

Fever Management Knowledge and Anxiety Among Mothers Presenting to the Emergency Department

Acil Servise Başvuran Annelerde Ateş Yönetimi Bilgi Düzeyi ve Kaygı Durumu

Serhat Karaman^{1,*}, Sibel Güngör²

¹ Department of Emergency Medicine, Faculty of Medicine, Gaziosmanpaşa University, Tokat, Turkey

² Tokat State Hospital, Tokat, Turkey

Abstract

Objective: Fever is among the most common symptoms of childhood illness and often leads parents to seek emergency care due to anxiety. This study aimed to examine whether mothers' fever management knowledge and anxiety levels differed according to the number of children they had.

Materials and Methods: This cross-sectional study included 450 mothers of children aged 0–6 years presenting with fever to the Pediatric Emergency Departments of Tokat State Hospital and Gaziosmanpaşa University Faculty of Medicine Hospital. Data were collected between January and May 2019 using a structured questionnaire, a fever management knowledge test, and the Beck Anxiety Scale. Statistical analyses included t-test, ANOVA, and correlation tests, with $p < 0.05$ considered significant.

Results: The mean age of mothers was 29.73 ± 6.09 years; 29.6% had one child and 70.4% had two or more. The mean fever management knowledge score was 70.33%. Mild, moderate, and high anxiety were observed in 46.4%, 34.7%, and 18.9% of mothers, respectively. Higher knowledge levels were associated with being a teacher or healthcare worker, living in smaller settlements, having a nuclear family, lower income, frequent childhood febrile illnesses, and absence of previous febrile seizures in the child ($p < 0.05$). Mothers whose children had experienced febrile seizures had significantly higher anxiety ($p < 0.05$). Knowledge and anxiety levels did not differ by number of children ($p > 0.05$).

Conclusion: Fever management knowledge and anxiety levels were similar among mothers regardless of the number of children. Educational programs should focus on improving mothers' understanding of fever, correct thermometer use, and distinguishing fever from high fever, with priority given to younger mothers and those with lower educational levels.

Keywords: fever management, maternal knowledge, maternal anxiety, pediatric emergency, fever phobia

Öz

Amaç: Ateş, çocukluk çağında sık görülen bir belirti olup ebeveynlerde kaygıya yol açmakta ve acil başvuruların önemli bir bölümünü oluşturmaktadır. Bu çalışma, ateş nedeniyle acil servise başvuran annelerin ateş yönetimi bilgi düzeyleri ile kaygı düzeylerinin çocuk sayısına göre değişip değişmediğini değerlendirmeyi amaçlamıştır.

Gereç ve Yöntem: Kesitsel nitelikteki araştırma, Tokat Devlet Hastanesi Çocuk Acil Servisi ve Gaziosmanpaşa Üniversitesi Tıp Fakültesi Hastanesi Çocuk Acil Servisi'ne ateş yakınmasıyla başvuran 0–6 yaş çocukların anneleri ($n=450$) ile yürütülmüştür. Veriler 2019 yılı Ocak–Mayıs aylarında anket formu, ateş yönetimi bilgi testi ve Beck Anksiyete Ölçeği kullanılarak toplanmış; t-testi, ANOVA ve korelasyon analizi uygulanmıştır ($p < 0.05$).

Bulgular: Annelerin yaş ortalaması $29,73 \pm 6,09$ yıldır; %29,6'sı tek çocuklu, %70,4'ü iki ve üzeri çocuğa sahiptir. Ateş yönetimi bilgi düzeyi ortalama %70,33 bulunmuştur. Annelerin %46,4'ü hafif, %34,7'si orta, %18,9'u yüksek düzeyde kaygı yaşamaktadır. Öğretmen veya sağlık çalışanı olan, kırsal/ilçe merkezinde yaşayan, çekirdek aileye sahip, geliri düşük, çocuğu yılda ≥ 5 kez ateşli hastalık geçiren ve çocuğu daha önce ateşli nöbet geçirmemiş annelerde bilgi düzeyi daha yüksektir ($p < 0.05$). Çocuğu ateşli nöbet geçiren annelerin kaygısı anlamlı olarak daha yüksektir ($p < 0.05$). Bilgi ve kaygı düzeyleri çocuk sayısına göre farklılık göstermemiştir ($p > 0.05$).

