Research Article *JICAH 2025 5(3) 167-178*
https://doi.org/10.64684/jicah.111

e ISSN: 2757-9468

Journal of Infant, Child and Adolescent Health

Pain knowledge and attitudes among pediatric nurses: A conceptual perspective

Pediatri hemşirelerinde ağrı bilgisi ve tutumları: Kavramsal bir bakış

Şeyda Binay Yaz[a,*], Ülkü Özer [b]

[a] *Izmir Bakırçay University, Faculty of Health Sciences, Pediatric Nursing Department, Izmir, Türkiye*
[b] *Izmir Bakırçay University, Graduate Education Institute, Nursing Principles Department, Izmir, Türkiye*

ABSTRACT

Aim: This study aimed to evaluate nurses' knowledge and attitudes towards pain in pediatric clinics.

Method: A mixed-methods design was used, incorporating both quantitative and qualitative methods. The study sample comprised 77 nurses working in pediatric clinics at a university hospital in Türkiye. Data were collected in person between December 2021 and December 2022 using the nurse descriptive information form, the metaphor questionnaire and the Pediatric Pain Knowledge and Attitude Scale. Data evaluation was conducted using two distinct analytical approaches: Descriptive statistical analyses were performed using IBM SPSS Statistics 26, while metaphor analysis was used to conceptualise pain. A concept map for pain metaphors was created using the Whimsical website.

Results: The mean age of the nurses participating in the study was 27.22 ± 4.04 years. The majority of nurses were female (87%), and 61% had obtained a bachelor's degree. The data indicates that 53.2% of nurses had worked for 1–5 years, 57.1% had worked in pediatric clinics for 1–5 years, and 62.3% expressed a desire to work in pediatric wards. The mean score for the nurses on the pediatric pain knowledge and attitude scale was 32.74 ± 17.14, which was below the midpoint of the scale. A total of 40 metaphors were produced in response to an examination of their perceptions of the concept of pain.

Conclusion: Despite nurses employed in pediatric clinics utilising pain assessment methodologies, their expertise and dispositions concerning pediatric pain were found to be inadequate. However, the metaphor analysis of the concept of pain revealed that the participants did not experience any difficulty in defining pain and were able to produce metaphors.

Keywords: Child; metaphor; pain; pediatric patient

ÖZ

Amaç: Bu çalışma, pediatrik kliniklerde çalışan hemşirelerin ağrıya yönelik bilgi ve tutumlarını değerlendirmek amacıyla yürütülmüştür.

Yöntem: Çalışma, nicel ve nitel yöntemlerin bir arada kullanıldığı karma yöntem tasarımı kullanılarak tasarlanmıştır. Çalışmanın örneklemini Türkiye'deki bir üniversite hastanesinin pediatri kliniklerinde çalışan 77 hemşire oluşturmuştur. Veriler, hemşire tanımlayıcı bilgi formu, metafor anketi ve Pediatrik Ağrı Bilgi ve Tutum Ölçeği kullanılarak Aralık 2021 - Aralık 2022 tarihleri arasında yüz yüze toplanmıştır. Verileri değerlendirmek için IBM SPSS-26 programı kullanılarak tanımlayıcı istatistiksel analizler ve ağrı kavramı için metafor analizi kullanılmıştır. Whimsical web sitesi kullanılarak ağrı metaforları için bir kavram haritası oluşturuldu.

Bulgular: Çalışmaya katılan hemşirelerin ortalama yaşı 27.22±4.04 yıl olup, %87'si kadın ve %61'i lisans mezunudur. Hemşirelerin %53.2'sinin 1-5 yıllık çalışma geçmişi, %57.1'inin 1-5 yıllık çocuk kliniklerinde çalışma geçmişi ve %62.3'ünün çocuk servislerinde çalışmak istediği görülmüştür. Hemşirelerin çocuk ağrı bilgisi ve tutum ölçeğindeki ortalama puanı 32.74±17.14 olup, orta düzeyin altındadır. Ağrı kavramına ilişkin algıları incelendiğinde 40 metafor üretildiği belirlenmiştir.

Sonuç: Çocuk kliniklerinde çalışan hemşireler ağrı değerlendirme yöntemlerini kullansalar da, çocuk ağrısına ilişkin bilgi ve tutumlarının düşük olduğu görülmüştür. Ancak ağrı kavramına ilişkin metafor analizinde, ağrıyı tanımlamada zorluk çekmedikleri ve metafor üretebildikleri sonucuna varılmıştır.

