, where data is collected concurrently rather than sequentially (Fetters, Curry & Creswell, 2013). In this instance, quantitative data collection used a previously developed survey tool (Neville, De Bona & Mahler, 2016) with some demographic questions added. The results of this survey were then used to build and guide the questioning within qualitative interviews, so that unanswered queries could be explored.

Mixed **methodology**

Integration also occurred within the methodology of the study, through connecting data collection and analysis using the sampling frame. This was chosen at the commencement of the study, using a quant + qual approach, where both phases were of equal importance. Within both phases of the study, the same participants were utilised. Doing so meant that further explanation could be gleaned from the same source, enhancing knowledge of students' understanding and experiences of intentional rounding. Methodological building was also used; the initial quantitative phase provided a guide to construct the questioning and data collection of the subsequent qualitative phase (Fetters, Curry & Creswell, 2013).

Mixed method **reporting**

Integration of the data likewise happened in the reporting phases of the study. In the first phase of the study, the survey contained predominately quantitative questioning. There were also some open-ended questions. The data from all collection methods were analysed and reported collectively by the same team members (Ryan et al., 2020). At the completion of all data collection and analysis, data from the quantitative and qualitative phases were systematically integrated (Figure 5-1) and visually presented in a joint display using a Pillar Integration Process (PIP) approach (Table 6-1). This process is further described in the final integration section to follow.

Sample/Participants

Using a convenience sampling method, participants were sourced from a number of universities. All participants were pre-registration nursing students, and had attended at least one clinical placement. Those that participated in the qualitative interviews were sourced from original participants in the online survey. Sample size analysis was undertaken using analysis of variance, and the desired sample size for phase one was 305. 424 valid responses were received for phase one, and 18 students were interviewed in phase two.

Data collection

Quantitative data collection

To identify pre-registration nursing students' experience and understanding of intentional rounding, a previously developed and validated questionnaire was used. The Nurses' Perceptions of Patient Rounding Scale [NPPRS] had been used to explore the perceptions of employed nurses. Though never used in a student cohort, it was deemed an appropriate scale for such exploration (Neville et al., 2012; Neville et al., 2016). The NPPRS developer was contacted, and permission was granted to use the scale without modifications. A small demographics section (n=6) was added to the beginning, while the 42-point Likert scale type questionnaire (NPPRS) remained unchanged. The NPPRS was piloted on a small cohort (n=53) of undergraduate nursing students at their final stages of study at one university with no modifications required. An information sheet and link to the survey was then provided to six universities for distribution after Head of Nursing or delegate approval. The survey was then circulated to nursing students via a staff member at each university. Overall, 533 responses were collected through SurveyMonkey from August 2017 to July 2018.

Qualitative data collection

Based on the quantitative data that were collected and assessed in the initial phase, additional open-ended questions were formulated to be used as prompt questions within the following one-on-one semi-structured interviews. Interview participants were recruited from those who had completed the survey, and indicated that they were willing to be contacted for an interview. In this way methodological building and mixing occurred. Eighteen interviews were conducted by the primary researcher, either face-to-face or by telephone during July and August of 2018. Interviews lasted between 20 and 75 minutes. There was no difference in data gathering and information gathered between telephone and face-to-face collection.

Ethical considerations

Ethics approval was applied for and granted by the primary university (conforming to recognised standards) prior to distribution of the initial survey, and included further interviewing if participants agreed (HE17-100; H-20189-0099). Principles of informed consent, confidentiality, no deception or harm were maintained. Participants were able to withdraw at any time, and were provided links to counselling should participation raise any issues for them.

Validity and reliability/ Rigour

Quantitative data collection utilised a previously validated survey tool. Internal consistency was checked using Cronbach's alpha, with appropriate reliability, and the survey was pre-tested with a small cohort prior to distribution. Data analysis used a reputable and appropriate computer program (Ryan et al., 2020a).

Qualitative data transcription was checked for reliability against recordings, and similar responses were found across all interviews, from various universities. Thematic analysis was conducted by a number of researchers reaching intercoder agreement (Ryan et al., 2020b).

6.2.3. Results/findings

Data analysis/ initial results

<u>Quantitative data analysis/ initial results</u>

Survey questions were predominately quantitative using a Likert Scale format (n=42) although did contain some open-ended qualitative queries (n=3), again using a mix of methods to gain understanding. Quantitative data were analysed using SPSS v24, and a number of tests were conducted and reported. Qualitative results such as suggested barriers and improvements to intentional rounding were examined using content analysis. Qualitative data were then synthesised with the quantitative data. The discussion highlighted perceived discrepancies in the practice and education associated with intentional rounding. Pre-

registration nursing students however found the intervention beneficial overall in building their confidence, communication and organisation skills, as well as improving their patients' safety and comfort (Ryan et al., 2020a). Previous experience was also explored to see if that had any influence on student perceptions and understanding of intentional rounding. Enrolled nurses had the least favourable opinions of intentional rounding, and graduate entry registered nurses appeared most positive (Ryan et al., 2020a).

Qualitative data analysis/ initial results

Qualitative interviews were audio recorded and transcribed verbatim and data were manually thematically analysed using a 6-step framework, and cross-checked with other research team members (Braun & Clarke 2013). Four major themes each with two subthemes were extrapolated from this qualitative data. In the first theme, participants expressed inadequate education and understanding in the concepts and rationale underpinning intentional rounding. Participants felt ill prepared to conduct intentional rounding independently, as they did not have sufficient information to prepare for, engage in and fully understand the intervention. The second theme was the advantage in being an active participant in intentional rounding, and how this assisted participants' in feeling more organised, confident, and an integral part of the patient care team. The third theme surrounded inconsistencies found in role modelled behaviours from clinicians observed undertaking intentional rounding and completing the related documentation. The final theme identified in the qualitative analysis was understanding the importance and value of intentional rounding from a patient safety and wellbeing perspective, as a vital preventive measure (Ryan et al., 2020b).

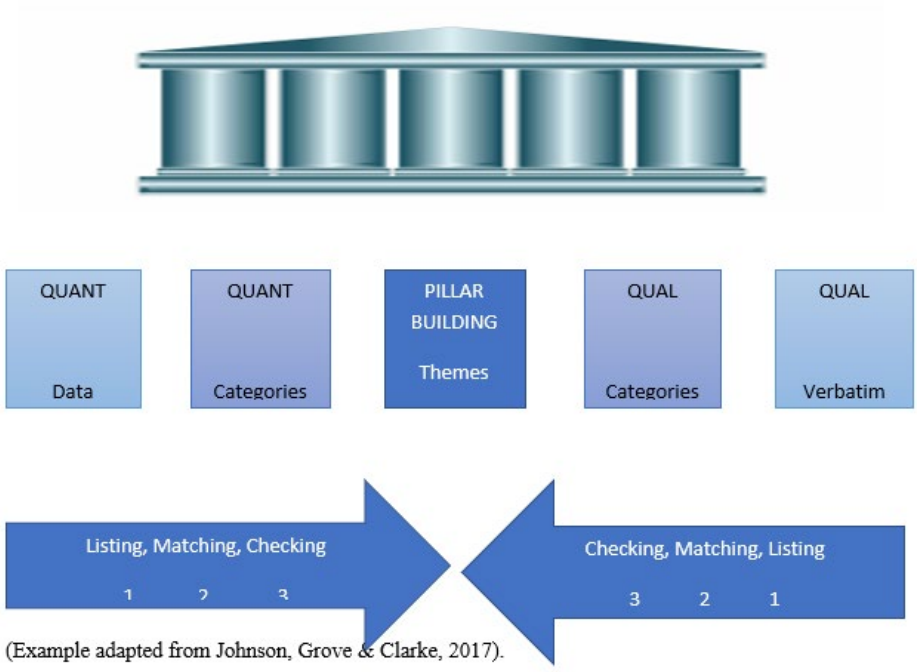
Mixed methods analysis/ results

The final analysis of all collected data was conducted using the Pillar Integration Process to display results, described below. The collective themes were melded to find overarching themes between all sections of the data. Themes included

addressing the sources of education and understanding key concepts within nursing, the enhancement of learning experiences, and patient safety and provision of quality care.

Integration of all results

Figure 2 1 Representation of Pillar Integration Process



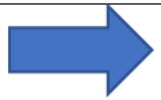
(Example adapted from Johnson, Grove & Clarke, 2017).

Once data from both quantitative and qualitative collection had been analysed, all results were mixed and synthesised to comprehensively attain an overview of the pre-registration nursing student' perspectives, understanding and experience of intentional rounding. Quantitative and qualitative data were mixed to create an overview, displaying matching themes from both data collection results using a Pillar Integration Process (Johnson, Grove & Clark, 2017). This involves a four-step progression (Figure 5-1), working from outside to inside on the figure shown. Quantitative data is first listed in codes (column or pillar 1), then matched or put into categories or themes (column/pillar 2). The data from the qualitative collection was then also listed (column/pillar 5) and matched to respective qualitative categories through thematic analysis (column/pillar 4). All

data were then again checked again and reviewed by multiple authors to ensure that the themes/ matching was correct and complete, with any gaps identified. Lastly, the internal ‘pillar’ or central supporting theme was then formed through comparing and contrasting data and categories from each collection method, forming overarching themes or inferences from the collective results (column/pillar 3). The Pillar Integration Process was used as a guide as well as providing a visual depiction of the mixing of data, and a beginning from which to provide constructive narrative around central themes uncovered within the research (Johnson, Grove & Clarke, 2017).

Results of final synthesis

Table 6-1 Pillar Integration Process

PILLAR INTEGRATION PROCESS				
				
PILLAR 1: QUANTITATIVE DATA	PILLAR 2: QUANT CATEGORIES	PILLAR 3: PILLAR BUILDING: CENTRAL THEMES	PILLAR 4: QUAL CATEGORIES	PILLAR 5: QUALITATIVE DATA VERBATIM
Demographics:				*I feel like it is something you develop…. I feel like I learnt IR kind of from TAFE I feel…. (P1).*

	N (%)				
Mean Age	26 years	Vast array of experience. Previous experience impacts on perceptions of IR	**The source of education and understanding of key concepts within nursing**	Previous experience more beneficial.	*(influencers) Past experience and the education or training that we are supposed to (have been) provided… (P3).*
Gender				95% of participants in phase 2 had previous experience	*I learned about it from work, so my manager sort of informed us why we have to do it and what the need for it was because she basically explained in some facility somewhere… she said something like somebody fell or something and nobody checked them for so long…. And, year I think the need from that came then to, we have to check them every hour or whatever… (P5).*
Male	45 (10.7)				
Female	374 (89.3)			Much of the learning came from the workplace rather than the university.	*Well because I'm an EN I knew a little bit about intentional rounding, but I actually only learnt that through a well-practiced RN….*
Previous experience in nursing:		Previous RN qualifications were the most positive, then AIN, with EEN the lowest.		Not seen as important to university than workplace.	*As an EN on the ward, not necessarily as part of my Diploma (P10)*
None	166 (39.2)				

Registered nurse (RN) 46 (10.8) Enrolled nurse/ Endorsed enrolled nurse (EN/EEN) 72 (17.0) Assistant in Nursing/ Personal Care Assistant (AIN/PCA) 114 (26.9) Other 26 (6.1) **Number of placements attended** 1 122 (28.8)			Learning theories paramount (Adult, experiential, mentorship, role modelling). Learning through observation, role modelling and mentorship	*Well I work in a Palliative care unit so we have a casual RN there who's semi-retired and she was a NUM and so I pretty much learnt off her the intentional rounding kind of thing… I feel like it might be an older practice and not so much performed or encouraged these days… (P10)* *When I did my EENs, that's when I first learnt about it, when I went out on my first placement and then I sort of forgot it existed until I came back here to finish off my nursing degree (P11).*

2	60 (14.2)				
3	74 (17.5)				
4	68 (16.1)				
5+	99 (23.4)				
IR part of clinical placement (71%) Delegated to students (61%) Understood IR (74%) Education mainly from clinical placement (69%) Sufficient education (50%) Beneficial to students (79%)		Education deficit but is a task delegated to students. Education mostly covered in clinical placements not at university	**Sources of education and understanding of key care concepts within nursing**	Given the skills to conduct IR, not provided the background knowledge Wanting more information	*I was a bit disappointed to get that information so late in the course, because it's vital information that we should know from the start* (P13). *It would be better for the student as well if we got knowledge and skill regarding the intentional rounding before we go for the placement* (p3) *And common sense also came in with the fact that you go and talk to your patient and ask them how they're feeling, and you don't have to be trained to do that* (P9).

No significant difference in number of placements and perceptions			Theory practice gap	*.. it's kind of difficult to, like you can say it all in theory, but when you put it into practice its very different, kind of, I found…* (P16) *No, it didn't come up. It was mentioned maybe once, but it was never really defined.* (P18.
Perspective and understanding of IR: Positive to patients and staff generally (M=143.90) and in all subscales Time management benefits (79%) Patient related (58%) Safety practices (58%) Checking (44%) Obs/meds (13%)	Beneficial for students to be a part of, patient safety benefits understood.	**The enhancement of learning experiences**	IR assisted with planning the day, ensuring patient interactions, and checking patients to ensure safety.	*I think it is positive, and I think it is required…. It ensures that everything's done* (P1). *We will get some ideas how to think critically and divide our work by prioritising. So, I think it makes our work easier… (P3).* *It's almost like... creating the pattern first, making sure that that pattern is well-grounded, and… it organises your day…I think time management is very important (P4).* *I think if you're asking that patient every time you do a round, is there anything you need, I'll be back in an hour or however long., I think that will minimise the amount that they might buzz to ask for something else. But if you let them know, I'll be back around this time they might realise, oh yeah, I'll ask that question then… (P4).*

Communication: I am comfortable saying I don't know (M=4.23) Bedside communication is necessary (m=4.23) Use of appropriate body language (m=4.21) Comfortable making eye contact (m=4.20)	Communication capabilities and understanding improved with IR	**The enhancement of learning experiences** **Patient safety and the provision of quality care**	IR a rapport building opportunity, and a time to practice communication with patients	*I think it definitely improves communication. It's a change for the families to ask if there's any questions… (P6).* *You can actually, like, have a rapport with them…you get to know them well and then they will feel comfy telling you what's really happening to them (P7).* *I think it's probably the patient's main episode of contact with the nurse... when we're doing some cares, we are getting a task done. With rounding, the task is to talk to the patient, so I think they do appreciate having that opportunity, knowing that someone's coming back and checking on them regularly, and someone wants to come back and do that…when you have a nurse who comes and talks to you regularly you can build a kind of rapport with them, and you'd me more comfortable talking to them , asking questions, making requests than with a nurse who you saw occasionally through your shift (P9).* *Definitely people want to be heard and talked to, especially when you go to hospital…(P12)* *Sometimes communication is all that is needed to give them a bit of reassurance... they're going to feel valued... (P13).*

Nurse benefits of IR: Can see changes in patient condition (m=4.08) Can get to know patients better (4.04) Helps with planning (m=3.96) A constructive use of time (m=3.91)	IR deemed important for patient monitoring and time management	**The enhancement of learning experiences**	Benefit to nursing care, gaining further organisational skill	*I don't see it as more work. I sometimes think that it can take your workload away because you've got an organisation to what you're doing* (P14).
Patient benefits of IR: Improves nursing care (M=4.10) More visible presence (M=4.01) Increased safety (M=3.91) Less anxiety (M=3.86)	Benefits to patient care	**Patient safety and the provision of quality care**	Benefits to patient care	*I can see the benefits, so I can get in and see how my patients are going, and my patients are reassured that I come and talk to them. It's a way to remind myself of what things need doing, because when I'm rounding, I'm checking their charts, I'm checking their observations, and I can get an idea of what I need to do for them. So, it's very useful, and I do pick up on things, and patients get the opportunity to ask how's their care going, or they can have some water, or some more pain relief... (P9).*

Qualitative responses: Definition of IR: Positive to patients and staff generally (M=143.90) and in all subscales time management benefits (79%) Patient (58%) Safety practices (58%) Checking (44%) Obs/meds (13%)	Deemed positive Basic understanding of concepts Safety, checking	**Patient safety and the provision of quality care**	Benefits to patient care and safety	*If it (IR teaching) is continued you'd have a lot more nurses starting to implement it in their hospitals… so better patient care can be conducted…. Creating a more safer environment for clients….* (P1)

Barriers influencing IR: Acuity of patients (36%) Staffing/ workload (21%) Emergencies (21%) Communication difficulties (16%) Patient demands (16%) Hygiene/ toileting (5%) Patients not wanting to be disturbed (6%) Scope of practice as student (4%)	Barriers to providing quality care exist, mentally and physically	**Patient safety and the provision of quality care** **Patient safety and the provision of quality care** **The enhancement of learning experiences**	Difficult at times with the workload expectations Prioritising care, multitasking Not always feeling supported	*More staffing of course is always needed but I feel… also clients need to be assessed on their care… so not giving one poor nurse all of some morbidly obese patient that all require to go to the bathroom or need a bedpan…. (*P1). *I guess it all just come down to ratios of nurses and patients, maybe, like if you're overloaded working they just feel like there's not enough time in the day for me to even do my documentation and do my medications and my obs, and there's no way ill have enough time to be checking on them'* (P4). *(There were) all sorts of questions, and stuff from the patients, constantly interrupted, and I just thought, oh man, you've got to juggle with like a dozen balls in the air, and be able to prioritise, in a moment, as to which one to , let fall, or try and keep up, sort of thing… there's stuff happening all the time, and it's a multitude of people trying to conduct work, or get their answers, trying to progress something. … real emotions, and real needs, and real health issues that can turn on a dime…* (P18) *People say they'll look after you, they'll do all sorts of things, and it just never happens unless you keep, you know, badgering them (P14).*

Suggestions for improvement: Education (26%) Increased flexibility (16%) Time management (15%) Documentation (13%) Patient involvement (13%) Staffing levels (12%) Teamwork (12%) More structure (8%)	Theory practice gap Education plays a huge part Gaining additional skills Patient safety	**Sources of education and understanding of key care concepts within nursing** **The enhancement of learning experiences** **Patient safety and the provision of quality care**	Documentation and role modelling can be negative or positive	*I think just more education. Yep. I think if people understand why they're doing it, then, they might be a little bit more, compliant with doing it. Some people are just – oh, another form. Nursing's all about forms these days, and I'm like – well, it's there for a reason, it's there to protect you, as well as the patient. (P17)*

By combining and analysing all collected data in this manner, three principal themes or pillars were identified, integrating all results of the study. The first theme: **The source of education and understanding of key concepts within nursing** showed that the source of education, and understanding of key concepts within nursing were vital components of the pre-registration nurses' experience with intentional rounding. Students needed sufficient understanding, gained from both the university sector and the clinical placement setting to competently conduct intentional rounding. These sources of information were not always congruent in their delivery, and thus created confusion for the participants, decreasing confidence in their ability. The majority of the participants interviewed reported that they garnered more information about intentional rounding from their workplace than from the university sector. Others that were not afforded this opportunity felt that they would have appreciated more education prior to clinical placements.

The second theme: **The enhancement of learning experiences** focused on the enhancement of learning experiences for participants. The practise of intentional rounding became for the most part a positive learning experience, and therefore valuable to students. Being involved in direct patient care made clinical placements more beneficial for the students and patients. An additional advantage to participating in intentional rounding was that pre-registration nursing students had the opportunity to build on their independence, communication and time management skills, and had greater rapport with patients, thus creating a safer environment.

Patient safety and the provision of quality care was the final central theme or pillar. By being actively engaged in intentional rounding, students grew to understand the underpinning rationale. They felt part of the wider team providing quality care for patients. Through observation and role modelling (both positive and negative) participants were able to recognise quality care and determine the type of care they would like to provide as registered nurses.

DISCUSSION

By using multiple approaches of data collection, and integrating data at every stage of this mixed methods research, the ability for pre-registration nursing students to gain functional knowledge, skills, confidence and comprehension of aspects of nursing care delivery and patient safety interventions from education integrated from a variety of sources has been highlighted. The theory-practice gap identified frequently within nursing remains, and education providers must work with clinical sectors to ensure that this gap is reduced (Scully, 2011). Pre-registration nursing students do not always have adequate confidence or understanding when dealing with patient safety issues (Fagan, Parker & Jackson, 2016). There also appears a disconnection between the expectations and the reality of pre-registration nursing students' patient safety knowledge (Levett-Jones et al., 2020; Usher et al., 2017; Hanson et al., 2020). The students themselves recognised gaps in their own understanding of patient safety (Usher et al. 2017; Hanson et al., 2020), expressing concern that harm could be caused by their insufficient knowledge of patient safety strategies (Ewertsson et al., 2017; Levett-Jones et al, 2020; Ryan et al., 2020). For this reason, it is vital to support and adequately educate our pre-registration nursing students so that these gaps in understanding do not occur in the future. This theory practice gap puts patient safety at risk, and may be reduced by greater communication and collaboration between facilities, competency-based education, and better orientation at commencement of clinical placements (Huston et al.,2017).

Integration of a patient safety focus and related education must be strengthened through incorporating strategies such as intentional rounding into the nursing curricula, ensuring that this learning is embedded within both the classroom and clinical settings (Usher et al., 2017). This study has confirmed that it is paramount that pre-registration nursing students are adequately prepared for the reality of clinical placement, and have the knowledge and skills to undertake interventions appropriate to their stage of studies (Ford et al., 2016). Patient safety strategies such as intentional rounding appear to be assumed knowledge

when on clinical placement, and are at the same time undervalued within curriculum teaching. Intentional rounding practices are in many ways the essence of nursing – ensuring quality care, communicating and creating rapport with patients, and utilising clinical judgement.

Both clinical and academic providers must support pre-registration nursing students in their learning and understanding of patient safety issues. By providing current and collegial education around current practice in the patient safety realm, this enhances both the theoretical and practical learning of intentional rounding and patient safety – an essential aspect of care (Tanriverdi et al., 2017). As a result, the experience for the pre-registration nursing student can be more positive, facilitating greater awareness, consideration, confidence and subsequent involvement in patient safety strategies, reducing the theory-practice gap.

Pre-registration nursing students gain understanding through experiential learning and role modelled behaviours, and must be provided the opportunity to practice and learn themselves through linking concepts discussed at university with real-world practice in the clinical setting, and vice versa. It is important to promote andragogical learning principles for pre-registration nursing students, understanding that these students bring with them a vast array of experience, and learn when they feel the need to understand, and aim to work toward self-efficacy (Knowles, Holton & Swanson, 2015). Social and contextual factors also come into play when learning in the context of the clinical placement setting (Taylor & Hamdy, 2013). Pre-registration nursing students must be able to participate in common patient safety practices such as intentional rounding. This experience assists them in learning not only about intentional rounding, but so much more, such as communication skills, time management, prioritisation of care, delegation, and assessment techniques. This creates and builds increased confidence in their ability to provide holistic and safe care in the clinical environment.

Limitations

This study utilised students from a small number of universities. There were not as many participants from metropolitan areas, and the research was based in New South Wales. There may have been further diversity of results if the participant cohort were expanded. Most participants came from the researchers' primary university, and this may have skewed responses.

CONCLUSION

This mixed methods study has provided the ability to answer the research aim - pre-registration nursing students' experience and understanding of intentional rounding - in greater depth. It is vital that nursing students are provided sufficient information on patient safety interventions such as intentional rounding in order to fully understand. The student learning experience and understanding can be enhanced through increasing opportunities for learning through clinical experience and context. In this manner the learning need is understood, the relevant skills provided, and the confidence built so pre-registration students can undertake these interventions, build on their skills and provide quality, safe care to all patients. Students can then understand the need for patient safety and quality care provision.

