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International Emergency Nursing

ISSN

1755-599X

EISSN

1878-013X

JCR ABBREVIATION

INT EMERG NURS

ISO ABBREVIATION

Int. Emerg. Nurs.

Journal information

EDITION

Social Sciences Citation
Index (SSCI)Science Citation Index
Expanded (SCIE)

CATEGORY

NURSING - SSCI

NURSING - SCIE

LANGUAGES

English

REGION

ENGLAND

1ST ELECTRONIC JCR YEAR

2013

Publisher information

PUBLISHER

ELSEVIER SCI
LTD

ADDRESS

THE
BOULEVARD,
LANGFORD
LANE,
KIDLINGTON,
OXFORD OX5
1GB, OXON,
ENGLAND

PUBLICATION FREQUENCY

4 issues/year

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2022 JOURNAL IMPACT
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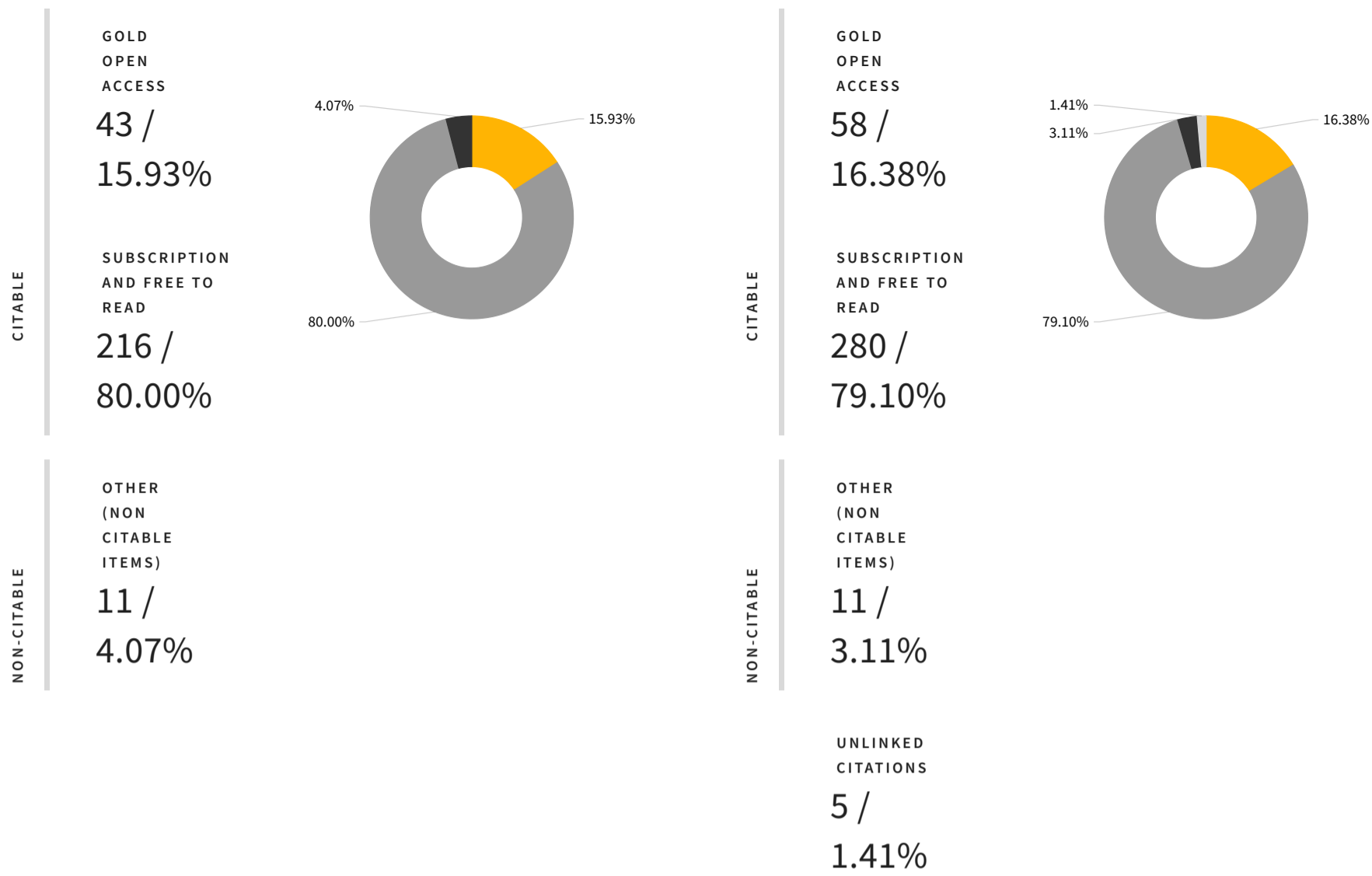
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EDITION
Social Sciences Citation Index (SSCI)