Anahtar kelimeler: Çocuk; metafor; ağrı; pediatrik hasta

Introduction

Pain is one of the most common reasons why people seek healthcare, and it affects all aspects of life (Akdeniz Kudubeş, Bektaş & Bektaş, 2021; Büyükgönenç & Törüner, 2018). The International Association for the Study of Pain defines pain as 'an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage' (Büyükgönenç & Törüner, 2018; Koç Özkan

* **Corresponding author.**
E-mail address: seydabinay80@gmail.com (Ş.B.Y., *Izmir Bakırçay University, Izmir, Türkiye*)
Received: 31.05.2025 **Accepted:** 02.09.2025 **Published:** 31.12.2025
It has been checked for plagiarism

& Balcı, 2018). Furthermore, pain perception is a complex phenomenon influenced by various emotional and behavioural factors, including environment, gender, culture, education and personal experiences. It varies from person to person, is subjective and difficult to diagnose (Karadağ Arlı, 2017). No physiological or chemical test can measure pain. For this reason, McCaffery said: 'Pain is what the individual says it is. Whenever and wherever an individual reports pain, it exists and should be believed" (Büyükgönenç & Törüner, 2018). Pain is accepted as the fifth vital sign and is affected by physical, emotional and behavioural factors. Children are one of the groups that experience this complexity the most (Koç Özkan & Balcı, 2018). They experience pain during procedures such as injury, trauma, surgery, and acute onset diseases such as otitis media or pharyngitis. They also experience pain during burn dressing, vaccination, blood collection, venipuncture, dressing change, and lumbar puncture. Children with chronic diseases such as sickle cell anaemia, cancer, and migraine also experience pain (Akdeniz Kudubeş et al., 2021; Büyükgönenç & Törüner, 2018).

Every child has the right to live a life free from pain. The nurse on the healthcare team plays a key role in advocating for and educating the child about pain control. One of the fundamental principles of atraumatic care in pediatric nursing is pain management. A key goal of pediatric nurses is to alleviate children's pain and enhance their quality of life (Akdeniz Kudubeş et al., 2021). If left untreated or uncontrolled, pain can delay recovery, prolong hospitalisation and increase costs (Akatat & Kocaman, 2018). Inadequacies in pain management and an inability to prevent pain can also lead to lifelong physiological and psychological problems in children. Despite many advances in pain management, problems remain, such as the tendency to ignore pain, particularly in children. Traumatic pain experienced by a child can negatively affect pain management and cause them to exhibit intense stress behaviours (Koç Özkan & Balcı, 2018). Therefore, nurses should closely monitor children’s pain and regularly assess it using age- and developmentally appropriate measurement tools, managing it effectively. They should also be competent in both pharmacological and non-pharmacological methods. Non-pharmacological interventions such as play, distraction, therapeutic touch and music therapy can significantly reduce a child's experience of pain. Furthermore, nurses should actively involve both the child and their family in the pain management process by providing information and support (Akdeniz Kudubeş et al., 2021). The knowledge and attitudes of pediatric nurses towards pain directly influence the success of pain management. Enhancing nurses’ knowledge levels and fostering positive attitudes that are reflected in clinical practice will significantly contribute to reducing children’s pain and improving their quality of life.

The aim of this study was to evaluate the knowledge and attitudes of nurses working in pediatric clinics regarding with regard to pain.

Methods

Study design, setting, and sample

combining qualitative and quantitative methodologies. It was conducted in the pediatric clinics of a university hospital in Türkiye. The hospital has five pediatric clinics with a capacity of 30–40 patients and a total of 114 nurses on staff. The study employed a comprehensive sampling method. The sample consisted of 77 nurses who met the inclusion criteria and agreed to participate.

Research questions

- What is the knowledge, attitude and experience of pediatric nurses regarding pain in children?
- How do nurses define and assess pain in children?

Inclusion criteria for participants

- Working in pediatric clinics as a nurse
- Volunteering to participate in research

Exclusion criteria for participants

- Working in other clinics as a nurse
- Participant dropping out of the research

Data Collection

Data was collected by one of the researchers via face-to-face interviews between December 2021 and December 2022. The following tools were used: the nurse descriptive information form, the metaphor questionnaire and the Pediatric Pain Knowledge and Attitude Scale. Approximately 20–25 minutes were allocated to each participant during the data collection process.

Instruments

Nurse Introductory Information Form: The researchers prepared a questionnaire describing the sociodemographic and working characteristics of nurses in line with the literature (Salantera, Lauri, Salmi & Helenius, 1999; Twycross, 2004; Ülgen, 2019).

Question Form Regarding Metaphor: The nurses were asked an open-ended question and were asked to produce a metaphor related to the concept of pain and explain why they had chosen this particular metaphor.

