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Experiences of Turkish and international students in pediatric nursing course: a qualitative study

Emine Bayrak Aykan^{1*} and Tutku Kırıcı Temiz²

Abstract

Background Pediatric nursing is a specialized field that requires not only the provision of care to children, who are a unique group, but also the roles of advocacy and prevention, in addition to modern nursing roles. As a result, it may be perceived differently in nursing education compared to other core subjects. The aim of this study is to explore the emotions, thoughts, and experiences of Turkish and international students taking the pediatric nursing course.

Methods This research is a qualitative study utilizing a phenomenological approach. The study was conducted with nursing students who took the pediatric nursing course at a foundation university. A total of 23 students who agreed to participate were included in the study. In-depth interviews, each lasting approximately 40 min, were conducted with each student. A semi-structured form was used during the interviews, and thematic analysis was performed on the collected data. Ethical approval and participant consent were obtained prior to the study.

Results As a result of the interviews, three main themes and five sub-themes emerged regarding the students' views on the pediatric nursing course. The themes were perception, thoughts, and experiences. The sub-themes were: child, positive thoughts, negative thoughts, personal development, and professional development.

Conclusion The study revealed that the pediatric nursing course was challenging for both groups of students and provided an opportunity to experience various emotions. Therefore, it is crucial to recognize that this course can provide valuable experiences for nursing students in preparation for their future careers. Additionally, to facilitate students' transition into pediatric practice, it is recommended to create a learning environment that emotionally supports students, including an orientation process aimed at providing a positive learning experience and fostering a therapeutic environment that supports role transitions.

Clinical trial number Not applicable.

Keywords Pediatric nursing, Nursing student, Experience

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Introduction

Nursing is a profession responsible for providing high-quality and safe healthcare services to patients and their families, accelerating recovery, and preventing adverse outcomes that may arise during the treatment and care process [1]. Education plays a crucial role in the professionalization of the field and the improvement of care quality [2]. Education is a dynamic process that aims to equip students with the necessary knowledge and skills to use in their professional lives, involving the interaction between the teacher and the learner [3–4]. In nursing education, this process focuses on the core subjects of the profession. One such core subject is the pediatric nursing course. Pediatric nursing is a fundamental course that, within the framework of family-centered care, covers nursing care approaches for neonates, children, and adolescents, emphasizing that a child is not a miniature adult [5, 6]. Students who take this course may experience positive emotions such as love, fulfillment, and hope in both theoretical classes and clinical practice, as well as negative emotions such as stress and concerns about effective communication. While positive emotions increase students' desire to learn and motivation, negative emotions can negatively impact their views of the course and reduce their motivation [7]. This situation may affect students' academic success. It is noted that the more active a student is academically, the better performance they can demonstrate in clinical practice [8].

In today's world, changing living conditions, such as increasing migration, are accompanied by international student mobility. The growing global demand for healthcare professionals, particularly nurses, has led to an increase in the number of international students at universities in our country [9–11]. International students in higher education institutions face challenges such as encountering cultural differences, discrepancies in educational content, language barriers, and economic issues, which can complicate their adaptation to the university and the surrounding environment, negatively affecting their academic success. This is why we chose to focus on international students in the context of pediatric nursing education, as their unique challenges offer valuable insights into culturally competent care delivery. In addition to these general challenges, cultural differences have a pronounced impact in specialized fields such as pediatric nursing. From the perspective of international students, pediatric nursing services, are directly influenced by the approaches of parents toward child care and culture. Differences in ethnicity, culture, and language between nurses and parents can complicate the delivery of care by impeding the establishment of effective communication necessary for optimal child care [12, 13]. Consequently, nurses may experience concerns about overlooking potential health risks in children [12, 14].

Therefore, it is essential to gather the views of both Turkish and international students regarding their educational experiences. Collecting these views will help identify the issues and problems encountered by both groups of students. Solving these problems during the educational process is a key determinant in students' decisions to continue their university education, achieve academic success, and positively affect their psychological well-being [15, 16]. Specifically, identifying the problems and challenges related to the pediatric nursing course, which is a more specialized area compared to other core courses (due to factors such as the immaturity of the child's entire body structure, different developmental stages, the need for different communication methods, and the inclusion of parents in every process), is crucial for determining students' awareness and competencies regarding pediatric patient care. The purpose of this research is to explore the emotions, thoughts, and experiences of Turkish and international students enrolled in the pediatric nursing course.