Sonuç: Tek çocuklu ve çok çocuklu annelerin ateş yönetimi bilgi ve kaygı düzeyleri benzerdir. Annelerin kaygısını azaltmak için ateşin tanımı, yararları, termometre kullanımı ve ateş-yüksek ateş ayrımını içeren eğitim programları uygulanmalı; özellikle genç ve düşük eğitim düzeyine sahip annelere öncelik verilmelidir.

Anahtar Kelimeler: ateş yönetimi, annelerin bilgi düzeyi, annelerin kaygı düzeyi, çocuk acil servis, ateş fobisi

Introduction

Fever is one of the most frequent reasons for pediatric emergency and outpatient visits, accounting for nearly one-third of childhood presentations (1). Despite being a physiological response to infection, many parents perceive fever as a harmful condition rather than a symptom, leading to heightened anxiety and unnecessary medical consultations (2). Misconceptions such as the belief that untreated fever will inevitably result in febrile seizures, brain damage, or death further reinforce parental fear (3).

Although fever is defined as a rectal temperature above 38°C or an oral temperature above 37.8°C, clinical management should prioritize the child's comfort rather than temperature reduction alone (4). Evidence indicates that parental fear—commonly referred to as “fever phobia”—remains widespread, with many parents misidentifying mild fever as high fever and frequently waking children to administer antipyretics or check their temperature (5–7). These practices can disrupt rest and potentially delay recovery.

Providing parents, particularly mothers, with accurate and comprehensible guidance on fever management is essential to preventing unnecessary emergency department use and promoting safe home care practices (8). Maternal anxiety is influenced by insufficient knowledge about childhood illnesses and caregiving, which may adversely affect both maternal functioning and child well-being (9). Increasing mothers' knowledge is shown to reduce anxiety and improve confidence in managing fever episodes.

This study aimed to investigate whether mothers' knowledge and anxiety levels related to fever management differ according to the number of children they have.

Materials and Methods

Study Design

This descriptive, cross-sectional study was conducted to examine whether mothers' fever

management knowledge and anxiety levels differed according to the number of children they had and other demographic characteristics.

Study Setting and Period

The study was carried out at the Pediatric Emergency Departments of Tokat State Hospital and the Pediatric Emergency Department of Gaziosmanpaşa University Faculty of Medicine Hospital University Faculty of Medicine Hospital between January and May 2019.

Sample and Inclusion Criteria

The study population consisted of mothers presenting to the pediatric emergency department with children aged 0–6 years who had fever complaints. A total of 450 mothers who met the criteria and voluntarily agreed to participate were included in the study.

Inclusion Criteria

- Mothers aged 18 years and older
- Having a child aged 0–6 years presenting with fever
- Ability to communicate in Turkish
- Voluntary participation and providing written/verbal consent

Exclusion Criteria

- Mothers whose children had chronic neurological or metabolic diseases
- Mothers with diagnosed psychiatric disorders
- Mothers who refused to participate
- Incomplete or incorrectly completed questionnaires

Data Collection Tools

1. Questionnaire Form

Developed with expert input, the questionnaire included multiple-choice and open-ended questions regarding demographic characteristics and fever management practices.

2. Fever Management Knowledge Test

This researcher-developed test consisted of six items assessing mothers' knowledge of fever management. Validity and reliability analyses included item difficulty, item discrimination, lower-upper quartile t-test, KR-20, Spearman two-half reliability, and item-total correlations.