The Pediatric Pain Knowledge and Attitude Questionnaire (PPKAQ): This scale was developed by Salantera et al. in 1999 and modified by Twycross in 2004. The original scale contains 73 items measuring knowledge and attitudes about pediatric pain. Items assessing attitudes use a 5-point Likert scale ranging from 'agree' to 'disagree'. In the scale, 5 points are given for the correct answer if the respondent answers "agree", and 1 point is given for the minimum answer if the respondent answers "disagree". Cronbach's alpha coefficient was found to be 0.70 (Salantera et al., 1999; Twycross, 2004). Ülgen and Güdücü Tüfekçi conducted a Turkish validity and reliability study in 2019, adapting the scale for use in Türkiye. Following the study, items with low factor loadings in the dimensions, as well as items that created overlap, were excluded from the analysis. The remaining 16 items were then included in five theoretical dimensions. These dimensions are: care of the child with pain; physiology of pain; non-pharmacological methods; pain relief with medication; and psychology and sociology of pain. In the Turkish adaptation of the scale, the alpha reliability coefficient varies between 0.559 and 0.812. The overall scale was found to have a high degree of reliability (Ülgen, 2019). The Cronbach's alpha value for the scale used in this study is 0.87.

Data Analysis

Two different methods were employed to analyse the data. The IBM SPSS Statistics 26 programme was used to evaluate the quantitative data. Descriptive data were analysed using number, mean, percentage distribution and standard deviation calculations. Content analysis, a qualitative research method, was used to evaluate qualitative data. In content analysis, similar data are organised and evaluated within the framework of certain concepts and themes. Content analysis consists of three stages. First, each description was evaluated separately to gain an understanding of the metaphors used. The seven statements expressed by nurses that did not contain any metaphors were eliminated. Of the 43 metaphors produced in total, four that were not related to the concept of pain were removed, along with those that included a definition of pain. The remaining metaphors were then evaluated in terms of their similarities and common features. The second stage involved a general metaphor analysis to reveal the deeper meanings of the metaphors. The valid metaphors identified by the nurses were grouped according to their characteristics relating to the concept of pain. Each metaphor was analysed in terms of subject, source and connection between subject and source, with conceptual categories then being created. Eight thematic categories were created from the 40 metaphors produced by the nurses. In the third stage, the metaphors related to pain were categorised and the data transferred to the computer. The number of participants (n) and percentage values (%) were then calculated for each of the metaphors produced and the categories they represented. A concept map was then used to represent the pain metaphors and their respective categories. The concept map was prepared using the Whimsical website. The

Consolidated Criteria for Reporting Qualitative Research (COREQ) were used as a guide to ensure the study's quality (Tong, Sainsbury & Craig, 2007).

Ethical Consideration

The study was approved by the University's Non-Interventional Clinical Research Ethics Committee on 8 December 2021 (decision number 2021/435). Informed consent was obtained from participants prior to the commencement of data collection.

Results

The mean age of the nurses who participated in the study was 27.22±4.04, 87% were female; 61% were undergraduate; and 33.8% were postgraduate. 42.9% of the nurseswere married, and 16.9% had children (Table 1).

Table 1. Sociodemographic and study characteristics of nurses

Variables	**X ± SD**	
Age	27.22±4.04	
	n	**%**
Gender		
Woman	67	87.0
Male	10	13.0
Education		
High school/pre-license	4	5.2
License	47	61.0
Postgraduate	26	33.8
Marital status		
Married	33	42.9
Single	44	57.1
Child presence		
Yes	13	16.9
No	64	83.1
Service worked with		
Emergency service	11	14.3
Child service	19	24.7
Pediatric Surgery Service	3	3.9
Neonatal ICU	24	31.1
Pediatric ICU	12	15.6
Other (Polyclinic, etc.)	8	10.4
Professional experience		
Less than 1 year	12	15.6
1-5 years	41	53.2
6-10 years	17	22.1
11 years and above	7	9.1
Working time in the pediatric ward		
Less than 1 year	15	19.5
1-5 years	44	57.1
6-10 years	13	16.9
11 years and above	5	6.5
Mode of operation		
Day	10	13.0
Night	18	23.4
Day-Shift	49	63.6
Satisfaction with the service worked		
Yes	55	71.4
No	22	28.6
Willingness to work in the pediatric ward		
Yes	48	62.3
No	29	37.7
Total	**77**	**100.0**

When we look at their professional experience, 53.2% of the nurses had a working history of 1-5 years, and 57.1% had a working history of 1-5 yearsin pediatric clinics. Of the nurses, 63.6% worked day and night shifts, 71.4% were satisfied with the service they worked in, and 62.3% wanted to work in pediatric services (Table 1).

