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Student Nurses experiences of leaning in clinical placement in NICU

A Descriptive Literature reviews

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<p>The purpose of this study is to look into nursing students' experiences and perceptions of clinical placements in Neonatal Intensive Care Units (NICU). The goal is to investigate their learning experiences and factors that influence their experiences in NICU settings.</p> <p>To analyse relevant research articles from databases such as CINAHL, Medline, and Science Direct, a descriptive literature review approach was used. The data search and collection were carried out using specific inclusion and exclusion criteria. To evaluate and synthesize the conclusions from these articles, a content analysis approach was used.</p> <p>The study revealed various facets of nursing students' experiences in NICU settings. These include expectations and anxieties about clinical practice, acquisition of in-depth knowledge about neonatal nursing, challenges faced during clinical practice, and interpersonal changes experienced by students. It also emphasized the vital role of nurse guidance, improving communication skills, and the impact of the clinical environment on the students' experiences.</p> <p>The NICU has a significant impact on the professional development of nursing students. Practical experience, mentorship, and overcoming obstacles are all important for their development. Addressing challenges and assisting educators are critical for developing a resilient nursing workforce. In conclusion, the NICU has a substantial impact on student nurses, underlining the importance of ongoing support, excellent mentorship, and recognition for advanced nursing practice.</p>	
Key Words	Nursing education, Neonatal Intensive Care Unit (NICU), Clinical practice, Nursing students, Student experiences, Content analysis

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1. Introduction

Nursing is a profession that necessitates a wide range of learning skills, including psychomotor, emotional, and cognitive abilities. As a result, advanced practices in nursing education are important. Nurses work in many different settings and specialties. They can work in hospitals, nursing homes, medical offices, ambulatory care, and occupational health etc. (Smith, 2017)

Nursing evolved over the course of centuries. Changing practice and education had an impact on its interpretation and comprehension. Its interpretation and meaning may differ between educational institutions, nurse educators, and nurses, particularly student nurses. Nursing education's main aim is to get students ready to work in different healthcare places. The ultimate goal is to make sure they have the right knowledge, skills, and attitude to be good nurses.. Nursing students typically have little knowledge of nursing practices or the requirements of nursing education (Billett, 2015) .

This lack of knowledge influences some students' perceptions of the profession, either positively or negatively. It is well known that nursing students' perceptions begin to shape during their first year. Their experiences in nursing education. There are numerous studies in the literature that investigate the professional perception levels of nursing students and nurses. However, no study has been found that investigates the role of nurses in nursing students' perceptions of their profession. Critical thinking, decision-making, self-esteem, communication skills, confident improve with practice. Students require meaningful and appropriate clinical learning experiences in order to integrate theoretical knowledge into practical patient care work.(Cochrane et al., 2013)

The NICU is a hospital unit that provides 24-hour care to sick or premature babies. It has health care providers who have special training and equipment to provide the best care for your baby. The NICU is one of the special clinical areas that provides the opportunity to develop nursing skills related to neonatal patient care. (Billett, 2015: 124-131) NICU nurses are responsible for providing care to newborn infants in the NICU, as well as running various medical tests and providing support to families as needed. Nurses will eventually work with newborn infants in critical care, as well as support and information to parents and guardians. (Maguire, 2012 : 281-285)

The purpose of this research is to provide additional knowledge about student experiences in the NICU setting. While the goal is to describe the student nurses' experiences during clinical placements in the NICU setting. The study's findings may provide useful insights for educators and clinical nurses, as well as aid in the development of effective neonatal care experiences for nursing students. Furthermore, this research may aid in the development of critical skills required to improve learning and eventually, clinical practice.

2. Background

Neonatal Intensive Care Units (NICUs) play a crucial role in the care and support of critically ill newborns, requiring a specialized set of skills and knowledge from healthcare professionals, including student nurses. Clinical placements in NICUs provide an invaluable opportunity for student nurses to bridge the gap between theoretical learning and real-world practice in the high-stakes environment of neonatal care.

NICU clinical placements are essential for student nurses as they immerse themselves in the unique challenges and complexities of caring for newborns with various medical conditions. The NICU setting demands specialized skills in monitoring, intervention, and family-centered care, making it an ideal field for student nurses to develop competencies crucial for their future nursing careers.

Within the NICU, student nurses encounter a diverse range of clinical scenarios, from routine care for preterm infants to the management of complex medical conditions. Learning experiences may include understanding neonatal development, mastering the use of specialized equipment, and navigating the emotional aspects of supporting families through challenging situations.

NICU clinical placements afford student nurses the opportunity to apply theoretical knowledge gained in classrooms to real-life situations. This hands-on experience encompasses tasks such as neonatal assessments, administering medications, and implementing care plans, fostering the development of critical nursing skills and clinical judgment.

The NICU environment encourages interdisciplinary collaboration, providing student nurses with the chance to work together with neonatologists, respiratory therapists, and other healthcare professionals. This collaborative approach enhances their understanding of a holistic approach to neonatal care and the importance of effective communication within a healthcare team (Miles, 2014).

Caring for critically ill newborns and their families in the NICU presents emotional and ethical challenges for student nurses. Navigating these complexities helps them develop resilience, empathy, and ethical decision-making skills. Understanding the emotional impact on both families and healthcare providers is a vital aspect of their learning experience (Dunbar, 2018).

The experiences of student nurses in NICU clinical placements are shaped not only by the clinical setting but also by the quality of educational support and guidance they receive. Adequate orientation, mentorship, and a supportive learning environment contribute significantly to their overall learning experience.

