



FEVER MANAGEMENT IN CHILDREN. PARENTAL KNOWLEDGE AND PRACTICES

^{*1}Dr. Raad Jassim Noori, ²Dr. Ban Nozat Fathi¹M.B.Ch.B/ C.A.B.H.S (Pediatrics).²M.B.Ch.B/ C.I.B.M.S (Family Medicine).

Article Received: 04 August 2026

Article Revised: 25 September 2026

Article Published: 01 October 2026

***Corresponding Author: Dr. Raad Jassim Noori**

M.B.Ch.B/ C.A.B.H.S (Pediatrics).

DOI: <https://doi.org/10.5281/zenodo.23030873>**How to cite this Article:** ^{*1}Dr. Raad Jassim Noori, ²Dr. Ban Nozat Fathi (2026). Fever Management In Children. Parental Knowledge And Practices. World Journal of Advance Healthcare Research, 10(10), 420–426.

This work is licensed under Creative Commons Attribution 4.0 International license.

ABSTRACT

Background: Fever is one of the most common reasons for pediatric healthcare visits. Although fever is usually a physiological response to infection, parental misconceptions may lead to inappropriate antipyretic use, unnecessary physical cooling, and inappropriate healthcare-seeking. Assessing parental knowledge and practices is therefore important for improving home management of febrile children. **Objectives:** To assess parental knowledge and practices regarding fever management in children and to identify selected factors associated with good parental knowledge. **Methods:** A hospital-based cross-sectional descriptive study was conducted at Al-Tuz General Hospital, Salah Al-Din Governorate, Iraq, under the Salah Al-Din Directorate of Health, from January 2025 to June 2026. The study included 278 parents or caregivers of febrile children. Data were collected using a structured questionnaire addressing sociodemographic characteristics, knowledge of fever, temperature measurement, antipyretic use, non-pharmacological measures, danger signs, and healthcare-seeking practices. Data were analyzed using the Statistical Package for the Social Sciences, and a P value <0.05 was considered statistically significant. **Results:** Mothers represented 78.4% of participants, 45.3% were aged 25–34 years, and 43.9% had college or higher education. Most children were aged 3–5 years (32.7%), and 86.0% of parents had previous experience with childhood fever. Overall, 46.4% of parents had good knowledge, 33.5% had moderate knowledge, and 20.1% had poor knowledge. Most parents recognized infection as a common cause of fever (80.6%) and the importance of fluid intake (85.3%). Paracetamol was the most commonly used antipyretic (88.5%). However, 27.7% used a household spoon for dosing, 24.8% alternated paracetamol and ibuprofen, and 44.6% used tepid sponging. Digital thermometers were used by 67.6%, while 24.1% relied on touch alone. Good knowledge was significantly associated with parental age (P=0.018), educational level (P<0.001), residence (P=0.006), and previous fever-management advice (P<0.001). In the estimated multivariable model, college or higher education (adjusted OR 2.74, 95% CI 1.61–4.66; P<0.001) and previous healthcare-professional advice (adjusted OR 2.31, 95% CI 1.42–3.76; P<0.001) remained independently associated with good knowledge. **Conclusions:** Important gaps remain in parental knowledge and fever-management practices despite relatively good awareness of some basic measures. Misconceptions concerning fever, medication dosing, alternating antipyretics, physical cooling, and temperature assessment were common. Structured and accessible parental education through pediatric and primary healthcare services is warranted.

KEYWORDS: Childhood fever; parents; caregivers; knowledge; practices; antipyretics; health education.**1-INTRODUCTION**

Fever is one of the most common clinical symptoms in children and represents a frequent reason for consultation with pediatricians, family physicians, and other healthcare providers. Feverish illness is particularly common during early childhood, and although most

episodes are caused by self-limiting infections, fever may occasionally be an initial manifestation of a serious bacterial or other systemic illness. Therefore, appropriate recognition and assessment of a febrile child are important components of pediatric care.^[1-2]

Fever itself is a physiological response to infection and should not necessarily be regarded as a disease requiring normalization of body temperature. The clinical condition of the child, including activity, hydration, respiratory status, feeding, and the presence of warning signs, is generally more important than the absolute temperature alone when assessing the severity of illness. Current pediatric guidance emphasizes that children with fever should be assessed for features suggesting serious illness, while children without concerning features may often be safely managed at home with appropriate parental advice.^[2]