The knowledge and training histories of the nurses about pediatric pain, it was found that 53.2% said yes to the question of having knowledge about pain management in children, 79.2% said yes to the question of knowing the types of pain, 70.1% said yes to the question of making pain assessment in the clinic, 89.6% said yes to the questionof knowing pain scales and 64.9% said yes to the question of using standard scales in the clinic.When asked about receiving training on pain, 61.0% answered yes, and 77.0% of them stated that they used the training they received in the clinic (Table 2).

Table 2. Pain knowledge and education status of nurses

Variables	**n**	**%**
Knowledge about pain management in children		
Yes	41	53.2
No	36	46.8
Knowledge of types of pain		
Yes	61	79.2
No	16	20.8
Status of pain assessment in the clinic		
Yes	54	70.1
No	23	29.9
Knowledge of pain scales		
Yes	69	89.6
No	8	10.4
Use of standardized scales in the clinic		
Yes	50	64.9
No	27	35.1
Receipt of training on pain		
Yes	47	61.0
No	30	39.0
Total	**77**	**100**
Implementation of the received training in the clinic		
Yes	47	77.0
No	14	23.0
Total	**61***	**100.0**
Quality of education		
In-service training	42	71.2
Certified training program	12	20.3
Lecture-thesis	5	8.5
Total	**59***	**100.0**

(*) Not all participants answered.

The mean score for nurses on the Pediatric Pain Knowledge and Attitude Scale was 32.74 ± 17.14, indicating a level below the midpoint. The mean scores obtained from the scale's sub-dimensions were as follows: care of the child in pain (5.45±4.10); pain physiology (4.31±2.50); pain relief methods without medication (5.32±2.37); pain relief with medication (6.88±3.31); and pain psychology and sociology (10.76±8.26). All of these scores were found to be below the middle level (Table 3).

Table 3. Scores of the scale and the subscales of the pediatric pain knowledge and attitude

Scale score	X ± SD	Med (Min-Max)
PPKAQ	32.74±17.14	27(16-80)
Caring for a child in pain	5.45±4.10	3(3-15)
Physiology of pain	4.31±2.50	3(2-10)
Non-drug pain relief methods	5.32±2.37	5(2-10)
Pain relief with medication	6.88±3.31	6(3-15)

Nurses used 51 expressions related to the concept of pediatric pain. Seven of these statements were removed because they did not qualify as metaphors. A total of 43 metaphors related to the concept of pediatric pain were produced. Four of them were removed from the list because they were not related to pain, instead providing a definition of it.. Theremaining 39 metaphors were evaluated in terms of similarities and common characteristics, and eight thematic categories were identified (Figure 1).

The metaphors were analyzed in eight thematic categories created by the researchers. These categorieswere determined according to the similarity and structure of the concepts. The reasons given bythe participants for thematic metaphors are as follows:

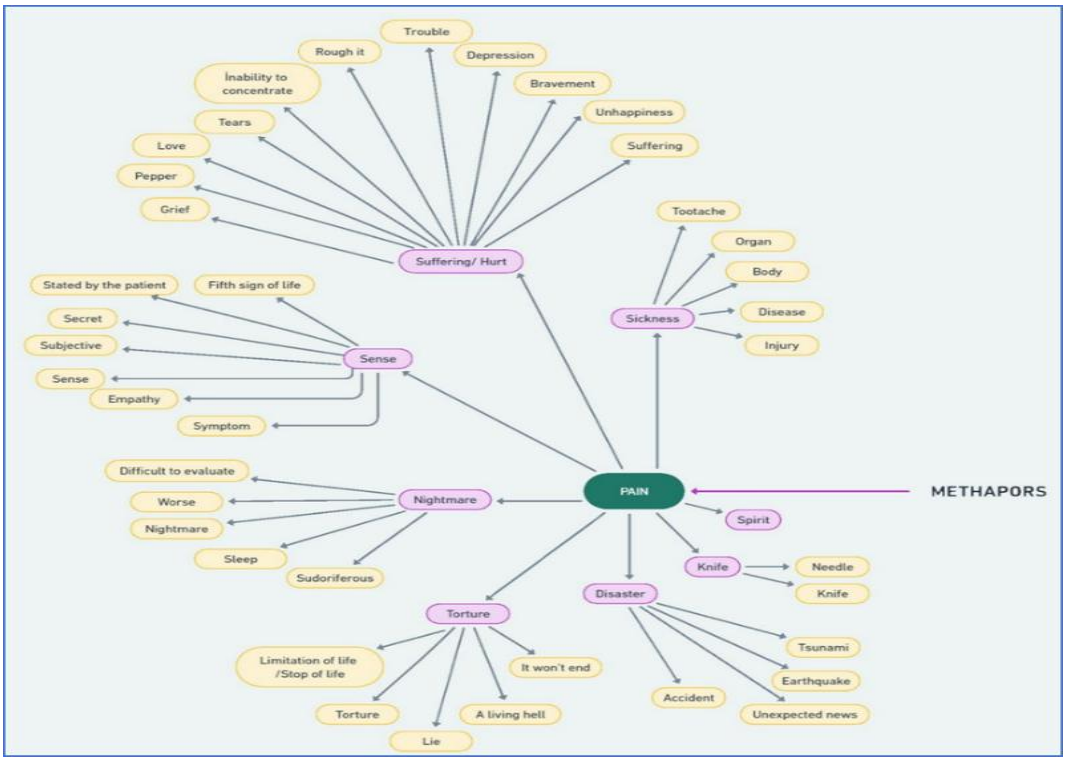

Figure 1. Metaphors related to the concept of pain

Sample expressions about perceptions related to the concept of pain

Thematic category: Cotton yarn
"Failure to do so would have major consequences" (P7)

Thematic category: Pain
"A child with pain becomes isolated and cannot focus" (P11)
"It prevents the enjoyment of life" (P23)

Thematic category: Knife
"Pain stabs like a knife" (P44)

Thematic category: Nightmare
"It's scary, but you feel relieved when it passes" (P24)

Thematic category: Disaster
"As the intensity increases, the destruction increases" (P31)

Discussion

Pain is a common negative experience for children, which may be caused by trauma, illness or hospital procedures. It is crucial for nurses to identify, assess and control pain as soon as possible (Elmas & Yeşildağ, 2021; Akgün, 2019). Effective pain management requires nurses to have accurate knowledge, demonstrate the right behaviour and attitude, and possess the necessary assessment and clinical decision-making skills (Özveren, Faydalı, Gülnar & Faydalı Dokuz, 2018). The knowledge, behaviour and attitude of healthcare team members involved in pain management significantly impact its provision and maintenance (Akbaş & Köse Tosunöz, 2019). This descriptive study, which aimed to evaluate the knowledge and attitudes of nurses working in pediatric clinics towards pain, involved 77 nurses. This section discusses the results of the study and literature findings, and evaluates the knowledge and attitudes of pediatric nurses towards pain.

It was found that 61% of nurses who participated in the study had received training in pain management for children (Table 1). Pain assessment in children is the first step in pain management. Many difficulties are experienced in assessing pain in infants and children due to the complex nature of pain, its susceptibility to social factors (e.g. race, age and gender) and developmental and language limitations that prevent self-reporting (Akdeniz Kudubeş et al., 2021). The study by Elmas and Yeşildağ found that 56.6% of nurses had received pediatric training, while the study by Güney and Avcı found that 51% had received training. The study by Kara and Bal Yılmaz found that 36.4% of nurses had received training in pain relief methods and that 88.9% desired further training in this area (Kara & Bal Yılmaz, 2020). Similar studies show that nurses have low levels of knowledge about pain assessment and pain relief methods in children, as well as a lack of training. To achieve this, the scope must be increased in both undergraduate education and postgraduate or in-service training (Elmas & Yeşildağ, 2021; Güney & Avcı, 2017; Kara & Bal Yılmaz, 2020).

The study found that 53.2% of participating nurses were aware of pain and pain assessment in children. One of the core principles of pediatric nursing is atraumatic care. In this context, nurses should minimise children's pain and its physical and emotional effects. It could be argued that children's pain is not well managed due to factors such as nurses' insufficient knowledge about pain and its management in pediatric clinics, their lack of awareness of the characteristics of different age groups, and their failure to recognise these characteristics in relation to the child's pain (Semerci, Kocaaslan, Akgün Kostak & Akın, 2020). Another study found that 60% of nurses considered themselves competent in controlling children's pain (Göl & Onarıcı, 2015). This suggests that nurses lack knowledge about pain. As many of the nurses participating in the study were undergraduate graduates (61%), it can be concluded that pediatric pain is emphasised more in undergraduate education, and that undergraduate nurses are more open to education (Elmas & Yeşildağ, 2021; Alotaibi & Higgins, 2018). Therefore, it is suggested that more permanent information about pediatric pain could be provided by increasing training in this area during the undergraduate period. In-service training after undergraduate education will enable nurses to update their knowledge and improve the quality of care (Elmas & Yeşildağ, 2021).