Methods

Study design

In this study, a combined approach utilizing Colaizzi's seven-step phenomenological method and thematic analysis was employed. Colaizzi's method was used to deeply explore the essence of the participants' lived experiences, allowing us to capture rich, detailed descriptions of these experiences [17]. This approach facilitated the systematic reading and re-reading of the data to extract significant themes, organizing them in a comprehensive manner.

Additionally, thematic analysis was applied to identify and categorize broader patterns and themes across the data. While Colaizzi's method focused on the in-depth exploration of individual experiences, thematic analysis enabled us to structure and synthesize the data at a more general level. This dual approach allowed for a comprehensive interpretation of the findings, providing insights into both the unique aspects of participants' experiences and the larger patterns that emerged across the dataset.

By integrating these two methodologies, the study benefited from a structured, detailed exploration of individual experiences while also highlighting overarching themes that provided a broader understanding of the data.

Study population

The study used a purposive sampling method. The population of the study consisted of 55 Turkish and 9 international students, totaling 64 students, enrolled in the pediatric nursing course at a foundation university in Ankara during the fall semester of the 2023–2024 academic year. The pediatric nursing course offered in Turkey aims to equip nursing students with the necessary

knowledge and skills to provide care for children from infancy to adolescence. The course covers various aspects of child health, including developmental stages, common childhood diseases, and health promotion strategies. Additionally, the course emphasizes understanding the unique physiological and psychological needs of children and the importance of family involvement in pediatric care. Students are taught to communicate effectively with children and their families using appropriate communication techniques and to assess the health needs of the child in a culturally sensitive manner. Through clinical practice, students gain hands-on experience in pediatric settings, developing competence in providing safe and effective care to children. This course is typically offered in the third year of the undergraduate nursing program across the country. During the data analysis phase, the saturation point method was adopted. In qualitative research, the saturation point, which serves as a criterion for concluding the data collection process, is applied when recurring themes become evident and no new information is added [18]. In this context, when the data obtained in the study provided satisfactory answers to the research questions and similar content began to repeat, no additional participants were required for the Turkish student group. However, for the international student group, an attempt was made to increase the sample size to match or come close to the ratio of the other group, but no additional participants could be recruited. The study concluded with the participation of 20 Turkish students and 3 international students, totaling 23 participants. The situation regarding the sample size has been reported as a limitation.

Data collection

The data of the study were collected through the “Sociodemographic Characteristics Data Collection Form” and the “Semi-Structured Interview Form” prepared by the researchers.

Sociodemographic characteristics data collection form This form, created by the researchers based on the literature [19, 20], consists of seven questions related to age, gender, the high school graduated from, parental

status, whether the profession was chosen voluntarily, and whether any prior education in pediatric health was received.

Semi-structured interview form This form, developed by the researchers based on the literature [19, 21], contains seven questions regarding the students’ views on the pediatric nursing course (Table 1). During the development of the form, the opinions of three different pediatric nursing faculty members were sought. To ensure the clarity of the questions, a preliminary interview was conducted with three nursing students, and the data obtained from these interviews were not included in the study.

Prior to the interviews, participants were provided with comprehensive information regarding the study. For those willing to participate, a mutually agreeable day and time within regular weekday working hours were scheduled for both participants and researchers. To ensure a conducive environment for the interview, the researcher arranged for a quiet room within the university, and the participant was duly informed of this arrangement. On the designated day and time, the interview was conducted in the meeting room, where only the researcher and the participant were present, adhering to the semi-structured interview format. The interviews were conducted in the participants’ native languages (Turkish with Turkish students and English with international students). In rare instances where clarification was needed for international students’ expressions, the researcher asked follow-up questions to ensure accurate understanding.

The data of the study were collected using individual interviews by the researchers. The duration of the interviews ranged from 20 to 30 min for each participant. The interviews with participants were audio-recorded, and written notes and an audio recording device were used to document verbal and non-verbal expressions. The interview was concluded when data saturation was reached. To ensure the validity of the study, expert support who independent of the study team in qualitative research was sought during the creation of the data collection form, data analysis process, and interpretation stages. To enhance reliability, interview recordings (transcripts, participants’ body language, etc.), research notes, and the analysis process were thoroughly documented by the researchers. In this regard, the aim was to conduct the research process in a systematic, reliable, and transparent manner.