Conflict of Interest statement

The authors state no conflict of interest in this study.

6.3. Chapter Conclusion

This chapter provided an explanation of the integration and synthesis of data within all phases of the study process. The analysis and integration of all collected quantitative and qualitative data, both previously discussed in Chapter Four and Five (pages 59 and 81), were completed within this chapter, outlining the overarching themes found after exploring the attitudes and experiences of pre-registration nursing students associated with intentional rounding.

Final analysis showed the importance of student education surrounding interventions such as intentional rounding, how participating in intentional rounding enhanced student learning within the clinical setting, and how patient safety and being able to provide quality care was emphasised through the practice of intentional rounding. The themes – sources of education, how learning experiences can be enhanced, and patient safety and quality care provision - highlight again the importance and intertwining of learning theories within the clinical setting, and how these can guide supporting pre-registration nursing students and those who support them.

The next chapter (Chapter Seven) will provide a discussion and concluding comments from the study relative to student learning. The chapter also puts forward key recommendations as a result of this study particularly for the education and clinical setting in relation to intentional rounding, and the learning theories and other supports for learning that are used. Chapter Seven includes an editorial around student learning of patient safety issues and interventions such as intentional rounding.

Higher Degree Research Thesis by Publication

University of New England

STATEMENT OF ORIGINALITY

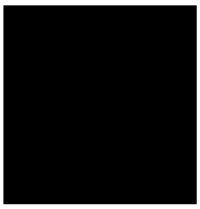
Chapter 6 – Mixed Methods Synthesis

We, the PHD candidate and the candidate's Principal Supervisor, certify that the following text, figures and diagrams are the candidate's original work.

Type of work	Page number/s
Manuscript	Pages 104-128

Name of Candidate: Elizabeth Jo RYAN

Name/ title of Principal Supervisor: Professor Kim USHER AM



30.5.2021

Candidate Date

30.05.2021

Principal Supervisor Date

Higher Degree Research Thesis by Publication

University of New England

STATEMENT OF AUTHOR'S CONTRIBUTION

Chapter 6 – Mixed Methods Synthesis

We, the PHD candidate and the candidate's Principal Supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the Candidate's contribution as indicated in the *Statement of Originality*.

	Author's Name	**% of contribution**
Candidate	Liz Ryan	60%
Other authors	Professor Kim Usher	10%
	Professor Debra Jackson	10%
	Dr Cindy Woods	10%
	Associate Professor Leah East	10%

Name of Candidate: Elizabeth Jo RYAN

Name/ title of Principal Supervisor: Professor Kim USHER AM

Candidate [redacted] Date 30.5.2021

[redacted] 30.05.2021

Principal Supervisor Date

Chapter 7. Learning in the context of intentional rounding

Title of Article: Preregistration nursing students' provision of safe care – are we leaving too much to chance?

Authors:

Liz RYAN RN, MN

Debra JACKSON AO, RN, PHD FACN

Leah EAST RN, PHD

Cindy WOODS BEd, MPH, PHD

Kim USHER AM RN, MNSt, PHD, FACMHN

Manuscript submitted to: *Journal of Clinical Nursing*

Status of Manuscript: Published

Submission dates: Sent to JCN 7th August 2020; Accepted 8th August 2020.

Citation information:

Ryan, L., Jackson, D., Woods, C., East, L & Usher, K. (2020). Preregistration nursing students' provision of safe care – are we leaving too much to chance? *Journal of Clinical Nursing*. 2020. DOI: 10.1111/jocn.15494

Signed:

Candidate

Principal Supervisor

7.1. Chapter preface

The previous chapter (Chapter Six) combined the findings from the synthesis of the qualitative and quantitative sections of the study. The education and learning around intentional rounding were highlighted as a contributing factor to the efficacy of intentional rounding from a student perspective. There were episodes where such education was missed, and the theory practice gap upheld. Thus, further discussion is warranted around how these students learn about such interventions, and how we can prevent students from missing key education concepts in nursing such as patient safety. This chapter includes a published editorial highlighting the current and ongoing need to provide teaching moments and support to students in the context of patient safety, and goes on to discuss the links to andragogy, social and experiential learning theories that are important for preparation and learning in this area.

7.2. Paper

Title

Preregistration nursing students' provision of safe care - are we leaving too much to chance?

Body

The COVID-19 pandemic has reinforced the centrality and importance of fundamental and core nursing skills including everyday skills such as handwashing, infection control measures, patient safety and comfort measures (Alzyood, Jackson, Aveyard & Brooke, 2020; Cruickshank & Shaban, 2020). Since the beginning of the pandemic there have been concerns about the spread of COVID-19 in hospitals, aged care facilities and primary care settings, and infection rates among health workers, as well as the possibility that health workers have contributed to the spread of the infection in some settings (Davidson & Szanton, 2020; Jackson et al., 2020). These factors lead us to critically consider how and where students learn the crucial fundamental skills that are necessary to ensure patient safety in order to keep themselves safe from

infection and to prevent the spread of the infection to others as they deliver nursing care. Though patient safety interventions and infection control measures may be taught within education settings, there may be little opportunity for practice and consolidation of skills in the on-campus setting, and these may be left for students to practice while learning within the clinical setting.

We argue that the theory practice gap in nursing education, initially noted decades ago (Armstrong, 1974) is still evident today, particularly in relation to pre-registration nursing students' roles in patient safety interventions, and fundamental skills such as handwashing and other infection control strategies, such as safe donning, doffing and disposal of personal protective equipment (PPE). We argue that the expectations of fundamental skills from the perspective of pre-registration nursing students, education providers and healthcare facilities remain incongruent, and urgent action is required to ensure the future safety of patients, and the safety of health service personnel. To overcome this divergence, we argue that greater preparation, education and involvement pre-registration of nurses in fundamental care activities that promote safety must occur, and consistencies in communication and quality education for nursing students must be demonstrably increased. Achieving this will require commitment from key stakeholders across healthcare and education sectors.

The need to promote safety for all in healthcare environments is the responsibility of all involved in patient care including preregistration nursing students who undertake clinical placements in healthcare facilities or work in an undergraduate capacity within healthcare settings. Preregistration nursing students are required to regularly participate in clinical placements as part of their preparatory education, where they are expected to consolidate theory- and skill-based learning in a "real world" context. As part of this experience, preregistration nursing students are engaged with the workplace team culture and dynamics, can observe role modelled patient safety behaviours and strategies (including infection control practices), and practice skills they have been taught with guidance, supervision and support. Students expect clinical

staff to be knowledgeable and prepared to provide support, leadership and instruction in the clinical learning environment (Bos et al., 2015). Nursing students additionally expect that they will have the opportunity to engage in and gain experience with safety interventions and care delivery within their current scope of practice (Cooper et al., 2015).

Conversely, clinicians facilitating and mentoring preregistration nursing students likewise expect that students have the necessary education, knowledge and skills prior to commencing placement or work in a particular healthcare environment. There are also expectations from the education sector as to what preregistration nursing students will learn and experience while on clinical placement. However, in reality, little is known about what and how students are formally taught about fundamental issues such as patient safety and infection control measures, vital in these current times. It is not clear how often or how frequently skills such as handwashing and donning and disposing of PPE are covered in formal educational settings, even though all students need to be competent in these areas ahead of any clinical practice experience. Cox et al. (2014) note a separation in the learning expectations of education facilities and clinical practice and found that many new nurses lacked the skills and knowledge required to maintain adequate infection control. Riksaasen Hatlevik (2011) also discussed the lack of coherence between theoretical and practical knowledge for preregistration nursing students and the ongoing theory–practice gap. The education sector, responsible for the education and preparation of preregistration nursing students' learning, and the health sector, which provides clinically based learning experiences and future employment, have differing priorities, concerns and agendas. As a result, expectations and understanding of the student experience between both sectors may differ, and thus, students' transfer of knowledge between the different sectors becomes challenging (Ewertsson et al., 2017). Where there is a disconnect, it has an impact on all aspects of care, including patient safety.

The disconnect between expectation and reality of preregistration nursing students' knowledge of patient safety has been highlighted in a number of recent studies (Levett-Jones et al., 2020; Usher et al., 2017) that have shown

preregistration nursing students lacked confidence recognising and responding to patient safety issues, and recognised gaps in their own understandings of patient safety (Usher et al., 2017). Students reported they had insufficient knowledge of patient safety strategies to ensure quality care and expressed concern that their lack of knowledge may cause patient harm (Ewertsson et al.,2017; Levett-Jones et al., 2020; Ryan et al., 2020). The concerns associated with lack of knowledge, the readiness to effectively practice and the theory–practice gap continue beyond the preregistration period, with similar patient safety concerns reported by newly graduated nurses (Cox et al., 2014; Murray et al., 2017). Prior to registration, many students gain employment as care workers in aged care facilities and other healthcare settings, and (during the pandemic) in tertiary facilities to compliment the registered nurse workforce (Hayter & Jackson, 2020). Thus, it is imperative that these students gain the skills necessary to provide safe care and reduce the spread of infection.

A number of patient safety strategies are currently in place to increase care quality and patient satisfaction, and to reduce episodes of missed care. One such strategy, particularly in tertiary settings, is intentional rounding which encompasses regular formal checks on every patient and engagement with patients to meet their care needs. It is important that preregistration nursing students are adequately prepared for the reality of clinical placement and have the knowledge and skills to undertake interventions appropriate to their stage of study (Ford et al., 2016). Intentional rounding practices in many ways captures the essence of skilled nursing—anticipating patient needs, ensuring quality care, effective communication, creating rapport with patients, preventing cross-contamination between patients or residents and utilising clinical judgement. Through performing intentional rounding, students are afforded opportunities to practice many of the fundamental skills needed for effective nursing.

Utilised across multiple countries including the United Kingdom, the United States of America and Australia, intentional rounding has demonstrated improved patient safety outcomes by reducing falls, pressure injuries and patient

anxiety, and has additional benefits to staff including time management and knowledge of patient condition (Ryan et al., 2018). Given the implementation of this strategy across these countries, it is likely that nursing students will encounter this intervention during their clinical placements. To be effective, nurses undertaking intentional rounding need to draw on and bring together a range of fundamental nursing skills. However, we have recently found that intentional rounding is not always specifically taught in nursing curricula, and students are frequently unfamiliar with the pre-emptive constituent knowledge required to implement intentional rounding in the practice setting (Ryan et al., 2020). The fundamental theoretical and practical skills required for safety interventions such as intentional rounding is not consistently reinforced in the clinical setting either, leaving students feeling ill-equipped for participating in such interventions (Ryan et al., 2020).

If we are to heed the warning of those highlighting gaps in student knowledge about patient safety, there is a need to integrate a more safety-focused approach to nursing curricula through incorporating the constituent knowledge for safety intervention strategies such as intentional rounding. It is essential that opportunities to introduce and reinforce this learning are embedded within educational and clinical placement experiences (Usher et al., 2017). Tella et al. (2014) argued that multiple teaching methods are required to ensure nursing students understand patient safety practices and the underpinning rationale, to support the learning that occurs during the actual performance of these activities.

Cruickshank and Shaban (2020) have encouraged us as health professionals to reflect on the lessons to be learned from the COVID-19 pandemic. We argue that currently, too much about essential care education is being left to chance, with the education sector providing little input on many fundamental safe care strategies, assuming that these will be taught, reinforced and consolidated for students during clinical placement experiences. Sometimes that teaching and learning may occur while students are engaged in practice learning, but equally, it may not. What we are learning from this pandemic is that central skills such as handwashing, strategies to reduce the risk of carrying infection from one person to another, and skills associated with the donning and disposal of PPE,

are too important to be left to chance. These crucial fundamental skills require targeted, regular and focused educational activities to reinforce learning and better ensure safety for all.

7.3. Discussion

Intentional rounding is a key patient safety intervention within many hospital settings, and is utilised to ensure that adequate and appropriate patient care and assessments are carried out in a timely manner. This study highlighted the depth and importance of pre-registration nursing knowledge and education required for students to participate in and appreciate the value of intentional rounding, where this education might stem from, and how effective it is. Different opinions, knowledge and levels of understanding was found between those students that had been previously exposed to concepts of intentional rounding in their workplace as enrolled or assistant nurses, and those whose only experience was undergraduate university study and clinical placement.

The key nursing concept of patient safety was assumed knowledge by both academic and clinical staff, and there was insufficient emphasis placed on the teaching and learning of intentional rounding. Most knowledge of intentional rounding was sourced through previous experience, common sense, or missed completely. Students felt that the assumption of prior understanding left them at times lacking in skill and feeling ill prepared, which in turn impacted on their confidence and ability to participate in intentional rounding. Participants in the study expressed the desire for more education around intentional rounding prior to placements, and a greater connection between university and clinical teaching. This study indicated a need to ensure that students receive sufficient learning and understanding of intentional rounding through thoughtful and effective teaching and learning activities. Adequate preparation is vital to ensure students can approach clinical learning opportunities with knowledge of intentional rounding and the confidence to successfully participate in this intervention.

It is vital that sound teaching and learning in the area of patient safety interventions occurs from the university, as well as within the clinical setting. This is required to ensure that students are workplace ready, and that any self-reported confidence in their ability is justified, particularly with younger students (Woods et al., 2015). Literature suggests that this can be achieved at university through simulation activities, greater interaction, and smaller class sizes (Woods et al., 2015). Nursing students within this study suggested more education and emphasis on intentional rounding within curricula was needed. Confirming the extent of individual student knowledge with facilitators and mentors at the commencement of clinical placements was important, so that expectations of clinical skills and learning goals were transparent. Boxer and Kluge (2000) highlight the importance of teaching fundamental clinical skills, including patient assessment – vital for safe intentional rounding practice – within undergraduate nursing programs. Visual assessments and other core patient safety skills incorporating patient diversity – for example pressure injury evaluation for patients with different skin tones, or assessment and communication with patients of varying ages, in different settings- must be learned throughout course programs and practiced on clinical placement for nursing students to gain competence, critical judgment and understanding, and ensure adequate patient safety (Cooke, Greenway & Shutz, 2021; Oozageer Gunowa et al., 2020; Usher et al., 2018; Rabada, Hayajneh & Ahmed, 2021). At times this has been found to be 'seriously lacking', and as a result there is a perceived lack of preparation, misconceptions and misunderstanding among nursing students (Cooke, Greenway & Shutz, 2021). Foundational patient safety knowledge can be missed within nursing curricula and clinical placements (Levett-Jones et al. 2020).

Newly graduated nursing students have reported feeling ill prepared, incompetent and unable to organise or adequately manage nursing care requirements, and as a result patient safety can be compromised (Usher et al. 2017; Willman, Bjuresater & Nilsson, 2020). Through participating in interventions such as intentional rounding, students are able to address and learn a number of key nursing concepts such as time management, prioritisation,

assessment, and patient safety skills, which are vital to their competence and safe practice as beginning registered nurses (Willman, Bjuresater & Nilsson, 2020). How and why students learn these skills, and how learning can be enhanced through role modelling of behaviours and understanding of relevant learning theory is discussed in the following section/s.

7.3.1. Learning theories – how do we help nursing students learn?

Returning to the principles of andragogy, as first mentioned in Chapter One (page 1), it was found through the course of this study the influencing relationship between the principles of andragogy and the learning that is obtained within the context of patient safety interventions such as intentional rounding. Table 7-1 (page 143) depicts how this study found the relationships between previous experience and nursing students' learning needs, the influence of role modelled behaviours on learning, and the way that learning is built on foundational knowledge. The scaffolding of knowledge and experiences creates increasing confidence in completing tasks with practice and added exposure, as students participate in these tasks as part of a team on clinical placement. The table (7-1, page 141) displays an overview of the principles of andragogy in relation to intentional rounding.

Table 7-1 Principles of andragogy in intentional rounding

Andragogy principle	Learning with intentional rounding
1.Adults need to know why they need to learn something before learning it;	Student nurses needed to know that patient safety interventions such as intentional rounding exist, and that they would likely be active participants. Nursing students needed to understand the reasoning behind intentional rounding. If these students did not understand, they were unlikely to take it up fully and utilise it as it should be - as a patient assessment, comfort and safety mechanism. A seeming lack of understanding was also observed by students through negative role modelling, where clinical nurses did not always complete tasks correctly, such as completing documentation in a timely manner.
2.The self-concept of adults is heavily dependent upon a move toward self-direction;	Students generally wanted to learn and be involved in task completion at their own pace. Students are responsible for their own self-efficacy, decisions, engagement and actions. In completing intentional rounding interventions, students found more confidence in their ability, grew more competent in their time management and decisions, and felt greater control over the situations that they were in.
3.The experiences of the learner provide a rich resource for learning;	Many pre-registration nursing students brought with them a vast array of existing knowledge and experience, and this influenced their perceptions and learning needs, which was explored in this study. Many students expressed learning about intentional rounding not from the university but rather from previous work experience in the clinical setting. Intentional rounding was not something that was highlighted for student nurses in either academic or clinical settings, instead formal teaching on the intervention was provided as employees of a health facility.
4.Adults typically become ready to learn when they experience a need to cope with a life situation or perform a task;	Students had to be ready and equipped to learn within the situational context of clinical placement; if they were not adequately prepared this did not occur, and they lacked confidence in their ability. Initial feelings of inadequacy and being ill prepared was highlighted by student nurses, followed by a subsequent increase in confidence once actively participating in interventions such as intentional rounding within their clinical placement.

5.Adults' orientation to learning is life-centred; education is a process of developing increased competency levels to achieve their full potential;	Students can learn in real life situations, and role modelling and reinforcement of learning can occur at this stage. If there is a theory practice gap however, the links between what is taught and what is reality are incongruent and understanding limited to a surface level. Learning must be useful to the individual in the context of their situation. Within the study, students expressed the wish to have more education and preparation around being able to conduct intentional rounding in order to feel competent.
6.The motivation for adult learners is internal rather than external. (Knowles, Holton & Swanson, 2015, p.88).	Internal motivators such as successfully passing the clinical placement, integrating into the workforce that students are positioned in for placement, and gaining further rapport with patients may all be a motivator for conducting intentional rounding practices. Intentional rounding also provided organisational and planning benefits as well, resulting in pre-registration nursing students feeling more in control.

Table 7-1 displays how the principles of andragogy were utilised by pre-registration nursing students in the study when confronted with intentional rounding practices. It offers insight into how learning occurred for these independent adults, and what considerations must be factored in when supporting these students in their learning of intentional rounding.

Utilising andragogy as a learning theory on its own however does not take into consideration the context and social environment in which the learning is taking place. When intentional rounding is conducted, the social aspect of the ward and team environment greatly influences learning, and as such is vital to be considered when addressing learning theories. Both social and experiential learning theories play a role in understanding the learning process for pre-registration nursing students involved in intentional rounding (Taylor & Hamdy, 2013).

Within the context of clinical placement, influencing factors such as positive or negative role modelling of behaviours, engagement within the team

environment, and the self-efficacy of the pre-registration nursing student occur. Social learning theory supports the notion that role modelled behaviours are observed and such observation influences the future actions of the observers (Bandura, 1977; Donaldson & Carter, 2005). Students learn from role modelled behaviour through the four stages of social learning theory: attention, retention, reproduction and motivation (Horsburgh & Ippolito, 2018).

Through intentional rounding, students paid *attention* to what was happening around them in the clinical setting – participants observed intentional rounding practices (both good and bad), but were not always actively involved. Students were able to learn more by being active within the intervention. *Retention* was obtained through understanding and reflecting on the observed behaviours. *Reproduction* of behaviour occurred through being able to actively participate as part of the team, and practice the intentional rounding techniques observed, and their *motivation* stemmed from wanting to do the right thing, reinforcement of behaviour and gaining increased independence (Horsburgh & Ippolito, 2018). As found in the final themes in this study, the learning experience for these students was enhanced by full immersion and interaction with the patients, the team, and the intervention. Students learned much more from the experience than just intentional rounding, such as patient safety and quality care, communication and organisation skills. Students were able to retain and reproduce positive learned behaviours through continued practice. The attention and retention of the skill and understanding was hindered if students did not have sufficient initial understanding or education, as they did not know the background, what was required, and what to be attentive to. Students were often attentive to bad behaviours, but this often positively impacted their motivation to provide quality care in the future.

Self-efficacy was demonstrated in this study context by the students' belief that they were capable of performing the tasks that were asked of them, which also affected their behaviour and motivation (Knowles, Holton & Swanson, 2015). As stated previously, students were expected to learn or build on the knowledge and behaviours comprising intentional rounding in the context of their clinical team environment or community of practice, in which students were 'legitimate

peripheral participants', learning through the experience of being involved. They influenced and were influenced by the environment in which this learning took place (Lave & Wenger, 1991; Yardley, Teunissen & Dornan, 2012).

The experience of being part of this ward environment assisted students' learning additionally through the use of experiential learning theory. Students used immersion in their *concrete experience* of conducting intentional rounding to grasp what was happening, or chose to analyse their experience through *abstract conceptualisation*: thinking about and scrutinising the experience, analysing deficits and competence in their skills used for intentional rounding. The processing of the experience was done through *reflection and observation* of those around them, or through their *active experimentation* being active involved in intentional rounding practices (Kolb, Boyatzis & Mainemelis, 2001).

It was important for nursing students to link all aspects of the experiential learning cycle together. As discussed in the Chapter One of this thesis (page 1), often there is a disconnect between the in-context experience of actively conducting intentional rounding, and being provided the more passive background knowledge through reading and hearing about intentional rounding that is offered in the academic setting (Bergsteiner, Avery & Neumann, 2010; Kolb & Kolb, 2017). This produced two models of learning that were not linked, and enhanced the theory- practice gap that students spoke of in the study, by not having adequate connection between the two sources of learning. Participants expressed a desire for greater cohesion between the two, which would assist students in being able to successfully combine all facets of this learning theory cycle. Clinical staff who could be seen as subject matter experts, facilitate student learning through affirmation of positive behaviour and personal reflection, coach through providing feedback, and set clear expectations around standards of behaviour would assist with linking students' experiential learning process (Kolb & Kolb, 2017).

7.3.2. Surface learning versus deep learning – what do students need to know?

Some students within the study felt that the task of intentional rounding was somewhat menial rather than being recognised as a management tool for safe patient care. The perceived lack of skill required to conduct intentional rounding reflected the lack of importance shown from facilitators, preceptors and educational facilities. There was a deficiency in emphasising the intervention by academic lecturers – it was either not mentioned or mentioned in passing as an example of a patient safety intervention, without teaching the associated origins or purpose. Similarly, students found that facilitators in the clinical environment did not always mention or discuss intentional rounding, and did not provide detail around the background and relevance of such an intervention. Therefore, many students within this study did not understand the importance of or reasoning behind intentional rounding, and how it supports patient assessment, safety and health status. As a result, students' learning remained at a surface level rather than a deeper application and transfer of knowledge. Students need to see learning topics as valuable to move from surface to deeper learning and understanding, and to do this effectively, facilitation of learning is paramount (Alsayed, Alshammari, Pasay-an & Dator, 2021). Students learn from their role models, and if intentional rounding is not observed as important or they are not involved in patient safety discussions, this can impact their depth of understanding (Morey, Magnusson & Steven, 2021). The ethical and legal implications of simply 'ticking boxes', regardless of whether or not intentional rounding was done, also needs to be addressed, as documentary recording of intentional rounding is not always complete or truthful (Harrington et al., 2013; Sims et al., 2020). The observed negative behaviour promotes the idea that poor practice is the 'norm' to students, and is detrimental to their role in understanding and actively participating in a safe, just and quality work place culture of care.