2.1 Key Terms

2.1.1 Clinical nursing practice in NICU

Clinical practice refers to the way healthcare professionals carry out tasks and provide care for clients. It involves doing activities both with and for the clients, specifically when the clients are present and actively participating in the process. This can include a range of medical and caregiving activities conducted in collaboration with the individuals receiving care. Clinical practice in nursing education allows for the application of theoretical knowledge, the development of professional identity, and the acquisition of knowledge through practice. These actions are guided by looking at how the environment, biology, and social factors all affect a person's well-being. These intervention and change-oriented activities are based on a variety of theories, with the clinical social worker selecting the one that is best suited to the client's situation. These activities can be done as an individual, as a family, or as a group. While focusing on direct contact with clients, clinical social workers must also be prepared to make indirect contacts on their behalf. (Zeng & Zhu, 2016 : 97-100)

2.1.2 Neonatal Intensive Care Unit

Newborns who need a lot of medical attention often go to a special place called the neonatal intensive care unit (NICU) right after they are born. In the NICU, there are high-tech machines

and doctors and nurses who know a lot about taking care of these infants. Besides the really sick new borns, there are also areas for new borns who aren't super sick but still need extra-special care from the nurses. However, not all hospitals have enough people to run a NICU. In addition to that, these infants have to be moved to another hospital that does have one. It's been noticed that infants who need a lot of help tend to do better if they are born in a hospital that already has a NICU, rather than moving them after they are born. This is because the hospital with the NICU has everything set up and ready to go for the intensive care these new borns might need. (Koo & Lee, 2021: 339-353)

2.1.3 Student Nurse

A student nurse is someone who is enrolled in a course of instruction at a recognized institution of professional or practical nursing and is supervised by one of the school's nursing instructors. Maintain a professional demeanor when dealing with patients, their families, as well as other members of the health care team. Demonstrate the ability to deal with a variety of unpredictable situations, to be adaptable, and to maintain emotional stability under pressure. Assess patients from head to toe. This includes giving and receiving verbal reports, preparing and administering medication, appropriately documenting care, offering emotional support and patient education, and providing culturally competent care that respects each patient's own opinions. (Tseng, 2018: 65-81).

2.1.4 NICU nursing

NICU nursing is a special type of nursing where nurses take care of new borns who have different health problems. These can include being born too early, having certain birth defects, heart issues, serious infections, or other body problems. The time when newborns are just born is called the neonatal period, and NICU nurses are there to help during this first month of a baby's life. NICU nursing typically includes care for infants who have complications shortly after birth; however, this does not exclude care for infants who have chronic long-term problems following their birth. NICU nurses typically care for infants from birth through the time they are discharged from the hospital. (E & B.K, 2021: 240-243)

3. Purpose, aim and research question

The purpose of this study is to describe student nurses' experiences and perception; factors that influence their experiences throughout clinical placements in the Neonatal Intensive Care Unit.

Likewise, the aims of the study are to describe student nurses' experiences and perception; factors that influence their experiences throughout clinical placements in the Neonatal Intensive Care Unit.

Study questions:

1. What are the learning experiences of nursing student's clinical placement in NICU settings for clinical nursing practice?
2. What are the perceptions that influence student nurses learning experiences during clinical practices in NICU?

4. Methodology and Methods

4.1 Descriptive Literature Review

A literature review is a type of research that analyzes earlier studies and compiles a thorough summary depending on the topic of interest. The prior knowledge is arranged and critically assessed to show what is already known. In addition to summarizing what has been done, a literature review compares research to one another to identify any inconsistencies or discrepancies (Parahoo 2014: 118-119, Polit & Beck 2014: 116).

A descriptive review enables the researcher to take into account a wider range of various literary genres. Its main goal is to evaluate, interpret, and convey the current body of information. It makes links between the many parts of the issue and offers a fresh perspective on the topic at hand. Despite criticism for its lack of rigor, the risk of bias and subjectivity is reduced by the clear selection of parameters used for the data collection and analysis, as well as by the explanation of methodology and documenting of each step of the process. Additionally, without being created using a systematic methodology, descriptive literature reviews might benefit from the elements of the systematic review process. (Coughlan, Cronin & Ryan 2013: 14-15.)

So, in order to conduct this review, the concepts of Systematic data collecting and analysis applied.

4.2 .Data search and collection

In order to undertake this review, systematic data collection and content analysis used. The literature data gathered using databases including CINAHL, Medic, Medline, and Science Direct. Articles about nursing education and medical science can be found in these databases. The databases can be found in the library guide at Metropolia University of Applied Science. Traditional nursing scientific databases including Medline, CINALH, and Medic are thought to be reliable for this study. To focus the search, inclusion and exclusion criteria will be developed and applied.

The PEO (Table 1) method will also be used to enhance search and broaden the article search. Finding the right search phrases will be made easier with an understanding of Metropolis' informatics. Additionally, the databases' results will be retrieved using the Boolean connectors "OR" and "AND."