CATEGORY
NURSING
68/123

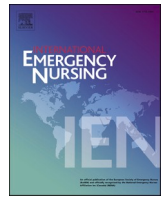
JCR YEAR	JIF RANK	JIF QUARTILE	JIF PERCENTILE
2022	68/123	Q3	45.1
2021	30/123	Q1	76.02
2020	46/122	Q2	62.70
2019	22/121	Q1	82.23
2018	49/118	Q2	58.90

EDITION
Science Citation Index Expanded (SCIE)

CATEGORY
NURSING
71/125

JCR YEAR	JIF RANK	JIF QUARTILE	JIF PERCENTILE
2022	71/125	Q3	43.6
2021	32/125	Q2	74.80
2020	49/124	Q2	60.89
2019	24/123	Q1	80.89
2018	51/120	Q2	57.92

Rank by Journal Citation Indicator (JCI)



Pain relief practices of parents before presenting to pediatric emergency services

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ARTICLE INFO

Keywords:

Child
Parent
Pediatric emergency service
Pain
Intervention
Nurse

ABSTRACT

Introduction: Pain, which is a condition that is experienced very frequently by children and leads to negative consequences, is one of the most prevalent reasons for presentation to emergency services.

Objective: This study was conducted to determine the pain relief practices implemented by parents for their children before presenting to pediatric emergency services.

Method: This descriptive study included the parents of 425 children who were brought to the pediatric emergency service of a state hospital in Turkey. The data were collected using a form that was developed by the researchers, and the collected data were analyzed using frequency, percentage, mean, standard deviation, and chi-squared tests.

Results: The mean age of the children brought to the emergency service was 8.16 ± 4.03 , while 50.8% were female. It was determined that 60.7% of the children presented to the emergency service with abdominal pain, 69.9% were subjected to a pain relief intervention before presenting to the emergency service, 81% were given drugs as an intervention, and alternative methods were used by the parents of 64.4%. Statistically significant relationships were found between the working statuses of mothers and fathers and their implementation of any intervention to pain and between the type of pain and the status of the parents giving drugs to their children ($p < 0.05$).

Conclusion: The rates of parents who gave drugs to their children to relieve pain or applied non-pharmaceutical alternative methods were high. For the effective control and management of pain at pediatric emergency services, it may be recommended to inform parents about this issue and include them in the process.

1. Introduction

Emergency services are units of hospitals that provide uninterrupted healthcare services 24 h a day where emergency patient and injury cases are received and given initial medical interventions and care [1]. According to the 2017 data from the Turkish Ministry of Health, among 67 branches of medicine, adult emergency services had the highest rates of examinations. The number of examinations at pediatric emergency services is 9.4 million, which constitutes 2.6% of all medical examinations [2]. Parents bring their children to pediatric emergency services for several reasons. A frequently encountered reason is pain [3–6]. Pain is an emotionally and affectively unpleasant experience that originates from a certain region of the body, may or may not be associated with actual or potential tissue damage, and is influenced by the past experiences of individuals [7,8]. Children experience pain very frequently for

various reasons, and this pain affects their growth negatively by changing their feelings, behaviors, interactions with their families, and dietary habits [9,10]. The control and management of pain become more difficult because children cannot express pain in the same way as adults do due to their developmental characteristics [6]. It has been reported that pain in children is inadequately examined and treated, and there are some shortcomings in the management of pain [6,9,11]. While failure to manage pain adequately is influenced by many factors, parenting-related factors also play a significant role in this process [12]. Some parenting-related factors that affect pain management negatively include parents' lack of knowledge about pain, their inability to assess pain sufficiently, and their views about the use of analgesics [11,12]. Additionally, before presenting to health institutions, parents resort to some methods that they know or have heard of to reduce their children's pain [13]. These methods may include administering drugs or non-