- KR-20 reliability coefficient: $\alpha = 0.80$
- Spearman-Brown correlation: $r = 0.85$
- Item-total correlations: **0.32–0.72**

3. Beck Anxiety Scale

Developed by Beck et al. (1988) and adapted to Turkish by Ulusoy et al. (1998), the 21-item scale evaluates the frequency of anxiety symptoms. Each item is scored 0–3, with total scores ranging from 0 to 63. Higher scores indicate greater anxiety. Cut-off points:

- 0–7: minimal anxiety
- 8–17: mild anxiety
- 18–24: moderate anxiety
- 25–63: severe anxiety

Data Collection Procedure

Institutional permissions were obtained prior to the study. Mothers who agreed to participate were informed about the study, and written and verbal consent was obtained. Data were collected through face-to-face interviews lasting approximately 10–15 minutes.

Statistical Analysis

Data were analyzed using SPSS 21.0. Descriptive statistics included frequency, percentage, mean, and standard deviation. Independent samples t-test and one-way ANOVA were used to compare knowledge and anxiety scores across demographic variables. Pearson correlation analysis examined the relationship

between fever management knowledge and anxiety levels. Significance was set at $p < 0.05$.

Ethical Approval

Ethical approval was obtained from the Gaziosmanpaşa University Clinical Research Ethics Committee (Approval No: 18-KAEK-076).

Results

1.1. Demographic Characteristics of Mothers

A total of 450 mothers were included in the study. The mean age of the participants was 29.73 ± 6.09 years (range: 17–46 years). Of the mothers, 8.0% were aged 20 years or younger, 16.4% were aged 21–25 years, 33.8% were aged 26–30 years, 21.3% were aged 31–35 years, 17.3% were aged 36–40 years, and 3.1% were aged 41 years or older.

Regarding educational status, 29.1% of the mothers had completed primary education, 43.6% had completed high school, 12.9% held an associate degree, and 14.4% had a bachelor's degree. In terms of occupation, 70.9% of the participants were homemakers, 6.2% were healthcare workers, 4.7% were teachers, and 18.2% were employed in other occupational groups.

With respect to place of residence, 13.1% of the mothers lived in villages or towns, 33.1% resided in district centers, and 53.8% lived in provincial centers. The majority of participants (85.6%) reported living in a nuclear family structure, whereas 14.4% lived in extended families. When income–expense status was evaluated, 67.1% of the mothers reported that their income was equal to their expenses, 9.8% reported income exceeding expenses, and 23.1% reported income lower than expenses.

In terms of parity, 29.6% of the mothers had one child, while 70.4% had two or more children. Detailed demographic characteristics of the mothers and their children are presented in Table 1.

Table 1. Demographic Characteristics of Mothers and Children

Variable	n	%
Mother's Age (years) (Mean $\pm$ SD: 29.73 $\pm$ 6.09)		
≤ 20	36	8.0
21–25	74	16.4
26–30	152	33.8
31–35	96	21.3
36–40	78	17.3
≥ 41	14	3.1
Mother's Education Level		
Primary school	131	29.1
High school	196	43.6
Associate degree	58	12.9
Bachelor's degree	65	14.4
Mother's Occupation		
Homemaker	319	70.9
Healthcare worker	28	6.2
Teacher	21	4.7
Other	82	18.2
Place of Residence		
Village / Town	59	13.1
District center	149	33.1
Provincial center	242	53.8
Family Type		
Nuclear family	385	85.6
Extended family	65	14.4
Income–Expense Status		
Income equals expenses	302	67.1
Income exceeds expenses	44	9.8
Income less than expenses	104	23.1
Number of Children		
One child	133	29.6
Two or more children	317	70.4
Child's Age (years)		
0–1	92	20.4
2	103	22.9
3	54	12.0
4	70	15.6
5	61	13.6
6	70	15.6
Child's Gender		
Female	237	52.7
Male	213	47.3

Child's Chronic Illness		
Yes	78	17.3
No	372	82.7
Frequency of Febrile Illness (Mean $\pm$ SD: 3.60 ± 2.01)		
Once per year	24	5.3
Twice per year	151	33.6
Three times per year	88	19.6
Four times per year	83	18.4
$\geq$ Five times per year	104	23.1
Previous History of Febrile Seizures		
Yes	43	9.6
No	407	90.4

Children's Demographic Characteristics

Among the children brought to the pediatric emergency department, 20.4% were aged 0–1 years, 22.9% were 2 years old, 12.0% were 3 years old, 15.6% were 4 years old, 13.6% were 5 years old, and 15.6% were 6 years old. Regarding sex distribution, 52.7% of the children were girls and 47.3% were boys.