Statistical analysis

All data were analyzed on the same day using a combination of thematic analysis and Colaizzi’s seven-step phenomenological method. The interview recordings were transcribed verbatim by two researchers with experience in qualitative research, working independently. The

Table 1 Semi-structured interview form

1-.....
2- What are your views on the pediatric nursing course?
3- What kind of experience did the pediatric nursing course provide you with?
4-.....
5-.....
6- Which factors contributed to enhancing your motivation in the pediatric nursing course?
7-.....

researchers first generated initial codes separately and then grouped them into sub-themes and main themes. In accordance with Colaizzi's approach, significant statements were identified, and themes were structured to reflect the lived experiences of the participants, providing a deeper understanding of their perceptions and meanings. The aim was to identify patterns and categorize the data in a way that accurately captured the participants' experiences [22]. To ensure the reliability and internal validity of the study, investigator triangulation was applied. After the initial coding process, the researchers compared their codes to check for consistency and resolved any discrepancies through discussion, reaching a consensus. In cases of disagreement, a third expert in qualitative research who independent of the study team, was consulted. All documentation related to the analysis process including transcripts, nonverbal observations, and research notes was carefully recorded to maintain transparency and auditability. The study's reporting followed the guidelines set by the Consolidated Criteria for Reporting Qualitative Research (COREQ) [23]. This rigorous approach ensured the integrity and consistency of the analysis, strengthening the study's reliability [24].

Step 1 The researchers listened to the interview recordings separately and read the reports of each interview.

Step 2 The researchers separately underlined significant and emphasized expressions in the interview reports.

Step 3 The researchers separately identified codes and sub-themes from the underlined expressions in the interview reports.

Step 4 The researchers separately organized the codes and sub-themes based on their similarities and content.

Step 5 The researchers separately re-evaluated the codes and sub-themes they had created.

Step 6 The researchers separately merged the codes and sub-themes based on their similarities to form main themes.

Step 7 The researchers sought expert opinion who independent of the study team and expert in qualitative research for the main themes, sub-themes, and codes they had created.

Ethical considerations

Ethical approval for the study was obtained from a university's Non-Interventional Clinical Research Ethics Committee (No: E-81477236-604.01.01-6790 Date: 04.10.2023). During the research process, informed voluntary consent was obtained from the participants, and they were informed that the data obtained would only be shared in scientific environments. Participants were informed that the audio recordings would be listened to only by the researchers for data analysis purposes. All participants provided written informed consent and voluntarily participated in the study. The study was conducted in accordance with the Declaration of Helsinki. The statements of Turkish participants were labeled as T.P., and those of international participants were labeled as I.P.

Results

In the study, 82.6% of the participants were female. Among the participants, 87% were Turkish students, and 65.2% had previously taken a education related to child health. The proportion of participants who were married and had children was 4.3% (Table 2).

When the data of the study were analyzed, three main themes and five sub-themes related to the Pediatric Nursing course were identified (Fig. 1). The main themes were perception, thoughts, and experiences. The sub-themes included child, positive thoughts, negative thoughts, personal development, and professional development.

Theme 1: Perception

It was determined that participants expressed their perceptions of the pediatric nursing course, with most of their statements focusing on the concept of "child." The expressions related to children were categorized as "innocence," "play," and "dependent individual."

Sub-theme: Child

Participants' statements regarding the concept of a child emphasized innocence, play, and dependency.

Code 1: innocence

Participants highlighted the innocence and purity of children in their statements.

Table 2 Sociodemographic characteristics ($n = 23$)

		N	%
Gender	Women	19	82,6
	Man	4	17,4
Student status	Turkish student	20	87,0
	International student	3	13,0
Marital status	Married	1	4,3
	Single	22	95,7
Parental status	Yes	1	4,3
	No	22	95,7
Previous experience with child health education	Yes	15	65,2
	No	8	34,8