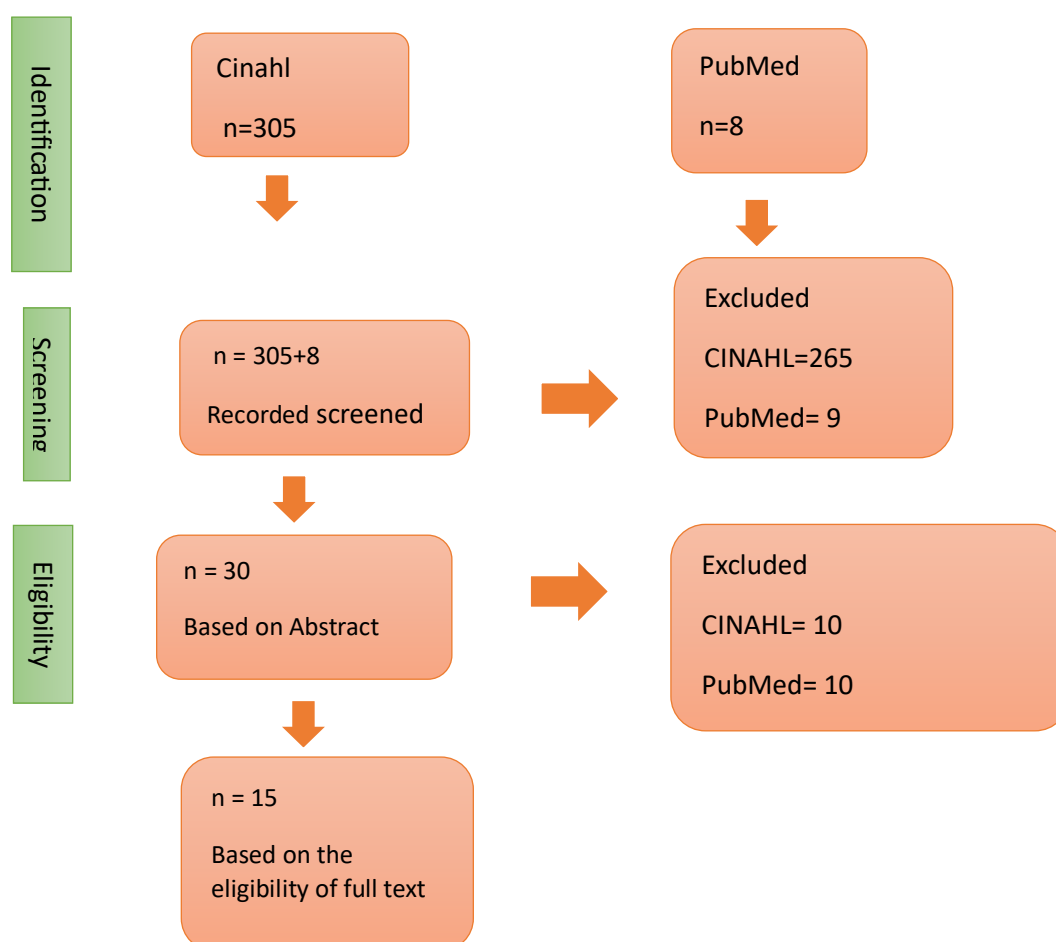
Table 1: PEO Framework

Population	AND	Experience/Exposure	AND	Outcomes
Student Nurses OR Nursing students OR Pre-register nursing students OR Undergraduate Nursing students		NICU environment OR Intensive care unit OR Neonatal Intensive care unit		Studying OR Experiences OR Learning OR Perception

CINAHL's Boolean methodology and peer-reviewed article selection. A total of 110 research articles were obtained immediately after searching and reading the results. Similarly, the MESH approach, along with the usage of full text, abstract, and the recent ten years filter, yielded 150 hits or citations in PubMed. The initial total number of linked articles collected from databases CINAHL and PubMed, as shown in the data search, was 260. The data search table (Table 1) is shown below.

Table 2: Inclusion and exclusion criteria

Inclusion	Exclusion
Articles published 2013-2023	Articles published more than 10 years
Articles that focus on learning experiences in clinical placement	Articles that focus on other care setting Example- NICU/PICU
Studies published in English and Finnish	Studies published in other language than English and Finnish.
Peer-reviewed, abstract available	Articles with restricted or limited access
Original articles	Reviews



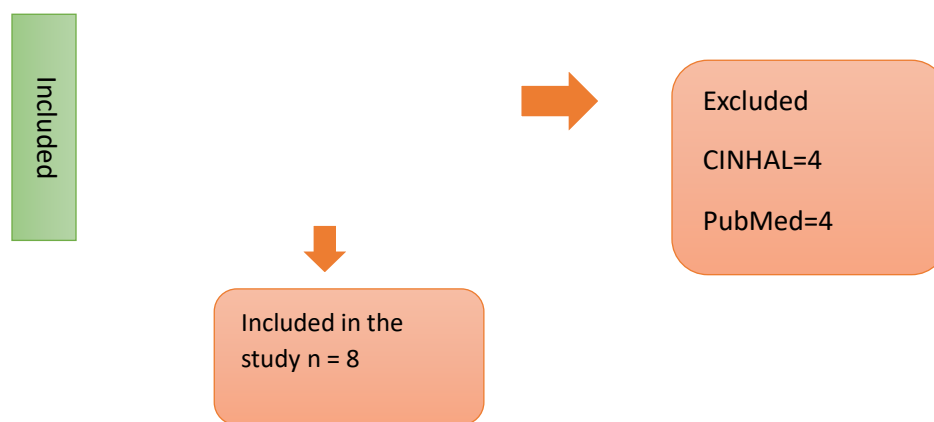


Image 1. Prisma chart and database results

4.3 Data Analysis methods

A content analysis method, also known as data analysis, is a method that can use either qualitative or quantitative data in an inductive or deductive manner. In nursing research, qualitative content analysis is frequently used. In addition, the main objective of using content analysis is to develop a model to conceptually describe the experiences. The inductive method and deductive methods are presented in three stages: preparation, organization, and reporting. The goal of the content analysis is to characterize, deepen knowledge of, and raise comprehension of the subject of interest (Cavanagh 2013:15). However, inductive content analysis will be used in this review.