Primary caregiving was provided by parents for 80.2% of the children, by grandparents for 15.3%, and by caregivers for 4.4%. A chronic illness was reported in 17.3% of the children. A history of febrile illness was present in 93.1% of cases.

The mean annual frequency of febrile illness was 3.60 ± 2.01 episodes. Specifically, 5.3% of children experienced febrile illness once per year, 33.6% twice per year, 19.6% three times per year, 18.4% four times per year, and 23.1% five or more times per year. Additionally, 31.1% of children had previously been hospitalized due to fever, and 9.6% had a history of

febrile seizures. These characteristics are summarized in Table 1.

Mothers' Knowledge Level on Fever Management

According to the fever management knowledge test, 71.3% of mothers correctly identified the body temperature threshold defining high fever. Knowledge regarding age-related variation in fever was present in 61.3% of participants. Correct measurement site for body temperature was reported by 69.8% of mothers, while 75.1% were aware that fever values vary depending on the measurement site. Additionally, 69.6% of participants reported administering antipyretics at the appropriate body temperature, and 74.9% correctly identified the appropriate method for measuring medication dosage.

The mean number of correct responses on the six-item knowledge test was 4.22 ± 1.53 , corresponding to an overall success rate of 70.33% (Table 2).

Table 2. Mothers' knowledge levels regarding fever management

Item	Correct Responses (n)	%
Correct definition of high fever	321	71.3
Awareness that fever thresholds vary according to the child's age	276	61.3
Correct body site for temperature measurement	314	69.8

Awareness that body temperature varies by measurement site	338	75.1
Appropriate temperature for antipyretic administration	313	69.6
Correct method for measuring medication dosage	337	74.9
Mean number of correct responses (Mean $\pm$ SD)	4.22 $\pm$ 1.53	
Overall knowledge score (%)	70.3	

Mothers' Attitudes Toward Fever

Regarding perceived causes of fever, 61.3% of mothers attributed their child's fever to infection, whereas 30.9% associated it with exposure to cold. When asked about potential consequences of persistent fever, 37.6% believed that the underlying illness would worsen, 38.2% feared the occurrence of seizures, and 22.9% expressed concern about possible brain damage, while only 1.3% considered persistent fever to be harmless.

In response to a perceived increase in body temperature, 45.3% of mothers reported removing the child's clothing as an initial intervention, 20.2%

stated that they immediately sought hospital care, 19.8% administered antipyretic medication, and 14.7% used a lukewarm shower. Overall, fear related to rising fever was reported by 94.0% of participants, and 94.4% indicated that the duration of fever was an important concern.

Mothers' Anxiety Levels

The mean Beck Anxiety Scale score of the mothers was 17.82 $\pm$ 10.48. According to the scale classification, 46.4% of the mothers exhibited mild anxiety, 34.7% moderate anxiety, and 18.9% high anxiety (Table 3).

Table 3. Mothers' Anxiety Levels

Anxiety Level	n	%	Score Range
Mild anxiety	209	46.4	0-17
Moderate anxiety	156	34.7	18-24
High level of anxiety	85	18.9	25-63
Average Anxiety Score (Mean $\pm$ SD)	17.82 $\pm$ 10.48		

Comparison of Fever Management Knowledge and Anxiety Levels According to Demographic Variables

Fever management knowledge scores differed significantly by maternal age; mothers aged ≤ 20 years had lower knowledge scores compared with other age groups ($p < 0.05$). Anxiety scores did not differ significantly across age groups ($p > 0.05$).

Knowledge scores increased with higher educational attainment, and this difference was statistically significant ($p < 0.05$). Conversely, anxiety scores were significantly lower among mothers with higher education levels ($p < 0.05$).