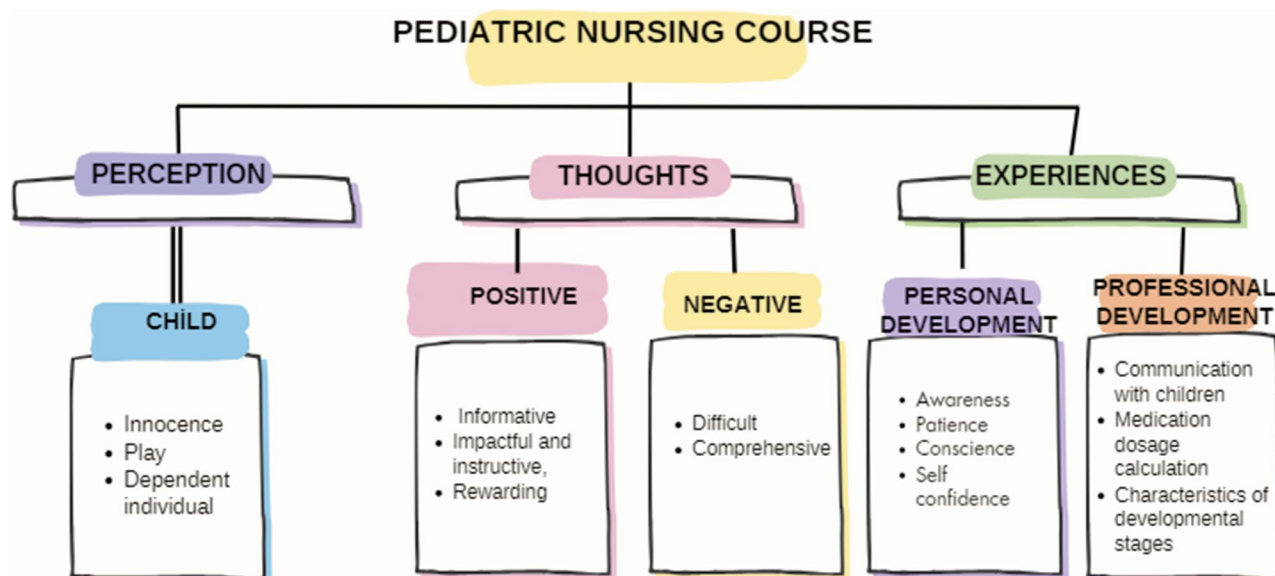


Fig. 1 Themes, sub-themes, and codes of the study

...Children are very pure and innocent beings. T.P-1.
...The first thing that comes to mind when I see a child is innocence. I.P-1.
...Children are the best examples of innocence... I.P-3.

Code 2: Play

Participants stated that they could communicate better with children through play, that playing helped them understand children's emotional expressions, and that it supported children's development.

...Play is an important tool to connect with children's imagination and contribute to their development. When I think of children, the first thing that comes to mind is play. T.P-1.
...Playing with children was very enjoyable... I.P-3.

Code 3: Dependent individual

Participants expressed that children are dependent individuals and that this dependency necessitates both physical and emotional support from adults.

...I think children are dependent individuals... T.P-1.
...Children are individuals in need of care. T.P-7.
...Children are dependent individuals who require their family's guidance... I.P-2.

Theme 2: Thoughts

In addition to their perceptions, participants expressed both positive and negative thoughts regarding the pediatric nursing course. The most frequently mentioned positive thoughts about the course were its informative, impactful, instructive and rewarding nature. On the other hand, the most frequently expressed negative thoughts were that the course was difficult and comprehensive.

Sub-theme: positive thoughts

Some participant statements about the positive aspects of the course being informative, instructive, educational, and rewarding are provided below.

Code 1: Informative

Participants expressed that the course content enhanced their knowledge about children.

...It was a course where I gained a lot of information about child health... T.P-15.
...It was a very informative course... T.P-17.
...We also gain knowledge for our own future children or the children of our loved ones... T.P-19.
This course was beneficial... I.P-3.
...It was an opportunity to observe different illnesses and learn about measurement differences in children... I.P-2.

Code 2: Impactful and instructive

Participants expressed that the course content contributed significantly to their professional development,

enriched their learning experiences, and was emotionally impactful.

...During the clinical practice, the young girl undergoing bone marrow aspiration tightly holding my hands was an unforgettable experience. T.P.-20.

...The gratitude expressed by the family of a child I played games with during clinical practice deeply touched me. T.P.-11.

...My effort to hold and comfort a small child undergoing lumbar puncture (LP) in the chemotherapy clinic left a profound emotional impact on me... I.P.-2.

This course taught us in detail how to approach children both physically and psychologically, along with understanding pediatric diseases and critical points to observe in children. T.P.-6.