Intentional rounding can be utilised to enhance the learning for pre-registration nursing students in many different ways beyond a tick box style intervention. As

a safety intervention, intentional rounding incorporates patient comfort and safety, communication, assessment skills, team work, support, accountability, integrity, and care quality, just to name a few. As previously discussed, by participating actively in this intervention, students have the ability to learn beyond the principles of the intervention, adding key nursing concepts and behaviours including clinical judgment and reasoning. All experiences within both clinical placement and within the university sector can be opportunities for consolidating knowledge, making meaning out of experiences and observations, developing professional identity, and gaining the skills required within the role.

To gain this deeper understanding however, adequate support and guidance is required. Preceptors and mentors are often inadequately educated for the role, but see their pedagogical role as creating partnership, competence building, nurturing and meaning making (Kantar, 2021). Assisting students in making meaning out of situations and interventions was the most difficult and least frequently achieved domain in a recent study, highlighting some of the difficulties that students may experience in solidifying and expanding their learning in the clinical setting (Kantar, 2021). Meaning making requires facilitators to assist students to think contextually, have rationales for their behaviours and decisions, be able to link theory to practice, and develop clinical judgment (Kantar, 2021).

7.3.3. Discussion & recommendations relating to teaching and learning

From an academic perspective, the following dialogue and recommendations are put forward to assist pre-registration nursing students in their learning, taking into consideration the learning theories discussed within this thesis.

7.3.3.1. Additional communication/ collaboration

Communication and collaboration are key between education and health facilities, so that expectations and realities are congruent. Facilities need to be

aware of what is being taught, including what learning outcomes students are aiming to achieve for each year-level placement. Universities must be up to date with current practices within heath facilities, thus reducing the theory practice gap. Working together will enhance a safety culture that students can be an active part of. Clinical and academic collaborations will promote students' understanding of the theory and practice of patient safety interventions such as intentional rounding, and their confidence to complete such interventions. Greater engagement and autonomy in intentional rounding will then promote greater self-efficacy and much needed self-accountability within their clinical placements (Tella, et al., 2014). Kantar (2021) recommends that those supervising or mentoring students in the clinical setting have a firm understanding of learning outcomes and academic course requirements pertinent to each student. Academics also need to be aware of current hospital protocols and guidelines to ensure that teaching is contemporary. Facilitators employed by the tertiary education provider, the use of sessional staff that work in clinical settings and increased communication and collaboration between clinicians and academic staff can ensure that knowledge of clinical practices is current and is imparted to students collectively from both settings (Jayakesara et al., 2018). Greater collaboration will assist the disconnection that was expressed within the findings in the study around the impact of, and request for more education by the participants in this study.

7.3.3.2. Additional training/ support for staff

Staff that supervise students should be offered training in how best to support and educate students that come on their clinical placements, and the number of students accepted for a clinical placement should not exceed the level of support and mentorship that can be provided (Jayakesara et al., 2018). Formal training in preceptorship and mentoring is rarely provided to clinical staff, and specialist training would be beneficial (Eller, Lev & Feurer, 2014; Papathanasiou, Tsaras & Sarafis, 2014; Pramila-Saviukoski et al., 2019). Those that are tasked with supervising students in the clinical setting must be prepared to assist and support them, allow them to be active participants within the ward culture, share knowledge, and assist students' understanding of procedures. As found in the

themes of this study, being active participants and having constructive interactions benefit student learning greatly. Supporting and teaching students does not come naturally to all nursing staff however, so greater education and preparation for this task would benefit both parties. Trained preceptors and mentors can better demonstrate positive role modelling and support students. This utilises social learning theory concepts such as learning through observation and modelling of behaviours (Aliakbari et al, 2015).

7.3.3.3. Curriculum – patient safety

Greater focus on patient safety is needed throughout undergraduate nursing courses. Returning to the principles of andragogy, this enhances the importance that students need to know this information and understand it in its entirety. Intentional rounding is just one example of the wider picture of patient safety, and should not be taught in isolation. Other examples are infection control principles, medication safety, communication and the use of protocols and guidelines (Kirwan et al., 2019). Patient safety education should be taught by both academic and clinical settings, and in a variety of formats, including simulation, reducing the risk of patient safety errors and adverse events (Li et al., 2021). The World Health Organisation (WHO) Multi-professional Patient Safety Curriculum Guide is underutilised and could provide additional guidance in teaching patient safety strategies including intentional rounding (WHO, 2011; Kirwan, 2019). There is a lack of expertise specific to patient safety within academics and preceptors, and patient safety as a topic is rarely afforded the luxury of being taught as a stand-alone subject. Greater emphasis and training are needed to provide a clearer, more standardised, systematic and comprehensive approach to teaching across education facilities (Kirwan, 2019; Usher et al., 2018).

7.3.3.4. Enhancing the benefits of intentional rounding

The benefits of intentional rounding should be recognised by students and staff. An example of an additional benefit of intentional rounding to students is

utilising it as a management tool to organise their clinical day, and intentional rounding should be put forward in this way to students; a tool not just assisting the patient but also assisting the nurse. Learning in real life circumstances such as clinical placement is a way of dealing with the variety of situations they will find themselves in and striving for continuous improvement. Through the encouragement, utilisation and positive role modelling of interventions such as intentional rounding, students can additionally practice time management, communication, clinical reasoning and judgment skills, and active decision making, and provide holistic person-centred care to their patients (Bianchi et al., 2016; Knowles, Holton & Swanson, 2015).

7.3.3.5. Workplace culture

Changes need to be made to improve negative workplace culture. Negative workplace culture is associated with decreased engagement and satisfaction and negative patient outcomes (Brooks, Polis & Phillips, 2014). Making changes to negative work place culture utilises social learning theory, and is done through encouraging students' ability to speak up when they see negative patient safety behaviours. In doing this, students can themselves become positive role models. This can be difficult however for newcomers into the nursing profession, and as such should be encouraged (Jack et al, 2020; Li et al., 2021; Usher, et al., 2017). Greater teamwork, professionalism and improvement of the culture of patient safety, manageable workloads, and use of safety policies and procedures will assist with creating a positive workplace culture (Li et al., 2021). Adequate preparation and training for those that are working with students will also assist in creating a positive workplace culture for the future, through challenging values and behaviours, increased awareness of student needs, more formal education around patient safety issues and how to support and teach students (Tregunno, Ginsburg, Clarke & Norton, 2014).

7.4. Chapter Conclusion

This chapter has discussed student learning in the context of intentional rounding, and reinforced the importance of utilising learning theory to support student learning. Through the recognition and use of learning theories to support student learning, students can gain greater understanding of not only patient safety implications, but also what constitutes quality care, clinical integrity and nursing skills as a whole. It is important that those supporting student learning in the context of intentional rounding do so with conscious intent, understanding of the needs of the student, and the means by which students learn.

Not only is intentional rounding a means of enhancing patient safety, it also provides patient comfort and support, and interactive communication between the nurse and the patient. Through deep learning, students can understand the depth of what intentional rounding entails. They can practice their communication skills, as well as their assessment, prioritisation, critical thinking and organisation skills when participating in intentional rounding practices, enhancing clinical integrity and quality care practice, and improving learning and skill acquisition in a variety of ways.

The following closing chapter (Chapter Eight) will draw final conclusions from the study conducted and address strengths and limitations, in addition to offering suggestions for further research focused on intentional rounding.

Higher Degree Research Thesis by Publication

University of New England

STATEMENT OF ORIGINALITY

Chapter 7 – Learning in the context of intentional rounding

We, the PHD candidate and the candidate's Principal Supervisor, certify that the following text, figures and diagrams are the candidate's original work.

Type of work	Page number/s
Manuscript	Pages 133-149

Name of Candidate: Elizabeth Jo RYAN

Name/ title of Principal Supervisor: Professor Kim USHER AM

Candidate 30.5.2021

Principal Supervisor 30.05.2021

Higher Degree Research Thesis by Publication

University of New England

STATEMENT OF AUTHOR'S CONTRIBUTION

Chapter 7 – Learning in the context of intentional rounding

We, the PHD candidate and the candidate's Principal Supervisor, certify that all co-authors have consented to their work being included in the thesis and they have accepted the Candidate's contribution as indicated in the *Statement of Originality*.

	Author's Name	**% of contribution**
Candidate	Liz Ryan	60%
Other authors	Professor Kim Usher	10%
	Professor Debra Jackson	10%
	Dr Cindy Woods	10%
	Associate Professor Leah East	10%

Name of Candidate: Elizabeth Jo RYAN

Name/ title of Principal Supervisor: Professor Kim USHER AM

Candidate [redacted] 30.5.2021

Principal Supervisor [redacted] 30.05.2021

Chapter 8. Conclusions, strengths, limitations, and future research

8.1. Chapter Preface

Chapter One of this thesis provided an overview of the thesis including the plan and structure, aims and objectives. Chapter Two then explored and explained the results of the literature review that was undertaken at the commencement of the study reviewing current knowledge about intentional rounding. Chapter Three deliberated the methodology that was utilised to explore the experience and attitudes of pre-registration nursing students around intentional rounding, and the subsequent collection and analysis of quantitative and qualitative data was discussed in Chapters Four and Five respectively. Chapter Six focussed on the integration of all data collected and subsequent results, displayed in tabular format and depicted through a final paper (page 104). Chapter Seven considered the gaps in learning highlighted within this study, how students realised intentional rounding within the context of learning theory and principles, and how important it is to ensure that pre-registration nursing students gain sufficient support, knowledge and education in a timely and scaffolded manner so as to develop their skills and critical thinking/judgment as a novice nurse.

This final chapter highlights conclusions, and new knowledge formed as a result of the culmination of this study. The original objectives of the study are revisited and conclusions revealed. The strengths and limitations of the study are acknowledged, and recommendations for future education and research declared.

8.2. Conclusions

Intentional rounding is an example of a patient safety initiative and intervention that has been used across many countries and in a variety of tertiary settings. The intervention of intentional rounding is conducted by an array of nursing staff, including pre-registration nursing students on clinical placement. This

study was undertaken in an effort to comprehend the experience and understanding of intentional rounding for pre-registration nursing students. Through a mixed methods lens, quantitative and qualitative data were gathered and analysed both individually and collectively to find answers to the research aims and objectives, so that this phenomenon could be understood and improved for future nursing students and other key stakeholders. In a return to the objectives of the study, the following was found:

The first objective was to measure students' attitudes to intentional rounding, and their understanding of its purpose. Through the course of this study, it was found that students generally had a positive attitude toward intentional rounding, and found there were many benefits of intentional rounding for themselves and their learning, as well as the patients that they were caring for. Some of these benefits were increasing their ability to communicate and build rapport with patients, feeling more organised and in control, and being able to be more useful, contributing to the 'team' in a more autonomous manner. Some negative aspects put forward by participants included time constraints, and the cumbersome and often inaccurately completed documentation used to monitor completion of intentional rounding.

Students understood intentional rounding's purpose on a surface level; that is to provide regular checks on patients, but could not always articulate the intervention rationale on a deeper level, such as assessment and monitoring, and ensuring patient safety and providing quality care. This knowledge was gained through additional education from fellow nursing staff, and ongoing engagement with the intervention.

The second objective was to explore the relationship between any variables such as previous experience in the nursing field prior to commencing pre-registration nursing study. There were differences in the perspectives of those who had worked in clinical settings previously in a nursing capacity, and these students had a greater understanding of the rationale for intentional rounding. Some

negative opinions came mainly from participants with lower nurse education levels as part of their previous nursing experience, explained by time constraints and observations of cutting corners such as the completion of intentional rounding record sheets before or after shifts en masse. These students seemed to be more task oriented, rather than incorporating critical thinking skills into the intervention.

The third objective of the study was to explore and describe student nurses' exposure to and experience of intentional rounding throughout their clinical placements. Most students had in some way been exposed to intentional rounding during clinical placements. They were either delegated the task or observed others completing it. Not all participants were allowed to actively participate in intentional rounding during their placements, as others conducted intentional rounding without involving the student for example, and this was perceived negatively. Some participants expressed fear at being delegated this task, concerned that they might miss something that would impact on the care of the patient. Other participants found the delegation of intentional rounding liberating, as it gave them a sense of purpose and structure during their clinical placement. There were episodes of participants observing inadequate engagement in and completion of intentional rounding among staff, and this highlighted to these participants the type of care that they deemed unacceptable, and what quality of care they would strive to provide themselves in the future.

The fourth objective of the study was to determine students' perceived benefits, disadvantages, barriers and enablers to performing intentional rounding, and any suggestions for improvements to intentional rounding. There were many benefits to intentional rounding for the students – particularly organisation and personal confidence building than benefits to their nursing care per se. Disadvantages included time constraints, inadequate staffing, high workload and practicality within a busy ward, and confusion over documentation procedures. Barriers to intentional rounding were exclusion and unclear delegation of the task, leaving students unsure of their role and responsibility. There was often a lack of preparation and education around intentional rounding prior to and within their clinical placements, leading to uncertainty as to whether they were

completing the task properly. Enablers included appropriate education, positive mentorship and role modelling within the clinical setting, provision of support and the ability to autonomously conduct intentional rounding, checking back with their facilitators if there were any concerns. Suggested improvements to intentional rounding were tailoring the intentional rounding to the individual ward, and having sufficient staff to patient ratio to be able to check patients on a regular basis, thus ensuring safety. It was considered important for staff to be aware of students' knowledge and experience with intentional rounding and for students to understanding staff expectations at the commencement of clinical placements. Education was also at the forefront of suggestions, for example closing any gaps through additional support and education during clinical placement, and greater coverage of patient safety topics within the curricula.

The next objective was to determine the contextual factors influencing effective engagement in intentional patient rounding, and this was answered in many ways within other objectives. Delegating this task to students, whilst providing sufficient education and positive role modelling, assisted student involvement and engagement. Conversely, if clinical staff exhibited apathy towards intentional rounding, this often affected the students' own engagement and participation in the intervention, an example of negative role modelling. For other students however, this was a catalyst for them deciding how they wanted to provide care once they were registered, which was the opposite of their observations of apathy. However, to go against ward culture and normed behaviours was difficult as a nursing student.

The final objective for this study was to determine the approaches to intentional rounding education that students had experienced. It was found throughout this study that there were many gaps in the education surrounding intentional rounding. This was found both in the academic and clinical setting. In the academic setting, information regarding intentional rounding was not emphasised as a patient safety intervention frequently used in the clinical setting, rather mentioned in passing as an example of a patient safety intervention, if

mentioned at all. In the clinical setting, there seemed to be an expectation that students already knew about intentional rounding, and would be able to conduct it proficiently, which resulted in no training or education. Many students explained that they learnt more about intentional rounding when working in the clinical setting in previous nursing roles rather than as a pre-registration nursing student.

8.3. Strengths and limitations

Strengths:

Though there has been much research on the experiences of nurses and patients participating in intentional rounding, this is the first study to explore intentional rounding from the perspective of pre-registration nursing students. If patient safety interventions such as intentional rounding are to continue in the future, or be adapted or improved as needs change, our future nurses need to be equipped to participate in these interventions. Pre-registration nursing students' opinions and experiences matter; they will ultimately be part of the ongoing continuous improvement that is required, and will influence engagement and uptake of any patient safety intervention and quality care practice.

This study included participants from six Australian universities teaching undergraduate nursing programs, thus providing diversity in responses and experience, and richness in data. The differences in teaching and learning strategies, and clinical setting experiences could thus be looked at in a broader way, rather than participants coming from just one university or a singular area health service.

The use of a previously validated survey was beneficial. The survey instrument covered all of the domains that we wished to explore, and any further questions could be clarified with the use of the interviews. The use of a validated survey also allowed us to compare responses with previous studies.

Cross sectional studies can measure the outcome in a sample of the population at one point in time but are unable to make causal inferences. The advantages of

cross-sectional studies are that representative samples, as in this study, are useful in assessing the educational needs of pre-registration nursing student populations and can provide important information regarding health education needs. The large number of participants from many pre-registration nursing programs across many universities and jurisdictions is a strength of the study.

Limitations:

Many of the students that agreed to participate in the qualitative interviews had previous clinical experience as Assistants in Nursing, Enrolled Nurses or internationally Registered Nurses. Although this phenomenon created some diversity, it is unclear whether previous knowledge and experience impacted on their interest in the topic, and whether it skewed their responses, which could potentially be a limitation to the study. It could be postulated that those without previous experience did not have as great an understanding or commitment to the intervention, and hence were not as interested in participating. This postulation supports the findings of this study related to the disjoint between clinical and academic teaching and subsequent understanding.

8.4. Future research recommendations

This study found that often patient safety strategies and core nursing concepts such as intentional rounding were assumed knowledge, and had the potential to be missed through the disconnection between the academic and clinical setting. As a result, a future research recommendation would be to further explore students' understanding of patient safety and what this entails, and incorporating some of these initiatives to review their use.

Additionally, a greater understanding of clinical staffs' expectations around students' understanding of patient safety should be explored. Knowing these expectations would be important for those supporting pre-registration nursing students to ensure that any gaps in knowledge are covered in the future.

The concept of enhancing learning beyond a particular intervention, using the principles of andragogy and social learning theory, and focusing on general quality of nursing care, skills and patient safety requires further study. Future research should explore whether other patient safety interventions are currently being utilised, and their perceived effectiveness in terms of student participation and education. Patient safety strategies, policies and guidelines are always being updated in the nursing field. There has been discussion on the effectiveness and necessity of intentional rounding over the course of this study, and it is possible this will change over time. The principles of the student experience and their learning may be able to be utilised in the context of other interventions as they unfold in the future.

Future research is warranted in the area of patients' experiences of student nurses conducting intentional rounding and patient satisfaction with care. Very few Australian studies have been conducted that examine nurses' and patients' satisfaction with intentional rounding (East et al., 2020) and none to our knowledge that examine patient satisfaction with student nurses conducting intentional rounding.

Further research is required to explore the perspectives of nursing staff mentoring students that are involved (or not involved) in patient safety practices such as intentional rounding to provide additional insight into the support role of the pre-registration nursing students in clinical settings.

8.5. Concluding Comments

The final chapter of this thesis has discussed concluding insights from the study, the strengths and limitations of the study, and ideas for future research in this area, highlighted as a result of this work. This study has provided valuable and original insight into the pre-registration nursing students' experiences of and attitudes toward intentional rounding as an example of a patient safety intervention. The results of this study were sourced through the use of an explanatory mixed methods design using quantitative survey and qualitative

interview data collection and analysis, and provides vital evidence to enable educators to better support nursing students in areas of patient safety.

The study confirmed a positive attitude toward intentional rounding and benefits in communication, nursing and patient care. New knowledge through student responses within this study highlighted the influence of education sources, the gaps in such education, role models, student confidence and self-efficacy, and how the learning environment students are in impacts on students' learning and interactions. Student learning and experience will be improved through the implementation of learning theories, and providing appropriate education for those supporting students. This study has revealed that continued and increased collaboration between clinical and academic setting is vital to adequately support pre-registration nursing students.

Intentional rounding is an excellent example of a patient safety intervention, that provides additional learning prospects for pre-registration nursing students when supported effectively through adequate education, opportunity for interaction and role modelling. To this end, when employing patient safety interventions such as intentional rounding, registered nurses of the future have the ability to implement the provision of quality and safe care to all patients.

References

Aliakbari, F., Parvin, N., Heidari, M. & Haghani, F. (2015). Learning theories application in nursing education. *Journal of Education and Health Promotion*, 4 (2), https://doi.org/10.4103/2277-9531.151867

Alsayed, S., Alshammari, F., Pasay-an, E. & Dator, W.L. (2021). Investigating the learning of students in nursing education. *Journal of Taibah University Medical Sciences*. 16 (1), 43-49. https://doi.org/10.1016/j.jtumed.2020.10.008

Alzyood, M., Jackson, D., Aveyard, H., & Brooke, J. (2020). COVID-19 reinforces the importance of handwashing. *Journal of Clinical Nursing*, 29, 2760–2761. https://doi.org/10.1111/jocn.15313

Anderson, C., Moxham, L. & Broadbent, M. (2018) Teaching and supporting nursing students on clinical placements: Doing the right thing'. *Collegian: The Australian Journal of Nursing Practice, Scholarship and Research*, 25, 231-235. https://doi.org/10.1016/j.colegn.2017.06.005

Armstrong, M. L. (1974). Bridging the gap between graduation and employment. *Journal of Nursing Administration*, 4, 42–48. https://doi.org/10.1097/00005110-197411000-00017

Australian Private Hospitals Association (2013). Hourly Rounding. *Private Hospital.* April 2013, 30. Retrieved from: www.ahpa.org.au/wpcontent/uploads/2013/04/AHPA-0413-WEB.pdf

Babbie, E. (2017). *The Basics of Social Research* (7th edn). Cengage. ISBN-13: 978-1-133-599414-7

Bagnasco, A., Timmins, F., de Vries, J.M.A, Aleo, G., Zanini, M., Catania, G. & Sasso, L. (2017). Understanding and addressing missed care in clinical placements: implications for nursing students and nurse educators. *Nurse Education Today*, 56 (2017), 1-5. http://dx.doi.org/10/1016/j.nedt.2017.05.015

Bahn, D. (2001). Social Learning Theory: its application in the context of nurse education. *Nurse Education Today*. 21 (2), 110-117. https://doi.org/10.1054/nedt.2000.0522

Ball, J., Day, T., Murrells, T., Dall'Ora, C., Rafferty, A.M., Griffiths, P. & Maben, J. (2017). Cross-sectional examination of the association between shift length and hospital nurses job satisfaction and nurse reported quality measures. *BioMed Central Nursing*. 16, 26-33. https://doi.org/10.1186/s12912-017-0221-7

Ball, J.E., Bruyneel, L., Aiken, L.A., Serveus, W., Sloane, D.M., Rafferty, A.M., Lindqvist, R., Tishelman, C., Griffiths, P. & RN4Cast Consortium (2018). Post-operative mortality, missed care and nurse staffing in nine countries: a cross-sectional study. *International Journal of Nursing Studies*. 78(2018), 10-15. http://dx.doi.org/10.1016/j.ijnurstu.2017.08.004

Bandura, A. (1977). *Social Learning Theory*. Prentice-Hall.

Bazeley, P. (2018*). Integrating analyses in mixed methods research*. SAGE Publications Ltd. https://www.doi.org/10.4135/9781526417190

Bengtsson, M., (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open* 2 (2016), 8–14.

Berg, K., Sailors, C., Reimer, R., O'Brien, Y. & Ward-Smith, P. (2011). Hourly rounding with a purpose. *Iowa Nurse Reporter*, 24(3), 12-14.

Bergsteiner, H., Avery, G.C., & Neumann, R. (2010). Kolb's experiential learning model: critique from a modelling perspective. *Studies in Continuing Education*, 32 (1), 29-46. https://www.doi.org/10.1080/01580370903534355

Bethlehem, J. (2010). Selection bias in web surveys. *International Statistical Review.* 78 (2), 161–188.

Blevins, S. & Millen, E.A. (2016). Foundation for new graduate nurse success. *MedSurg Nursing: Official journal of the Academy of Medical-Surgical Nurses*. 25(3), 194-201.

Bos, E., Alinaghizadeh, H., Saarikoski, M., & Kaila, P. (2015). Factors associated with student learning processes in primary health care units: A questionnaire study. *Nurse Education Today*, 35(1), 170-175. https://doi.org/10.1016/j.nedt.2014.09.12.

Boxer, E. & Kluge, B. (2000). Essential clinical skills for beginning registered nurses. *Nurse Education Today*. 20 (327-335). https://dx.doi.org/10.1054/nedt.1999.0415

Braun, V. & Clark, V. (2013*). Successful qualitative research: a practical guide for beginners.* SAGE Publications. ISBN: 9781847875815

Brooks, A., Polis, N. & Phillips, E. (2014). The New Healthcare Landscape: Disruptive Behaviors Influence Work Environment, Safety, and Clinical Outcomes. *Nurse Leader*. 12. 39–44. https://doi.org/10.1016/j.mnl.2013.11.006.