With respect to occupation, mothers who were teachers or healthcare workers demonstrated significantly higher fever management knowledge

scores than homemakers and those in other occupational groups ($p < 0.05$). Anxiety scores did not differ significantly by occupation ($p > 0.05$).

Mothers residing in villages/towns and district centers had higher fever management knowledge scores than those living in provincial centers ($p < 0.05$), whereas anxiety scores did not vary significantly by place of residence ($p > 0.05$).

Knowledge scores were significantly higher among mothers from nuclear families compared with those from extended families ($p < 0.05$). No significant difference in anxiety levels was observed by family type ($p > 0.05$).

Mothers whose income was lower than their expenses exhibited higher fever management knowledge scores than other income groups ($p < 0.05$); anxiety levels did not differ significantly according to income–expense status ($p > 0.05$).

There were no significant differences in either fever management knowledge or anxiety levels between mothers with one child and those with two or more children ($p > 0.05$).

Mothers whose children experienced five or more febrile episodes per year had significantly higher

fever management knowledge scores compared with other groups ($p < 0.05$), while anxiety levels did not differ by the frequency of febrile illness ($p > 0.05$).

Finally, mothers whose children had no history of febrile seizures demonstrated higher fever management knowledge scores than those whose children had experienced febrile seizures ($p < 0.05$). In contrast, anxiety scores were significantly higher among mothers of children with a history of febrile seizures ($p < 0.05$).

The Relationship Between Fire Management Knowledge and Anxiety Level

A weak but statistically significant negative correlation was identified between fever management knowledge scores and Beck Anxiety Scale scores ($r = -0.18$, $p < 0.01$), indicating that higher levels of fever management knowledge were associated with lower anxiety levels.

Significant associations were observed between maternal age, educational level, occupation, place of residence, income–expense status, and history of fever-related seizures with fever management knowledge and/or anxiety levels ($p < 0.05$). Detailed comparisons are presented in Table 4.

Table 4. Comparison of Fever Management Knowledge and Anxiety Levels According to Demographic Variables

Variable	Knowledge Score (Mean $\pm$ SD)	p	Anxiety Score (Mean $\pm$ SD)	p
Only child	4.18 $\pm$ 1.59	0.671	18.35 $\pm$ 10.82	0.408
Two or more children	4.24 $\pm$ 1.50		17.58 $\pm$ 10.32	
≤ 25 years	4.05 $\pm$ 1.62	0.042	19.45 $\pm$ 11.21	0.015
26–35 years	4.35 $\pm$ 1.48		17.12 $\pm$ 10.12	
≥ 36 years	4.10 $\pm$ 1.56		17.85 $\pm$ 10.35	
Primary education	3.89 $\pm$ 1.68	<0.001	19.82 $\pm$ 11.05	0.003
High school	4.28 $\pm$ 1.48		17.45 $\pm$	

			10.21		
Associate/Bachelor's	4.52 ± 1.38		15.98 ± 9.85		
Housewife	4.35 ± 1.48	0.012	17.25 ± 10.18		0.045
Healthcare worker	4.82 ± 1.12		14.52 ± 9.45		
Teacher	4.95 ± 0.95		13.85 ± 8.92		
Other occupation	3.85 ± 1.72		19.35 ± 11.28		
Village/town	4.52 ± 1.35	0.028	16.85 ± 9.95		0.182
District center	4.38 ± 1.48		17.25 ± 10.35		
Provincial center	4.05 ± 1.62		18.45 ± 10.82		
Income < expenses	3.85 ± 1.68	<0.001	20.15 ± 11.35		<0.001
Income = expenses	4.28 ± 1.48		17.05 ± 10.05		
Income > expenses	4.65 ± 1.25		14.82 ± 8.95		
History of febrile seizures (Yes)	4.58 ± 1.28	0.035	24.35 ± 12.45		<0.001
History of febrile seizures (No)	4.18 ± 1.55		17.15 ± 9.95		
*p<0.05 **p<0.01					

Discussion

This study examined whether mothers' knowledge of fever management and their anxiety levels differed according to the number of children they had when presenting to the pediatric emergency department due to fever. The principal finding of the study was that neither fever management knowledge nor anxiety levels differed significantly between mothers with one child and those with multiple children.