In this review, a general inductive content analysis approach for evaluating qualitative data will be used to explain student nurses' learning experiences in clinical practices in a NICU setting. The knowledge related with the study issue under consideration is fragmented. The inductive method data analysis was adopted as a consequence. (Polit & Beck 2004: 580). One of the key goals of the inductive analysis of content is to condense raw textual material into a succinct summary design. Essentially, this technique generates a simple and systematic set of processes for qualitative data analysis that can provide trustworthy and credible conclusions that readers can use. Considering the fact that idea analysis is a highly time-consuming technique (Cavanaugh 1997: 15), its value in examining the multidimensional phenomena investigated by nursing research has been demonstrated (Elo & Kyngäs 2007: 114.)

The purpose of this descriptive literature review was to describe Student Nurses learning experiences during the time of clinical placement in Neonatal Intensive Care Unit (NICU).

Collectively 8 Article ware chosen for the literature review. The choosen articles ware published in the midle years of 2013 to 2023. The choosen studies ware materialized from six countries: two from South korea (Tae hoon kim at el, 2023)(Hyun young et al,2021), Nothern colorado (Witt at el,2014),two from Iran (Karina, 2021)(Bazrafkand et al,2018), Australia (Vicki Cop, 2021), Scotland (Mohammadi at el,2020). Regarding this methodology utilized eight Qualitative studies.

Table 3: Sample of Coding Table for Question one

What are the learning experiences of nursing students' clinical placement in NICU settings for clinical nursing practice ?				
Meaning unit	Code	Sub category	Generic category	Main unit
Increased autonomy, sensitivity, and safety in care provided were mentioned by participants as relevant experiences (Chavaglia et al., 2018)	Skill Development	Improve Autonomy and Safety in Care	Clinical Practice and Learning Outcomes	Leaning experiences during clinical placement in NICU
	Safety Enhancement			
	Autonomy Growth	Sensitivity Development		
	Emotional Growth	Clinical Practice as Skill Development		
	Sensory Perception			
	Skill Acquisition			
	Clinical Learning			

5. Results

In order to measure the targeted phenomena, two research questions were selected for this thesis study with the assistance of the PEO framework (Table 1). Information was gathered from reputable online databases, including PubMed and CINAHL. The fact that the study featured at least one author who was a licensed nurse and that the participants were student nurses was taken into account when choosing the data. The JBI checklist was used to assess the articles' quality. The selected papers' status as descriptive literature reviews was confirmed.

Table 4: Categories formed through data analysis

Main category	Learning experiences of nursing student's clinical placement in NICU	Perceptions that influence student nurses learning experiences during clinical placement
Generic category	New born safety concern Improved clinical awareness Expanded skills in NICU Student's expectations in NICU Educational support and guidelines. Clinical skill development Active engagement Preference for simulation Clinical practice and learning outcomes Challenges in nursing education and practice	Student support and recognition Dignity and competence of male nursing students.

	<p>Educator's role in clinical competence</p> <p>Nurse burnout and work force impact</p>	
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5.1 Nursing Students learning experiences during clinical placement in NICU

5.1.1 New born safety concern

According to findings the data highlight various aspects of newborn safety concerns during clinical practice. Participants expressed positive expectations but also anxiety, particularly when assigned to neonatal units. Fear of an unfamiliar hospital environment and the potential for making mistakes, such as accidentally dropping an infant while feeding, emerged as significant concerns. (Rogowski JA, 2015; 333). Fear of an unfamiliar hospital environment and making mistakes emphasizes the participants' anxiety about unfamiliar settings, particularly in neonatal units, and the fear of adverse effects on infants' conditions. (Shin HS et al., 2021:147-155).

The study revealed that despite positive expectations, students undergoing training in the newborn nursery and NICU encountered delicate levels of anxiety (Cheraghi MA, 2013; 460-467). This anxiety was primarily attributed to concerns surrounding the utilization of various medical instruments employed in the treatment of high-risk newborns, as well as the practical aspects of professional nursing. The participants expressed fear and apprehension upon their initial exposure to the specialized environment designed for the care of newborns and small children. (Rajeswaran L, 2016; 10).

5.1.2 Improved clinical awareness

The theme of "Acquisition of a wide range of knowledge regarding neonatal nursing" aligns with the generic category of improved clinical awareness. Participants experienced an expansion of their nursing knowledge and gained a better understanding of the role of nurses through hands-on experiences in clinical practice (Kenny MJ, 2015; 341). Observing various clinical cases highlights the advantages of clinical practice in enhancing clinical awareness by providing

opportunities to observe and understand a variety of clinical conditions and medical processes. (Christiansen A et al, .2014:243-247).

