

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

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Abstract

Aims: To explore pre-registration nursing students' understandings and experience of intentional rounding in 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 used 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, but further clarity in the education surrounding it is required.

Impact: This study addresses pre-registration nursing students' understanding and perceptions of intentional rounding. Intentional rounding benefits nursing students as a patient safety strategy and organization tool. Educational opportunities around the topic could be enhanced, reducing the ongoing theory–practice gap. Clinicians, academics and educators who support pre-registration nursing students in clinical and tertiary education settings can benefit from this work.

KEYWORDS

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

1 | INTRODUCTION

1.1 | Intentional rounding

Intentional rounding in the clinical setting is a patient safety intervention where patients are regularly checked to ensure that all their

needs are met, and adverse events and injuries are prevented (Usher et al., 2017; Ryan et al., 2019). 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 in many countries including the United Kingdom, the United States of America and Australia (Francis, 2013;

The Studor Group, 2007; Ryan et al., 2019). Hourly or second hourly checking is conducted by the 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 in their clinical placements, using a mixed method design, methodology and reporting system, as the student's voice has not been 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.

1.2 | Background

Recent literature reviews on intentional rounding found that patient safety outcomes, the patient, staff and organization perspectives had been explored predominately yet the perspectives of pre-registration nursing students were unexplored (Christiansen et al., 2018; Sims et al., 2018; Ryan et al., 2019). In addition, current research has explored patient and staff perspectives of intentional rounding using single designs only (Ryan et al., 2019). Considering pre-registration nursing students are frequently undertaking and/or observing intentional rounding in 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 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).

2 | THE STUDY

2.1 | 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?

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 student's exposure to and experience of intentional rounding in 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 organizations. 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 used, incorporating the Pillar Integration Process and mixing data and analysis throughout the study.

2.2 | Design

2.2.1 | The mixing of methods in this research

Mixed method design integration

Mixed methods study designs are used more and more in health research (Fetters et al., 2013). The synthesis of data occurs on several levels including design. This study used 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 are collected concurrently rather than sequentially (Fetters et al., 2013). In this instance, quantitative data collection used a previously developed survey tool (Neville et al., 2016) with some demographic questions added. The results of this survey were then used to build and guide the questioning in qualitative interviews, so that unanswered queries could be explored.

Mixed methodology

Integration also occurred in 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 quantitative plus qualitative approach, where both phases were of equal importance. In both phases of the study, the same participants were used. Doing so meant that further explanation could be gleaned from the same source, enhancing knowledge of students' understanding and experiences of intentional rounding. The 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 et al., 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., 2020a). At the completion of all data collection and analysis, data from the quantitative and qualitative phases were systematically integrated (Figure 1) and visually presented in a joint display using a Pillar Integration Process (PIP) approach (Table 1). This process is further described in the final integration section to follow.

2.3 | Sample/participants

Using a convenience sampling method, participants were sourced from several universities. All participants were pre-registration nursing students who had attended at least one clinical placement. Those that participated in the qualitative interviews were sourced from original participants in the online survey with the same inclusion criteria. Sample size analysis was undertaken using analysis of variance, and the desired sample size for Phase 1 was 305. Four hundred and twenty-four valid responses were received for Phase 1, and 18 students were interviewed in Phase 2.

2.4 | Data collection

2.4.1 | 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, 2016). The NPPRS developer was contacted, and permission was granted to use the scale without modifications. A small demographics section 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. Responses were collected through SurveyMonkey from August 2017 to July 2018.

2.4.2 | 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 in 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 2018. Interviews lasted between 20 and 75 min.

2.5 | Ethics considerations

Ethics approval was applied for and granted by the primary university (conforming to recognized standards) prior to distribution of