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<https://doi.org/10.1016/j.ienj.2023.101310>

Received 17 October 2022; Received in revised form 6 May 2023; Accepted 14 May 2023

Available online 20 June 2023

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pharmaceutical alternatives. Studies in Turkey have determined that mothers with babies aged up to 1-year use analgesic drugs or alternative non-pharmacological methods such as massage or herbal teas when their babies have pain [14,15]. In another study, it was reported that mothers presented to pediatric emergency services when their pain relief efforts were unsuccessful, while some mothers received and implemented advice from other sources to relieve their children's pain before presenting to emergency services [16].

For effective pain management, it is recommended to use a multimodal and multidisciplinary approach and involve parents in this approach [11]. Pediatric emergency clinics are places that are visited first by parents when their children experience pain. The pain relief practices implemented by parents before presenting to emergency services may delay their visit, affect treatment outcomes, or exacerbate the negative effects of the pain on the child. Likewise, these practices may affect the stress and anxiety experienced by parents unfavorably. Therefore, it is important to determine the pain relief practices implemented by parents, who play a key role in the management of pain, before presenting to emergency services for their children's pain. It is seen in the literature that studies have investigated the pain relief practices exercised by adult patients before presenting to emergency services [17], but no study that investigated the pain relief practices of parents before bringing their children to pediatric emergency services could be found. Thus, this study was conducted to determine the pain relief practices implemented by parents for their children before presenting to pediatric emergency services.

2. Method

2.1. Study design

This is a descriptive study.

2.2. Participants

This study was carried out at the pediatric emergency service of a hospital in the Central Anatolia Region of Turkey. The parents of children who were brought to the pediatric emergency service with the complaint of pain between 23 May and 31 July 2022 were included in the study. The sample included 425 parents who had no communication problems, spoke Turkish, and agreed to participate in the study. According to the post hoc power analysis that was conducted with the G*Power program, based on $1 - \beta = 0.99$, $\alpha = 0.05$, and effect size = 0.3, the sample size of the study was sufficient.

2.3. Data collection

The data were collected using the data collection form that was prepared by the researchers based on their review of the relevant literature. The first part of the form included 11 questions on the descriptive characteristics of the children and the parents, whereas the second part included 10 questions on pain characteristics and practices applied to relieve pain. Before starting the study, a pilot implementation was made with 10 parents to assess the comprehensibility of the questions on the form. The final form of the questions was created based on the recommendations of the parents who participated in the pilot implementation. Before applying the form, one of the researchers explained the purpose of the study to the participants, and it took 8–10 min for each participant to fill out the form using the face-to-face interview method.

2.4. Data analysis

The data were analyzed using the SPSS 23.0 package program based on frequency, percentage, and mean values. The chi-squared test method was used to analyze the categorical data. The level of statistical significance was accepted as $p < 0.05$.

2.5. Ethical aspect of the study

To conduct the study, approval was obtained from the XXXXXXXXX University Non-Invasive Clinical Studies Ethics Committee (decision date: 23.03.2022 and no: 2022–03/27), and permission was received from the institution where the study would be carried out. Parents were explained the purpose of the study, and those who agreed to participate provided verbal and written consent. The study was conducted in compliance with the principles of the Declaration of Helsinki.

3. Results

The mean age of the parents who participated in the study was 36.93 ± 6.33 , and 64.9% of them were mothers. It was found that 36% of the mothers were primary-secondary school graduates, 76.2% were not working, 40.9% of the fathers were high school graduates, and 92.2% were working. The mean number of children in the families of the parents who participated in the study was 2.40 ± 0.98 , 83.1% had nuclear families, and the income levels of 53.4% were equivalent to their expenditure levels. While 50.8% of the children brought to the emergency service were female, the mean age of all children was 8.16 ± 4.03 (Table 1).