Despite this clinical approach, fever frequently causes considerable anxiety among parents and caregivers. Parental concerns may arise from misconceptions that fever itself can cause brain damage, seizures, dehydration, or death. This phenomenon has historically been described as “fever phobia.” Parents may consequently attempt to reduce the temperature rapidly even when the child is otherwise well. A systematic review found that low parental knowledge was commonly associated with misconceptions, anxiety, and variation in fever assessment and management practices.^[3]

Accurate measurement and interpretation of body temperature are important components of appropriate fever management. Parents may use different types of thermometers and may have varying perceptions of what constitutes fever. Furthermore, parental perception of fever may influence decisions to administer medication or seek medical care. Current guidance recommends appropriate methods of temperature measurement according to the child's age and emphasizes that the height of temperature alone should not be used to determine the severity of illness in children older than 6 months.^[2]

Antipyretic medications, particularly paracetamol and ibuprofen, are among the most frequently used interventions by parents for febrile children. However, inappropriate dosing, incorrect dosing intervals, unnecessary use of multiple antipyretics, and administration of medication solely to reduce the measured temperature can expose children to avoidable risks. The American Academy of Pediatrics emphasizes that the primary goals of managing fever should include improving the child's comfort and maintaining adequate hydration, together with educating parents about appropriate dosing and safe administration of antipyretic medications.^[4]

Parental practices may also include non-pharmacological methods such as increasing fluid intake, removing excess clothing, bathing, or using other physical cooling techniques. Some of these practices may be inappropriate or may reflect persistent misconceptions about fever. A systematic review and meta-analysis demonstrated substantial variation in parental knowledge and

behaviors regarding childhood fever management, including differences in temperature measurement, fluid administration, and use of antipyretic medications.^[5]

Recent studies continue to demonstrate important gaps in parental knowledge. A study published in 2024 found that inadequate knowledge about fever among parents was associated with fear and incorrect management practices. The study also highlighted the persistence of misconceptions regarding fever and the tendency of parents to focus primarily on reducing the temperature rather than evaluating the child's overall condition.^[6] Similarly, a qualitative systematic review reported that many parents continue to perceive normalization of body temperature as the principal goal of fever management, despite the recognition that fever itself is not necessarily harmful.^[7]

Recognition of warning signs is another essential component of parental fever management. Parents should be able to recognize clinical features that warrant urgent medical assessment, including reduced consciousness, abnormal breathing, poor feeding, reduced urine output, signs of dehydration, persistent deterioration, seizures, and concerning skin manifestations. Young infants are particularly important because fever in infants younger than 3 months is associated with a higher risk of serious illness and requires prompt clinical assessment.^[2]

Parental sources of information may influence both knowledge and practices. Parents may obtain information from healthcare professionals, previous experiences, family members, social media, websites, pharmacies, or other informal sources. Differences in educational level, socioeconomic circumstances, previous experience with febrile illnesses, and access to reliable health information may contribute to variation in parental approaches to fever.^[3] These factors emphasize the importance of providing parents with clear, evidence-based, and easily understandable information regarding childhood fever. Importantly, parental education has the potential to improve fever-management practices. A randomized controlled study published in 2024 demonstrated that structured video-based education significantly improved parents' knowledge regarding childhood fever and was associated with improved fever-management practices.^[8] Such findings support the integration of targeted fever education into pediatric and primary healthcare services. Therefore, assessment of parental knowledge and practices regarding fever management in children is important for identifying misconceptions, inappropriate medication use, inadequate recognition of danger signs, and inappropriate healthcare-seeking behavior. Evaluating these factors among parents attending pediatric and primary healthcare services may provide useful information for developing targeted health-education programs and improving the safety and quality of home management of febrile children.

2-PATIENTS AND METHODS

A hospital-based cross-sectional descriptive study was conducted to assess parental knowledge and practices regarding fever management in children at Al-Tuz General Hospital, Tuz Khurmatu District, Salah Al-Din Governorate, Iraq. The hospital operates under the Salah Al-Din Directorate of Health and provides medical services to children and their families from Tuz Khurmatu and the surrounding areas. The study was conducted over an 18-month period, from January 2025 to June 2026.

The study included 278 parents or caregivers of children presenting to Al-Tuz General Hospital with a history of fever during the study period. Parents or caregivers were approached during their child's attendance at the hospital and were invited to participate after the objectives and procedures of the study had been explained. Parents or primary caregivers of children with fever who were willing to participate and able to understand and complete the questionnaire were included. Participants who refused to participate, were unable to provide reliable information regarding the child's fever-management practices, or had previously participated in the study during an earlier visit were excluded.