Among the nurses participating in the study, 70.1% stated that they conducted pain assessments on the ward (Table 2). In a separate study by Kasımoğlu and Gürarslan Baş (2022), 49.3% of participants recognised pain as a vital sign. Yıldırım Sarı et al. (2013) observed that 67.6% of nurses performed pain assessments.

Considering our findings and those of similar studies, it can be concluded that pain is accepted as the fifth vital sign.

Analysis of the mean scores of nurses participating in the study revealed that the mean total PCIT scale score and mean sub-dimension scores for care of the child with pain, pain physiology, pain relief methods without medication, pain relief with medication, pain psychology and sociology were low (Table 3). Elmas and Yeşildağ (2021) found a statistically significant difference in the mean total PPKAQ score before and after training, as well as in the mean sub-dimension scores for caring for a child in pain, pain physiology, and pain relief methods with and without medication. In contrast, the study by Türkmen and Yıldırım Sarı found that the total mean PPKAQ score of the participating nurses was high (Türkmen & Yıldırım Sarı, 2019). It can be concluded that the pediatric nurses who constituted the study sample had low mean total and sub-dimension mean PPKAQ scores because they did not receive training on pain and lacked sufficient knowledge about pain and pain assessment in children. Similar studies show that training in pain management for children increases nurses' knowledge and highlights the need for training.

Examining the mean scores of the nurses who participated in the study in the sub-dimensions of the PPKAQ (non-pharmacological and pharmacological pain relief methods), we can conclude that they are low (Table 3). A variety of pharmacological and non-pharmacological methods are employed to manage pain in children. Non-pharmacological methods have advantages such as ease of application, the absence of side effects (unlike painkillers) and the absence of an economic burden on the individual (Bahadir & Kurtunc, 2020). The literature states that pharmacological methods are widely used for pain relief (Akcan & Yiğit, 2016). However, it has been found that pharmacological methods are less effective when not supported by non-pharmacological methods (Kemer & İşler Dalgıç, 2020). The effectiveness of pain relief increases when pharmacological methods are used alongside non-pharmacological techniques (Özçevik & Ocakçı, 2019).

A study conducted in Brazil found that pharmacological methods were applied to 24.9% of newborns experiencing pain; 5.9% received non-pharmacological methods; and 67.5% received no intervention (Braga Sposito et al., 2017). Similarly, Akcan and Yiğit (2016) found that 53.5% of nurses in their study used pharmacological methods, while 31.4% used non-pharmacological methods. These findings suggest that, despite the availability of effective pain management strategies, both pharmacological and non-pharmacological interventions are often underutilised in pediatric care. In contrast to these studies, the present research aims to explore the knowledge and attitudes of pediatric nurses in [your country/setting], since cultural, educational and institutional factors may influence the choice of, and approach to, pain management methods. Understanding these factors could explain why some effective interventions are not routinely applied and could guide improvements in pediatric pain management practices.

This study examined the perceptions of nurses regarding pediatric pain through a metaphor analysis. The results revealed that nurses generally produced negative metaphors. The metaphors used to describe pain were classified into thematic categories such as 'soul', 'knife', 'disaster', 'torture', 'nightmare', 'sensation', 'anguish/pain' and 'disease'. The metaphors related to pain were analysed and found to fall into three categories: those that hurt people and can cause physical harm (e.g. knife, needle, tsunami, earthquake, unexpected news, accident, limitation/stop of life, torture, lie, unlivable, unending); those that affect people psychologically and cause pain (e.g. difficult to evaluate, bad, nightmare, sleep, sweat, anguish, unhappiness, loss, depression, trouble, crawling, inability to concentrate, tears, love, pepper, pain); and those that people can feel with their senses and body (e.g. vital sign, patient stated, secret, subjective, sense, empathy, symptom, toothache, organ, body, disease, wound). Overall, negative metaphors were used to describe the concept of pain. Similar metaphors related to pain are also evident in other studies. In a study by Korkut and Ülker (2022), participants defined pain as an uncomfortable feeling or sensation caused by neural transmission or a bodily reaction that negatively affects daily activities and social relationships. In Bullo and Hearn's study, pain was defined as physical properties (pressure, temperature, magnetism, sharpness) and physical damage (e.g. stabbing or bending), as well as an external agent causing physical damage (e.g. someone cutting you or wearing a barbed

wire belly button ring) (Bullo & Hearn, 2021).

Limitations

This study was conducted with a small number of nurses working in specific clinics within one hospital. The small number of participants means the findings cannot be generalised. Another limitation is that nurses had limited time to dedicate to data collection due to their busy workload. For these reasons, the research results are only valid for the sample group studied and cannot be generalised to the broader population.