Table 2 presents the characteristics of the pain experienced by the children and the approaches of the parents to this pain. It was determined that 60.7% of the children were brought to the emergency service due to abdominal pain, 52.7% had experienced pain for longer than 24 h, and 69.9% were subjected to pain relief interventions before presenting to the emergency service. As interventions to relieve pain, 81% of the children were given drugs, and 90.8% of the drugs that were administered were analgesics. Regarding their decisions to administer drugs to their children to relieve pain, 48.9% of the parents stated that they gave the same drug prescribed by the physician at a previous visit

Table 1
Descriptive Characteristics of the Children and Their Parents (n = 425).

Variables	n	%
Parent		
Mother	276	64.9
Father	149	35.1
Mean age: 36.93 ± 6.33 (Min: 20, Max: 55)		
Mother's Education Level		
Illiterate	8	1.9
Literate with no formal degree	21	4.9
Primary-secondary school	153	36.0
High school	124	29.2
University	119	28.0
Father's Education Level		
Illiterate	2	0.5
Literate with no formal degree	14	3.3
Primary-secondary school	106	24.9
High school	174	40.9
University	129	30.4
Mother's Working Status		
Working	101	23.8
Not working	324	76.2
Father's Working Status		
Working	392	92.2
Not working	33	7.8
Income Level		
Income < expenses	132	31.1
Income ~ expenses	227	53.4
Income > expenses	66	15.5
Type of Family		
Nuclear family	353	83.1
Extended family	58	13.6
Single-parent family	14	3.3
Mean number of children: 2.40 ± 0.98 (Min: 1, Max: 7)		
Mean age of children: 8.16 ± 4.03 (Min: 2, Max: 17)		
Sex of the Child		
Female	216	50.8
Male	209	49.2

Table 2
Pain Characteristics and Pain Relief Practices.

Variables	n	%
Type/Region of Pain		
Abdominal pain	258	60.7
Sore throat	92	21.6
Headache	34	8.0
Joint pain	12	2.8
Ear pain	11	2.6
General body-wide pain	9	2.1
Chest pain	5	1.2
Other (back, lower back, tooth)	4	0.9
Duration of Pain		
0–6 h	144	33.9
7–24 h	57	13.4
Longer than 24 h	224	52.7
Made any pain relief intervention before presenting to the emergency service (n = 425)		
Yes	297	69.9
No	128	30.1
Gave the child drugs (n = 296)		
Yes	238	81.0
No	58	19.0
Type of drug given (n = 238)		
Analgesics	216	90.8
Probiotics	4	1.7
Antibiotics	3	1.3
Antiemetics	2	0.8
Antacids	2	0.8
Antiemetics + probiotics	2	0.8
Analgesics + probiotics	2	0.8
Other (anti-inflammatory drugs, laxatives, ear drops, spasmolytics, mouthwash)	7	2.8
Drug intervention decisions*		
Giving the child the same drug prescribed by the physician in a previous visit with the same complaint	116	48.9
Making the decision based on own experiences	98	41.5
Consulting healthcare professionals	41	17.3
Asking relatives-friends	5	2.1
Learning from the internet/television	1	0.4
Used alternative methods (n = 295)		
Yes	191	64.4
No	104	35.3
Type of alternative method used*		
Massage	67	34.2
Cold compress	59	30.3
Warm compress	58	29.7
Herbal tea	54	27.7
Prayer	45	23.1
Games	19	9.7
Music	8	4.1
Other (hijamat, eating lemons, eating potatoes, drinking sumac extract, drinking milk, walking, applying pressure to the abdomen, positioning, prone positioning, drinking hot beverages, drinking coke, eating bananas, hugging the child, and holding their hand)	15	7.7
Alternative intervention decisions*		
Making the decision based on own experiences	146	74.9
Consulting healthcare professionals	33	16.9
Asking relatives-friends	11	2.6
Learning from the internet/television	12	6.2
Other (asked by the child, child saying their pain is relieved this way)	8	4.1
Informed the healthcare personnel at the emergency service about the drugs they used to relieve pain (n = 238)		
Yes	187	78.6
No	51	21.4
Informed the healthcare personnel at the emergency service about the alternative practices they used to relieve pain (n = 191)		
Yes	120	62.8
No	71	37.2

*Multiple choices were allowed; the percentages are based on the frequencies (n).

with the same complaint. It was learned that alternative pain relief practices were implemented for 64.4% of the children, 34.2% of these alternative practices involved massage, and 74.9% of the parents decided to implement these alternative practices based on their own

experiences. It was found that when they arrived at the emergency service, 78.6% of the parents informed the healthcare personnel about the drugs they had administered before arriving, while 62.8% informed the personnel about the alternative methods they had used.