Brosey, L. A. & March, K. S. (2014). Effectiveness of Structured Hourly Nurse Rounding on Patient Satisfaction and Clinical Outcomes. *Journal of Nursing Care Quality*. 30(2), 153-159. https://doi.org/10.1097/NCQ.0000000000000086

Bryman, A. (2006). Paradigm peace and the implications for quality. International *Journal of Social Research Methodology*. 9(2), 111-126, http://dx.doi.org/10.1080/13645570600595280

Chan, C.K.Y. (2012). Exploring an experiential learning project through Kolb's Learning Theory using a qualitative research method. *European Journal of Engineering Education*, 37 (4), 405-415. https://doi.org/10.1080/03043797.2012.706596

Cho, E., Sloane, D.M., Kim, E.-Y., Kim, S., Choi, M., Yoo, I.Y., Lee, H.S. & Aiken, L.H. (2015). Effects of nurse staffing, work environments, and education on patient mortality: an observational study. *International Journal of Nursing Studies*. 52 (2), 535–542. https://doi.org/10.1016/j.ijnurstu.2014.08.006.

Christiansen, A., Coventry, L., Graham, R., Jacob, E., Twigg, D. & Whitehead, L. (2018). Intentional rounding in acute adult healthcare settings: A systematic mixed-method review. *Journal of Clinical Nursing*, 2018 (27)1759-1792. https://doi.org/10.1111/jocn.14370.

Clements, A.J., Kinman, G., Leggetter, S., Teoh, K., & Guppy, A. (2016). Exploring commitment, professional identity, and support for student nurses. *Nurse Education in Practice*. 16, 20–26 2016.

Clinical Excellence Commission (2014) *Clinical Excellence Commission 10 functions of In Safe Hands*. Clinical Excellence Commission: Sydney, Australia.

Clinical Excellence Commission (n.d.). *About the CEC. Clinical Excellence Commission*. Retrieved from http://www.cec.health.nsw.gov.au/about/about-cec

Cochrane Effective Practice and Organisation of Care (EPOC) (2017). Suggested risk of bias criteria for EPOC reviews. *EPOC Resources for review authors*. Retrieved from http://epoc.cochrane.org/resources/epoc-resources-review-authors

Cooke, J., Greenway, K. & Schutz, S. (2021). Learning from nursing students' experiences and perceptions of their clinical placements in nursing homes: an integrative literature review. *Nurse Education Today*,100 (2021), 104857. https://doi.org/10.1016/j.nedt.2021.104857

Cooper, J., Courtney-Pratt, H., & Fitzgerald, M. (2015). Key influences identified by first year undergraduate nursing students as impacting on the quality of clinical placement: A qualitative study. *Nurse Education Today,* 35(9), 1004–1008.

Cox, J. L., Simpson, M. D., Letts, W., & Cavanah, H. M. A. (2014). Putting it into practice: Infection control professionals' perspectives on early career nursing graduates' microbiology and infection control knowledge and practice. *Contemporary Nurse*, 49(1), 83–92. https://doi.org/10.1080/10376178.2014.11081957

Creamer, E. (2018*). An Introduction to Fully Integrated Mixed Methods Research.* SAGE Publications. ISBN:9781483350936.

Creswell, J. & Plano Clark, V.L. (2011*). Designing and Conducting Mixed Methods Research* (2nd edn). SAGE Publications. ISBN:978-4129-7517-9.

Creswell, J. & Plano Clark, V.L. (2018). *Designing and Conducting Mixed Methods Research* (3rd edn). SAGE Publications. ISBN:9781506386621.

Creswell, J.W. (2014). *Research Design: Qualitative, Quantitative & Mixed methods Approaches* (4th edn). SAGE Publications. ISBN:978-1-4522-2609-5.

Creswell, J.W., Carroll Klassen, A., Plano Clark, V.L. & Clegg Smith, K. (2011). Best Practices for Mixed Methods Research in the Health Sciences. *Office of Behavioral and Social Sciences Research (OBSSR).*

https://obssr.od.nih.gov/training/online-training-resources/mixed-methods-research/

Critical Appraisal Skills Programme (2018). *CASP Qualitative Checklist*. Retrieved from www.caspuk.net.

Cruickshank, M., & Shaban, R. Z. (2020). COVID-19: Lessons to be learnt from a once-in-a-century global pandemic. *Journal of Clinical Nursing*, https://doi.org/10.1111/jocn.15365

D'Alessio, E., Magsalin, M., Neville, K. L. & Patten, C. (2010). Enhancing nursing's presence. *Nursing Management* (Springhouse), 41(12), 16-18. https://doi.org/10.1097/01.NUMA.0000390468.21033.f1

Daniels, J.F. (2016). Purposeful and timely nursing rounds: a best practice implementation project. *Joanna Briggs Institute Database of Systematic Reviews and Implementation Reports*. 14(1), 248-267. https://doi.org/10.11124/jbisrir-2016-2537

Davidson, P. M., & Szanton, S. L. (2020). Nursing homes and COVID-19: We can and should do better. *Journal of Clinical Nursing*, 29, 2758–2759. https://doi.org/10.1111/jocn.15297

Deitrick, L. M., Baker, K., Paxton, H., Flores, M. & Swavely, D. (2012). Hourly rounding: Challenges with implementation of an evidence-based process. *Journal of Nursing Care Quality*, 27(1), 13-19. https://doi.org/10.1097/NCQ.0b013e318227d7dd

Department of Health (2013). *Roll-out of hourly patient rounding at Western Health*. Victorian Government: Melbourne, Australia. www.health.vic.gov.au/redesigning care

Dewing, J. & O'Meara, B. (2013). Introducing intentional rounding: a pilot project. *Nursing Standard*. 28(6), 37-44.

Donaldson, J.H. & Carter, D. (2005). The value of role modelling: Perceptions of undergraduate ad diploma nursing (adult) students. *Nurse Education in Practice*, 5(6), 353-359. https://doi.org/10.1016/j.nepr.2005.05.006

Doyle, K., Sainsbury, K., Cleary, S., Parkinson, L., Vindigni, D., McGrath, I. & Cruickshank, M. (2017). Happy to help/ happy to be here: Identifying components of successful clinical placements for undergraduate nursing students. *Nurse Education Today*. 49 (2017), 27-32. http://dx.doi.org/10.1016/j.nedt.2016.11.001

Dreifuerst, K.T. (2015). Getting started with debriefing for meaningful learning. *Clinical Simulation in Nursing*. 11 (5), 268–275. https://doi.org/10.1016/j.ecns.2015.01.005.

Duffield, C., Diers, D., O'Brien-Pallas, L., Aisbett, C., Roche, M., King, M. & Aisbett, K. (2011). Nursing staffing, nursing workload, the work environment, and patient outcomes. *Applied Nursing Research*. 24 (4), 244–255. https://doi.org/10.1016/j.apnr.2009.12.004.

Duffield, C., Gardner, G. & Catling-Paull. (2008). Nursing work and the use of nursing time. *Journal of Clinical Nursing*. 17, 3269-3274. https://dx.doi.org/10.1111/j.1365-2702.2008.02637.x

East, L., Neville, S. & Galvin, K.T. (2019). Qualitative research. *In Navigating the Maze of Research: Enhancing nursing and midwifery practice* (5th edn). S. Borbasi, D. Jackson, & L. East (eds), Elsevier. ISBN:978-0-7295-4299-9.

East, L., Targett, D., Yeates, H., Ryan, L., Quiddington, L., & Woods, C. (2020). Nurse and patient satisfaction with intentional rounding in a rural Australian setting. *Journal of Clinical Nursing,* 29(7-8), 1365-1371

Edwardson, N., Gregory, S. & Gamm, L. (2016). The influence of organizational tenure on nurses' perceptions of multiple work process improvement initiatives. *Health Care Management Review*, 41(4), 344–355. https://doi.org/10.1097/HMR.0000000000000078

Effective Public Health Practice Project (2009). *Quality Assessment Tool for Quantitative Studies*. Retrieved from https://merst.ca/ephpp/

Eller, L.S., Lev, E.L. & Feurer, A. (2014). Key components of an effective mentoring relationship: a qualitative study. *Nurse Education Today*. 34(5), 815-820. https://dx.doi.org/10.1016/j.nedt.2013.07.020

Emerson, B. L., Chmura, K. B. & Walker, D. (2014). Hourly rounding in the pediatric emergency department: patient and family safety and satisfaction rounds. *The Journal of Emergency Medicine*, 47(1), 99-104. https://doi.org/10.1016/j.jemermed.2013.11.098

Erlingsson, C. & Brysiewicz, P. (2017). A hands-on guide to doing content analysis. *African Journal of Emergency Medicine*. 7 (2017), 93–99.

Ewertsson, M., Bagga-Gupta, S., Allvin, R. & Blomberg, K. (2017). Tensions in learning professional identities – nursing students' narratives and participation in practical skills during their clinical practice: an ethnographic study. *BioMed Central (BMC) Nursing*, 16 (1), 48. https://doi.org/10.1186/s12912-017-0238-y

Fabry, D. (2015). Hourly rounding: perspectives and perceptions of the frontline nursing staff. *Journal of Nursing Management*, 23(2), 200-210. https://doi.org/10.1111/jonm.12114

Fagan, A., Parker, V. & Jackson, D. (2016). A concept analysis of undergraduate nursing students speaking up for patient safety in the patient care environment. *Journal of Advanced Nursing*. 72 (10), 2346–2357. https://doi.org/10.1111/jan.13028.

Falk, K., Falk, H. & Ung, E.J. (2016). When practice precedes theory – a mixed methods evaluation of students' learning experiences in an undergraduate study program in nursing. *Nurse Education in Practice*. 16 (1), 14–19. https://doi.org/10.1016/j.nepr.2015.05.010.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149-1160.

Fetters, M.D., Curry, L.A. & Creswell, J.W. (2013). Achieving integration in mixed methods designs – principles and practices. *Health Services Research*, 48(6), Part II, 2134-2156. https://doi.org/10.1111/1475-6773.12117

Flowers, K., Wright, K., Langdon, R., McIlwrath, M., Wainwright, C. & Johnson, M. (2016). Intentional rounding: facilitators, benefits and barriers. *Journal of Clinical Nursing*, 25(9-10), 1346-1355. https://doi.org/10.1111/jocn.13217

Ford, K., Courtney-Pratt, H., Marlow, A., Cooper, J., Williams, D. & Mason, R. (2016). Quality clinical placements: The perspectives of undergraduate nursing students and their supervising nurses. *Nurse Education Today*, 37(2016), 97-102. https://doi.org/10.1016/j.nedt.2015.11.03

Forde-Johnston, C. (2014). Intentional rounding: a review of the literature. *Nursing Standard*. 28 (32), pp. 37-42. https://doi.org/10.7748/ns2014.04.28.32.37.e8564

Fowler, F.J. (2009). *Survey Research Methods* (4th Edn). SAGE Publications, Inc. https://www.doi.org/10.4135/9781452230184

Francis, R. & Mid Staffordshire NHS Foundation Trust (2013). *Report of the Mid-Staffordshire NHS Foundation Trust Public Inquiry*. Crown Copyright. ISBN 9780102981469.

Francis, R. QC (2010). *Robert Francis Inquiry report into Mid-Staffordshire NHS Foundation Trust*. House of Commons. ISBN 978-0-10-296439-4.

Gardner, G., Woollett, K., Daly, N., & Richardson, B. (2009). Measuring the effect of patient comfort rounds on practice environment and patient satisfaction: a pilot study. *International Journal of Nursing Practice*. 2009(15), 287-293. http://dx.doi.org/10.1111/j.1440-172X.2009.01753.x

Garling, P., Special Commission of Inquiry, 2008. *Final Report of the Special Commission of Inquiry: Acute Care Services in NSW Public Hospitals - Overview.* State of NSW through the Special Commission of Inquiry: Acute Care in NSW Public Hospitals: Australia.

Giddings, L.S. & Grant, B.M. (2006). Mixed Methods Research for the Novice Researcher. *Contemporary Nurse*. 2006 (23), 3-11. https://dx.doi.org/10.5172/conu.2006.23.1.3

Goldsack, J., Bergey, M., Mascioli, S. & Cunningham, J. (2015). Hourly rounding and patient falls: what factors boost success? *Nursing*. February 2015, 25–30.

Gravlin, G. & Bittner, N.P. (2010). Nurses' and Nursing Assistants' reports of missed care and delegation. *Journal of Nursing Administration*. 40 (7/8), 329-335. https://doi.org/10.1097/NNA.0b013e3181e9395e

Grbich, C. (2017). Integrated methods in health research. *In Research Methods in Health: Foundations for evidence-based practice* (3rd edn). P. Liamputtong (ed). Oxford University Press. ISBN:9780190304300.

Greene, J.C. & Hall, J.N. (2010). Dialects and pragmatism. In *SAGE Handbook of Mixed Methods in Social Research* (2nd edn). A. Tashakkori & C. Teddlie (eds), SAGE Publications. ISBN:978-1-4129-7266-6.

Greenway, K., Butt, G. & Walthall, H. (2019). What is the theory-practice gap? An exploration of the concept. *Nurse Education in Practice*. 34 (Jan 2019), pp.1-6. https://doi.org/10.1016/j.nepr.201810.005

Halcomb, E. & Hickman, L. (2015). Mixed methods research. *Nursing Standard*, 29 (32), 41-47. http://dx.doi.org/10.7748/ns.29.32.41.e8858

Hall, J. (2011). Caring for patients is more than just a tick-box exercise. *Nursing Standard*. 26(15-17), p. 35. go.galegroup.com/ps/i.do?p=PPNU&sw=w&u=dixson&v=2.1&id=GALE%7CA276807915 &it=r&asid=43610e03aaa162042258d1fa64b1c9b1.

Hanson, J., Walsh, S., Mason, M. Wadsworth, D., Framp, A. & Watson, K. (2020). 'Speaking up for safety': A graded assertiveness intervention for first year nursing students in preparation for clinical placement: Thematic analysis. *Nurse Education Today*. 84 (2020) 104252. https://doi.org/10.1016/j.nedt.2019.104252

Harrington, A., Bradley, S., Jeffers, L., Linedale, E., Kelman, S. & Killington, G. (2013). The implementation of intentional rounding using participatory action research. *International Journal of Nursing Practice*, 19, 523-529. https://doi.org/10.1111/ijn.12101

Harris, R., Sims, S., Leamy, M., Levenson, R., Davies, N., Brearley, S., Grant, R., Gourley, S., Favato, G. & Ross, F. (2019). Intentional rounding in hospital wards to improve regular interaction and engagement between nurses and patients: a realist evaluation. *Health Services and Delivery Research,* 7(35). ISSN 2050-4349.

Hasson, F., McKenna, H.P. & Keeney, S. (2013). Delegating and supervising unregistered professionals: The student nurse experience. *Nurse Education Today*. 33(3), 229-235. https://doi.org/10.1016/j.nedt.2012.02.008

Hatvelik, I.K.R. (2011). The theory-practice relationship: reflective skills and theoretical knowledge as key factors in bridging the gap between theory and practice in initial nursing education. *Journal of Advanced Nursing*. 68(4), pp.868-877. https://doi.org/10.1111/j.1365-2648.2011.05789.x

Hayter, M., & Jackson, D. (2020). Pre-registration undergraduate nurses and the Covid-19 pandemic: Students or workers? *Journal of Clinical Nursing*, 2020(29), 3115–31126. https://doi.org/10.1111/jocn.15317

Hesse-Biber, S. (2015). Mixed methods research: The 'thing-ness' problem. *Qualitative Health Research.* 25(6), 775-788. http://dx.doi.org/10.1177/1049732315580558

Hickman, L. & Disleer, R. (2019). Quantitative research. In *Navigating the Maze of Research: Enhancing nursing and midwifery practice* (5th edn). S. Borbasi, D. Jackson, & L. East (eds), Elsevier. ISBN:978-0-7295-4299-9.

Horsburgh, J. & Ippolito, K. (2018). A skill to be worked at: using social learning theory to explore the process of learning from role models in clinical settings. BioMed Central (BMC) *Medical Education*, 2018(18), 156. https://doi.org/10.1186/s12909-018-1251-x

Huston, C.L., Phillips, B., Jeffries, P., Todero, C., Rich, J., Knecht, P., Sommer, S. & Lewis, M.P. (2018). The academic-practice gap: Strategies for an enduring problem. *Nursing Forum.* 2018 (53), 27-34. https://doi.org/10.1111/nuf.12216.

Hutchinson, M. & Jackson, D. (2015). Editorial: Intentional rounding: unpacking the ritual, routine and evidence impasse. *Journal of Clinical Nursing*, 2015(25), 5-7. https://dx.doi.org/10.1111/jocn.13065

Hutchinson, M., East, L. & Wilson, S. (2019). Reading and Appraising Research. In *Navigating the Maze of Research: Enhancing Nursing and Midwifery Practice* (5th edn). S. Borbasi, D. Jackson, & L. East (eds), Elsevier.

IBM Corp (2016). *IBM SPSS Statistics for Windows*, Version 24.0. IBM Corp.

Ion, R., Smith, K. Nimmo, S., Rice, A.M. & McMillan, L. (2015). Factors influencing student nurse decisions to report poor practice witnessed while on placement. *Nurse Education Today*. 35 (7), 900-905. https://doi.org/10.1016/j.nedt.2015.02.006

Jack, K., Levett-Jones, T., Ion, R., Pich, J., Fulton, R., Mari, A. & Hamshire, C. (2020). 'She would wash the patients as if she was scrubbing a dirty plate in the sink': Exploring nursing students experiences of care delivery. *Nurse Education Today*. 90 (2020), 104444. https://doi.org/10.1016/j.nedt.2020.104444

Jackson, D., Anders, R., Padula, W. V., Daly, J., & Davidson, P. M. (2020). Vulnerability of nurse and physicians with COVID-19: Monitoring and

surveillance needed. *Journal of Clinical Nursing*. 29 (19-20), 3584–3587.

Jamieson, S., 2004. Likert scales: how to (ab)use them. *Medical Education*. 38 (12), 1217–1218.

Jayasekara, R., Smith, C., Hall, C., Rankin, E., Smith, M., Visvanathan, V. & Friebe, T-R. (2018). The effectiveness of clinical education models for undergraduate nursing programs: A systematic review. *Nurse Education in Practice.* 29 (2018), 116-126. https://doi.org/10.1016/j.nepr.2017.12.006

Johnson, M., Magnusson, C., Allan, H., Evans, K., Ball, E., Horton, K., Curtis, K. & Westwood, S. (2015). 'Doing the writing' and 'working in parallel': How 'distal nursing' affects delegation and supervision in the emerging role of the newly qualified nurse. *Nurse Education Today*. 35(2), e29-e33. https://doi.org/10.1016/j.nedt.2014.11.020

Johnson, R.B., Onwuegbuzie, A.J. & Turner, L.A. (2007). Toward a definition of Mixed Methods Research. *Journal of Mixed Methods Research*. 1(2), 112-133. https://doi.org/10.1177/1558689806298224

Johnson, R.E, Grove, A.L. & Clarke, A. (2017). Pillar Integration Process: a joint display to integrate data in mixed methods research. *Journal of Mixed Methods Research*. 13(3), 301-320. https://doi.org/10.1177/1558689817743108

Jokelainen, M., Turunen, H., Tossavainen, K., Jamookeeah, D. & Coco, K. (2011). A systematic review of mentoring nursing students in clinical placements. *Journal of Clinical Nursing*. 20 (19-20), 2854-2867. https://doi.org/10.1111/j.1365-2702.2010.03571.x

Kaihlanen, A.-M., Haavisto, E., Strandell-Laine, C. & Salminen, L. (2018). Facilitating the transition from a nursing student to a Registered Nurse in the final clinical practicum: a scoping literature review. *Scandinavian Journal of Caring Sciences*. 2018 (32), 466–477. https://doi.org/10.1111/scs.12494.

Kantar, L.D. (2021). Teaching domains of clinical instruction from the experiences of preceptors. *Nurse Education in Practice*. 52 (2021), 103010. https://doi.org/10.1016/j.nepr.2021.103010

Kennedy Sheldon, L. (2014). Establishing a therapeutic relationship. *Communication for nurses: Talking with patients*. (3rd ed). L. Kennedy

Sheldon & J. Foust (eds). Jones Bartlett Publishing: Burlington, MA. ISBN-13: 9781449691776

Killam, L.A. & Heerschap, C. (2013). Challenges to student learning in the clinical setting: a qualitative descriptive study. *Nurse Education Today*. 33 (6), 684–691. https://doi.org/10.1016/j.nedt.2012.10.008.

Kirk, K. & Kane, R. (2016). A qualitative exploration of intentional nursing round models in the emergency department setting: Investigating the barriers to their use and success. *Journal of Clinical Nursing*. 25, 1262-1272. https://doi.org/10.1111/jocn.13150

Kirwan, M., Riklikiene, O., Gotlib, J. Fuster, P., Borta, M. on behalf of the RANCARE consortium (2019). Regulation and current status of patient safety content in pre-registration nurse education in 27 countries: Findings from the Rationing – Missed nursing care (RANCARE) COST Action project. *Nurse Education in Practice*. 37 (2019), 132-140. https://doi.org/10.1016/j.nepr.2019.04.013

Knowles, M.S., Holton III, E.F. & Swanson, R.A. (2015). *The Adult Learner: The definitive classic in adult education and human resource development* (8th edn). Routledge. ISBN: 978-1-315-81695-1 (ebk).

Kolb, D.A. (1984). *Experiential learning: experience as the source of learning and development*. Prentice-Hall. ISBN: 0132952610

Kolb, D.A., Boyatzis, R.E., & Mainemelis, C. (2001). Experiential learning theory: previous research and new directions. In *Perspectives on thinking, learning and cognitive styles*. R.J.Steinberg & L-F Zhang (eds), Taylor & Francis Group. ProQuest Ebook Central, http://ebookcentral.proquest.com/lib/une/detail.action:docID-425409

Kolb, A.Y. & Kolb, D.A. (2017). Experiential Learning Theory as a guide for experiential educators in higher education. Experiential Learning & Teaching in Higher Education, 1 (1), article 7. https://nsuworks.nova.edu/elthe/vol1/iss1/7

Kroll, T. & Neri, M. (2009). Designs for mixed methods research. In *Mixed Methods Research for the Health Sciences*. S. Andrew & E.J. Halcomb (eds). Blackwell Publishing. ISBN: 978-1-405-16777-2.

Lave, J. & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press. ISBN: 0521423740

Levett-Jones, T. & Lathlean, J. (2008). Belongingness: a pre-requisite for nursing students' clinical learning. *Nurse Education in Practice*. 2008 (8), 103-111. https://doi.org/10.1016/j.nepr.2007.04.003

Levett-Jones, T., Anderson, P., Bogossian, F., Cooper, S., Guinea, S., Hopmans, R., McKenna, L., Pich, J., Reid-Searl, K. & Seaton, P. (2020). A cross-sectional survey of nursing students' patient safety knowledge. *Nurse Education Today*. 88, May 2020, 104372. https://doi.org/10.1016/j.nedt.2020.104372

Levett-Jones, T., Pitt, V., Courtney-Pratt, H. & Harbrow, G. (2015). What are the primary concerns of nursing students as they prepare for and contemplate their first clinical placement experience? *Nurse Education in Practice*. 15, 304–309. https://doi.org/10.1016/j.nepr.2015.03.012. 2015.