Conclusions

Although nurses working in pediatric clinics used pain assessment methods, they were found to have low levels of knowledge and negative attitudes towards pediatric pain. However, the metaphor analysis of the concept of pain concluded that they did not have difficulty defining pain and could produce metaphors. Therefore, nurses working in pediatric clinics should closely monitor and evaluate children's pain. To this end, they should possess knowledge and skills regarding the characteristics, mechanisms, causes and symptoms of pain, as well as the methods of assessing pain and the pharmacological and non-pharmacological treatment options available.

Based on the research results, it is recommended that nurses working in pediatric clinics closely monitor and systematically assess children's pain. Future research involving larger samples and conducted in different clinics will increase the generalisability of the findings and enable comparative studies across different practice areas.

Ethics Committee Approval: The study was approved by the Non-Interventional Clinical Research Ethics Committee at Bakırçay University (date: 08/12/2021, decision number: 2021/435).

Informed Consent: Informed consent was obtained from the all individuals participating in the study.

CRediT Author Statement: **Ş.B.Y.** Conceptualization, Methodology, Data analysis, Writing – original draft, Writing – review & editing **Ü.Ö.** Data collection, Data analysis, Writing – original draft, Writing – review & editing.

Conflict of Interest: The author declares no conflicts of interest.

Funding: No financial support was received.

References

Akatat, Y., & Kocaman, G. (2018). Strategies used to increase compliance with evidence-based practice recommendations in assessing the pain of pediatric patients. *Izmir Katip Çelebi University Journal of Faculty of Health Sciences*, *3*(1), 23-31.

Akbaş, M., & Tosunöz, İ. K. (2019). Ağrı ile ilişkili girişimler konusunda hemşirelerin bilgi ve yaklaşımları. *Çukurova Medical Journal*, *44*(1), 136-143. https://doi.org/10.17826/cumj.431892

Akcan, E., & Yiğit, R. (2016). Türkiye'de yenidoğan kliniklerinde çalışan hemşire ve hekimlerin yenidoğanda ağrı yönetimi ile ilgili yaklaşımları. *Acıbadem Üniversitesi Sağlık Bilimleri Dergisi*, 2016(3), 147-153 https://dergipark.org.tr/en/download/article-file/1701557

Akdeniz Kudubeş, A., Bektaş, İ., & Bektaş, M. (2021). Çocuklarda ağrı yönetiminde hemşirenin rolü. *Journal of Education & Research in Nursing*, *18*(1). https://dx.doi.org/10.5152/jern.2021.91489

Akgün, T. (2019). Çocuk acil serviste pediatrik ağrı değerlendirme protokolü kullanımının hemşirelerin bilgi ve tutumlarına ve ağrı yönetimine etkisi. Yüksek Lisans Tezi. İzmir Katip Çelebi Üniversitesi. İzmir.

Alotaibi, K., & Higgins, I. (2018). Nurses' knowledge and attitude toward pediatric pain management: A cross-sectional study. *Pain Management Nursing, 20*(2), 118-125. https://doi.org/10.1016/j.pmn.2018.09.001

Bahadır, Ö., & Kürtüncü, M. (2020). Müzik terapinin 6-12 yaş arası çocuklarda anksiyete ve ağrı yönetimine etkisi: Randomize kontrollü bir çalışma. *Ege Üniversitesi Hemşirelik Fakültesi Dergisi*, *36*(3), 175-188.

Braga Sposito, N. P., Rossato, L. M., Bueno, M., Kimura, A. F., Costa, T., & Guedes, D. M. B. (2017). Assessment and management of pain in newborns hospitalized in a NeonatalIntensive Care Unit: A cross-sectional study. *Revista Latino-Americana de Enfermagem, 25,* e2931. https://doi.org/10.1590/1518-8345.1665.2931

Bullo, S., & Heath Hean, J. (2021). Parallel worlds and personified pain: A mixed methods analysis of pain metaphor use by women with endometriosis. *The British Psychological Society, 26,* 271-288. https://doi.org/10.1111/bjhp.12472

Büyükgönenç, L., & Törüner, E. K. (2018). Pain and nursing management in childhood. In Z.Conk, Z. Başbakkal, H. Bal Yılmaz, B. Bolışık, (Eds.), *Pediatric Nursing* (2) in (893-908). Ankara: Akademisyen Kitabevi.