Whether the parents used alternative methods to relieve the pain of their children before presenting to the emergency service did not differ significantly based on their characteristics ($p > 0.05$) (Table 5).

4. Discussion

Pain is one of the most frequently encountered reasons for presenting to pediatric emergency services, and the approaches of parents to pain are important in terms of the control and management of pain at the emergency services. In this study, it was found that more than half of the children brought by the participants presented with abdominal pain. Previous studies have also reported abdominal pain to be one of the most prevalent reasons for presentation to pediatric emergency services [18–21]. Abdominal pain in children is an emergency whose causes vary by age which needs fast diagnosis and treatment, may require surgical interventions in some cases, and can sometimes have life-threatening outcomes [18,19]. Therefore, it is crucial for healthcare professionals to examine abdominal pain, which is one of the most frequently encountered reasons for presentation to pediatric emergency services, carefully and in detail.

The onset and duration of pain are among the characteristics that need to be considered in the assessment of pain. In our study, about half of the parents stated that the pain of their children had lasted more than 24 h before they presented to the emergency service. Considering the physical and psychological effects of pain in children and the status of administering pharmacological and non-pharmacological methods for pain, as the duration of pain increases, the negative effects of the pain on the child may also increase. In a study conducted in Turkey, more than half of parents were found to delay their visits to the hospital with the expectation that abdominal pain would be resolved by itself [13].

Two-thirds of the parents who participated in this study stated that

Table 3

Status of the parents making any interventions before arrival at the emergency service based on some characteristics.

Characteristics	Made any intervention		χ^2 / p
	Yes n (%)	No n (%)	
Mother's Education Level			
Secondary school or lower	121 (66.5)	61 (33.5)	1.747/0.186
High school or university	176 (72.4)	67 (27.6)	
Father's Education Level			
Secondary school or lower	78 (63.9)	44 (36.1)	2,876/0.090
High school or university	219 (66.5)	84 (27.7)	
Mother's Working Status			
Working	79 (78.2)	22 (21.8)	4.374/0.037
Not working	218 (67.3)	106 (32.7)	
Father's Working Status			
Working	279 (71.2)	113 (28.8)	3.999/0.046
Not working	18 (54.4)	15 (45.5)	
Income Level			
Income < expenses	90 (68.2)	42 (31.8)	0.786/0.675
Income ~ expenses	158 (69.6)	69 (30.4)	
Income > expenses	49 (74.2)	17 (25.8)	
Type of Family			
Nuclear family	248 (70.3)	105 (29.7)	0.231/0.891
Extended family	39 (67.2)	19 (32.8)	
Single-parent family	10 (71.4)	4 (28.6)	
Type/Region of Pain			
Abdominal pain	174 (67.4)	84 (32.6)	2.677/0.444
Headache	25 (73.5)	9 (26.5)	
Sore throat	70 (76.1)	22 (23.9)	
Other	28 (68.3)	13 (31.7)	

Significant differences were found in terms of whether the parents made interventions for managing their children's pain based on the working statuses of both mothers and fathers ($p < 0.05$) (Table 3).

Table 4
Status of the parents giving drugs to their children before arrival at the emergency service based on some characteristics.