Li, H., Kong, X., Sun, L., Zhu, Y. & Li, B. (2021). Major educational factors associated with nursing adverse events by nursing students undergoing clinical practice: A descriptive study. *Nurse Education Today*. 98 (2021), 104738. https://doi.org/10.1016/j.nedt.2020.104738

Liamputtong, P. (2017). The science of words and the science of numbers. In *Research Methods in Health: Foundations for evidence-based practic*e (3rd edn). P. Liamputtong (ed). Oxford University Press. ISBN: 9780190304300

LoBiondo-Wood, G. & Haber, J. (2017). Reliability and validity. In *Nursing Research: Methods and critical appraisal for evidence-based practice* (9th edn). Elsevier-Mosby. ISBN:9780323431316

Lofmark, A. & Wikblad, K. (2001). Facilitating and obstructing factors for development of learning in clinical practice: a student perspective. *Journal of Advanced Nursing*. 34 (1), 43–50.

Materne, M., Henderson, A. & Eaton, E. (2017). Building workplace social capital: A longitudinal study of student nurses' clinical placement experiences. *Nurse Education in Practice*. 26 (2017), pp.109-114. https://doi.org/10.1016/j.nepr.2017.07.007

Maxwell, J. A. (2016). Expanding the history and range of mixed methods research. *Journal of Mixed Methods Research*. 10 (1), 12-27. http://dx.doi.org/10.1177/558689815571132

McKenna, L., Wood, P., Williams, A., O'Connor, M., Moss, C., Griffiths, D., Endacott, R. & Cross, W. (2019). Scope of practice and workforce issues

confronting Australian Enrolled Nurses: a qualitative analysis. *Collegian: The Australian Journal of Nursing Practice, Scholarship and Research*. 26 (1), 80–85. https://doi.org/10.1016/j.colegn.2018.04.001.

McLaughlin, K. & Olsen, M. (2015). 'Not another form!' Hunter New England Local Health District (HNELHD) documentation and care planning review. *HNE Handover for Nurses and Midwives*, 8(2), (2015) Special Issue.

Meade, C. M., Bursell, A. L. & Ketelsen, L. (2006). Effects of nursing rounds on patients' call light use, satisfaction and safety: Scheduling regular nursing rounds to deal with patients' more mundane and common problems can return the call light to its rightful status as a lifeline. *American Journal of Nursing*, 106 (9), 58-71.

Meade, C. M., Kennedy, J. & Kaplan, J. (2010). The Effects of Emergency Department Staff Rounding on Patient Safety and Satisfaction. *The Journal of Emergency Medicine*, 38 (5), 666-674. https://doi.org/10.1016/j.jemermed.2008.03.042

Moher, D., Liberati, A., Tetzlaff, J., Altman, D.G., The PRISMA Group (2009) Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Med* 6 (7): e1000097. https://doi.org/10.1371/journal.pmed.1000097

Monaghan, T., (2015). A critical analysis of the literature and theoretical perspectives on theory-practice gap amongst newly qualified nurses within the United Kingdom. *Nurse Education Today*. 35, e1–e7 2015.

Morey, S., Magnusson, C. & Steven, A. (2021). Exploration of student nurses' experiences in practice of patient safety events, reporting and patient involvement. *Nurse Education Today*. 100 (2021), 104831. https://doi.org.10.1016/j.nedt.2021.1045831

Morgan, L., Flynn, L., Robertson, E., New, S., Forde-Johnston, C. & McCulloch, P. (2016). Intentional rounding: a staff-led quality improvement intervention in the prevention of patient falls. *Journal of Clinical Nursing*, 26, 115-124. https://doi.org/ 10.1111/jocn.13401

Morse, J.M. & Niehaus, L. (2009). Mixed Method Design: Principles and procedures. Left Coast Press Inc. ISBN: 978-1-59874-298-5.

Murray, M., Sundin, D., & Cope, V. (2017). New graduate registered nurses' knowledge of patient safety and practice: A literature review. *Journal of Clinical Nursing,* 2018(27), 31–47. https://doi.org/10.1111/jocn.13785

National Health and Medical Research Council, Australian Research Council and Universities Australia (2018). *Australian Code for the Responsible Conduct of Research*. Commonwealth of Australia. ISBN: 9781864960136.

National Nursing Research Unit, (2013). Intentional rounding: what is the evidence? *Policy* + 35 (2012), 1-2. https://www.kcl.ac.uk/nursing/research/nnru/policy/By.../Policy--Issue-35final.pdf

Negarandeh, R., Hooshmand Bahabadi, A. & Aliheydari Mamaghani, J. (2014). Impact of Regular Nursing Rounds on Patient Satisfaction with Nursing Care. *Asian Nursing Research*, 8(4), 282-285. http://dx.doi.org/10.1016/j.anr.2014.10.005

Neville, K., DiBona, C. & Mahler, M. (2016). Validation of the Nurses' Perception of Patient Rounding Scale: an exploratory study of the influence of shift work on nurses' perception of patient rounding. *Orthopaedic Nursing*, March/ April 2016, 35(2), 84-90. https://dx.doi.org/10.1097/NOR.0000000000000223

Neville, K., Lake, K. LeMunyon, D., Paul, D. & Whitmore, K. (2012). Nurses' Perceptions of Patient Rounding. *Journal of Nursing Administration*, 42(2), 83-88. https://dx.doi.org/10.1097/NNA.0b013e318243365e

Norman, G. (2010). Likert scales, levels of measurement and the "laws" of statistics. *Advances in Health Science Education: Theory to Practice*. 15 (5), 625–632.

NSW Department of Health (2004). *NSW Clinical Excellence Commission Directions Statement*. NSW Department of Health: North Sydney, Australia.

NSW Health/ Hunter New England Health District (2013). *Patient care essentials rounding care plan*. NSW Health. http://studylib.net/doc/6947120/patient-care-essentials-rounding-care-plan

O'Brien, A., Giles, M., Dempsey, S., Slater, L., McGregor, M.E., Kable, A., Parmenter, G., & Parker, V. (2014). Evaluating the preceptor role for pre-registration nursing and midwifery student clinical education. *Nurse*

Education Today. 34 (2014), pp.19-24. http://dx.doi.org/10.1016/j.nedt.2013.03.015

Oliver, S., Harden, A., Rees, R., Shepherd, J., Brunton, J., Garcia, J. & Oakley, A. (2005). An emerging framework for including different types of evidence in systematic reviews for public policy. *Evaluation*. 11(4): 428-446. https://doi.org/10.1177/1356389005059383

Olrich, T., Kalman, M. & Nigolian, C. (2012). Hourly rounding: A replication study. *Medsurg Nursing: Official Journal of the Academy of Medical-Surgical Nurses*, 21 (1), 23.

Oozageer Gunowa, N., Brooke, J., Hutchinson, M. & Jackson, D. (2020). Embedding skin tone diversity into undergraduate nurse education: Through the lens of pressure injury. *Journal of Clinical Nursing*. 29, 4358-4367.

Orr, N., Tranum, K. & Kupperschmidt, B. (2007). Hourly rounding for positive patient and safe outcomes: fairy tale or success story? *Oklahoma Nurse*. 51 (4), 11.

Papathanasiou, I.V., Tsaras, K. & Sarafis, P. (2014). Views and perceptions of nursing students on their clinical learning environment: Teaching and learning. *Nurse Education Today*. 34 (2014), 57-60. https://dx.doi.org/10.1016/j.nedt.2013.02.007

Pascale Blakey, E. & Jackson, D. (2016), Reflections on being a new nurse: 10 insights after four weeks as a registered nurse. *Journal of Clinical Nursing*. 25(11-12), 1483-1485. https://doi.org/10.1111/jocn.13310.

Patton, N., Higgs, J. & Smith, M. (2013) Using theories of learning in workplaces to enhance physiotherapy clinical education. *Physiotherapy Theory and Practice*, 29:7, 493-503, https://doi.org/10.3109/09593985.2012.753651

Perry, C., Henderson, A. & Grealish, L. (2018). The behaviours of nurses that increases student accountability for learning in clinical practice: an integrative review. *Nurse Education Today*. 65 (2018), 177-186. https://doi.org/10.1016/j.nedt.2018.02.029

Phillips, C., Kenny, A., Smith, C., (2014). Does the choice of pre-registration paid employment impact on graduate nurse transition: an Australian

study. *Nurse Education Today*. 34, 532–537. https://doi.org/10.1016/j.nedt.2013.06.024. 2014.

Pluye, P. & Hong, Q.N. (2014). Combining the power of stories and the power of numbers: Mixed methods research and mixed studies reviews. *Annual Review of Public Health,* 35, 29-45.

Polgar, S. & Thomas, S.A. (2013). *Introduction to Research in the Health Sciences* (6th edn). Elsevier. ISBN:978-0-7020-4194-5.

Polgar, S. & Thomas, S.A. (2020). *Introduction to Research in the Health Sciences* (7th edn). Elsevier. ISBN:978-0-7020-7493-6.

Porter, J., Morphet, J., Missen, K. & Raymond, A. (2013). Preparation for high-acuity clinical placement: confidence levels of final-year nursing students. *Advances in Medical Education and Practice.* 2013 (4), 83–89. https://doi.org/10.2147/AMEP.S42157.

Pramila-Savukoski, S., Juntunen, J., Tuomikoski, A-M., Kaariainen, M., Tomietto, M., Kaucic, B.M., Filej, B., Riklikiene, O., Vizcaya-Moreno, M.F., Perez-Canaveras, R.M., De Raeve, P., & Mikkonen, K. (2019). Mentors' self-assessed competence in mentoring nursing students in clinical practice: A systematic review of quantitative studies. *Journal of Clinical Nursing*, 29 (5-6), 684-705. https://doi.org/10.1111/jocn.15127

Presser, S., Couper, M.P., Lessler, J.T., Martin, E., Martin, J., Rothgeb, J.M. & Singer, E. (2004). Methods for testing and evaluating survey questions. *Public Opinion Quarterly*. 68 (1), 109-130. https://doi.org/10.1093/poq/nfh008

Rabada, M., Hayajneh, A.A. & Ahmad, M. (2021). Measuring knowledge and attitudes of pain in older adults among culturally diverse nursing students. *Collegian: The Australian Journal of Nursing Practice, Scholarship and Research*. In press. https://doi.org/10.1016/j.colegn.2021.02.003

Richardson-Tench, M., Taylor, B., Kermode, S. & Roberts, K. (2014). *Research in Nursing: Evidence for best practice*. 5th edn, Cengage Learning Australia. ISBN:9780170237536.

Riksaasen Hatlevik, I. K. (2011). The theory-practice relationship: Reflective skills and theoretical knowledge as key factors in bridging the gap between theory and practice in initial nursing education. *Journal of Advanced Nursing*, 68 (4), 868–877.

Rondinelli, J., Ecker, M., Crawford, C., Seelinger, C. & Omery, A. (2012). Hourly Rounding Implementation: A Multisite Description of Structures, Processes and Outcomes. *JONA: The Journal of Nursing Administration*, 42 (6), 326-332. https://doi.org/10.1097/NNA.0b013e31824ccd43

Ryan, E.J. (2016). Undergraduate nursing students' attitudes and use of research and evidence-based practice - an integrative literature review. *Journal of Clinical Nursing*. 25, 1548-1556. https://doi.org/10.1111/jocn.13229

Ryan, E.J., Jackson, D., Woods, C. & Usher, K.J. (2020a). Pre-registration nursing students' perceptions and experience of intentional rounding: A cross-sectional study. *Nursing Education in Practice*, 42(2020), 102691. https://doi.org/10.1016/j.nepr.2019.102691

Ryan, E.J., Jackson, D., Woods, C., Usher, K., (2018). Intentional rounding: an integrative literature review. *Journal of Advanced Nursing*. 75 (6), 1151–1161. https://doi.org/10.1111/jan.13897.

Ryan, L., Jackson, D., Woods, C., East, L. & Usher, K. (2020b). Intentional rounding in the context of student learning. *Collegian: The Australian Journal of Nursing Practice, Scholarship and Research*, [online], Nov 21, 2020. https://doi.org/10.1016/j.colegn.2020.09.008

Ryan, L., Jackson, D., Woods, C., East, L. & Usher, K. (2020). Preregistration nursing students' provision of safe care – are we leaving too much to chance? *Journal of Clinical Nursing.* 2020. DOI: 10.1111/jocn.15494

Safain, A., AbuRuz, M.E. & Masa'deh, R. (2015). Theory practice gaps in nursing education: a qualitative perspective. *Journal of Social Sciences*. 11 (1), 20–29. https://doi.org/10.3844/jsssp.2015.20.29.

Scully, N.J. (2011). The theory-practice gap and skill acquisition: an issue for nursing education. *Collegian: The Australian Journal of Nursing Practice, Scholarship and Research*, 18 (2), 93-98. https://doi.org/1016/j.colegn.2010.04.002

Shepard, L.H. (2013). Stop going in circles! Break the barriers to hourly rounding. *Journal of Nursing Management*. 13–15. https://doi.org/10.1097/01.NUMA.0000426147.98903.ae. February 2013.

Sims, S., Leamy, M., Davies, N., Schnitzler, K., Levenson, R., Mayer, F., Grant, R., Brearley, S., Gourlay, S., Ross, F. & Harris, R. (2018). Realist synthesis of intentional rounding in hospital wards: exploring the evidence of what works, for whom, in what circumstances and why. *British Medical Journal (BMJ) of Quality and Safety*, 2018 (27), 743-757. https://doi.org/10.1136/bmjqs-2017-006757

Sims, S., Leamy, M., Levenson, R., Brearley, S., Ross, F. & Harris, R. (2020). The delivery of compassionate nursing care in a tick-box culture: Qualitative perspectives from a realist evaluation of intentional rounding. *International Journal of Nursing Studies*. 107, July 2020, 103580. https://doi.org/10.1016/j.ijnurstu.2020.103580

Snelling, P. C. (2013). Ethical and professional concerns in research utilisation: Intentional rounding in the United Kingdom. *Nursing Ethics*, 20 (7), 784-797. https://dx.doi.org/10.1177/0969733013478306

Snelling, P. (2013). May. Intentional rounding: a critique of the evidence. *Nursing Times* Retrieved from. https://www.nursingtimes.net/home/clinical-zones/leadership/intentional-rounding-a-critique-of-the-evidence/5058786.article.

Steenkamp, J.B.E., De Jong, M.G. & Baumgartner, H. (2010). Socially desirable response tendencies in survey research. *Journal of Marketing Research*. 47 (2), 199–214.

StuderGroup (2007). Best Practice: Sacred Heart Hospital Pensacola, Florida. *Hourly Rounding Supplement*. StuderGroup, USA.

Sundler, A.J., Bjork, M., Bisholt, B., Ohlsson, U., Kullen Engstrom, A. & Gustafsson, M. (2013). Student nurses' experiences of the clinical learning environment in relation to the organization of supervision: A questionnaire survey. *Nurse Education Today*. 34 (2014), 661-666. http://dx.doi.org/10.1016/j.nedt.2013.06.023

Sydney Local Health District (2012). Hourly Rounding and the 5P's. *The power of innovation: NSW Health Symposium Oct 2012*. Sydney Local Health District.

Taket, A. (2017). The use of mixed methods in health research. In *Research Methods in Health: Foundations for evidence-based practice* (3rd edn). P. Liamputtong (ed). Oxford University Press. ISBN: 9780190304300

Tanriverdi, G., Ozyazicioglu, N., Atay, S., Karaca Sivrikaya, S., Yalcin Gursoy, M. & Cetin, A. (2017). The recommended solutions of nursing students to bridge the gap between the school and practice areas. *International Journal of Caring Sciences*. 10 (1), 199-207.

Tavakol, M. & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*. 2, 53.

Taylor, D.C.M. & Hamdy, H. (2013). Adult learning theories: Implication for learning and teaching in medical education: AMEE Guide No. 83. *Medical Teacher*, 35 (11), e1561-e1572, https://doi.org/10.3109/0142159X.2013.828153

Tella, S., Liukka, M., Jamookeeah, D., Smith, N.-J., Partanen, P., & Turunen, H. (2014). What do nursing students learn about patient safety? An integrative literature review. *Journal of Nursing Education*, 53 (1), 7–13. https://doi.org/10.3928/01484834-20131209-04

The Joanna Briggs Institute (JBI) (2014). *Joanna Briggs Institute Reviewers' Manual: 2014 edition/ supplement*. JBI: Adelaide.

The Studer Group (2007). Best practices: Sacred Heart Hospital, Pensacola, Florida. *Hourly Rounding Supplement*. Studer Group.

Tong, A., Flemming, K. McInnes, E., Oliver, S. & Craig, J. (2012). Enhancing transparency in reporting the synthesis of qualitative research: ENTREQ. *BioMed Central (BMC) Medical Research Methodology.* 2012 (12):181. http://www.biomedcentral.com/1471-2288/12/181.

Tower, M., Cooke, M., Watson, B., Buys, N., Wilson, K., (2015). Exploring the transition experiences of students entering into preregistration nursing degree programs with previous professional nursing qualifications: an integrative review. *Journal of Clinical Nursing*. 24, 1174–1188. https://doi.org/10.1111/jocn.12756.

Tregunno, D., Ginsburg, L., Clarke, B. & Norton, P. (2013). Integrating patient safety into health professionals' curricula; a qualitative study of medical, nursing and pharmacy faculty perspectives. *British Medical Journal (BMJ) of Quality and Safety*, 2014 (23), 257-264. https://dx.doi.org/10.1136/bmjqs-2013-001900

Tucker, S. J., Bieber, P. L., Attlesey-Pries, J. M., Olson, M. E., & Dierkhising, R. A. (2012). Outcomes and Challenges in implementing hourly rounds

to reduce falls in orthopedic units. *Worldviews on Evidence-Based Nursing*, 2012 Feb, 9 (1), 18-29. https://dx.doi.org/10.1111/j.1741-6787.2011.00227.x.

University of New England (2015). *HDR – Higher Degree Research Thesis by Publication Guideline*. University of New England. https://policies.une.edu.au/view.current.php?id=00284

University of New England (2015). *Management and Storage of Research Data and Materials Policy*. University of New England. https://policies.une.edu.au/document/view-current.php?id=208

University of New England (2019). *Human Research Ethics Committee Application Form – Expedited Review*. University of New England.

Usher, K. Woods, C., Brown, J., Power, T., Lea, J., Hutchinson, M.,…. Jackson, D. (2018). Australian nursing students' knowledge and attitudes towards pressure injury prevention: a cross-sectional study. *International Journal of Nursing Studies*. 81, 14-20.

Usher, K., Mills, J., West, C., Park, T. & Woods, C. (2015). Preregistration student nurses' self- reported preparedness for practice before and after the introduction of a capstone subject. *Journal of Clinical Nursing*. 24, 3245–3254. https://doi.org/10.1111/jocn.12996.

Usher, K., Woods, C., Conway, J., Lea, J., Parker, V., Barrett, F., O'Shea, E. & Jackson, D. (2018). Patient safety content and delivery in pre-registration nursing curricula: A national cross-sectional survey study. *Nurse Education Today*. 66 (2018), 82-89. https://doi.org/10.1016/j.nedt.2018.04.013

Usher, K., Woods, C., Parmenter, G., Hutchinson, M., Mannix, J., Power, T., Chaboyer, W., Latimer, S., Mills, J., Liegloff, L. & Jackson, D. (2017). Self-reported confidence in patient safety knowledge among Australian undergraduate nursing students: a multi-site cross-sectional survey. *International Journal of Nursing Studies*, 71 (2017), 89-96. http://dx.doi.org/10.1016/j.ijnurstu.2017.03.006

Willis, E., Toffoli, L., Henderson, J., Couzner, L., Hamilton, P., Verrall, C. & Blackman, I. (2016). Rounding, work intensification and new public management. *Nursing Inquiry*, 23 (2), 158-168. https://doi.org/10.1111/nin.12116

Willman, A., Bjuresater, K. & Nilsson, J. (2020). Insufficiently supported in handling responsibility and demands: Findings from a qualitative study

of newly graduated nurses. *Journal of Clinical Nursing*, 2020 (00), 1-10. Doi:10.1111/jocn.15483

Woodard, J. L. (2009). Effects of rounding on patient satisfaction and patient safety on a medical surgical unit. *Clinical Nurse Specialist*, 23(4), 200-206. https://doi.org/10.1097/NUR.0b013e3181a8ca8a

World Health Organisation (2011). *Patient Safety Curriculum Guide, Multi-professional Edition*. Geneva, Switzerland. 978924150958.

Yardley, S., Teunissen, P.W. & Dornan, T. (2012). Experiential learning: Transforming theory into practice, *Medical Teacher*, 34(2), 161-164. https://doi.org/10.3109/0142159X.2012.643264

Appendix A1

Supplementary file S1 – Quality Assessment Tool for Quantitative Studies

Author	Selection bias	Study design	Confounders	Blinding	Data collection methods	Withdrawals & drop outs	Final score
Berg et.al. (2011)	moderate	moderate	weak	weak	Moderate	moderate	weak
Brosey & March (2014)	moderate	moderate	weak	moderate	Moderate	moderate	moderate
D'Alessio, Magsalin, Neville& Patten (2010)	moderate	moderate	weak	moderate	Moderate	moderate	moderate
Edwardson, Gregory & Gamm (2016)	moderate	moderate	weak	weak	Moderate	moderate	weak
Emerson, Chmura & Walker (2013)	moderate	moderate	weak	weak	Weak	moderate	weak
Fabry (2015)	moderate	moderate	moderate	moderate	Moderate	moderate	moderate
Meade, Bursell &	moderate	moderate	weak	weak	strong	weak	weak

Ketelsen, (2006)							
Meade, Kennedy & Kaplan (2010)	moderate	moderate	moderate	weak	weak	moderate	weak
Morgan et.al (2016)	moderate	moderate	moderate	weak	moderate	moderate	moderate
Negerandeh, Bahabadi & Mamaghani (2014)	moderate	moderate	strong	moderate	moderate	strong	moderate
Neville et.al. (2016)	moderate	moderate	moderate	weak	strong	moderate	moderate
Olrich, Kalman & Nigolian (2012)	moderate	moderate	weak	weak	strong	moderate	weak
Tucker et.al. (2011) (mixed)	moderate	moderate	weak	weak	weak	moderate	weak
Woodard (2009)	moderate	moderate	weak	weak	weak	weak	moderate

Effective Public Health Practice Project. (1998). Quality Assessment Tool For Quantitative Studies. Hamilton, ON: Effective Public Health Practice Project. Available from: https://merst.ca/ephpp/

Appendix A2

Supplementary file S2 - CASP checklist for Qualitative research

Supplementary file S2	CASP Checklist for Qualitative research	Deitrick et.al. (2012)	Flowers et.al. (2016)	Rondinelli et.al. (2012)	Willis et.al. (2016)	Tucker et.al. (2016) **Mixed methods**
A. Are the results of the study valid?	Was there a clear statement of the aims of the research?	yes	yes	yes	Can't tell	yes
	Is a qualitative methodology appropriate?	yes	yes	yes	yes	Used both
	Was the research design appropriate to address the aims of the research?	yes	yes	yes	yes	yes
	Was the recruitment strategy appropriate to the aims of the research?	Can't tell	yes	yes	Can't tell	yes

	Was the data collected in a way that addressed the research issue?	yes	Can't tell	Can't tell	yes	yes
	Has the relationship between researcher and participants been adequately considered?	Can't tell	Can't tell	Can't tell	Can't tell	Can't tell
B. What are the results?	Have ethical issues been taken into consideration?	Can't tell	yes	yes	yes	yes
	Was the data analysis sufficiently rigorous?	yes	yes	yes	Can't tell	yes
	Is there a clear statement of findings?	yes	yes	yes	Can't tell	yes
C. Will the results help locally?	How valuable is the research?	yes	yes	yes	Can't tell	yes

Critical Appraisal Skills Programme (2018). CASP Checklist for Qualitative Research. Available at https://casp-uk.net/casp-tools-checklists/. Accessed 10.5.18

Appendix A3

Supplementary file S3 - Terms, definitions and scripting used

Author	Terms utilised	Definition/ purpose	Scripting
Berg	Hourly rounding	'a proactive approach to organizing nursing care which is patient centred' 'meeting patient needs routinely and ensuring patient safety.'	3 P's – pain, potty, positioning
Brosey	Structured hourly nurse rounding	'Assessment of 3-12 elements on each patient every hour between 6am-10pm, and every 2 hours from 10pm- 6am'	Pain, toileting elimination, environment, personal item proximity, safety hazards, positioning of patient/ need to change.
D'Alessio	Patient rounding	'proactive nursing intervention to meet patient needs' 'timely response'	Pain, comfort measures, toileting, self-care, environment, baby care, is there anything else?
Deitrick	Hourly rounding	'a systematic, proactive nursing driven evidence-based intervention to anticipate and address needs in hospitalized patients.	Comfort needs, personal needs, toileting, positioning, and pain, and the safety of the room environment. Plus, unaddressed needs.
Edwardson	Hourly rounding	'nurses check in on their patients on an hourly basis during awake hours to check on comfort levels'	

Author	Terms utilised	Definition/ purpose	Scripting
Emerson	Hourly rounding	'an opportunity to ensure that patients and families are informed and safe' 'purpose of close contact and good communication with the patient and their support persons'.	4 Ps – pain, positioning, personal needs, and placement
Fabry	Hourly rounding	'relieves the uncertainty and anxiety that is often associated with a vulnerable patients' hospital experience'	4 P pain, potty or assist, positioning for comfort, personal items / attention
Flowers	Intentional rounding	'scheduling process for the safe and reliable provision of routine, non-urgent basic patient care'	4 P's – pain, pressure care, proximity, paperwork and pan ABC – analgesia, anything for baby, general concerns
Meade 2006	Regular nursing rounds	'Bedside rounds' 'A systematic nursing only protocol to anticipate patient needs'	12 checks – pain assessment, medications, toileting, position/ comfort, call light, telephone, TV remote, bedside table, tissues, garbage can all within reach, is there anything else? Someone will be back in … hours.
Meade 2010	Systematic rounding		Introduction, vitals/ tasks, PPD - plan of care, pain, duration, comfort, environment, is there anything else?