Elmas, G., & Yeşildağ, E. (2021). Cerrahi birimlerde çalışan hemşirelere verilen eğitimin hemşirelerin pediatrik ağrı bilgi ve tutumlarına etkisi. Yüksek Lisans Tezi. Tekirdağ Namık Kemal Üniversitesi. Tekirdağ.

Göl, İ., & Onarıcı, M. (2015). Hemşirelerin çocuklarda ağrı ve ağrı kontrolüne ilişkin bilgi ve uygulamaları. *Hacettepe Üniversitesi Hemşirelik Fakültesi Dergisi*, *2*(3), 20-29.

Güney, M., & Avcı, Ö. (2017). Yenidoğan yoğun bakım ünitesinde çalışan hemşirelerin ağrı yönetiminde kullanılan nonfarmakolojik yöntemlere ilişkin bilgi ve uygulamalarının belirlenmesi. Yüksek Lisans Tezi. İstanbul Medipol Üniversitesi. İstanbul.

Kara, R., & Bal Yılmaz, H. (2020). Çocuk kliniklerinde çalışan hemşirelerin girişimsel ağrıyı azaltmak için kullandıkları yöntemlerin incelenmesi. *Journal of Education and Research in Nursing, 17*(2), 104-111. https://dx.doi.org/10.5222/HEAD.2020.13334

Karadağ Arlı, Ş. (2017). Cerrahi bakımda ağrı yönetimine ilişkin hemşirelik girişimleri. *Celal Bayar Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi, 4*(3), 1013-1020.

Kasımoğlu, N., & Gürarslan Baş, N. (2022). Hemşire/ebelerin çocuklarda ağrı yönetimine ilişkin bilgi ve uygululamaları. *STED, 31*(5), 349–359. https://doi.org/10.17942/sted.999250

Kemer, D., & İşler, A. (2020). Yenidoğanlarda ağrı yönetiminde kullanılan kanıt temelli nonfarmakolojik hemşirelik uygulamaları. *Balıkesir Sağlık Bilimleri Dergisi*, *9*(3), 197-204. https://doi.org/10.17942/sted.999250

Koç Özkan, T., & Balcı, S. E. R. A. P. (2018). Çocuklarda ağrı kontrolünde akupresür kullanımı. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi, 7*(1), 234-239.

Korkut, S., & Ülker, T. (2021). The experiences of individuals experiencing pain duringcovid-19 infection: A phenomenological study. *Pain Management Nursing, 23*(1), 48-54. https://doi.org/10.1016/j.pmn.2021.10.004

Özçevik, D., & Ocakçı, A. F. (2019). Yenidoğanda ağrı: Değerlendirme, yönetim ve hemşirenin rolü. *Ankara Sağlık Hizmetleri Dergisi, 18*(1), 18-26.

Özveren, H., Faydalı, S., Gülnar, E., & Dokuz, H. F. (2018). Hemşirelerin ağrı değerlendirmesine ilişkin tutum ve uygulamaları. *Çağdaş Tıp Dergisi*, *8*(1), 60-66. https://doi.org/10.16899/gopctd.388195

Salantera, S., Lauri, S., Salmi, T.T., & Helenius, H. (1999). Nurses' knowledge about pharmacologicaland nonpharmacological pain management in children. *Journal of Pain and Symptom Management,* 18, 289-299. https://doi.org/10.1016/S0885-3924(99)00065-2

Kostak, M. A., Semerci, R., Akın, N., & Kocaaslan, E. N. (2020). Reduction of pain during intravenous cannulation in children: Buzzy application. *Ağrı: The Journal of The Turkish Society of Algology*. https://doi.org/10.14744/agri.2020.02223

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care, 19*(6), 349–357. https://doi.org/10.1093/intqhc/mzm042

Türkmen, B., & Yıldırım Sarı, H. (2019). Çocuk yoğun bakım hemşirelerinin ağrı yönetimine ilişkin bilgi ve deneyimlerinin belirlenmesi. Yüksek Lisans Tezi. İzmir Katip Çelebi Üniversitesi. İzmir.

Twycross, A. (2004). Children's nurses' pain management practices: Theoretical knowledge, perceived importance, and decision-making. Doctoral thesis. University of Central Lancashire,UK.

Ülgen, H. (2019). Ağrı yönetimi eğitiminin pediatri hemşirelerinin ağrıya yönelik bilgi ve tutumlarına etkisi. Doktora Tezi. Atatürk Üniversitesi. Erzurum.

Yıldırım Sarı H., Yöntem Çevik S., Demir D., Karaoğlan N., Başkurt Şengün S., & Çimen S.(2013). Knowledge and attitudes of pediatric nurses towards life findings. *Education and Research in Nursing, 10*(1), 38- 44.