The overall fever management knowledge level of mothers was found to be 70.33%, indicating a moderate-to-good level of knowledge. This finding is consistent with previous studies reporting

moderate maternal knowledge regarding childhood fever management (10–12). Halıcıoğlu et al. (2011) reported that although 79% of mothers knew the normal body temperature, a substantial proportion incorrectly identified the threshold for high fever (13). Similarly, in the present study, 71.3% of mothers correctly identified the temperature defining high fever, supporting the persistence of partial misconceptions despite general awareness.

Regarding anxiety, nearly half of the mothers experienced mild anxiety, while more than one-third reported moderate anxiety levels, indicating an overall moderate anxiety burden. These findings align with previous reports emphasizing elevated anxiety among parents presenting to emergency

departments with febrile children (5). Consistent with the study by Türe et al. (2020), mothers whose children had a history of febrile seizures demonstrated significantly higher anxiety levels, suggesting that previous seizure experiences may contribute to sustained anxiety responses (5).

A key finding of the present study is that the number of children did not significantly influence either fever management knowledge or anxiety levels. This result is consistent with the findings of Şahinöz and Bütün Ayhan (2020), who reported no association between the number of children and maternal knowledge or persistent anxiety levels (9). These findings suggest that maternal experience alone does not necessarily translate into improved knowledge or reduced anxiety, possibly due to the unpredictable nature of febrile illnesses and individual child characteristics.

Educational level emerged as a significant determinant of both fever management knowledge and anxiety. Mothers with higher educational attainment demonstrated higher knowledge scores and lower anxiety levels, consistent with previous studies (10–12, 14, 15). Matziou et al. (2008) similarly reported improved fever-related knowledge with increasing education levels (10), while Barutçu and Barutçu (2020) and Bong and Tan (2018) emphasized the role of education in appropriate fever measurement and management practices (14,15). These findings underscore the importance of targeted educational interventions.

Occupational status was also associated with fever management knowledge, with teachers and healthcare workers exhibiting higher knowledge scores compared to homemakers and other occupational groups. This finding is expected, as these professions generally involve higher educational levels and greater access to health-related information.

Interestingly, mothers residing in villages or district centers demonstrated higher fever management knowledge scores than those living in

provincial centers. This may reflect a greater reliance on self-management strategies among mothers with limited access to healthcare services, whereas easier access to medical facilities in provincial centers may reduce the perceived need for acquiring detailed fever-related knowledge.

Mothers from nuclear families exhibited higher fever management knowledge compared to those from extended families. This finding may be attributed to increased caregiving responsibility in nuclear family settings, whereas shared caregiving in extended families may reduce the necessity for individual knowledge acquisition.

Contrary to expectations, mothers with income levels lower than their expenses demonstrated higher fever management knowledge scores. This may reflect increased motivation to manage fever at home due to financial barriers to healthcare access, highlighting the complex interaction between socioeconomic factors and health-related knowledge.

The study also found that mothers whose children experienced frequent febrile illnesses (five or more episodes annually) had higher knowledge scores, suggesting that repeated exposure may enhance experiential learning. However, mothers of children with a history of febrile seizures had lower knowledge scores and significantly higher anxiety levels. This finding may be explained by the psychological impact of traumatic seizure experiences, which may impair information processing and recall.

A weak but statistically significant negative correlation was identified between fever management knowledge and anxiety levels, indicating that increased knowledge is associated with reduced anxiety. This finding is consistent with previous studies demonstrating that inadequate knowledge contributes to heightened parental anxiety, while education serves as a protective factor (5,9–15).

Limitations

- The study was conducted in only two hospitals, limiting generalizability.
- The cross-sectional design prevents causal inference.
- Self-reported measures may introduce bias.
- The fever management knowledge test, though reliable, requires broader validation.