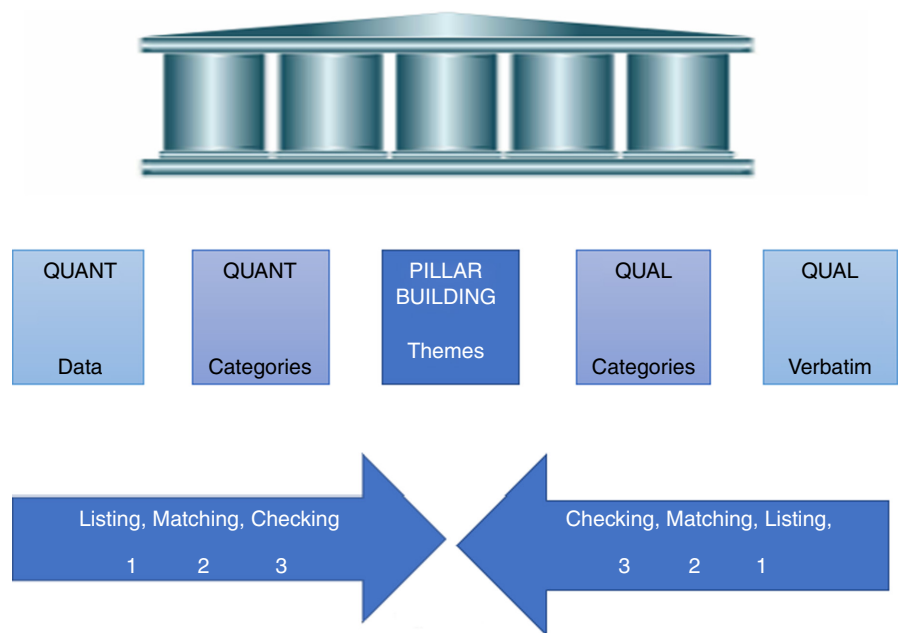


FIGURE 1 Representation of pillar integration process

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

TABLE 1 Pillar integration process

	↑	↑	↑	↓	↓
	Pillar 1: quantitative data	Pillar 2: quantitative categories	Pillar 3: pillar building: central themes	Pillar 4: qualitative categories	Pillar 5: qualitative data verbatim
Demographics, N (%)			The source of education and understanding of key concepts in nursing	Previous experience more beneficial.	I feel like it is something you develop.... I feel like I learnt intentional rounding (IR) kind of from TAFE I feel.... (P1).
Mean				95% of participants in Phase 2 had previous experience	(influencers) Past experience and the education or training that we are supposed to (have been) provided... (P3).
Age	26 years	Vast array of experience. Previous experience impacts on perceptions of intentional rounding			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....
Gender				Much of the learning came from the workplace rather than the university.	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)	Previous RN qualifications were the most positive, then AIN, with EEN the lowest.		Not seen as important to university than workplace.	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....
Female	374 (89.3)			Learning theories paramount (adult, experiential, mentorship, role modelling).	As an EN on the ward, not necessarily as part of my Diploma (P10)
Previous experience in nursing				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)
None	166 (39.2)				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).
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	89 (16.1)				
5+	99 (23.4)				

TABLE 1 (Continued)




<p>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%) No significant difference in number of placements and perceptions</p>	<p>Education deficit but is a task delegated to students. Education mostly covered in clinical placements not at university</p>	<p>Sources of education and understanding of key care concepts in nursing</p>	<p>Given the skills to conduct IR, not provided the background knowledge Wanting more information Theory-practice gap</p>	<p>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 are feeling, and you do not have to be trained to do that (P9). .. 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 did not come up. It was mentioned maybe once, but it was never really defined. (P18).</p>
<p>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%)</p>	<p>Beneficial for students to be a part of, patient safety benefits understood.</p>	<p>The enhancement of learning experiences</p>	<p>IR assisted with planning the day, ensuring patient interactions and checking patients to ensure safety.</p>	<p>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 prioritizing. 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 organizes your day... I think time management is very important (P4). I think if you are 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 minimize 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 realize, oh yeah, I'll ask that question then... (P4).</p>

(Continues)

TABLE 1 (Continued)

<p>Communication: I am comfortable saying I do not 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)</p>	<p>Communication capabilities and understanding improved with IR</p>	<p>The enhancement of learning experiences and Patient safety and the provision of quality care</p>	<p>IR a rapport building opportunity and a time to practice communication with patients</p>	<p>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 are 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 are going to feel valued... (P13).</p>
<p>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)</p>	<p>IR deemed important for patient monitoring and time management</p>	<p>The enhancement of learning experiences</p>	<p>Benefit to nursing care, gaining further organizational skill</p>	<p>I do not see it as more work. I sometimes think that it can take your workload away because you have got an organization to what you are doing (P14).</p>
<p>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)</p>	<p>Benefits to patient care</p>	<p>Patient safety and the provision of quality care</p>	<p>Benefits to patient care</p>	<p>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).</p>

TABLE 1 (Continued)

			
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
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 Prioritizing 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 are 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 have got to juggle with like a dozen balls in the air, and be able to prioritize, 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 in 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 are 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)

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.