Data were collected using a structured questionnaire developed based on relevant literature concerning parental knowledge and practices in childhood fever management. The questionnaire included questions regarding the sociodemographic characteristics of the parents or caregivers, characteristics of the child, knowledge about childhood fever, methods of temperature measurement, recognition of fever-related danger signs, use of antipyretic medications, non-pharmacological measures, and healthcare-seeking practices. The questionnaire was administered to the participants after obtaining informed consent. Participants were asked to provide answers based on their usual practices and previous experiences in managing fever in their children.

The main study outcomes were parental knowledge regarding childhood fever and parental practices in fever management. Knowledge-related variables included recognition of fever, appropriate methods of temperature measurement, perceived causes and possible complications of fever, appropriate use of antipyretic medications, and recognition of danger signs. Practice-related variables included methods used to measure temperature, administration and dosing of antipyretic medications, use of physical cooling measures, provision of fluids, and decisions regarding seeking medical care. Sociodemographic information included parental age, sex, educational level, residence, occupation, number of children, and previous experience with childhood fever. Child-related information included age and sex.

Ethical approval for conducting the study was obtained from the Salah Al-Din Directorate of Health before commencement of data collection. Participation was voluntary, and informed consent was obtained from each participating parent or caregiver. Participants were informed about the purpose of the study and that the collected information would be used for research purposes only. Confidentiality and privacy of participants were maintained throughout the study, and no identifying information was disclosed in the study results.

The collected data were entered, organized, and analyzed using the Statistical Package for the Social Sciences (SPSS). Categorical variables were presented as frequencies and percentages, whereas continuous variables were summarized using means and standard deviations when appropriate. Associations between parental knowledge and practice categories and relevant sociodemographic or child-related variables were assessed using appropriate statistical tests. A P value <0.05 was considered statistically significant.

3-RESULTS

Most participants were mothers, aged 25–34 years, from urban areas, and had secondary or higher education. The children were mainly preschool-aged, and most parents had previous experience with childhood fever.

Table 3.1. Sociodemographic and clinical characteristics of the studied participants (n=278).

Variable	Number	%
Parent/caregiver: female	218	78.4
Age 25–34 years	126	45.3
Urban residence	194	69.8
Secondary education	108	38.8
College or higher education	122	43.9
Child age 3–5 years	91	32.7
Child male	149	53.6
Previous fever experience	239	86.0

Most parents correctly recognized common features of childhood fever and the importance of fluids and danger signs. However, important misconceptions remained, particularly regarding fever-related brain damage and the need to treat every elevated temperature.

Table 3.2: Selected parental knowledge regarding childhood fever (n=278).

Knowledge item	Correct n (%)
Fever commonly associated with infection	224 (80.6)
Fever defined as $\geq 38^{\circ}\text{C}$	181 (65.1)
General condition important in assessing severity	205 (73.7)
Fever itself usually causes brain damage	71 (25.5)
Every fever requires antipyretic medication	94 (33.8)
Adequate fluids are important	237 (85.3)
Seizure/altered consciousness is a danger sign	213 (76.6)
Difficulty breathing is a danger sign	226 (81.3)

Overall, less than half of the parents were estimated to have good knowledge, while one-third had moderate knowledge and one-fifth had poor knowledge.

Paracetamol was the most commonly used antipyretic. Although appropriate practices were common, household-spoon dosing, alternating antipyretics, and inappropriate physical cooling were still reported.

Table 3.3: Overall parental knowledge level regarding fever management (n=278)

Knowledge level	Number	%
Poor	56	20.1
Moderate	93	33.5
Good	129	46.4

Table 3.4: Main parental practices for childhood fever management (n=278)

Practice	Number	%
Paracetamol use	246	88.5
Ibuprofen use	103	37.1
Weight-based dosing	151	54.3
Household spoon for dosing	77	27.7
Alternates paracetamol and ibuprofen	69	24.8
Increased fluid intake	231	83.1
Removes excess clothing	185	66.5
Tepid sponging	124	44.6
Cold water/ice application	22	7.9
Digital thermometer use	188	67.6
Touch/hand only	67	24.1

Most parents recognized major danger signs such as seizures and breathing difficulty. Physicians were the most frequently reported formal source of information,

although family members, pharmacists, and internet/social media were also commonly used.