...Through this course, I learned how to communicate effectively with children and their families. T.P.-7.

The words that come to my mind regarding this course are ..., ..., educational. It taught me so much... I.P.-1.

Code 3: Rewarding

Participants expressed that the course had a rewarding impact both in terms of academic success and personal development, and that the learning process was not only about acquiring knowledge but also about emotional fulfillment.

...Useful and rewarding... T.P.-2.

Having the opportunity to work closely with children was both rewarding in terms of knowledge and emotionally challenging... I.P.-2.

Sharing in the smiles of children was incredibly rewarding... I.P.-3.

Sub-theme: Negative thoughts

Participants expressed negative thoughts regarding the course being difficult and comprehensive. Some of their statements related to this are as follows:

Code 1: Difficult

Participants stated that the course was difficult due to its detailed nature.

...I think it's more difficult compared to other courses. T.P.-10.

...It's not a subject everyone can handle. T.P.-12.

It was a course I struggled with more compared to others... T.P.-13.

This is the most difficult course I've taken so far, I really struggled. I.P.-2.

Code 2: Comprehensive

Participants expressed that the course provided a comprehensive perspective on pediatric nursing practices due to its broad range of topics and the comparison between pediatric and adult care approaches.

...A comprehensive course where I learned about childhood diseases, their treatments, and the differences between children and adults. T.P.-14.

...Pediatric nursing requires gaining comprehensive knowledge about care and treatment... I.P.-2.

Theme 3: Experiences

Participants indicated that they gained numerous experiences within the pediatric nursing course. The experiences most frequently mentioned were related to both personal and professional development.

Subtheme: Personal development

The participants shared statements related to increased awareness, patience, conscience, and self-confidence.

Code 1: Awareness

Participants expressed that the course increased their love for children, addressed their knowledge gaps related to children, and enhanced their awareness.

... I learned the details about children and experienced the awareness. T.P.-6.

... After starting this course, I realized that I love children. T.P.-8.

... Being aware of the difficulty of children's diseases... T.P.-13.

Child-specific awareness... T.P.-15.

... I became conscious of how sensitive we should be toward them. T.P.-19.

... It helped me gain the awareness that children are different... I.P.-1.

Code 2: Patience

Participants expressed that being patient while interacting with children affected both their learning processes and their sensitivity to the emotional and physical needs of children.

...Being with children requires ... and patience, ... I experienced it. T.P.-6.

Patience, ..., exhaustion. T.P.-12.

Emotionally challenging, therefore requiring patience and dedication... I.P.-2.

Code 3: Conscience

Participants expressed that providing nursing care to children is a moral responsibility and emphasized the importance of conscience in decision-making processes.

Children are a very sensitive issue, a fine line... T.P.-12.

...the feeling of touching a child's heart. T.P.-11.

...they make it easier for us to bring out our moral side. T.P.-19.

...it made me more compassionate. I.P.-1.

Code 4: Self-confidence

Participants stated that the course and interacting with children contributed to their personal development by enhancing their self-confidence.

...it made me feel more confident around them. T.P.-4.

...being a hero in their eyes,... T.P.-14.

It was an educational and self-confidence-boosting experience... I.P.-1.

Subtheme: Professional development

Participants' experiences related to professional development, including communication with children, medication dosage calculation, and characteristics of developmental stages, are outlined below.

Communication with children Students learned communication techniques suitable for children's developmental needs in theoretical courses and had the opportunity to apply these skills during clinical experiences. Role-playing and practical exercises were implemented to ensure that students developed the skills necessary to establish safe communication with children, fostering effective interaction.

Medication dosage calculation In pediatric nursing, medication dosage calculation holds critical importance due to the distinct physiological characteristics and body weight of each age group. Students, through the pediatric nursing course, applied the theoretical knowledge they acquired during clinical practice and recognized the significance of accurate medication dosage calculation. They also emphasized the importance of preventing overdose or underdose risks, as these can lead to serious health problems. Students expressed that continuous practice

and receiving feedback helped them gain confidence in this skill.

Characteristics of developmental stages Students understood the developmental characteristics of children based on their age stages. They recognized that each stage, from infancy to adolescence, has different physical, cognitive, and emotional developmental needs. In this context, students applied the knowledge they gained from theoretical courses to provide age-appropriate care and support, ensuring that they met the unique developmental requirements of each stage.