Characteristics	Administered a drug		χ^2 / p
	Yes n (%)	No n (%)	
Mother's Education Level			
Secondary school or lower	94 (79.0)	25 (21.0)	0.498/0.480
High school or university	144 (82.3)	31 (17.7)	
Father's Education Level			
Secondary school or lower	57 (75.0)	19 (25.0)	2.355/0.125
High school or university	181 (83.0)	37 (17.0)	
Mother's Working Status			
Working	57 (74.0)	20 (26.0)	3.246/0.072
Not working	181 (83.4)	36 (16.6)	
Father's Working Status			
Working	223 (80.8)	53 (19.2)	0.070/0.791
Not working	15 (83.3)	3 (16.7)	
Income Level			
Income < expenses	76 (86.4)	12 (13.6)	2.435/0.296
Income ~ expenses	124 (79.0)	33 (21.0)	
Income > expenses	38 (77.6)	11 (22.4)	
Type of Family			
Nuclear family	199 (80.6)	48 (19.4)	1.537/0.464
Extended family	32 (86.5)	5 (13.5)	
Single-parent family	7 (70.0)	3 (30.0)	
Type/Region of Pain			
Abdominal pain	126 (73.3)	45 (26.3)	16.582/0.001
Headache	22 (88.0)	3 (12.0)	
Sore throat	67 (95.7)	3 (4.3)	
Other	23 (82.1)	5 (17.9)	

Significant differences were found in terms of whether the parents gave their children drugs before their arrival at the emergency service based on the types of pain in their children ($p < 0.05$) (Table 4).

Table 5
Status of the parents practicing alternative methods to relieve pain before arrival at the emergency service based on some characteristics.

Characteristics	Used alternative methods		χ^2 / p
	Yes n (%)	No n (%)	
Mother's Education Level			
Secondary school or lower	80 (67.2)	39 (32.8)	0.538/0.463
High school or university	111 (63.1)	65 (36.9)	
Father's Education Level			
Secondary school or lower	55 (70.5)	23 (29.5)	1.545/0.214
High school or university	136 (62.7)	81 (37.3)	
Mother's Working Status			
Working	54 (68.4)	25 (31.6)	0.616/0.433
Not working	137 (63.4)	79 (36.6)	
Father's Working Status			
Working	180 (65.0)	97 (35.0)	0.111/0.739
Not working	11 (61.1)	7 (38.9)	
Income Level			
Income < expenses	58 (64.4)	32 (35.6)	2.818/0.244
Income ~ expenses	97 (61.8)	60 (38.2)	
Income > expenses	36 (75.0)	12 (25.0)	
Type of Family			
Nuclear family	157 (63.8)	89 (36.2)	0.557/0.757
Extended family	27 (69.2)	12 (30.8)	
Single-parent family	7 (70.0)	3 (30.0)	
Type/Region of Pain			
Abdominal pain	109(62.6)	65 (37.4)	1.142/0.767
Headache	16 (64.0)	9 (36.0)	
Sore throat	46 (67.6)	22 (32.4)	
Other	20 (71.4)	8 (28.6)	

they intervened with the pain of their children before bringing them to the emergency service. A previous study revealed a similar rate of mothers who intervened with the pain of their babies at home [15]. Güdek Seferoğlu et al. [22] reported that when children experienced pain, their parents intervened with their pain by not only presenting to health institutions but also using traditional medicine practices. In

another study, it was found that mothers presented to emergency services when their pain relief strategies failed, and some mothers received advice from other sources before bringing their children to emergency services [16].

In this study, it was determined that most mothers were not working, most fathers were working, and the working statuses of the mothers and fathers significantly affected their statuses of making any intervention to pain in their children. In the literature, the effects of the education and income levels of mothers and fathers on their pain relief practices were examined [13,23], while no study that examined the effects of their working statuses could be found. Considering that the working statuses of parents may be associated with their education levels and the income level of their household, albeit indirectly, these factors may affect the presentation of parents to health institutions in case their children have pain, as well as their pain relief practices before presenting to health institutions.

A significant relationship was identified between the types of pain experienced by the children of the participants of this study and their statuses of administering drugs to their children. Accordingly, the most prevalent type of pain among the children was abdominal pain, and drugs were administered mostly for abdominal pain. Previous studies have reported that mothers give their children analgesics in ear pain and vaccination site pain cases [14,15]. In another previous study, the rates of parents using analgesic or antibiotic drugs in cases of headache, ear pain, ocular pain, muscle and joint pain, and throat ache cases were higher than the rates of using these drugs for other types of pain. İncesu et al. [24] determined that parents who presented to pediatric emergency services due to growth pain in their children usually gave analgesic drugs to their children.