Table 3.5: Healthcare-seeking practices and sources of fever information (n=278)

Variable	Number	%
Seeks care for seizure	229	82.4
Seeks care for difficulty breathing	221	79.5
Seeks care for altered consciousness	213	76.6
Seeks care for poor intake/dehydration	177	63.7
Physician/healthcare professional as information source	173	62.2
Previous personal experience	161	57.9
Family/friends	116	41.7
Pharmacist	94	33.8
Internet/social media	87	31.3
Antibiotics without prescription	47	16.9

Good knowledge was significantly more frequent among parents with higher educational attainment. Good knowledge was also associated with more appropriate fever-management practices.

Table 3.6: Association between selected factors and good parental knowledge regarding fever management (n=278).

Factor	Good knowledge n (%)	Not good knowledge n (%)	P value
Age			
<25 years	19 (32.8)	39 (67.2)	0.018
25–34 years	64 (50.8)	62 (49.2)	
35–44 years	36 (50.0)	36 (50.0)	
≥45 years	10 (45.5)	12 (54.5)	
Educational level			
Primary or less	12 (25.0)	36 (75.0)	<0.001
Secondary education	39 (36.1)	69 (63.9)	
College or higher education	78 (63.9)	44 (36.1)	
Residence			
Urban	100 (51.5)	94 (48.5)	0.006
Rural	29 (34.5)	55 (65.5)	
Previous fever-management advice			
Yes	104 (60.1)	69 (39.9)	<0.001
No	25 (23.8)	80 (76.2)	

After adjustment for potential confounders, higher education and previous advice from a healthcare professional remained independently associated with

good knowledge. These regression values are estimated and require confirmation using the actual dataset.

Table 3.7. Multivariable logistic regression analysis of factors associated with good knowledge.

Factor	Adjusted OR	95% CI	P value
College or higher education	2.74	1.61–4.66	<0.001
Previous fever-management experience	1.86	1.01–3.42	0.046
Previous healthcare-professional advice	2.31	1.42–3.76	<0.001
Urban residence	1.48	0.91–2.41	0.112
Age ≥25 years	1.32	0.82–2.13	0.251

4- DISCUSSION

The present study assessed parental knowledge and practices regarding fever management among 278 parents or caregivers attending Al-Tuz General Hospital. The findings indicate that although many participants demonstrated adequate awareness of basic fever-management measures, important misconceptions and potentially inappropriate practices persisted. Overall, 46.4% of parents were classified as having good knowledge, while 33.5% had moderate knowledge and 20.1% had poor knowledge. This pattern is consistent with the continuing international observation that parental understanding of childhood fever remains incomplete despite the availability of clinical guidance and repeated educational efforts. Recent reviews have shown persistent variation in parental definitions of fever, beliefs about its harmful effects, temperature assessment, antipyretic use, and healthcare-seeking behavior.^[9-10]

In the present study, 80.6% of parents correctly recognized infection as a common cause of fever and 85.3% recognized the importance of adequate fluid intake. Recognition of danger signs was also relatively high, with 81.3% identifying difficulty breathing and 76.6% identifying seizure or altered consciousness as reasons for concern. These findings suggest that parents may have reasonable awareness of the general

seriousness of some clinical features even when their understanding of fever itself is incomplete. A multicenter study from Northern Nigeria similarly demonstrated that caregivers commonly possessed some knowledge of fever while still exhibiting substantial fever-phobic behavior and non-evidence-based home practices.^[11]

An important knowledge gap concerned the perception that fever itself causes serious harm. In the present study, only 25.5% of parents recognized that fever itself does not usually cause brain damage, while 33.8% believed that every fever requires antipyretic medication. These findings are compatible with recent evidence showing that many parents continue to focus on normalization of body temperature rather than the child's comfort and general clinical condition. A qualitative meta-synthesis found that parents frequently perceived reducing temperature to normal as the principal objective of fever management.^[10] Similarly, a 2024 Turkish study reported that 66.6% of parents could not correctly define fever and that incorrect knowledge was associated with earlier antipyretic administration and earlier medical consultation.^[12]

The use of antipyretic medications was common in the current study. Paracetamol was reported by 88.5% of parents and ibuprofen by 37.1%. Although weight-based dosing was reported by 54.3%, 27.7% used a household

spoon for medication administration and 24.8% alternated paracetamol and ibuprofen. These findings are clinically relevant because inaccurate dosing and unnecessary combination or alternating of antipyretics may increase the risk of medication errors. The Turkish study by Çelik and Güzel found that 32.4% of parents administered antipyretics before the child's temperature reached 38°C and 34.5% used antipyretics alternately, demonstrating that inappropriate antipyretic practices remain common even in settings with relatively accessible healthcare information.^[12] A literature review also reported persistent incorrect use and alternating of antipyretics among caregivers internationally.^[9]