Author	Terms utilised	Definition/ purpose	Scripting
			IPC- how are we doing on meeting your most important expectation, which was….
Morgan	Customised intentional rounding	'Regular visits to each patient by a designated nurse, during which the nurse checked on specific patient needs relevant to the risk of falls, such as toileting'	
Negarandeh	Regular nursing rounds	'provide an opportunity to identify and fulfil patient needs via active nursing procedures'	Pain management, toileting, changing position and environmental management
Neville	Hourly rounds	'the intentional checking on patients at regular intervals'	4 Ps – pain, position, potty, possessions
Olrich	Hourly rounding		Introduction, pain, toileting, positioning and comfort, environmental check. Is there anything else I can do? Someone will be back in an hour.
Rondinelli	Hourly rounding	'someone being in the patient's room completing a regular series of acts or responses that identify patient need before it happens'	4 Ps – pain, position, personal needs and personal elimination ABCDE – activity, bathroom, comfort, dietary needs, environment Is there anything else I can do?

Author	Terms utilised	Definition/ purpose	Scripting
Tucker	Structured nursing rounds interventions (SNRI)	'Hourly prescribed rounding activities documented on a study specific form'	Toileting, position, patient environment, asking anything else Highlighting to patient that they will be back in an hour, and are willing to assist
Willis	Hourly/ intentional rounding	'A strategy that places the patient at the centre of the ward routine by taking care back to the patient Involves nurses carrying out regular and standardized checks, on all patients at set intervals to assess and manage their fundamental care needs.' 'An auditing mechanism to purposefully keep patients safe and comfortable and constitutes 'a bundle of interventions that meets the Nursing Intervention Classification criteria of definitions for nursing care work.'	4 Ps, personal, pain, position and proximity or pain, position, possessions, pan and plugs
Woodard	Routine rounding	'a patient's perception of high quality nursing care is not reflected in the nurse's knowledge and competence, but in the patient's perception of her availability, physical presence, and response to the call light.	4 Ps – pain, potty, position and presence

Appendix A4

Supplementary file S4 - Intentional rounding: Characteristics and outcomes of selected articles

First author, year, country of origin	**Objective**	**Design and sample** **Quantitative articles**	**Intervention**	**Outcomes**
1. Berg (2011). USA	To evaluate the effectiveness of Intentional rounding on meeting specific care needs, thus reducing call bell use	Quantitative intervention study/ with evaluation of call light use and reason pre/ post rounding implementation Sample: n=35 patients within a rural medical ward	Implementation of scripted hourly rounding, using 3 P's – pain, position, potty (toileting). Patient satisfaction and call light use evaluated.	No difference: Reason for call light use (pain, position, toileting) Patient satisfaction Prompt response to calls Nurses' attitudes towards requests. Significant difference: Total call light usage $t(34) = 3.81$, $p=0.001$
2. Brosey (2014). USA	To implement a standardized structured hourly nurse rounding process and to monitor the outcomes of patient satisfaction, patient falls, and	Quantitative intervention study/ evaluation of patient satisfaction and clinical outcomes pre/ post rounding implementation, and again one year on Sample: n= 35 pre, 81 surveys post, 472 one	Implementation of scripted hourly rounding. Surveys (HCAHPS) and medical records audit to evaluate patient safety and patient satisfaction.	No difference: Responsiveness of hospital staff Significant difference: Falls ($p=0.015$) Hospital acquired pressure ulcers Overall patient satisfaction:

	HAPUs over a 3-month time period.	year on. Medical/ surgical ward in community hospital		Communication with nurses Communication with doctors Hospital environment Pain management Communication about medicines Discharge information Likelihood to recommend (all percentage improvements)
3. D'Alessio (2010). USA	To examine the effect of hourly rounding on patient's satisfaction with care	Quantitative intervention study/evaluation of patient satisfaction pre/post rounding implementation Sample: 2 groups of N=30 maternity patients.	Implementation of scripted hourly rounding. Survey (PPSCQ) to evaluate patient satisfaction.	Significant difference: Patient satisfaction (p=0.001) Group 1 (M=38, SD = 8.40) Group 2 (M=45, SD=5.48) All measures in survey except pain and comfort increased.
4. Edwardson (2016). USA	Examination of the influence of organisational tenure on nurses' perception of work process	Quantitative cross-sectional survey study 30 months post-implementation of hourly rounding. Sample:	Evaluation of nurse perceptions of hourly rounding, hourly rounding script AIDET (Acknowledge,	No difference: Rounding script - perceived impact on patient care – new/intermediate nurses Rounding script – perceived job change -

	improvement initiatives	N=421 nurses from 41 units in 4 hospitals.	Introduce, Duration, Explanation and Thankyou), and post-discharge phone calls.	new/intermediate/veteran nurses. Hourly rounding - perceived impact on patient care – new/intermediate and intermediate/veteran nurses. Hourly rounding – perceived job change – new/intermediate nurses. Significant difference: MANOVA: Pillais'trace = 0.05, F (4,790) = 4.83 (p=<0.001) Rounding script - perceived impact on patient care – new/veteran and intermediate/veteran nurses. Hourly rounding - perceived impact on patient care – new/veteran nurses. Hourly rounding – perceived job change – new/veteran and intermediate/veteran nurses. Tabulated in the article

First author, year, country of origin	Objective	Design and sample Quantitative articles	Intervention	Outcomes
5. Emerson (2014). USA	Assessment of the impact of hourly rounding on patient communication and satisfaction in a Paediatric Emergency department	Quantitative intervention study pre/post rounding implementation Sample: N = 200 parents of paediatric patients in urban Paediatric Emergency department.	Implementation of scripted hourly rounding. Call bell use, patient communication and patient satisfaction evaluated.	No difference: Call bell use Patient satisfaction
6. Fabry (2015). USA	To investigate nurse perspectives of hourly rounding	Quantitative cross-sectional survey study 1-year post-implementation of hourly rounding Sample: 52 nurses, 15 PCAs in 186-bed adult community hospital.	Implementation of scripted hourly rounding. Nurses perceptions of the education process pre-implementation, benefits, facilitators and inhibitors, impact on patient outcomes and support and feedback post-implementation of hourly	Descriptive findings: Received enough education >85% Clear communication on benefits for staff 85% Staff sense of ownership < 30% Documentation true indication 28% 3Ps addressed in rounding 90% Contributes to improved pain mgmt 56%

			rounding evaluated.	Prevents falls 69% (RNs) Prevents PIs 77% (RNs) Continued support/resources 75% - am shift (RNs) <19% - pm shifts (RNs) Rounding consistently 77% (RNs), 80% (PCA) 100% am shifts (RNs) 88% pm shifts (RNs)
7. Meade (2006). USA	To evaluate the effect of hourly or 2-hourly rounding on call light use, patient satisfaction and safety (falls)	Quantitative case-control intervention study, hourly, 2-hourly rounding Sample: N = 27 units in 14 hospitals. 15 experimental units and 12 control units.	Implementation of hourly rounding, or 2-hourly scripted intentional rounding. Call light use, falls frequency and patient satisfaction evaluated.	No difference: Falls – 2 hourly rounding Reasons for call light use: Bathroom, bedpan assistance IV problems, pump alarms Accidental calls Miscellaneous Pain medication Nurse or nursing assistant needed Repositioning, mobility assistance Significant difference:

				Patient satisfaction (M=79.9 on 100-point scale) prior to hourly IR, 91.9 (t=736.58, p= 0.001) during. (M=70.4 on 100-point scale) prior to 2hourly IR, 82.1 during (t=657.11, p= 0.001). Room amenity calls miscellaneous non-serious personal/ health issues (p=.0.06) Falls – hourly rounding (t= 3.074, p = 0.01) Call light use overall (percentages)
8. Meade (2010). USA	To evaluate the effectiveness of 3 rounding techniques within an Emergency department on call light use and patient satisfaction	Quantitative case-control intervention study (non-equivalent grouping) Sample: N = 28 hospital emergency departments	Intentional hourly scripted rounding, Intentional 30-minute scripted rounding, and Intentional hourly scripted rounding with individualised patient care (IPC) tactic. Comparison of call light use and patient satisfaction scores.	No difference: Patient response to 'being informed about delays' Significant difference: Leaving without being seen Leaving against medical advice Falls Call light use Nurses station enquiries Patient satisfaction

				Pain management Being kept informed. Tabulated in the article Descriptive findings: Staff found rounding beneficial overall (83%) Staff 'too busy to round' (14%) Beneficial for physicians, less interruptions, better communication between patients and staff
9. Morgan (2016). UK	To evaluate patient falls pre- and post-intentional rounding implementation	Quantitative intervention study pre/post rounding implementation N=75 patients (neuroscience ward) Control = 4 hospital sites, 50 inpatient wards in Trust	Implementation of scripted hourly intentional rounding. Falls and interactions evaluated.	No difference: Comparative improvement to rest of Trust Significant difference: 95% confidence intervals 50% reduction in patient falls (p=0.006) Documentation inconsistent (recorded 50% of time) Increased interaction with patients (p=0.013)
10. Negerandah (2014). Iran	To determine the impact of regular nursing rounds on patient satisfaction	Quantitative controlled clinical trial (non-equivalent control)	Scripted hourly intentional rounding implementation. Survey (PSNCQQ) to evaluate	No difference: Patient satisfaction - day 2 Significant difference:

	with nursing care	Sample: N=100 Med/ surgical wards in teaching hospital	patient satisfaction.	Patient satisfaction – day 5 Mean satisfaction scores Control (M=55.3, SD 12.7, p = <0.022) (paired. t test) Experimental (M = 68.8, SD= 8.8, p <0.0001)
11. Neville (2016). USA	Exploration of the effect of shift work on the nurses' perception of intentional rounding	Quantitative cross-sectional study Sample: N= 76 nurses from 5 med/surgical wards in one hospital.	Scripted hourly intentional rounding implementation. Survey (NPPRS) of shift working nurses to evaluate nurses' perceptions of rounding and the influence of shift work.	No difference: Total rounding scale Communication Patient benefits Significant difference: Nurse benefits (F=3.768, p=0.05) Descriptive findings: Nurse leadership Nurse satisfaction Perceived patient satisfaction and safety. Meeting patient needs Recognising patient acuity Trust and teamwork Less support on night shift Inconsistencies in completion

				Influenced by acuity, shift, busy wards
12. Olrich (2012). USA	An analysis of call light use, patient satisfaction and safety (falls) as affected by hourly rounding	Quantitative case/control intervention study Two medical-surgical units Sample: N = 4,418	Scripted intentional rounding, plus control group. Comparison of call light use, falls and patient satisfaction.	No difference: Falls Call light use Patient satisfaction
13. Woodard (2009). USA	An evaluation of routine charge nurse rounding in lowering uncertainty in patients, falls, call light use, and increasing patient satisfaction	Quantitative controlled trial Sample: N=25 medical-surgical patients, 12 charge nurses surveyed	Scripted intentional rounding by nurses in charge of ward. Survey of charge nurses, falls, call light use and patient satisfaction evaluated.	Descriptive findings: Increased patient satisfaction Decreased call light use Decreased falls Complex patients take more time in rounding practices Rounding positively influences patient, nurse and organisation. Cost savings
14. Tucker (2012). USA	An evaluation of the feasibility of hourly rounding implementation to reduce patient falls	Sequential explanatory mixed method study: Quantitative descriptive intervention–repeated measure design – data collected at baseline, 12 weeks post	Scripted intentional rounding. Fall frequency compared, focus groups attended.	No difference: No statistical difference in falls between baseline, 12 weeks and 1 year. Descriptive findings from focus groups: Lack of clarity surrounding purpose of rounding practices

		implementation, and 1-year post implementation Sample: N=2295 orthopaedic hospitalisations assessed, Qualitative: N=14 participants in focus groups post intervention		Documentation burdensome Negative connotations around having to conduct intentional rounding Success influenced by other competing external factors.
15. Deitrick (2012). USA	Examination of problems with the implementation of hourly intentional rounding	Qualitative ethnography study Sample: 2 wards within a 981 bed multi-campus hospital 13 stakeholder interviews, 48 floor staff interviews, 40 hours of observation.	Implementation of hourly rounding with limited consistency .and success. Interviews and observation attended.	Descriptive findings: Difficulty understanding how to do hourly rounding Difficulty understanding the purpose of hourly rounding Rounding process/ workflow problems, Accountability of intentional rounding, Negative staff attitudes, Patient safety links unclear to staff Communication and understanding reasoning playing a part in success, rather than

				focus on documentation.
First author, year, country of origin	**Objective**	**Design and sample** **Quantitative articles**	**Intervention**	**Outcomes**
16. Flowers (2016). Australia	To investigate the implementation, practice and sustainability of intentional rounding in 2 clinical settings	Descriptive qualitative study using focus groups (3 groups: 2 with nurses, 1 with NUM/ CNEs from wards) Sample: N= 9 nurses, 6 senior staff	Focus groups to discuss recent implementation of IR (12-18months) in each setting, to discuss the implementation and maintenance or IR practices in each setting	Descriptive findings: Variations to scripted rounding used Influenced by context/ environment/ staffing Patient satisfaction increase Staff/ professional satisfaction increase Documentation/ legality issues problematic Documentation a formality on what was already done Visual reminders helpful Roles and responsibilities unclear and difficult at times.
17. Rondinelli (2012). USA	To identify structures, processes and outcomes associated with hourly rounding	Qualitative action research Sample: N= 14 interviews of project leads	Scripted intentional rounding implementation. Interviews attended.	Descriptive findings: Structures, processes and outcomes discussed; acronyms and visual cues beneficial, delegation differences between wards, customised

				rounding to individual populations beneficial Nurse leadership and staff education influential in success Positive outcomes both designated – fall frequency, call light and HAPU reduction, and unintended – efficient nursing practice, change in culture of ward, patient and staff satisfaction Questions about sustainability and validity over time
18. Willis (2016). Australia	Demonstration of what happens to nursing work when management imposes patient rounding	Qualitative case study Sample: N= 15 interviewed	Scripted intentional rounding implementation. Interviews attended.	Descriptive findings: Rounding introduction impacts on engagement Rounding as a positive risk management tool promoting patient centred care, creating efficiency and regulating practice Conflicting views on efficiency, frustration expressed on rounding practices

Appendix A5

Supplementary File S5: Search strategy example

Search	Search terms were modified for use across multiple databases
#1	Search nurs*
#2	Search patient round*
#3	Search patient comfort round*
#4	Search proactive patient round
#5	Search intentional round*
#6	Search hourly round*
#7	Search patient round*
#8	Search regular round*
#9	Search combinations #1 + ….
#10	Search #1-#9 NOT grand rounds

Appendix A6

Supplementary File S6: Direct participant quotes

Themes	Subtheme examples	'Direct' participant quotes linked to themes	Author (s)
Implementation	Education	'*nurse leaderships are the ones who initiated the rounding and the tool for documentation. They are very supportive'* *Intentional rounding is 'very useful and improves patient satisfaction scores'*	Neville et al., 2016
		'*In the beginning, I didn't believe it'*	Meade et al., 2006
		'*although we have been charged to perform hourly rounding for about a year now, virtually no education was provided as to the purpose, design, or script, other than to be told that this will decrease call light use'*	Fabry, 2014
		'Initially, I provide a more focused educational session with the charge nurses and managers. Later, I come back and provide an in-service to the actual staff themselves	Rondinelli et al., 2012

	Engagement	*'It's a waste of time and paper'* *'There are a lot of meds and not enough time for call bells and rounding'* *'In theory is great, but it is not consistently done'* *'hourly rounding is excessive'*	Neville et al., 2016
		'*what is the validity of this intervention with the surgical patient? For example, asking about toileting every hour. Is that prompt relevant and valid to an otherwise healthy individual what has orthopaedic surgery? The prompt may be relevant for an elderly or confused patient yet not for some of our patients. So, I did not ask that question to all of my patients. If felt silly – out of place- to keep asking a healthy individual if they needed to use the bathroom'*	Tucker et al., 2012
		'We had five changes in one month. They were all big changes. We did not need this added on top of everything else going on'	Tucker et al., 2012
		'I just thought this was one more thing for our limited staff of nurses to do'	Meade et al., 2006
		'*You can't take this (rounding), make this go forward successfully, until you've built will'*	Rondinelli et al., 2012

		'just a normal thing… usually within a month, 30 days' of implementation'	Flowers et al., 2016
	Documentation	'*I don't think it is being done by all even though the rounding sheets are documented on'*	Neville et al., 2016
		'As an RN on a busy medical-surgical unit, I really don't need a sheet of paper to tell me to hourly round'	Fabry, 2014
		'*I kept hearing from other staff that they were not filling out the paper forms so I just gave up. I could not keep up with it. Once I knew other nurses were not following documentation procedures I just gave up'*	Tucker et al, 2012
		(It is a*) 'stat dec that the nurse has actually seen that patient and when they've seen it they've signed it, and so with safety and quality with some of the incidents now, they can say well that patient was seen at 1.15, and that that patient was ok'* *'It's basic nursing care, toileting, pain relief, fluids, comfort, is basic nursing care, to what point do we need to document this…. This is what I do as a job'*	Willis et al., 2015

		'We have too many pieces of paper, and you just don't have time to fill in 25 bits of paper for one patient, when you've got 9 of them. It becomes a nonsense' *'… I'd go around and I'd forget so I'd lie about which way they (patient) were facing quite honestly… it's not a legal document, there's no time in it… I just didn't do it..'*	
		' if you're doing things properly you don't need these forms' Forms *'pre-signed for the whole shift'* To *'demonstrate that due care has been provided'*	Flowers et al., 2016
Patient safety	Call light use	*'I told them (nursing staff) they wouldn't be interrupted by call lights anymore while giving medications or patient education'*	Meade et al., 2006
		'*I mean from a safety and quality thing for the patient, being with the patients – we want people to have toileting regimes and we want people to have pain relief – because a lot of patients when you talk to them – that they see the nurse is busy and they don't want to press the bell, but if you go and ask them what would you like, well then, they are more likely to respond. Oh yes, that's good, well now it's my time or my turn'.*	Willis et al., 2015

	Falls	'*prevents falls'*	Neville et al., 2016
		'*Falls can occur within minutes of leaving a room… if someone wants to get out of bed, especially if they are elderly, confused, and chronically ill, no amount of hourly rounding will solve this issue'*	Fabry, 2014
		'I know that the (DoN) was quite appalled that this sort of stuff wasn't actually going on or she perceived it not to be going on, and this was actually contributing to the amount of falls that were happening in the hospital… she felt that if they were doing regular rounding then there would be more efficient use of nursing time'	Willis et al., 2015
	HAPU's	*'It's just about containing complications, or trying to sort of don't make them bigger than what they can – just sort of you know, pre-empting conditions and stuff'*	Willis et al., 2015
Satisfaction	Patient satisfaction	*'this was a valuable service to patient that enhanced patient care and satisfaction'* *'This project led to the best patient satisfaction scores we have yet to see in our department!'*	Meade et al., 2010

		'*The patients love it – I hear them tell their family members during visiting hours when rounds are being done 'oh, she's just checking on me to make sure I'm all right"*	Meade et al., 2006
		'In the OR area, the nurses consider the patients' family their patients also. They (the family) are waiting in the waiting room area. The nurses go see them as well every hour'.	Rondinelli et al., 2012
		Staff received thank you letters with *'lists of names of staff',* which does not happen unless *'someone's frequenting the room constantly throughout the day'*	Flowers et al., 2016
	Nurse satisfaction	Intentional rounding '*Increases trust and teamwork between nursing staff*'	Neville et al, 2016
		'*you learn so much from the rounding logs'*	Meade et al., 2006
		'*We are a small hospital without a lot of resources. I am so proud of them for pulling it off*'	Meade et al., 2006
		'….everybody is ok, and they have got their call bell and they don't need to go to the toilet and they're not in pain - and if you pre-empt things then your	Willis et al, 2015

		workload decreases and if you have made sure everybody has got their pain relief and made sure they have got up and gone to the toilet then you're not changing a wet bed and you're not picking someone up because they have fallen over' *'…sometimes it's really hard to physically get around and do those hourly roundings, just because, it takes an hour and a half to do a dressing, well they're an hour and a half, you're not going to around again'* *'I don't think nursing is about performing a process I think it actually downgrades what we do, I think it doesn't acknowledge that we are able to critically think'* *'Rounding is very policy driven and detracts from what we are actually trained to do'*	
		'*takes away from actual patient care'*	Flowers et al, 2016

Appendix A7

Supplementary File S7: Enhancing transparency in reporting the synthesis of qualitative research - the ENTREQ statement

No	Item	Guide & Description	Review (qualitative studies only)
1	Aim	State the research question(s) the synthesis addresses.	What is the effect of intentional rounding on patient satisfaction? What are the perspectives of nurses around intentional rounding? What effect does intentional rounding have on patient safety indicators?
2	Synthesis methodology	Identify the synthesis methodology or theoretical framework which underpins the synthesis and describe the rationale for choice of methodology (e.g. meta-ethnography, thematic synthesis, critical interpretive synthesis, grounded theory	A sequential explanatory approach was used to synthesise data as this is a mixed study review. Narrative synthesis was employed during the first phase due to the heterogeneity of included studies. The initial thematic framework developed was used in the second phase and the framework approach (Ritchie & Spencer, 1994) applied to code qualitative data to the set of themes. The third phase involved reflection and

		synthesis, realist synthesis, meta-aggregation, meta-study, framework synthesis).	reinterpretation of the synthesis process and outputs to build a conceptual model of learning via social media.
3	Approach to Searching	Indicate whether the search was pre-planned (comprehensive search strategies to seek all available studies) or iterative (to seek all available concepts until they theoretical saturation is achieved).	Relevant and defined terminology was used to conduct a systematic search on the review topic.
4	Inclusion criteria	Specify the inclusion/exclusion criteria (e.g. in terms of population, language, year limits, type of publication, study type).	Population - nurses at any level of education, health management, patients and families Intervention – Intentional rounding Control – None Outcome – perspectives of population involved and impacted by intentional rounding Language – English language only Year – 2000-2016 Study type – peer reviewed studies, excluding pilots and literature reviews

5	Data sources	Describe the information sources used (e.g. electronic databases (MEDLINE, EMBASE, CINAHL, psycINFO, Econlit), grey literature databases (digital thesis, policy reports), relevant organisational websites, experts, information specialists, generic web searches (Google Scholar) hand searching, reference lists) and when the searches conducted; provide the rationale for using the data sources.	Cinahl, ProQuest, PubMed, Informit, Sage and Scopus electronic databases were used. References of the included studies was also included. Date limitations of 2000-2016 were employed, as intentional rounding was not a formality prior to this. Searches were undertaken in 2016, and updated in 2017.
6	Electronic Search strategy	Describe the literature search (e.g. provide electronic search strategies with population terms, clinical or health topic terms, experiential or social phenomena related terms, filters for qualitative research, and search limits).	Search terms included combinations of patient round*, nurs*, patient comfort rounds, proactive patient rounds, intentional rounding, hourly rounding. This was done in conjunction with a university librarian. Ward rounds and doctors rounds were excluded.
7	Study screening Methods	Describe the process of study screening and sifting (e.g. title, abstract and full text review, number of independent reviewers who screened studies).	Screening was done via title, then abstract, screened independently by two reviewers. Any discrepancies were further discussed and a consensus reached. Full text screening was then undertaken collaboratively excluding further if results or sampling was unclear.