Conclusion

Findings indicate that maternal experience alone does not reduce fever-related anxiety nor improve fever-management knowledge. Educational level, prior seizure experiences, and healthcare accessibility are more influential determinants. Therefore, structured, evidence-based educational programs are essential to improve mothers' fever management competence and decrease anxiety. Priority should be given to younger mothers, those with lower educational attainment, and first-time mothers. Training should include fever definition, benefits, thermometer use, distinguishing fever from high fever, and safe antipyretic practices. Mothers of children with prior febrile seizures should receive targeted support to address persistent anxiety.

Conflict of interests: The authors declare no conflict of interest.

Funding: This research has not received grants from any funding organization/sector.

Ethical approval: Ethical approval was obtained from the Gaziosmanpaşa University Clinical Research Ethics Committee (Approval No: 18-KAEK-076).

Author Contribution: Research idea: SK, SG; Design of the study: SK; Acquisition of data for the study: SG; Analysis of data for the study: SG; Interpretation of data for the study: SK, SG; Drafting the manuscript: SK; Revising it critically for important intellectual content: SK; Final approval of the version to be published: SK, SG.

References

1. Clinch J, Dale S. Managing childhood fever and pain: the comfort loop. *Child Adolesc Psychiatry Ment Health*. 2007;1(1):7.
2. Al-Nouri L, Basheer K. Mothers' perceptions of fever in children. *J Trop Pediatr*. 2005;52(2):113-116.
3. Walsh A, Edwards H. Management of Childhood Fever by Parents: A Literature Review. *J Adv Nurs*. 2006;54(2):217-227.
4. Van de Maat J, Peeters D, Nieboer D, van Wermeskerken AM, Smit FJ, Noordzij JG, et al. Evaluation of a clinical decision rule to guide antibiotic prescription in children with suspected lower respiratory tract infection in the Netherlands: A stepped-wedge cluster randomized trial. *PLoS Med*. 2018;15(1):e1002481.
5. Türe E, Sezer Efe Y, Uludağ A, Öztürk Z. Anxiety levels and influencing factors among parents of children presenting to the pediatric emergency department due to febrile convulsions. *Turkish Journal of Pediatrics*. 2020;14(1):30-36.
6. Schmitt BD. Fever Phobia: Misconceptions of Parents About Fevers. *Am J Dis Child*. 1980;134(2):176-181.
7. Walsh A, Edwards H, Fraser J. Influences on parents' fever management: beliefs, experiences and information sources. *Journal of Clinical Nursing*. 2007;16(12):2331-2340.
8. Van de Maat JS, Peeters D, Nieboer D, van Wermeskerken AM, Smit FJ, Noordzij JG, et al. Parental concerns about acute infections in young children: a qualitative study. *BMC Family Practice*. 2018;19(1):122.
9. Şahinöz T, Bütün Ayhan A. Assessment of mothers' knowledge and anxiety levels regarding infant development. *Journal of Health Sciences and Professions*. 2020;7(1):104-113.
10. Matziou V, Brokalaki H, Kyritsi H, Perdikaris P, Gymnopoulou E, Merkouris A. What Greek mothers know about evaluation and treatment of fever in children: an interview study. *Int J Nurs Stud*. 2008;45(6):829-836.
11. Abdinia B, Rezaee MA, Oskouie SA. Parental Knowledge and Management of Fever in Children in

- Northern Iran Global Journal of Health Sciences. 2017;9(5):149-156.
12. Chang LC, Liu CC, Huang MC. Parental knowledge, concerns, and management of childhood fever in Taiwan. *Journal of Nursing Research*. 2013;21(4):252-260.
13. Halıcıoğlu O, Astarcioglu G, Yaprak I, Aydinoglu H. Turkish parents' beliefs and practices regarding the management of fever in children. *Turk J Med Sci*. 2011;41(5):829-835.
14. Barutçu A, Barutçu CD. Knowledge, attitudes, and practices of parents of children presenting to the emergency department with high fever. *Turkish Journal of Pediatrics*. 2020;14(2):95-102.
15. Bong CL, Tan KW. Knowledge and concerns of parents regarding childhood fever at a public health clinic in Kuala Lumpur, Malaysia. *Med J Malaysia*. 2018;73(2):75-81.