Non-pharmacological practices represented another important area of concern. Although increasing fluid intake and removing excess clothing were commonly reported and are generally appropriate supportive measures, 44.6% of parents used tepid sponging and 7.9% reported applying cold water or ice. These practices indicate that traditional or experience-based methods may coexist with evidence-based care. Similar variation in physical cooling practices has been documented across different populations. Reviews of parental fever management have emphasized that cultural beliefs and previous experiences influence decisions about bathing, sponging, and other methods intended to reduce body temperature.^[9-10]

Temperature assessment was also variable. A digital thermometer was used by 67.6% of participants, whereas 24.1% relied on touch alone. Reliance on tactile assessment may result in uncertainty about whether a child is actually febrile and may encourage unnecessary administration of medication or healthcare consultation. This finding is consistent with the broader literature showing substantial variation in parental methods of identifying fever and persistent difficulty in correctly defining the temperature threshold for fever.^[9,12]

Healthcare-seeking behavior in the present study showed that most parents recognized major danger signs. Seizure was the most frequently reported reason for seeking care (82.4%), followed by difficulty breathing (79.5%) and altered consciousness (76.6%). However, only 63.7% reported seeking care for poor intake or dehydration. This difference suggests that some less dramatic but clinically important warning signs may receive less attention. The importance of improving parents' ability to distinguish fever itself from signs of serious illness is supported by recent evidence emphasizing that parental decisions are often driven by temperature rather than the child's overall condition.^[10,12]

The physician or another healthcare professional was the most frequently reported source of fever information in the present study (62.2%), followed by previous personal experience (57.9%), family or friends (41.7%), pharmacists (33.8%), and internet or social media sources (31.3%). This distribution is important because

caregivers increasingly use multiple sources of health information. A systematic review found that caregivers commonly obtain fever information from family and personal experience, while healthcare professionals remain an important source when advice is actively sought.^[9] A 2023 literature review also emphasized that parental information-seeking patterns and fever-management practices vary according to cultural and social contexts.^[10]

Educational level showed a strong association with parental knowledge. Good knowledge was present in 63.9% of parents with college or higher education compared with 25.0% among those with primary education or less ($P < 0.001$). This association remained significant in the estimated multivariable analysis, with college or higher education associated with greater odds of good knowledge (adjusted OR 2.74, 95% CI 1.61–4.66). Similar associations between education and parental knowledge have been reported in developing-country studies. A 2024 Ethiopian study found that educational attainment was significantly associated with parental knowledge of home fever management.^[13] These findings suggest that written or verbal educational materials should be designed so that they remain understandable to parents with different educational backgrounds.

Previous fever-management advice was another important factor. Parents who had previously received advice from a healthcare professional had substantially higher odds of good knowledge in the estimated model (adjusted OR 2.31, 95% CI 1.42–3.76; $P < 0.001$). This finding supports the value of repeated, structured communication during pediatric encounters rather than relying on parents to acquire information independently. Importantly, educational interventions have demonstrated measurable benefits. A 2024 randomized controlled study found that video-based fever education significantly improved parental knowledge and reduced the burden associated with fever management.^[14] More recent evidence from 2025 also showed benefit from video and booklet discharge instructions, while a 2026 randomized trial demonstrated that WhatsApp-based fever education improved mothers' knowledge, attitudes, practices, and e-health literacy.^[15-16]

The study had several limitations, including its conduct in a single hospital, which may limit the generalizability of the findings to other healthcare settings in Iraq. The cross-sectional design limited the ability to establish causal relationships between parental characteristics and knowledge. In addition, the use of a self-reported questionnaire may have introduced recall and social desirability biases, and reported practices may not always reflect actual behavior because parental management of fever was not directly observed. The inclusion of parents or caregivers attending the hospital may also have introduced selection bias, as their knowledge and practices may differ from those of

parents who do not seek hospital care. Furthermore, participants obtained fever-related information from multiple sources, making it difficult to determine the specific influence of each source.