8	Study characteristics	Present the characteristics of the included studies (e.g. year of publication, country, population, number of participants, data collection, methodology, analysis, research questions).	Please see Supplementary file S4.
9	Study selection results	Identify the number of studies screened and provide reasons for study exclusion (e.g. for comprehensive searching, provide numbers of studies screened and reasons for exclusion indicated in a figure/flowchart; for iterative searching describe reasons for study exclusion and inclusion based on modifications to the research question and/or contribution to theory development).	Please see Figure 1 Review diagram.
10	Rationale for appraisal	Describe the rationale and approach used to appraise the included studies or selected findings (e.g. assessment of conduct (validity and robustness), assessment of reporting (transparency), assessment of content and utility of the findings).	Qualitative and quantitative studies were appraised, using the CASP tool for qualitative studies. Please see Supplementary File S2. Some articles were still included despite weak scores, for relevance to the research questions.

11	Appraisal items	State the tools, frameworks and criteria used to appraise the studies or selected findings (e.g. Existing tools: CASP, QARI, COREQ, Mays and Pope [25]; reviewer developed tools; describe the domains assessed: research team, study design, data analysis and interpretations, reporting).	Existing tools were utilised for appraisal as per previous response. Please see Supplementary files S2 for qualitative appraisal.
12	Appraisal process	Indicate whether the appraisal was conducted independently by more than one reviewer and if consensus was required.	Two reviewers undertook the quality appraisals separately then discussed responses coming to a collective conclusion.
13	Appraisal results	Present results of the quality assessment and indicate which articles, if any, were weighted/excluded based on the assessment and give the rationale.	Please see Supplementary File S2 of the review paper. Studies were not excluded due to weak quality appraisal scores, as they were still deemed relevant to the study.
14	Data extraction	Indicate which sections of the primary studies were analysed and how were the data extracted from the primary studies? (e.g. all text under the headings “results	Data was extracted by one reviewer initially, using results and discussion sections of the studies included. This was then reviewed by all other authors for clarification.

		/conclusions" were extracted electronically and entered into a computer software).	
15	Software	State the computer software used, if any.	All data extraction was conducted manually, through reading and rereading data.
16	Number of Reviewers	Identify who was involved in coding and analysis.	The primary author completed the synthesis process and corresponded with the research team as required to discuss analysis, and provide further assistance and review.
17	Coding	Describe the process for coding of data (e.g. line by line coding to search for concepts).	The analysis of qualitative data in the chosen studies was undertaken line by line to search for codes and concepts. Computer assistance through the use of NVIVO etc was not used.
18	Study comparison	Describe how were comparisons made within and across studies (e.g. subsequent studies were coded into pre-existing concepts, and new concepts were created when deemed necessary).	Quantitative and qualitative data was analysed, and meta-themes found through grouping and clustering, tabulation and inductive thematic analysis. Triangulation was used to compare within and across studies.
19	Derivation of Themes	Explain whether the process of deriving the themes or constructs was inductive or deductive.	The process of deriving themes was completed via an inductive process as themes emerged through coding and analysis.

20	Quotations	Provide quotations from the primary studies to illustrate themes/constructs and identify whether the quotations were participant quotations or the author's interpretation.	Please see Supplementary file S6 providing direct participant quotations from selected literature.
21	Synthesis output	Present rich, compelling and useful results that go beyond a summary of the primary studies (e.g. new interpretation, models of evidence, conceptual models, analytical framework, development of a new theory or construct).	Please see the implications for practice, research and education at the end of the discussion to show how this work can be continued and developed.

Appendix A8

Supplementary File S8: Preferred Reporting of Items for Systematic Reviews and Meta-Analysis - The PRISMA Statement

Section	#	Checklist Item	Reported on Page #
Title			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
Abstract			
Abstract	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	1 & 2
Introduction			

Rationale	3	Describe the rationale for the review in the context of what is already known.	2
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	2 & 3
Methods			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number. ??????	NA
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale	2 & 3
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	3
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	File S5

Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	2 & 3
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	2-4
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	7 & 8
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	3, Supp file S1, S2
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	Table 1 & Table S3
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I2) for each meta-analysis.	3, 4, 8,9
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	3, Supp file S1, S2

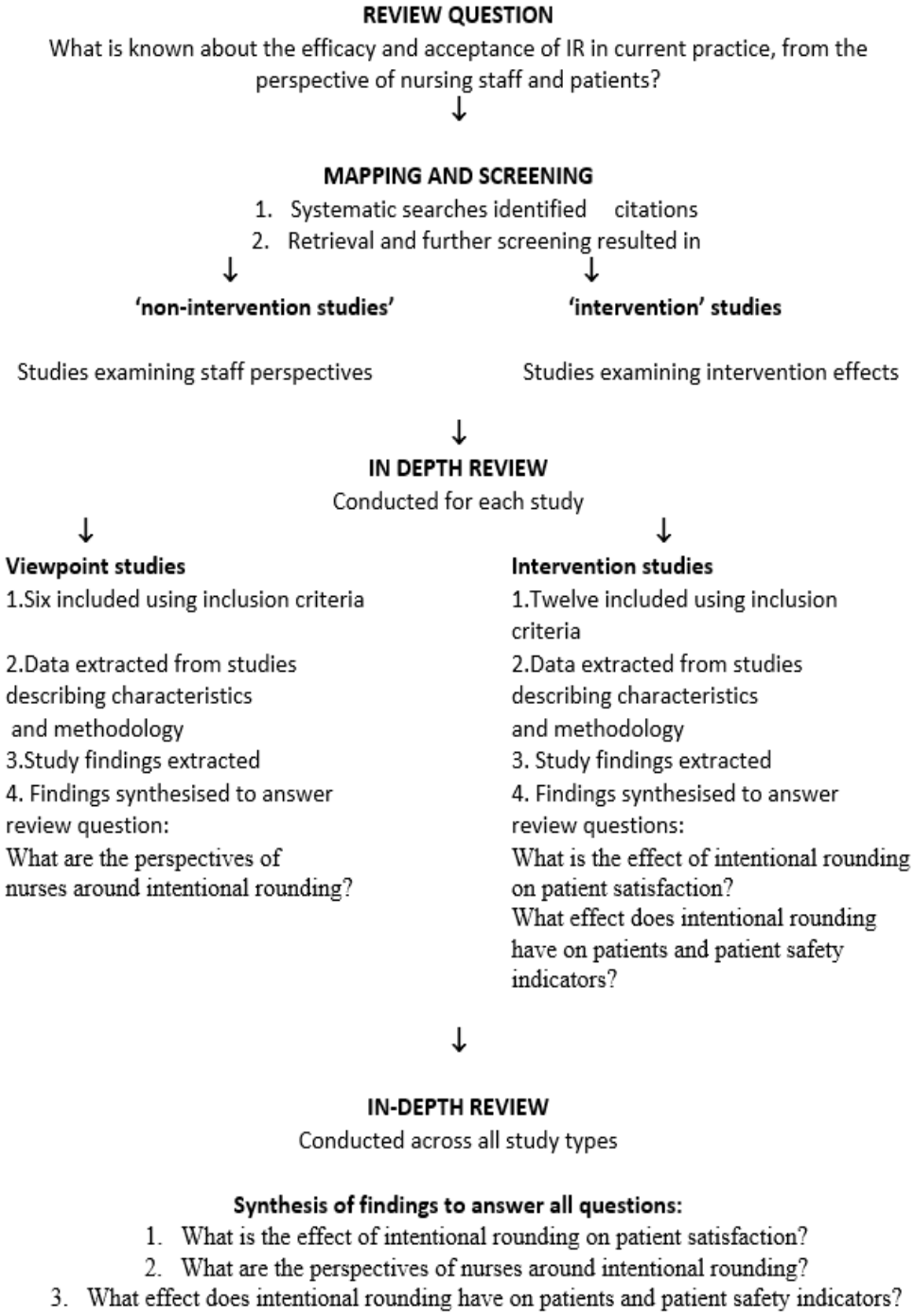
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were pre-specified.	
Results			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	Figure 1
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations	Table 1, Supp.file S4
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome-level assessment (see Item 12).	3, Supp file S1, S2
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group and (b) effect estimates and confidence intervals, ideally with a forest plot.	NA
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	4-9

Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	3, Supp file S1, S2
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	NA
Discussion			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., health care providers, users, and policy makers).	10, 11
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review level (e.g., incomplete retrieval of identified research, reporting bias).	11
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	11
Funding			

Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	11

Appendix A9

Supplementary file S9: Review framework



Appendix B

Online Implied Consent for Participants

Research project:

I have read the information contained in the Information Sheet for Participants and any questions I have asked have been answered to my satisfaction.

I agree to participate in this activity, realising that I may withdraw at any time.

I agree that research data gathered for the study may be published, and my identity will be unidentifiable as explained in the information sheet.

I agree that may be quoted using a pseudonym.

I am over 18 years of age.

In preservation of anonymity, I understand that no name or signature is required of me to give consent. By activating the **proceed** button below I am agreeing to participate in this study.

PROCEED TO STUDY

DEMOGRAPHIC QUESTIONS

I have been on a HOSPITAL clinical placement before yes/no

If you answered no to the above question, please do not continue with the survey. You must have completed at least one HOSPITAL clinical placement to participate in this study.

I am female/ male/ other (please circle)

My age is years (please write your age)

Please circle how many clinical placements you have participated in

1 2 3 4 5+

I have had previous experience in nursing yes/no

If yes, what is your most recent position? (please circle)

RN, EN/EEN, AIN/PCA/carer/other

I feel that I understand what intentional rounding is yes/no

Intentional rounding was part of at least one of my clinical placement/s yes/no

I was taught about intentional rounding at my university yes/no

I was taught about intentional rounding whilst on clinical placement yes/no

I was given sufficient information / education about intentional rounding yes/no

Intentional rounding was a task that was delegated to me as a student nurse yes/no

Intentional rounding was part of my role in looking after a patient load yes/no

I knew who to escalate any problems or concerns to if any came up during my regular patient rounding yes/no

Intentional rounding is helpful to the student nurse with regard to organisation and time management yes/no

AT END OF SURVEY.

Thank you for participating in this survey.

If you would be interested in being part of a follow up interview on your experience and opinions of intentional rounding, please continue to the next page.

I am happy to participate in an interview to assist the researchers gain further understanding of my experience of intentional rounding. I am happy to submit my contact details here, and the researcher will contact me to organise a suitable time to conduct the interview. I can withdraw at any time should I wish, and my responses will be de-identified.

My contact details are below.

Appendix C

Advertising

RESEARCH OPPORTUNITY!!

Researchers within the University of New England are conducting some research on Student nurse perspectives of Intentional Rounding.

We invite you to participate by completing a short online survey. Follow up interviews will also be conducted with those that wish to contribute further at a later stage, but this is not compulsory.

Please read the information sheet provided, and follow the link to complete the survey.

Your participation in this research would be greatly appreciated, and you have the opportunity to **win a $200 Coles voucher** for your contribution!

Approval number: HE17-100 Valid to: 16 June, 2018

Appendix D: **Consent form for participants**

CONSENT FORM

Research Project: An exploration of the experience of and attitudes towards intentional rounding from the perspective of pre-registration nursing students.

I,……
.., have read the information contained in the Information Sheet for Participants and any questions I have asked have been answered to my satisfaction. Yes/No

I agree to participate in this activity, realising that I may withdraw at any time. Yes/No

I agree that research data gathered for the study may be quoted and published using a pseudonym. Yes/No

I agree to having my interview audio recorded and transcribed.

Yes/No

I would like to receive a copy of the transcription of the interview. Yes/No

I am older than18 years of age. Yes/No

…….. ……

Participant Date

Appendix E: **Rounding information sheet for pilot survey**

Liz Ryan

School of Health

University of New England

Armidale NSW 2351

INFORMATION SHEET

for

PARTICIPANTS

I wish to invite you to participate in a research project as part of my PhD, as described below.

My name is Liz Ryan and I am conducting this research in the School of Health at the University of New England. My supervisors assisting me are Professor Kim Usher, Professor Debra Jackson, and Dr Cindy Woods.

Research Project	**An exploration of the experience of and attitudes towards intentional rounding from the perspective of pre-registration nursing students.**
Aim of the research	The research aims to explore the experiences and views of pre-registration nursing students regarding intentional rounding practices.
Online survey	I would like to invite you to participate in piloting a short online survey. This survey will be completely anonymous, and will take about 5 minutes of your time. Results from all the survey participants will then be collated. The reason for me requesting your participation, is to test the survey for use with students, and in the Australian context. This will then be part of a larger study.
Confidentiality	Any personal details gathered in the course of the study will remain confidential. No individual will be identified by name in any publication of the results. All names will be replaced by pseudonyms; this will ensure that you are not identifiable.

Participation is Voluntary	Please understand that your involvement in this study is voluntary and I respect your right to withdraw from the study at any time. You may discontinue the survey or interview at any time without consequence and you do not need to provide any explanation if you decide not to participate or withdraw at any time. Such withdrawal from the study, or non-participation will not affect grades in any way.
Questions	The survey questions will not be of a sensitive nature: rather they are general, aiming to enable you to enhance my knowledge of the experiences and thoughts surrounding intentional rounding in the clinical setting.
Use of information	I will use the information from the survey to test the effectiveness of the survey tool on the experience and attitudes of pre-registration nursing students regarding intentional rounding. Information from the survey will be used as part of my thesis, and may also be used in journal articles and conference presentations before and after

	this date. At all times, I will safeguard your identity by presenting the information in a way that will not allow you to be identified.
Upsetting issues	It is unlikely that this research will raise any personal or upsetting issues but if it does you may wish to contact your local Community Health Centre (Armidale – 67769600), or UNE Student Support on 67732897.
Storage of information	Survey data will be removed from the online server once the project is completed, and one copy kept on a password protected computer or USB. I will keep hardcopy interview notes and recordings of the interview session in a locked cabinet at the researcher's office at the University of New England's School of Health. Any electronic data will be kept on a password-protected computer in the same School. Only the research team will have access to the data.
Disposal of information	All the data collected in this research will be kept for a minimum of five years, after which it will be disposed of by deleting relevant

	computer and audio files, and destroying or shredding hardcopy materials.
Approval	This project has been approved by the Human Research Ethics Committee of the University of New England (Approval No: HE17-100, Valid to 26th June, 2018).
Contact details	Feel free to contact me with any questions about this research by email at [redacted] or by phone on [redacted], Professor Kim Usher – [redacted], Dr Cindy Woods – [redacted], or Professor Debra Jackson – [redacted]
Complaints	Should you have any complaints concerning the manner in which this research is conducted, please contact the Research Ethics Officer at: Research Services

University of New England

Armidale, NSW 2351

Tel: (02) 6773 3449 Fax: (02) 6773 3543

Email: ethics@une.edu.au

Thank you for considering this request and I look forward to further contact with you.

Regards,

Liz Ryan

Appendix F: Information sheet

Introductory page for survey

Intentional rounding

Information Sheet

I wish to invite you to participate in a research project, as described below.

My name is Liz Ryan and I am conducting this research as part of my PhD in the School of Health at the University of New England. My supervisors overseeing this project are Professor Kim Usher, Professor Debra Jackson, and Dr Cindy Woods.

Research Project

An exploration of the experience of and attitudes towards intentional rounding from the perspective of pre-registration nursing students.

Aim of the research

The research aims to explore the experiences and views of pre-registration nursing students regarding intentional rounding practices.

Online survey

I would like to invite you to participate in a short online survey. This survey

will be completely anonymous, and will take about 5 – 10 minutes of your time. Results from all the survey participants will then be collated and reviewed.
You may choose to participate in the survey only, or the survey and follow up interview.

Interview

I would also like to conduct face-to-face/ phone/skype interviews as a means of clarifying the survey results. The interviews will take no more than one hour. With your permission, I will make an audio recording of the discussion to ensure that I accurately capture the information you provide. Following the interview session, a transcript will be provided to you if you wish to see one.

Confidentiality

Any personal details gathered in the course of the study will remain confidential. No individual will be identified by name in any publication of the results. All names will be replaced by pseudonyms; this will ensure that you are not identifiable in the resulting publications. At the end of the survey, you will be asked if you are interested in participating in an additional interview (by phone or in person). If you choose to provide contact information such as your phone number or email address, your survey responses may no longer be anonymous to the researcher. However, no names or identifying information would be included in any publications or presentations based on these data, and your responses to this survey will remain confidential.

Participation is Voluntary

Please understand that your involvement in this study is voluntary and I respect your right to withdraw from the study at any time. You may discontinue the survey or interview at any time without consequence and you do not need to provide any explanation if you decide not to participate or withdraw at any time. Such withdrawal from the study, or non-participation will not affect grades in any way. Recorded interview responses can also be deleted at your request should you choose not to continue participation.

All participants will have the opportunity to win one of two $200 Coles vouchers, which will be drawn at the completion of the study.

Intentional rounding

Questions

The survey questions will not be of a sensitive nature: rather they are general, aiming to enable you to enhance my knowledge of the experiences and thoughts surrounding intentional rounding in the clinical setting.

Use of information

I will use the information from the survey to test the effectiveness of the survey tool on the experience and attitudes of pre-registration nursing students regarding intentional rounding. Information from the survey will be used as part of my thesis which I expect to complete in 2020, and may also be used in journal articles and conference presentations before and after this date. At all times, I will safeguard your identity by presenting the information in a way that will not allow you to be identified.

Upsetting issues

It is unlikely that this research will raise any personal or upsetting issues but if it does you may wish to contact Lifeline (131114) or for UNE students please call UNE Student Support on 67732897.

Storage of information

Survey data will be removed from the online server once the project is completed. Hardcopy interview notes and recordings of the interview session will be kept in a locked cabinet at the researcher's office at the University of New England's School of Health. Any electronic data will be accessed on a password-protected computer in the same School. Digital data will be kept on cloud.une.edu.au during the active term of the research. Only the research team will have access to the data.

Disposal of information

All the data collected in this research will be kept for a minimum of five years after successful submission of my thesis, after which it will be disposed of by deleting relevant computer and audio files, and destroying or shredding hardcopy materials.

Approval

This project has been approved by the Human Research Ethics Committee of the University of New England (Approval No: HE17 Valid to 15/6/2018)

Contact details

Feel free to contact me with any questions about this research by email at [redacted]

You may also contact my supervisors:

Professor Kim Usher – [redacted]

Dr Cindy Woods – [redacted]

Professor Debra Jackson – [redacted]

Complaints

Should you have any complaints concerning the manner in which this research is conducted, please contact: Mrs Jo-Ann Sozou

Research Ethics Officer

Research Services

University of New England

Armidale, NSW 2351

Tel: (02) 6773 3449

Email: ethics@une.edu.au

Thank you for considering this request and I look forward to further contact with you.

Regards,

Liz Ryan

Intentional rounding

Implied Consent for Participants

Research Project:

I have read the information contained in the Information Sheet for Participants and any questions I have asked have been answered to my satisfaction.

I agree to participate in this activity, realising that I may withdraw at any time.

I agree that research data gathered for the study may be published, and my identity will be unidentifiable as explained in the information sheet.

I agree that I may be quoted using a pseudonym.

I am over 18 years of age.

In preservation of anonymity, I understand that no name or signature is required of me to give consent. By activating the NEXT button below, I am agreeing to participate in this study.
PROCEED TO STUDY

Appendix G: **NPPRS psychometrics**

Nurse's Perceptions of Patient Rounding

(Copyright, Neville, 2010)

In your own words, how would you define hourly rounding at your institution?

Please circle the appropriate response for each item listed below.

Strongly Disagree (SD) Disagree (D) Uncertain (U) Agree (A) Strongly Agree (SA)

1 2 3 4 5

1. I routinely round at least every 2 hours.

   1 2 3 4 5

2. Rounding is a constructive use of nurses' time.

   1 2 3 4 5

3. Call bell use has not decreased through the use of rounding.

   1 2 3 4 5

4. Rounding promotes more effective communication between

   nurses and patient care technicians.

   1 2 3 4 5

5. A more cohesive, collaborative nursing team effort is

   fostered through nursing rounds.

   1 2 3 4 5

6. The benefit of rounding is that it creates a quieter, less chaotic nursing unit.

   1 2 3 4 5

7. Rounding does not facilitate improved communication.

   1 2 3 4 5

8. Rounding significantly increases my workload.

   1 2 3 4 5

9. Based on my assessment, I often round more frequently

   than q2 hours.

   1 2 3 4 5

10. Rounding is an approach that facilitates improved care.

    1 2 3 4 5

11. Two hour rounding reduces my stress levels.

    1 2 3 4 5

12. By rounding on my patients every two hours, I can more

    easily recognize changes in the health status of my patients.

    1 2 3 4 5

13. If I get delayed with one of my patients, my rounding of every 2 hours is not realistic.

    1 2 3 4 5

The NPPRS was developed at Somerset Medical Center, Somerville, New Jersey

NURSES' PERCEPTION OF PATIENT ROUNDING SCALE

(Copyright, Neville, 2010)

Strongly Disagree (SD) Disagree (D) Uncertain (U) Agree (A) Strongly Agree (SA)

1 2 3 4 5

14. By rounding on my patients every two hours, I can more

    easily recognize changes in the health status of my patients.