Moreover, the application of critical reasoning techniques emerged as a valuable asset in identifying and addressing systematic problems within the Neonatal Intensive Care Unit (NICU), thereby emphasizing the efficacy of clinical education (Rogowski JA,2015;333). Students encountered challenges related to the physical environment, including a constrained workspace, insufficient resources such as equipment and personnel, and the limited capacity of hospitals to accommodate high-risk neonatal admissions. These challenges not only provided students with a firsthand understanding of the complexities inherent in neonatal care but also underlined the importance of addressing systemic issues to optimize patient outcomes. (Staiger DO, 2015; 333)

5.1.3 Expanded skills in NICU

The participants in the NNP program expressed a profound realization of the gaps in their knowledge and skills, despite their prior NICU experience. The transition to the NNP program brought about a shift in their self-perception, with some feeling surprised at how much they didn't know. (Kim JY, 2013; 14). One participant, with 15 years of NICU experience, felt a significant knowledge gap upon entering clinical practice, stating that the new role felt like a "totally different arena." This suggests that the NNP program served as a platform for them to recognize the need for deeper knowledge and skills beyond their previous NICU experiences. . (Choi EA, 2015:261-271).

Through content analysis, it becomes evident that participants in the Neonatal Intensive Care Unit (NICU) experience a notable expansion of skills during their clinical education. The data reveals a profound realization among participants, enrolled in Neonatal Nurse Practitioner (NNP) programs, regarding substantial gaps in their knowledge and skills despite previous experience in the NICU. (Yonge O, 2013; 84-88)

5.1.4 Student's expectation in NICU

The participants' experiences in the NNP program were influenced by their expectations and previous NICU experiences. Some participants, despite being experienced NICU nurses, faced a shift in confidence when placed in a different unit with distinct routines and equipment. This

suggests that familiarity with a specific NICU setting may not necessarily translate to confidence in a new environment. (Park YA, 2018; 336-341).

Students expect the opportunity to integrate theoretical knowledge into clinical practice. Content analysis reveals an expectation of applying classroom-learned concepts in real-world scenarios, reinforcing the connection between theoretical understanding and practical application in the NICU setting. (Brown C, 2020; 67-78)

5.1.5 Educational support and guidelines

The existence of organized support networks inside the educational environment was emphasized by the participants. This could involve academic resource access, mentorship programs, and staff members who are specifically committed to education. These kinds of frameworks are made to help pupils overcome obstacles, clear up confusion, and create an atmosphere that is favorable to learning. (Smith, 2016; 135) Clear guidelines and expectations form a fundamental aspect of educational support.

Participants reported the importance of having well-defined expectations and guidelines for their clinical practice. (E. Jonsén, 2013:27-302). Participants express a desire for practical guidelines that bridge the gap between theoretical knowledge and its application in neonatal care settings. This may include guidelines on the use of specialized equipment, best practices in NICU procedures, and strategies for effective communication in emotionally charged situations. (Miller, 2015; 210-223)

5.1.6 Clinical skill development

According to the findings the nursing students expressed a clear need for guidance and explanation from the nursing staff to facilitate their clinical skill development in the neonatal intensive care unit (NICU). They emphasized the importance of an orientation to quickly adapt to the NICU environment. (Chavaglia et al., 2018). The students highlighted their desire for guidance on the NICU's characteristics, criteria for classifying newborns, major diseases, frequently used instruments, and supplies. This indicates a recognition of the crucial role that structured guidance plays in enhancing their clinical skills and knowledge. Preference for simulation. (Bellini, 2013:346-348)

5.1.7 Active engagement

Among the analysed articles findings showed the students advocated for an active engagement approach in their education. They highlighted the need for explanations from nurses while performing nursing tasks. The students expressed difficulty in understanding when they had to merely observe without a nurse's explanation.

This indicates a preference for an educational environment where active engagement, communication, and interaction are fostered, enabling them to explore and study effectively. The desire for an environment where questions can be asked reflects their need for active engagement and open communication with the nursing staff. (Bellini, 2013:346-348)

5.1.8 Preference for simulation

The nursing students articulated a preference for simulation-based learning as part of their education. They expressed a desire for pre-learning, engaging in theoretical knowledge acquisition before practicing neonatal intensive care (Bellini, 2013:347).

The students mentioned the importance of supplementary simulation training for aspects of clinical practice that might be challenging to experience directly in the field. This preference highlights their recognition of the value of simulated scenarios in honing their skills and knowledge in a controlled and supportive environment. (Blum, 2013:303-307)

5.1.9 Clinical practice and learning outcomes

The comprehensive study of the impact of clinical practice on nursing learning outcomes revealed the critical significance of the clinical environment in developing students' abilities, perspectives, and professional development. (Obeidi et al, 2013).

This finding emphasizes the importance of practical experience, mentorship, and difficult encounters in developing well-rounded, competent nursing professionals. These findings are important for nursing education because they emphasize the need of a supportive and immersive learning environment for future nursing practitioners (Chavaglia et al., 2018).

5.1.10 Challengers in Nursing education and practice

The identified issues include a lack of practical exposure, curricular shortcomings, mentorship deficiencies, and a gap between theoretical and practical understanding (Murray et al., 2018). It is vital to address these issues in order to provide a more comprehensive and strong nursing education system that adequately educates students for the dynamic and complicated needs of the nursing profession. Improvements in practical learning opportunities, curriculum updates, mentorship programs, and the alignment of theoretical and practical education are all necessary for the continuous evolution and advancement of nursing education and practice (Obeidi et al., 2013).

5.1.11 Educator's role in Clinical competence

The identified issue emphasizes the need of NICU educators in supporting new graduate nurses' clinical competence and professional growth. The absence of active, engaged instructors who establish supportive relationships has a negative impact on the clinical growth trajectory of new nurses. Improving educator engagement, presence, and commitment to helping new nurses is vital for thorough and effective clinical competence development in the complicated and critical environment of the Neonatal Intensive Care Unit. (Tyndall et al., 2019).