Code 1: Communication with children

Participants stated that the course and its clinical practice contributed to their professional development by allowing them to experience the process of communicating with children.

...I experienced the importance of communication with children and their families. T.P.-7.

...communicating with children required attention. T.P.-15.

...I realized that communication with children has a very different dimension... T.P.-11.

...Thanks to this course, ... communicating with children... T.P.-4.

The dimensions of communication vary for each child... T.P.-19.

...Seeing that I could communicate made me happy. I.P.-1.

Code 2: Medication dosage calculation

Participants shared their experiences with medication administration during the course and the challenges they faced in this process. They particularly emphasized that the clinical practice of the course helped them overcome their knowledge gaps in dosage calculation.

I realized how important dosage calculations are in children and gained experience in this area. T.P.-12.

...I had the opportunity to practice dosage calculations. T.P.-13.

I observed that medications for children are administered with very precise calculations. T.P.-14.

...preparing certain procedures and treatments for children is more challenging... I.P.-3.

Code 3: Characteristics of developmental stages

Participants expressed that they gained knowledge about how to integrate the physical, emotional, and social

developmental characteristics of children from different age groups into nursing practices.

...I realized that I need to approach based on the characteristics of developmental stages... T.P.-9.

...I needed to understand according to the developmental stages. I.P.-2.

Discussion

Bloom's taxonomy, introduced in 1956, is a classification system that identifies learning as occurring within the cognitive, affective, and psychomotor domains [25]. The primary purpose of this system is described as classifying students' desired behaviors. These behaviors are reflected in the teaching process as emotions, thoughts, and actions [26]. This study aimed to explore the emotions, thoughts, and experiences of Turkish and international students enrolled in the pediatric nursing course. The study concluded that, based on Bloom's taxonomy, perception influences thought, thought influences emotion, and emotion influences behavior. The main themes identified in the study were perception, thought, and experience.

The students expressed their perceptions of the pediatric nursing course by defining the concept of a child. The meanings they attributed to the concept of a child emerged as innocence, playfulness, and dependency. Given that the field of nursing they studied involves a vulnerable group characterized by dependency and a need for love, care, and affection, the meanings attributed by the students to the concept of a child were found to be consistent with the literature [27–30].

The students' thoughts regarding the pediatric nursing course were shaped in both positive and negative directions. Positive thoughts were focused on the course being informative, impactful, instructive, and rewarding. Students reported that through the course, they gained knowledge in various areas, were able to accompany practices that were difficult to believe without seeing, had the opportunity to learn many things about child care, and as a result, were able to interact with and spend time with children, which they viewed as a reward. Similarly, the literature indicates that the pediatric nursing course is seen by students as an educational and satisfying practice [30–32]. On the other hand, the students' negative thoughts were related to the course being difficult and comprehensive. They mentioned that the course contained extensive information, required considering both the child and the family, and was therefore more difficult compared to other courses. They also highlighted that children are very different from adults. The literature similarly notes that the pediatric nursing course presents students with comprehensive and unique

challenges. These challenges are based on factors such as the patients' age groups, diagnoses, the necessity of building relationships with children and family members, and the simultaneous exposure to theoretical and practical learning experiences during clinical practice [33–35]. Although it is not entirely possible to draw a clear distinction regarding the differences in how the course is both challenging and rewarding for the two student groups, based on my observations, international students with children appear to demonstrate a more pronounced sensitivity to the challenges and rewards of the pediatric nursing course. The need to balance academic responsibilities with family duties may have led these students to develop a different perspective on the course's challenges and rewards. A more in-depth exploration of how this dynamic influences their experiences and learning processes would allow for a more comprehensive understanding of how the differences between the groups are reflected in their learning outcomes.

However, the emotional challenges faced by students in these courses and how these challenges impact their professional development must also be taken into consideration. In particular, in pediatric nursing, students are required to develop not only their clinical skills but also their emotional and empathetic abilities. The emotional connection established with children and families is a significant factor in shaping students' professional identities and their approach to patient care. The stress and anxiety students experience during clinical placements play a critical role in both their personal and professional growth. Awareness of these emotional experiences can contribute to the more effective structuring of nursing education. Furthermore, managing these emotional processes will help students become more confident, empathetic, and effective nurses in their future clinical practice. In this context, designing the curriculum to include emotional learning experiences will support the development of students' professional skills as well as their emotional intelligence [36].