It was determined in this study that more than half of the parents resorted to alternative practices before presenting to emergency services. Among these practices, massage ranked first. Massage is one of the non-pharmacological methods used in the management of pain in children [12]. It has been seen in previous studies that massage is frequently used in infants and children, especially in cases of abdominal pain [13,14]. Another study showed that parents performed massage on their children who were experiencing growth pain [24].

In this study, other alternative practices, albeit applied at lower rates, were identified to be some culture-specific practices such as hijamat, giving lemons to the child to eat, and giving boiled sumac juice to the child to drink, and these practices were used mostly for abdominal pain. Cupping is one of the complementary medicine practices that have been implemented from the past to the present in Turkey and many other parts of the world [25]. Cupping can be performed dry, without hijamat. In these cases, no invasive practice is used on the skin. It can also be performed by making superficial incisions on the skin to let the blood in the region of application out [26]. In many historical texts on hijamat, or cupping in addition to incisions, which is a long-practiced method, it has been recommended to avoid using this method in children [25,27]. While we did not observe a high rate of parents practicing this method in our study, it is crucial for healthcare professionals to advise parents that this is a method that should not be performed on children and inform them about the risks that can arise in case it is performed. In this study, it was seen that giving their children lemons to eat was a method used by the parents to manage headaches. Previous studies reported some methods used to manage pain in children, including mint and lemon tea and mixtures of lemon juice and honey given to manage sore throat, as well as lemons placed on teeth or lemon juice used as a mouthwash to manage toothaches [22,28]. About one-third of the parents who participated in this study revealed that they made the decision to implement alternative practices based on their experiences. In the relevant literature, it has been observed that parents not only present to health institutions in cases of pain in their children but also implement traditional non-pharmacological practices they have encountered, heard about, or experienced, sometimes despite thinking that these practices would not work [13,22]. For this reason, it is

important for nurses to identify the alternative methods that are practiced by parents bringing their children to emergency services to manage the pain in their children before presenting or what these methods could be based on their recognition of the characteristics of the society they live in.

5. Limitations

The limitations of this study include the fact that it was conducted only with parents who brought their children to the pediatric emergency service of one hospital in Turkey, and the results are based on their self-reports. The results of this study can only be generalized to the sample. To identify different and culture-specific practices in detail, qualitative and quantitative studies involving in-depth interviews on the topic in different samples can be planned.

6. Conclusion

In this study, it was determined that the children of the participants were brought to the pediatric emergency service mostly due to abdominal pain, half of these children had experienced pain for at least 24 h before their arrival, and most parents intervened with this pain before bringing their children. The working statuses of both the mother and the father affected their status of intervening with pain in their children. It was found that the parents mostly gave their children analgesic drugs, and they decided to give their children drugs based on their previous experiences. The types of pain experienced by their children affected the status of the parents to administer drugs to their children. More than half of the parents utilized alternative pain management practices, the most frequently utilized alternative methods were massage and cold-warm compress, and some cultural practices were used in addition to these. The parents decided to apply alternative practices mostly based on their experiences.

7. Implications for emergency nurses

The control and management of pain, which is one of the most frequently encountered reasons for presenting to pediatric emergency services, are important. Emergency nurses are in a key position in the management of pain in children. Therefore, nurses need to carefully and meticulously evaluate the pain management interventions of parents who bring their children to pediatric emergency services with complaints of pain. This is because the pharmacological and non-pharmacological interventions made by parents to manage the pain in their children may affect the management of pain. Parents can be included in the process of controlling and managing pain by being informed by nurses about their practices for pain. Moreover, by learning about the cultural characteristics of the society they provide care for, nurses can identify practices to protect and improve health which are used for different diseases.

CRedit authorship contribution statement

Sibel Girginer: Conceptualization, Investigation, Data curation, Formal analysis, Supervision. **İlknur Yıldız:** Conceptualization, Methodology, Formal analysis, Writing – review & editing, Supervision.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

We would like to thank the parents who participated in this study.

Funding or sources

The authors did not receive any special funding for this study.

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