This realization emphasizes the need of educators taking an active role in influencing the learning experiences and professional development of new nurses in the NICU (Murray et al., 2018).

5.1.12 Nurse Burnout and workforce impact

Focuses on the negative impacts of burnout in new graduate nurses working in the NICU. Due to a lack of proper clinical support and unreasonable workloads, some nurses have experienced feelings of inadequacy and burnout. This burnout has a substantial impact since it not only creates struggling but also has the potential to force abandon the profession permanently. (Murray et al., 2018).

This circumstance could eventually lead to a nursing personnel shortage in the critical NICU environment. Addressing a lack of support, regulating workloads, and emphasizing steps to prevent burnout among new nurses are critical to maintaining a capable and sufficient workforce in the NICU and avoiding negative effects on patient care and staffing (Tyndall et al., 2019).

5.2 Perception that Influence to student Nurse, Clinical practice in NICU

5.2.1 Student Support and Recognition

The significant effect of a lack of support on students in clinical settings, the absence of significant support from nurses leads to unpleasant emotions among students, including feelings of worthlessness and a lack of drive, to the point where some students may consider leaving the field (Rakhshan M., 2018)

The key issue identified here is the enormous threat to nurses' dignity in clinical settings as a result of insufficient support from supervisors, head nurses, or colleagues. Addressing and enhancing support mechanisms in these contexts is critical not just for student well-being and retention, but also for maintaining nurses' dignity and professional morale in clinical situations (Valizadeh et al., 2018).

5.2.2 Dignity and Competence of Male Nursing Students

Male nursing students mentioned an appetite for educators and staff to recognize their academic and clinical abilities, highlighting the importance of faith in their competence while executing operations. It was also emphasized that recognizing male nursing students' roles and talents within the healthcare system is critical for supporting their dignity (Molazem Z, et al., 2018)

This award makes a significant contribution to building a supportive and inclusive environment for male nurses, assuring their valuable contributions to infant care in critical care settings. This recognition is critical in boosting their confidence and professional status within the healthcare community (Mohammadi F, Rakhshan M, et al., 2018).

6. Discussion

6.1 Discussion of results

The purpose of this thesis was to describe learning experiences of nursing students' clinical placement in NICU settings for clinical nursing practice and perceptions that influence student nurses learning experiences during clinical practices in NICU. This study used eight primary

research studies published between 2013 and 2023. The results of the thesis reveal about learning experiences and student perception of clinical practice in NICU.

The Neonatal Intensive Care Unit (NICU) stands as a critical area of the field of critical infant care, demanding specialized skills and knowledge from healthcare professionals, including student nurses. (Zeng & Zhu, 2016 : 97-100). These clinical placements serve as a bridge between theoretical learning and practical application, submerging student nurses in the high-risk environment of neonatal care. (Koo & Lee, 2021: 339-353).

Within the NICU, student nurses encounter multifaceted challenges, ranging from routine care for premature infants to handling complex medical conditions. (Shin HS et al., 2021:147-155). These clinical experiences are instrumental in sharpening competencies pivotal for their future nursing careers. As they navigate this environment, they struggle with a diverse group of clinical scenarios, learning to understand neonatal development, adeptly use specialized equipment, and navigate the emotional aspects of supporting families through trying situations. (Christiansen A et al, .2014:243-247)

However, the reality of NICU clinical placements extends beyond just encountering challenges; it also involves exploiting educational support and guidance to shape these experiences. (Choi EA, 2015:261-271) Adequate orientation, mentorship, and a supportive learning environment significantly contribute to their overall learning experience (Park YA, 2018; 336-341). The need for structured guidance is evident, as students express a clear requirement for explanations and orientation to quickly adapt to the NICU setting. (E. Jonsén, 2013:27-302). Active engagement and open communication with nursing staff are also critical for effective learning experiences in this high-stress environment.

Research findings further emphasize the varied perceptions and experiences of student nurses in NICU placements. Safety concerns regarding the delicacy of newborns and the fear of making mistakes underscore the anxiety felt, particularly in unfamiliar settings (Bellini, 2013:346-348). Improved clinical awareness, expanded skill recognition, and educational support networks have emerged as pivotal factors shaping the experiences of student nurses. The transition from prior experiences to a new role within the NICU brings about a realization of knowledge gaps, influencing their expectations and confidence in the new environment. (Blum, 2013:303-307)

The importance of educators in supporting clinical competence among new graduate nurses in the NICU is obvious (Chavaglia et al., 2018). Active, engaged instructors play a crucial role in shaping the trajectory of new nurses' clinical growth. Moreover, addressing nurse burnout due to inadequate support and excessive workloads is vital to prevent a shortage in the nursing workforce within the critical NICU environment. (Obeidi et al., 2013).

Interestingly, the research findings underscore the impact of a lack of support on student well-being, potentially leading to feelings of worthlessness and affecting their professional morale. (Murray et al., 2018). Additionally, recognition of male nursing students' roles and talents within the healthcare system is highlighted as crucial in supporting their dignity and boosting their confidence within this field. (Tyndall et al., 2019).