The students' experiences regarding the pediatric nursing course were shaped in terms of both personal and professional development. The personal development gained from the course focused on awareness, patience, conscience, and self-confidence. After the course, students stated that they recognized the existence of specific differences in children, that being with children required patience, that children represent a very sensitive and delicate balance, and that they felt happiness in being seen as someone who succeeds in the eyes of children. Similarly, the literature indicates that being with pediatric patients increases awareness and sensitivity [37], requires effort and dedication [30], and contributes to the development of self-confidence in child care [32]. The professional development gained from the course focused on

communication skills with children, medication dosage calculation, and understanding developmental stage characteristics. Regarding professional development, students expressed that communication with children has a very different dimension, that medication dosage calculation for children is very sensitive, and that approaches vary for each developmental stage. Some of the characteristics identified as essential for being a good pediatric nurse include adapting to the environment, being gentle with children, communicating with them, and being attentive to their needs. It is emphasized that communication with children plays a significant role, even to the extent of meeting basic needs such as feeding [31]. Understanding children and communicating with them is particularly noted as a challenging experience for students [32]. However, it is important to remember that strong communication in nursing care will contribute to building trust, which is crucial [33]. The study found that students' positive experiences in communicating with children were in line with the literature [31, 33, 37]. The most stressful aspect of the course's practical application was identified as administering medication to children, which was expressed as a significant source of stress for students. Pediatric medication safety practices may differ in real-life applications [33]. Therefore, simulations in the laboratory on calculating and administering medications to children before clinical practice can help alleviate students' stress and enhance their competency in medication management. Some students reported that experiencing medication calculation, injection, and observing the effects of the medication helped reduce their stress [31]. Focusing on the experiences of students in pediatric nursing courses, it is important to discuss how innovative teaching methods, such as simulations or technology-enhanced learning, can influence the development of critical skills such as medication administration and communication with children. Technology-based learning not only reinforces students' theoretical knowledge but also allows them to gain practical experience in clinical skills. Simulations and digital tools enable students to develop their clinical abilities in a safe environment, better preparing them for real patient care. Examining the impact of these methods on student skills contributes to our understanding of how different educational approaches affect the learning process [38]. Pediatric medication administration is considered a challenging task; however, through simulations and technology-supported methods, students can experience medication calculation and administration processes, thus alleviating this stress factor [32]. Consequently, it is evident that students' skills in pediatric medication management and communication with children can be enhanced through innovative teaching methods in nursing education. In this context, the use of technology and

simulations significantly contributes to the improvement of student skills [38]. The study's findings related to students' experiences in medication dosage calculation for children after the pediatric nursing course are consistent with the literature [31–33]. Children at different ages and developmental levels have varying cognitive capacities. Therefore, it is essential to be aware of each child's unique developmental stage and personality [33]. The experience of knowing the characteristics of developmental stages was found to be acquired by students at the end of the study. This result is consistent with the literature [31, 33].

In line with the findings of this study, future research could further explore the differences between Turkish and international students in greater depth, particularly focusing on how cultural, linguistic, and educational background influences their learning experiences. Moreover, it would be valuable to investigate the impact of innovative educational methods on reducing student stress, as this could contribute to enhancing the overall educational experience and well-being of students.

Conclusion

It was found that students developed awareness regarding pediatric nursing. Students stated that they primarily learned about diseases related to child health, communication with children, dosage calculation, and providing nursing care based on developmental stage characteristics through this course, and they experienced these aspects. For both student groups, it was revealed that the course was challenging but provided an opportunity to experience various emotions. Therefore, it is important to recognize that this course can provide nursing students with valuable experiences for their future careers, and students with an aptitude for this field should be encouraged to pursue this specialized area.

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Author contributions

E.B.A and T.K.T designed the study and collected data and analyzed. And also wrote main manuscript text and read and approved the manuscript submitted.

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Data availability

The authors confirm that all data generated or analyzed during this study are presented in this article.

Declarations

Ethics approval and consent to participate

Ethical approval for the study was obtained from a university's Non-Interventional Clinical Research Ethics Committee (No: E-81477236-604.01.01-6790 Date: 04.10.2023). During the research process, informed voluntary consent was obtained from the participants, and they were informed that the data obtained would only be shared in scientific environments. Participants

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Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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