    1 2 3 4 5

15. If I get delayed with one of my patients, my rounding of every 2 hours is not realistic.

    1 2 3 4 5

16. Through rounding, patients experience less anxiety about their care.

    1 2 3 4 5

17. Rounding affords me the opportunity to get to know patients better.

    1 2 3 4 5

18. I would experience greater satisfaction in my work if could round (care) for the same patients each shift that I work.

    1 2 3 4 5

19. Rounding affords patients and families the opportunity to communicate more effectively with the nursing team.

    1 2 3 4 5

The NPPRS was developed at Somerset Medical Center, Somerville, New Jersey

NURSES' PERCEPTION OF PATIENT ROUNDING SCALE

(Copyright, Neville, 2010)

Strongly Disagree (SD) Disagree (D) Uncertain (U) Agree (A) Strongly Agree (SA)

1 2 3 4 5

20. There is no increase in patient satisfaction from rounding every two hours.

    1 2 3 4 5

21. Effective rounding allows me to have more quiet time to manage my nursing care.

    1 2 3 4 5

22. Once I receive my shift report, I need time to plan my day.

    1 2 3 4 5

23. My patients are more comfortable and can rest assured knowing that I will return at designated times during my shift to address their needs.

    1 2 3 4 5

24. Rounding reduces patient and family uncertainty about their illness.

    1 2 3 4 5

25. My patients take too much of my time to allow effective rounding on all patients to occur every 2 hours.

    1 2 3 4 5

The NPPRS was developed at Somerset Medical Center, Somerville, N.J.

NURSES' PERCEPTION OF PATIENT ROUNDING SCALE

Strongly Disagree (SD) Disagree (D) Uncertain (U) Agree (A) Strongly Agree (SA)

1 2 3 4 5

26. Patients benefit from my visible presence every two hours.

    1 2 3 4 5

27. Having to inform patients and families about their care during rounds takes too much time.

    1 2 3 4 5

28. I have concerns about patient confidentiality during rounding.

    1 2 3 4 5

29. Rounding has enabled me the opportunity for more comprehensive, safer patient care, and to more quickly identify and meet the nursing needs of my patients.

    1 2 3 4 5

30. Eye contact with my patients makes me uncomfortable.

    1 2 3 4 5

31. My cultural background creates a difference in how I am perceived by patients/families. 1 2 3 4 5

The NPPRS was developed at Somerset Medical Center, Somerville, N.J.

NURSES' PERCEPTION OF PATIENT ROUNDING SCALE

(Copyright, Neville, 2010)

Strongly Disagree (SD) Disagree (D) Uncertain (U) Agree (A) Strongly Agree (SA)

1 2 3 4 5

32. If patients were assigned nurses they are familiar with,

    patients would be more satisfied with their care.

    1 2 3 4 5

33. Frequent nurse-patient communication at the bedside is

    an unnecessary task.

    1 2 3 4 5

34. During rounding, I tailor my terminology to facilitate effective communication with patients/families.

    1 2 3 4 5

35. I consistently round on my patients within 2 hours of beginning

    my shift.

    1 2 3 4 5

36. Rounding will assist me in planning my day.

    1 2 3 4 5

The NPPRS was developed at Somerset Medical Center, Somerville, N.J.

NURSES' PERCEPTION OF PATIENT ROUNDING SCALE

Strongly Disagree (SD) Disagree (D) Uncertain (U) Agree (A) Strongly Agree (SA)

1 2 3 4 5

37. I frequently engage in open ended questions when I interact

    with my patients.

    1 2 3 4 5

38. If I am uncomfortable with a topic, I avoid face to face contact

    with my patients.

    1 2 3 4 5

39. I use appropriate body language to communicate that I am

    receptive and open to effective communication.

    1 2 3 4 5

40. Rounding is a practice that facilitates improved verbal and nonverbal communication between patients and nurses.

    1 2 3 4 5

41. Patients are more secure knowing that I will be back in two hours

    to communicate with them and address their needs.

    1 2 3 4 5

The NPPRS was developed at Somerset Medical Center, Somerville, N.J.

NURSES' PERCEPTION OF PATIENT ROUNDING SCALE

(Copyright, Neville, 2010)

Strongly Disagree (SD)	**Disagree (D)**	**Uncertain (U)**	**Agree (A)**	**Strongly Agree (SA)**
1	**2**	**3**	**4**	**5**

42. I am confident that I have the appropriate knowledge base

    to effectively communicate with my patients.

    1 2 3 4 5

43. Rounding provides the opportunity for me to address my patients'

    informational needs and preferences.

    1 2 3 4 5

44. I am comfortable saying I don't know, but will find the answers

    when patients ask me questions.

    1 2 3 4 5

45. What suggestions/recommendations would you make regarding rounding at your institution?

46. What patient issues on your unit might influence your practice of rounding?

NURSES' PERCEPTION OF PATIENT ROUNDING SCALE

(Copyright, Neville, 2010)

SUBSCALE 1 – COMMUNICATION

4. Rounding promotes more effective communications between nurses and patient care technicians.

7. Rounding does not facilitate improved communication.

17. Rounding affords patients and families the opportunity to communicate more effectively with the nursing team.

25. Having to inform patients and families about their care during rounding takes too much time.

28. Eye contact with my patients makes me uncomfortable.

31. Frequent nurse-patient communication at the bedside is an unnecessary task.

32. During rounding, I tailor my terminology to facilitate effective communication with patients and families.

35. I frequently engage in open ended questions when I interact with my patients.

36. If I am uncomfortable with a topic, I avoid face to face contact with my patients.

37. I use appropriate body language to communicate that I am receptive and open to effective communication

38. Rounding is a practice that facilitates improved verbal and nonverbal communication between patients and nurses.

39. Patients are more secure knowing that I will be back in two hours to communicate with them and address their needs.

40. I am confident that I have the appropriate knowledge base to effectively communicate with my patients.

41. Rounding provides the opportunity for me to address my patients' informational needs and preferences.

42. I am comfortable saying I don't know, but will find the answers when patients ask me questions.

NURSES' PERCEPTION OF PATIENT ROUNDING SCALE

(Copyright, Neville, 2010)

SUBSCALE 2 – NURSE BENEFITS

Item 2: Rounding is a constructive use of nurses' time

Item 3: Call bell use has not decreased through the use of rounding. (Recode)

Item 5: A more cohesive collaborative nursing team effort is fostered through nursing rounds.

Item 6: The benefit of rounding is that it creates a quieter, less chaotic nursing unit.

Item 8: Rounding significantly increases my workload. (Recode)

Item 11: Two hour rounding reduces my stress levels.

Item 12: By rounding on my patients every two hours, I can more easily recognize changes in the health status of my patients.

Item 15: Rounding affords me the opportunity to get to know my patients better.

Item 19: Effective rounding allows me to have more quiet time to manage my nursing care.

Item 34: Rounding will assist me in planning my day.

NURSES' PERCEPTION OF PATIENT ROUNDING SCALE

(Copyright, Neville, 2010)

SUBSCALE 3 – PATIENT BENEFITS

Item 10: Rounding is an approach that facilitates improved nursing care.

Item 14: Through rounding, patients experience less anxiety about their care.

Item 18: There is no increase in patient satisfaction from rounding every two hours. (Recode)

Item 21: My patients are more comfortable and can rest assured knowing that I will return at designated times during my shift to address their needs.

Item 22: Rounding reduces patients and family uncertainty about their illness.

Item 24: Patients benefit from my visible presence every two hours.

Item 27: Rounding has enabled me the opportunity for more comprehensive, safer, patient care, and to more quickly identify and met the nursing needs of my patient.

NURSES' PERCEPTION OF PATIENT ROUNDING SCALE

(Copyright, Neville, 2010)

Negatively worded items on the NPPRS are as follows:

Item 3: Call bell use has not decreased through the use of rounding.

Item 7: Rounding does not facilitate improved communication.

Item 8: Rounding significantly increased my workload.

Item 13: If I get delayed with one of my patients, my rounding routine of every two hours is not realistic.

Item 18: There is no increase in patient satisfaction from rounding every two hours.

Item 23: My patients take too much of my time to allow effective rounding on all patients to occur every two hours

Item 25: Having to inform patients and families during rounding takes too much time.

Item 28: Eye contact with my patients makes me uncomfortable.

Item 31: Frequent nurse patient communication at the bedside is an unnecessary task.

Item 36: If I am uncomfortable with a topic, I avoid face to face contact with my patients.

Items to exclude from total score

Items not added to comprise total score (total score to be based on 40 items

Item 26: I have concerns about patient confidentiality during rounding

Item 29: My cultural background creates a difference in how I am perceived by patient/s families

Scoring

Range of total scores: 40 – 20

Appendix H: **Questions for interviews**

Questions for interviews

It was decided to use a standardised opened-ended interview, so that all participants are asked the same questions relating to intentional rounding. This also allows participants to be able to express their thoughts and opinions in a freer manner, and can be guided to add further information as necessary.

*What are you after? What are your research questions?

How are you going to extract that information? Needs to have meaning for the participant

- Objectives – to determine:

1. Student nurses' exposure to and experience of intentional rounding throughout their clinical placements
2. Students' understanding of intentional rounding, and the reasons why it is done
3. Students' perceived benefits/ advantages, barriers and enablers to performing intentional rounding, along with any suggested improvements to intentional rounding
4. The contextual factors influencing effective student engagement in intentional rounding
5. The approaches to education on intentional rounding students have experienced

*Link to analytical approach – pragmatism – what does this mean, what is your focus?

Opening

A. (Establish Rapport) [shake hands] My name is _____ and I wanted to interview you as you are a pre-registration nursing student

B. (Purpose) I would like to ask you some questions about your perceptions of and experience with intentional rounding within your clinical placements

C. (Motivation) I hope to use this information to assist students, staff and universities in the future regarding intentional rounding practices

D. (Time Line) The interview should take about 30 minutes. Are you available to respond to

some questions at this time?

I would like to record this interview, so that I can transcribe it later… Are you happy to have this occur?

(Transition: Let me begin by asking you some questions about ……

*Prompts to follow on? What do you want to know about each topic? Allow flexibility in order..

*Know your guide by heart

Approach from the side

Ask about hypothetical examples

Ask about specific things that they have done

Use stimulated recall – what happened last time… what did you think?

Ask for elaboration

Ask about opposing ideas – I have heard negative/ positive, what do you think?

INTERVIEW GUIDE/ QUESTIONS/ THEMES

1. Can you tell me what you know about intentional rounding? What is your perception / understanding of the practice?
2. What is your experience if any of intentional rounding whilst on clinical placement?

(did staff do intentional rounding last time you were on clinical placement? Were you a part of it? In what way?)

3. What sort of factors might influence your engagement in intentional rounding on clinical placement?
4. How have your experiences as a student nurse influenced or not influenced you in your perceptions of intentional rounding?
5. How has any previous experience you have had in nursing influenced or not influenced your perceptions?
6. What sort of skills do you think are required for effective intentional rounding?
7. Do you feel that you have these skills as a student nurse?

(scope of practice)

(Communication skills to conduct intentional rounding – do you feel that you have or have not the skills to be able to competently conduct intentional rounding?

What sort of skills are needed? Where did these skills come from?)

8. What sort of information was provided – from whom? – do you feel that it was enough – why?

(Education and management focus? In the university system? Wards? New staff need to be educated, how should this occur?)

9. Where did positive or negative perceptions come from? Influencers to opinion, positive and negative

(Other staff, education, exposure)

10. What was your experience and observation of documentation practices related to intentional rounding?

(observed behaviour? Positive and negative)

11. If you were part of documenting, do you have any Thoughts on improvement?

(Flexibility versus structure – which is best)

12. Do you think that there is anything that influences the effectiveness of intentional rounding? / What sort of things do you think made intentional rounding effective/ not so effective?

(barriers/ enablers)

13. Do you think that there is anything that might hinder intentional rounding from being done?
14. . Do you think that intentional rounding practices are beneficial or not to you as a student nurse? In what way?

How/ Why?

(Would they use it on their own?

Nurse satisfaction – does it make a difference? Workload, stress, more manageable ward)

15. . Do you think that intentional rounding practice are beneficial to patients or not? How/ Why?

(Patient satisfaction – does it make a difference?)

16. . Do you think that intentional rounding practices effect communication? How/ Why? Between whom?

(Communication – does it make a difference?)

17. Do you feel that intentional rounding should be continued or not?

18. Do you have any suggestions as to how intentional rounding could be improved?

19. Is there anything more that you would like to add regarding your perceptions and experience of intentional rounding?

Thank you so much for your participation, it is greatly appreciated.

Kennedy, M. (2006). A guide to interview guides. Retrieved from

https://msu.edu/user/mkennedy/digitaladvisor/Research/interviewing.htm

Turner, D.W.III (2010). Qualitative interview design: A practical guide for novice investigators. *The Qualitative Report.* 15(3), 754-760. Retrieved from http://www.nova.edu/ssss/QR/QR15-3/qid.pdf

Appendix I: **Ethics approvals**

Ethics Office

Research Development & Integrity Research Division

Armidale NSW 2351 Australia

Phone 02 6773 3449

Fax 02 6773 3543

jo-ann.sozou@une.edu.au www.une.edu.au/research-services

HUMAN RESEARCH ETHICS COMMITTEE

MEMORANDUM TO: Prof Kim Usher, Prof Debra Jackson, Dr Cindy Woods &

Mrs Liz Ryan

School of Health

This is to advise you that the Human Research Ethics Committee has approved the following:

PROJECT TITLE: An exploration of the experience of and attitudes towards intentional rounding from the perspective of pre-registration nursing students

APPROVAL NO: HE17-100

COMMENCEMENT DATE: !5TH June, 2017

APPROVAL VALID TO: 15TH June, 2019

COMMENTS: Nil, conditions met in full.

The Human Research Ethics Committee may grant approval for up to a maximum of three years. For approval periods greater than 12 months, researchers are required to submit an application for renewal at each twelve-month period. All researchers are required to submit a Final Report at the completion of their project. The Progress/Final Report Form is available at the following web address:

http://www.une.edu.au/research/research-services/rdi/ethics/hre/hrec-forms

The NHMRC National Statement on Ethical Conduct in Research Involving Humans requires that researchers must report immediately to the Human Research Ethics Committee anything that might affect ethical acceptance of the protocol. This includes adverse reactions of participants, proposed changes in the protocol, and any other unforeseen events that might affect the continued ethical acceptability of the project.

In issuing this approval number, it is required that all data and consent forms are stored in a secure location for a minimum period of five years. These documents may be required for compliance audit processes during that time. If the location at which data and documentation are retained is changed within that five year period, the Research Ethics Officer should be advised of the new location.

Jo-Ann Sozou

Secretary/Research Ethics Officer

Dear Prof Usher, Prof Jackson, Dr Woods & Mrs Ryan,

Approval has been granted by the UNE Human Research Ethics Committee, to vary your project entitled, "*An exploration of the experience of and attitudes towards intentional rounding from the perspective of pre-registration nursing students*" as specified below:

- *Recruit participants from UTAS, JCU & CSU.*

Should you have any further queries or concerns, please don't hesitate to contact me on the number below or by email.

Kind Regards,

Sarah Frizell

Research Support Officer

Research Services Directorate

University of New England

Armidale NSW Australia 2351

Phone: 6773 2890

Dear Liz

Thank you again for your email.

I confirm that I am happy to proceed with assisting distributing your questionnaire to undergraduate students.

We provide this assistance to a number of researchers, mostly PhD students such as yourself. There is therefore no need for the reciprocal ethics arrangements as your Participant Information Sheet provides all the information needed – it contains details of who to contact if follow up is required.

Please send me the link as soon as possible and I will ask my assistant to help me with this task.

Kind regards,

Professor Catherine Hungerford RN, NP, PhD, FACMHN
Head of School

School of Nursing, Midwifery, and Indigenous Health | Faculty of Science

Charles Sturt University

Boorooma St

Wagga Wagga, NSW, 2650

Australia

Tel: +61 2 693 34110

Fax: +61 2 6933 2866

Email: chungerford@csu.edu.au

www.csu.edu.au

Twitter | Facebook | LinkedIn | YouTube

We acknowledge the traditional custodians of the land on which we work and live, and pay our respects to Elders past, present and future

The philosophy of the School of Nursing, Midwifery and Indigenous Health is aligned with the CSU ethos, described by the Wiradjuri phrase: *'yindyamarra winhanganha' ('the wisdom of respectfully knowing how to live well in a world worth living in'*

UNIVERSITY OF TECHNOLOGY SYDNEY

REQUEST FORM: UNDERTAKE RESEARCH ACTIVITIES INVOLVING FACULTY OF HEALTH STUDENT OR STAFF

UTS HEALTH

REQUESTED BY	**Elizabeth (Liz)** *(First Name)*	**Ryan** *(Last Name)*
	☒ **STUDENT** ☐ **STAFF**	
	If student, provide following details	
	Course Name: Phd – University of New England	
	Supervisor Name: Professor Kim Usher, Professor Debra Jackson, Dr Cindy Woods	
LEAD INSTITUTION	University of New England	
PROJECT TITLE	An exploration of the experience of and attitudes towards intentional rounding from the perspective of pre - registration nursing students.	
PROJECT RESEARCHERS	Liz Ryan, Professor Kim Usher (principle), Professor Debra Jackson, Dr Cindy Woods	
DETAILS OF ETHICS APPLICATION	**Submitted** ☒ Yes ☐ No	**Approved** ☐ Yes ☐ No
	HREC details: HE17 - 100 (University of New England)	**Date approved:** **15/6/17**
PROJECT SUMMARY	**Access to:** ☒ **Student** [☒ UG ☐ PG] ☐ **Staff**	
Purpose:	**This mixed methods study aims to explore the student nurses' perspective of intentional rounding – their level of exposure, education, experience, understanding, perceptions, and contextual factors influencing effective student engagement in the intervention. This will be achieved through the use of surveys and interviews.**	

Study design:	**Design:** **This study will use a sequential multiphase mixed method approach, whereby both qualitative and quantitative methods are used to explore the study question from various cohorts of pre-registration nursing students (Creswell & Plano Clark, 2011). Phase one will consist of a quantitative cross-sectional survey tool, previously validated, on perceptions and perspectives of frontline staff regarding hourly rounding (attachment A). This tool has been used previously to explore Registered Nurses' perception of hourly intentional rounding. The tool takes approximately 5 minutes to complete and does not ask any questions of a sensitive nature. Data collected will be screened and cleaned and uploaded into SPSS version 22, Data will be analysed using descriptive and inferential statistical methods. Phase two will use interviews with a smaller cohort of the same students to explore the themes arising from the survey results that need clarification/ exploration. Interviews will be audio recorded and transcribed. Thematic data analysis will be performed to identify themes arising from the interviews (Creswell & Plano Clark, 2011).**

UNIVERSITY OF TECHNOLOGY SYDNEY

REQUEST FORM: UNDERTAKE RESEARCH ACTIVITIES INVOLVING FACULTY OF HEALTH STUDENT OR STAFF

UTS HEALTH

Method:	**Phase 1: Completion of an online survey asking about their attitudes, perceptions and experiences of intentional rounding. It is expected that this should take around 10 minutes.** **Phase 2: Participation in an individual in depth face to face interview, or interview via skype or telephone discussing their experiences, perceptions and attitudes related to intentional rounding. This is expected to take around ½ - ¾ hour.** **These interviews will be at the convenience of the student, will occur at a pre-organised time, and will occur after plain English information sheets explaining the study have been distributed to the interested students, and after the consent to be interviewed form has been signed. Interviews will be audio recorded with the permission of the student.**
Timeline:	**I would like to complete at least phase one of the data collection by the end of the year, and phase two by mid year 2018.**

Expected Outcomes:	**This study provides the opportunity to gain a greater understanding of the experience, perceptions and attitudes of pre-registration students on clinical placement in relation to the implementation of intentional rounding as a nursing intervention. The findings in this study will be used to recommend changes to education and exposure to intentional rounding in the curriculum, as well as providing robust information that could help inform changes that need to occur within hospitals to ensure that nursing students are effectively engaged in intentional rounding, which has been shown to improve patient safety and satisfaction, as well having nursing benefits (D'Alessio, Magsalin, Neville & Patten, 2010; Edwardson, Gregory & Gamm, 2016; Meade, Kennedy & Kaplan, 2010; Negerandeh, Bahabadi & Mamaghani, 2014; Woodard, 2009). Further insight into the student role in this intervention will enhance the quality and relevance of supportive education and identify the need for curriculum review.** **References:** **D'Alessio, E., Magsalin, M., Neville, K. L., & Patten, C. (2010). Enhancing nursing's presence. Nursing Management (Springhouse), 41(12), 16-18. doi:10.1097/01.NUMA.0000390468.21033.f1** **Edwardson, N., Gregory, S. & Gamm, L. (2016). The influence of organizational tenure on nurses' perceptions of multiple work process improvement initiatives. Health Care Management Review, 00(0). doi:10.1097/HMR.0000000000000078** **Meade, C. M., Kennedy, J., & Kaplan, J. (2010). The Effects of Emergency Department Staff Rounding on Patient Safety and Satisfaction. The Journal of emergency medicine, 38(5), 666-674. doi:http://dx.doi.org/10.1016/j.jemermed.2008.03.042** **Negarandeh, R., Hooshmand Bahabadi, A., & Aliheydari Mamaghani, J. (2014). Impact of Regular Nursing Rounds on Patient Satisfaction with Nursing Care. Asian Nursing Research, 8(4), 282-285.** **doi:http://dx.doi.org/10.1016/j.anr.2014.10.005** **Woodard, J. L. (2009). Effects of rounding on patient satisfaction and patient safety on a medical-surgical unit. Clinical Nurse Specialist, 23(4), 200-206. doi:10.1097/NUR.0b013e3181a8ca8a**

UNIVERSITY OF TECHNOLOGY SYDNEY

REQUEST FORM: UNDERTAKE RESEARCH ACTIVITIES INVOLVING FACULTY OF HEALTH STUDENT OR STAFF

UTS HEALTH

For external applicants only: *Have you approached any other universities for purpose relating to this application?*	☒ Yes ☐ No If Yes, please provide details and outcome: In the process of asking for assistance from Western Sydney University, University of Tasmania (Sydney campus), James Cook University, Charles Sturt University, and University of Newcastle. Awaiting replies – have not received approval as yet.

UNIVERSITY OF TECHNOLOGY SYDNEY

REQUEST FORM: UNDERTAKE RESEARCH ACTIVITIES INVOLVING FACULTY OF HEALTH STUDENT OR STAFF

UTS HEALTH

SUBMISSION: Submit the request form and all additional documentations to Health.Research.Office@uts.edu.au for the approval process.

CHECKLIST: Attach the following relevant documentations

☒ Request form

☒ Project proposal / Ethics application copy (including approval letter)

☒ Supporting documents of the project / ethics approval (list below:)

1.	Survey details
2.	Information for participants
3.	
4.	
5.	

[For office use only:]

APPROVED BY EMT ☑ **Yes** ☐ **No**

Recommendations / Comments by EMT

Approved.

Signed by:

John Daly [redacted] 9 August 2017

Name	**Signature**	**Date**

Dear Liz,

I can confirm that our Research Committee has reviewed and confirmed your request, to be undertaken in the New Year.

Good luck with it all!

Kind Regards

Debbie

Debbie Taylor | Research Support Officer

School of Nursing and Midwifery

Building EB.LG - Room 12, Parramatta South Campus

P: 9685 9503 | **F:** 9685 9023 | **E:** d.taylor@westernsydney.edu.au

W: www.westernsydney.edu.au/research/researchers/researcher_development

Western Sydney University

Locked Bag 1797 Penrith NSW 2751 Australia

www.westernsydney.edu.au/nursingandmidwifery