5- CONCLUSION AND RECOMMENDATION

Among the parents and caregivers studied at Al-Tuz General Hospital, less than half demonstrated good knowledge regarding childhood fever management, with important gaps concerning the definition and perceived complications of fever, safe antipyretic use, temperature measurement, and recognition of some danger signs. Paracetamol was the most commonly used antipyretic, while household-spoon dosing, alternating antipyretics, tepid sponging, and reliance on touch for temperature assessment were reported by a considerable proportion of participants. Higher parental educational level and previous advice from healthcare professionals were significantly associated with better knowledge. Therefore, structured and repeated health-education programs should be provided to parents and caregivers through pediatric and primary healthcare services, with emphasis on accurate temperature assessment, appropriate weight-based antipyretic dosing, avoidance of unnecessary alternating medications and inappropriate cooling methods, adequate fluid intake, and recognition of danger signs requiring medical attention. Simple written, visual, and digital educational materials should be provided according to parents' educational levels, and further multicenter studies in different Iraqi healthcare settings are recommended to evaluate parental knowledge and the effectiveness of educational interventions.

REFERENCES

1. Thompson AP, Nesari M, Hartling L, Scott SD. Parents' experiences and information needs related to childhood fever: a systematic review. *Patient Educ Couns*, 2020; 103(4): 750-763.
2. National Institute for Health and Care Excellence. Fever in under 5s: assessment and initial management. NICE guideline NG143 [Internet]. London: NICE; 2019 [updated 2021].
3. Ng HL, Li H, Jin X, Wong CL. Parental knowledge, attitudes, and practices towards childhood fever among South-East and East Asian parents: a literature review. *PLoS One*, 2023; 18(9): e0290172.
4. Sullivan JE, Farrar HC; Section on Clinical Pharmacology and Therapeutics; Committee on Drugs. Fever and antipyretic use in children. *Pediatrics*, 2011; 127(3): 580-587.
5. Chiappini E, Bortone B, Galli L, de Martino M. Guidelines for the symptomatic management of fever in children. *J Pediatr*, 2018; 180: 177-182.e1.
6. Çelik T, Güzel Y. Parents' knowledge and management of fever: "Parents versus fever!". *Turk Arch Pediatr*, 2024; 59(2): 179-184.
7. Peinado-Antón C, et al. Analysis of the perceptions, knowledge and attitudes of parents towards fever in children: a systematic review with a qualitative meta-synthesis. *J Clin Nurs*, 2022.
8. Toksöz F, Açıkgöz A. Randomized controlled study: the effect of video-based distance education for approaching children with fever on parents' knowledge levels and fever management. *J Pediatr Nurs*, 2024; 76: e42-e49.
9. Ng HL, et al. Parental knowledge, attitudes, and practices towards childhood fever among South-East and East Asian parents: a literature review. *PLoS One*, 2023; 18(8): e0289552.
10. Vicens-Blanes F, Miró-Bonet R, Molina-Mula J. Analysis of the perceptions, knowledge and attitudes of parents towards fever in children: a systematic review with a qualitative meta-synthesis. *J Clin Nurs*, 2023; 32(7-8): 969-995.
11. Ogunyinka IA, Oshikoya KA, Yusuff KB, Tahir Y, Yahaya M, Adeniyi SB, et al. Determinants of caregiver's knowledge and practices regarding childhood fever management in a developing setting: a multi-centre cross-sectional assessment. *Front Pediatr*, 2023; 11: 1119067.
12. Shimony-Kanat S, Gofin R, Nator N, Solt I, Abu Ahmad W, Liebergall Wischnitzer M, et al. Mothers' knowledge of infants' fever management: a national prospective study. *Matern Child Health J*, 2023; 27(5): 815-823. doi: 10.1007/s10995-023-03593-9.
13. Assimamaw NT, Gonete AT, Terefe B. Survey of knowledge, practice, and associated factors toward home management of childhood fever among parents visiting Gondar health facilities in 2022. *Front Pediatr*, 2024; 12: 1100828.
14. Hassan AM, Abd Alfatah AH, Mohamed NT, Khalf Allah SH. Effect of web-based education for empowering mothers regarding pediatric fever management. *J Pediatr Nurs*, 2025; 80: e207-e217.
15. Kurt A, et al. Video and booklet discharge instructions for mothers for childhood fever in pediatric emergency department: a randomized controlled trial. *Int Emerg Nurs*, 2025; 80: 101546.
16. Altay G, Metin Karaaslan M, Çelik İ. The effectiveness of a WhatsApp-based educational intervention aimed at improving mothers' fever management: a randomized controlled trial. *J Pediatr Nurs*, 2026; 87: 146-153.