The intersection of findings highlights the complex and multifaceted nature of the NICU environment in shaping student nurses' experiences. It underscores the necessity for a supportive, immersive learning environment that includes structured guidance, active engagement, recognition, and strong support systems. Addressing challenges and utilizing educational support is crucial for the continuous evolution and enhancement of nursing education and practice within this critical healthcare setting. (Chavaglia et al., 2018).

6.2 Ethics and Validity

Finland's academic research is governed by the Responsible Conduct of Research Guidelines, which were released by the Finnish National Board on Research Integrity (TENK). The research community has established standards for integrity, carefulness, and accuracy in research conduct as well as in recording, presenting, and evaluating the research results. This literature review complies with these standards to ensure ethical soundness and reliability (Finnish National Board on Research Integrity TENK 2023: 30-31). When it comes to literature reviews, subjectivity and prejudice often diminish the quality of the research (Robson 2020: 42).

With this thesis work, two research questions were chosen with the help of the PEO framework (Table 1) for the purpose of measuring intended phenomenon. Data was collected from reliable electronic databases, such as CINAHL and PubMed. Data selection took into consideration that study participants were student nurses and the study had at least one author who was a nurse by

profession. The quality of articles were tested with the help of JBI checklist. It was verified that chosen articles were descriptive literature reviews.

Processes of data collection and content analysis were well explained and shown in the form of table, such as description of selected articles (Table 3) and articles included in the review (Table 4) and figure of PRISMA flow diagram (image 1). As it was demonstrated that the data and interpretations were extracted solely from the original sources, it increased the validity and reliability of the thesis.

In order to reduced this effect, search methods were developed through the application of strategies such as subject headings, key phrases, and informatics consultation in order to provide a comprehensive and abundant output of data from the chosen databases in order to provide the basis for the evaluation. The data analysis was conducted inductively, beginning with a close reading of the texts to generate codes, as opposed to employing a pre-planned content item search (Gillam 2022: 120). To ensure integrity and open reporting of the findings, every piece of literature included in the thesis was appropriately referenced and cited as a sign of respect for the work of other academics. Plagiarism was detected using Turnitin.

6.3 Conclusions and recommendation

6.3.1 Conclusions:

The peak of research into nursing students' experiences in the Neonatal Intensive Care Unit (NICU) showcases a diverse and challenging landscape that significantly shapes their clinical journey. These findings, derived from multiple primary research studies over the past decade, underscore the pivotal role of NICU placements in fostering learning experiences and shaping the perceptions of student nurses.

The NICU serves as a key area where student nurses navigate the transition from theoretical knowledge to practical application in the intricate domain of neonatal care. This immersive environment exposes them to a range of challenges, from routine care for premature infants to complex medical conditions, enabling them to cultivate essential skills necessary for their future nursing careers. Their experiences encompass understanding neonatal development, mastering

specialized equipment, and navigating the complex emotional dynamics of supporting families through challenging circumstances.

However, the journey is not solely defined by the clinical challenges; it heavily depends on the quality of educational support and guidance provided. Adequate orientation, mentorship, and a supportive learning environment play a fundamental role in shaping their overall experiences. Structured guidance, active engagement, and open communication with nursing staff emerge as critical elements for effective learning experiences within this high-stress environment.

The research findings explore into the varied perceptions and experiences of student nurses in NICU placements. Safety concerns regarding the delicacy of newborns and the fear of making errors highlight the anxiety experienced, particularly in unfamiliar settings. Additionally, recognition of male nursing students' roles and talents within the healthcare system emerges as a crucial aspect in supporting their dignity and fostering their confidence in this field.

Especially, the study underscores the essential role of educators in supporting the clinical competence of new graduate nurses in the NICU. Active and engaged instructors significantly influence the path of new nurses' clinical growth. Addressing issues such as nurse burn-out resulting from inadequate support and excessive workloads is crucial to prevent a shortage in the nursing workforce within the critical NICU environment.

6.3.2 Recommendations:

Based on the insights collected from these findings, several recommendations can be proposed:

1. **Enhanced Educational Support:** Institutions should prioritize structured orientation, mentorship, and a supportive learning environment within NICU placements. Clear guidance, active engagement, and open communication with nursing staff are imperative for effective learning experiences.
2. **Educator Engagement:** Facilitate active involvement and engagement of educators in guiding and supporting the clinical growth of new nurses. Establishing strong mentorship and supportive relationships is crucial for nurturing their competence within the NICU.
3. **Address Burnout and Workload:** Efforts must be directed towards preventing nurse burnout by ensuring adequate support and manageable workloads. Addressing these issues is essential to retain a capable nursing workforce within the critical NICU environment.

4. **Recognizing Diversity and Dignity:** Encourage recognition and support for male nursing students' roles and abilities within the healthcare system. Fostering an inclusive environment and acknowledging their contributions is vital for boosting their confidence and professional standing.
5. **Continuous Evolution of Nursing Education:** Regular evaluation and evolution of nursing education systems are essential. Ensuring practical exposure, refining curriculums, improving mentorship programs, and aligning theoretical and practical education are necessary for the ongoing advancement of nursing education and practice.

By implementing these recommendations, institutions and healthcare facilities can cultivate an environment that provides robust support, structured guidance, and recognition, fostering a nurturing and supportive environment for the growth and development of future nursing practitioners in the demanding and critical NICU setting.