2.6 | Validity and reliability/rigour

Quantitative data collection used a previously validated survey tool. Internal consistency was checked using Chronbach's alpha, with appropriate reliability (≥ 0.7 to ≥ 0.8) (Neville et al., 2016), and the survey was pretested with a small cohort prior to distribution. Data analysis used SPSS v24, 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 several researchers reaching an intercoder agreement (Ryan et al., 2020b).

3 | RESULTS/FINDINGS

3.1 | Data analysis/initial results

3.1.1 | Quantitative data analysis/initial results

Survey questions were predominately quantitative using a Likert scale format, ($n = 42$) although they 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 several tests were conducted and reported. Qualitative results such as suggested barriers and improvements to IR were examined using content analysis. Qualitative data were then synthesized 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 organization 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). For further information on the quantitative results, please refer to Ryan et al. (2020a).

3.1.2 | Qualitative data analysis/initial results

Qualitative interviews were audio recorded and transcribed verbatim and data were manually thematically analysed using a

six-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 of the concepts and rationale underpinning intentional rounding. Participants felt ill-prepared to conduct IR 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 IR, and how this assisted participants in feeling more organized, 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). For further information on the qualitative results, please refer to Ryan et al. (2020b).

3.1.3 | 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 in nursing, the enhancement of learning experiences and patient safety and provision of quality care.

3.2 | Final integration of all results

Once data from both quantitative and qualitative collection had been analysed, all results were mixed and synthesized to comprehensively attain an overview of the pre-registration nursing student's 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 et al., 2017). This involves a four-step progression (Figure 1), working from outside to inside on the figure shown. Quantitative data are 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 were then also listed (column/Pillar 5) and matched to respective qualitative categories through thematic analysis (column/Pillar 4). All data were then again checked and reviewed by multiple authors 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 in the research (Johnson et al., 2017).

Data were integrated at the analysis stage of the study, where two sections of a study are looking at the same topic and can be analysed together. The visual depiction was helpful in the final analysis of the combined data and created greater transparency of results. The resultant codes and themes from both the qualitative and quantitative data analysis provided a starting point with which to combine data results in an analytical manner. These were then 'matched' with like results from the opposite data collection method, and themes were then also matched. A limitation to this method of analysis was that at times this was problematic pictorially, as there was a lot of data to be added in the original codes, meaning that it was difficult to visually line up data easily. The use of this method however assisted in triangulating the data, and as such strengthened the validity of the analysis (Johnson et al., 2017).

3.3 | Results of final synthesis

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 in nursing', showed that the source of education and understanding of key concepts in 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 practice 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. 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 recognize quality care and determine the type of care they would like to provide as registered nurses.

4 | 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.

4.1 | The source of education and understanding of key concepts in nursing

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 in 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 in curriculum teaching. Intentional rounding practices are in many ways the essence of nursing—ensuring quality care, communicating and creating rapport with patients and using clinical judgement.

4.2 | The enhancement of learning experiences

Pre-registration nursing students gain understanding through experiential learning and role-modelled behaviours and must be provided with 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, learn when they feel the need to understand and aim to work towards self-efficacy (Knowles et al., 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 IR, but also much more, such as communication skills, time management, prioritization 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.

4.3 | Patient safety and the provision of quality care

The theory–practice gap identified frequently in 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 et al., 2016). There also appears to be a disconnection between the expectations and the reality of pre-registration nursing students' patient safety knowledge (Hanson et al., 2020; Levett-Jones et al., 2020; Usher et al., 2017). The students themselves recognized gaps in their own understanding of patient safety (Hanson et al., 2020; Usher et al., 2017), 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., 2020a). 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 the commencement of clinical placements (Huston et al., 2018).

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.

4.4 | Limitations

This study used 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.

Due to distance, most interviews were conducted by telephone. We recognize that this removes the opportunity for facial reactions and responses to be part of the data collection.

5 | 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 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

The authors state no conflict of interest in this study.

AUTHOR CONTRIBUTIONS

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

PEER REVIEW

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