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8. Appendices

Table 5: Description of selected article

NO	Author's /Year/ Country	Topic/Aim	Methodology and Method	Participants and Sample	Main Outcomes
1	Tae Hoon Kim and Yeon Bae and Sim et al., 2021, Korea	<p>South Korean nursing students' experiences of clinical practice in the newborn nursery and neonatal intensive care unit.</p> <p>Aim This study aimed to understand nursing students' clinical experiences in newborn nurseries and neonatal intensive care units and to provide basic data for the</p>	Qualitative, phenomenological method	University Nursing Students n = 15	<p>Students benefit from favourable learning opportunities offered by the present neonatal practise nursing education system.</p> <p>However, it was determined that the main problems impeding students' ability to learn were a lack of practise chances, inadequate training, and the theory-</p>

		establishment of strategies to promote effective clinical education				practice gap. The findings of this study are anticipated to offer fundamental information for curriculum improvement in undergraduate nursing education.
2	Witt and Catherine Lewis et al., 2014, Northern Colorado	<p>Topic</p> <p>The experiences of registered nurses during their first year as a neonatal nurse practitioner student.</p> <p>Aim</p> <p>The aim of this study was to describe the experiences of RN during their first year as a neonatal nurse</p>		Qualitative, Phenomenological approach	First year NNP students n = 10	To oversee the treatment of preterm and ill newborns, many neonatal intensive care units (NICUs) need neonatal nurse practitioners (NNPs). The demand for NNPs' services has constantly outstripped the supply, and the current projection of graduates from NNP

		practitioner student.				programmes makes it unlikely that the supply will catch up. Before starting a NNP programme, prospective neonatal nurse practitioners must have two years of experience working as registered nurses in a newborn critical care unit.
3	Carina Barreira et al., 2021, Portugal	Topic Nursing students' experiences in neonatal care. Aim This study aim to indicate that nursing students experienced		Qualitative study	Nursing students n = 127	The findings of this study indicate that nursing students experienced a wide range of feelings and experiences.

		a wide range of feelings and experiences.				
4	Fatemah Ghaffari et al;, 2018, Iran	<p>Topic Neonatal Intensive Care Nursing Curriculum Challenges</p> <p>Aim This study was done to evaluate challenges of neonatal intensive care nursing curriculum</p>		Qualitative Study	Master's nursing students n = 14	<p>One of the most significant barriers to nursing students' success in experimental education units is the absence of learning opportunities in clinical centres. Policymakers in nursing education, however, are aware that clinical education is the most important component and think that by having</p>

						<p>students engage in clinical placements and encounter various challenges there, they may help them get more theoretical knowledge. Students' learning level can be raised by teamwork and the small ward setting. In [15] The majority of graduates think that current NICU curricula do not adequately prepare nurses for their roles in clinical settings or for the demands of contemporary society. Graduates' knowledge of</p>
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						<p>baby care can be put to use, but students' responsibilities should align with their learning objectives.</p>
5	<p>Vicki Cope et al.,: 2021 Australia</p>	<p>Topic Transition experiences of newly qualified registered graduate nurses employed in a Neonatal Intensive Care Unit Aim In a graduate nurse transition programme in a Neonatal Intensive Care Unit (NICU), to investigate the clinical and</p>		<p>Qualitative study</p>	<p>Student nurses and newly graduate student nurses N =8</p>	<p>The clinical and professional learning experiences of NRGNs revealed how unprepared they feel to work in the NICU. This was mostly because, in contrast to nursing adult patients, there was little to no undergraduate neonatal education and only a brief NICU orientation.</p>

		professional learning experiences of recently qualified registered graduate nurses over their first six months of post-registration employment.				
6	Hyun Young Koo et al., 2021, Korea	<p>Topic</p> <p>Educational needs for practicing neonatal intensive care among Korean nursing students.</p> <p>Aim</p> <p>This study was conducted to investigate the educational needs for practicing neonatal</p>		Qualitative content analysis using depth-interview.	Nursing students n = 6	Neonatal intensive care practise presented possibilities for direct nursing practise and education in the classroom for nursing students, clinical practise faculty members, and nurses. Nursing students acknowledged the highest practice-

		intensive care among nursing students.				related educational needs for operating medical equipment used in neonatal intensive care, as well as the highest observation-related educational needs for communicating with medical team members. The requirement for orientation from the head nurses in terms of the practise education technique was greatest for nursing students. To practise neonatal intensive care, Korean nursing students
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						realised that they needed a lot of knowledge in the areas of communication and using medical equipment. To create a practise environment and instructional framework for neonatal intensive care that would fulfil their demands, more study is required.
7	Mohammadi et al., 2020, Scotland.	<p>Topic</p> <p>Male Nursing students</p> <p>Perception's of dignity in neonatal Intensive care unit</p> <p>Aim</p> <p>The purpose of this study is to define and</p>		Qualitative content analysis study using semi-structured individual studies	Male nursing students n = 20	According to the study's findings, male nursing students needed a lot of support, their academic and practical abilities needed to be respected, and

		explain the concept of dignity among male nursing students in the neonatal intensive care unit.				they should also be involved in decision-making because in such a setting, these students' dignity will be upheld and encouraged. In order to protect and emphasise all aspects of the male nursing student's dignity, it is proposed that a cultural, professional, and institutional context be given.
8	Bazrafkand et al;, 2018, Iran	Topic Nursing Students' Experiences of Clinical Education Aim		A qualitative study using conventional content analysis	Nursing students n = 16	The results of this study showed that nursing students have desirable and undesirable experiences in

		To comprehend the experiences of nursing students in clinical education				clinical education in the process of training, which must be addressed with proper planning for reduce the students' problems in the clinical education of future nurses.
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