



MATERNAL AWARENESS AND MANAGEMENT OF CHILDHOOD FEVER: A CROSS-SECTIONAL STUDY.

Dr. ASRA

Assistant Professor, Department of Paediatrics, Ayaan Institute of Medical Sciences, Kankamidi, Moinabad – 501504, Telangana, India.

Dr. M. Harshitha*

Assistant Professor, Department of Paediatrics, Ayaan Institute of Medical Sciences, Kankamidi, Moinabad – 501504, Telangana, India.

*Corresponding Author

ABSTRACT

Background: Fever is one of the most common symptoms prompting healthcare visits during childhood and is frequently associated with significant parental anxiety, often referred to as “fever phobia.”

Misconceptions regarding fever, inappropriate temperature measurement practices, and irrational use of antipyretics may lead to unnecessary interventions and delayed or insufficient responses. **Aim:** To assess the knowledge, attitudes, and response practices of mothers regarding fever in their children. **Materials & Methods:** A hospital-based cross-sectional study was conducted among 100 mothers of children aged 0–12 years attending the pediatric outpatient department of Ayaan Institute of Medical Sciences Hospital and Research Centre, Telangana. Data were collected using a pre-tested semi-structured questionnaire assessing knowledge of fever, temperature measurement practices, attitudes toward fever, and responses to febrile episodes. Socioeconomic status was assessed using the modified Kuppuswamy scale. Knowledge scores were categorized as low, moderate, or high based on a predefined scoring system. Data were analyzed using descriptive and inferential statistics. **Results:** Only a small proportion of mothers correctly identified normal body temperature and appropriate fever thresholds. A majority perceived fever as harmful and expressed fear during febrile episodes. Non-scientific practices such as manual temperature assessment and inappropriate peripheral cooling were commonly reported. Paracetamol was the most frequently used antipyretic, often administered without medical consultation. Higher maternal education and socioeconomic status were significantly associated with better knowledge and appropriate responses to fever ($p < 0.01^*$).

Conclusion: Maternal knowledge and practices regarding childhood fever were found to be suboptimal, with widespread misconceptions and anxiety. Structured health education and counseling interventions targeting mothers may help improve fever management practices, reduce unnecessary fear, and promote rational healthcare-seeking behavior.

KEYWORDS : Fever; maternal knowledge; fever phobia; child health; health-seeking behavior.

INTRODUCTION

Fever is one of the most common clinical manifestations of illness in childhood and a frequent reason for pediatric outpatient visits and emergency department utilization.¹ Although fever is a physiological response to infection and often plays a beneficial role in host defense, it is commonly perceived by caregivers as a dangerous symptom requiring immediate intervention.² This exaggerated concern, often described as “fever phobia,” contributes significantly to parental anxiety and inappropriate management practices.³

Most children experience at least one febrile episode during early childhood, with body temperatures ranging between 37.8°C and 40°C during acute illnesses.⁴ Despite this, misconceptions regarding the definition of fever, methods of temperature measurement, and potential consequences such as seizures or brain damage remain prevalent among parents.⁵ These beliefs may lead to unnecessary healthcare visits, irrational use of antipyretics, and potentially harmful practices such as cold water sponging or use of alcohol-based applications.⁶

Maternal knowledge and attitudes play a pivotal role in determining the response to febrile illness in children.⁷ Inappropriate fever management practices, including administration of antipyretics at normal body temperature or incorrect dosing, have been widely reported in several studies.^{8,9} Educational level, socioeconomic status, and previous experiences with febrile illness have been shown to influence maternal perceptions and responses to fever.¹⁰

Understanding maternal knowledge, attitudes, and response patterns regarding fever is essential for planning effective educational interventions. The present study was undertaken to assess these factors among mothers attending a tertiary care hospital in Telangana, with the aim of identifying gaps in knowledge and practices that can be addressed through targeted health education.

MATERIALS & METHODS

Study Design:

A hospital-based cross-sectional descriptive study was conducted to assess the knowledge, attitudes, and response practices of mothers regarding fever in their children.

Study Setting:

The study was carried out at the Paediatric Outpatient Department of Ayaan Institute of Medical Sciences Hospital and Research Centre, Kankamidi Village, Moinabad Mandal, Ranga Reddy District, Telangana, India. The institution is a tertiary care teaching hospital providing paediatric services to a predominantly rural and semi-urban population.

Study Population:

The study population comprised mothers of children aged 0–12 years who attended the paediatric outpatient department of the study institution during the data collection period.

Sample Size And Sampling Technique:

A total of 100 mothers were included in the study. Participants were selected using a non-probability convenience sampling technique, based on their availability and willingness to participate at the time of data collection.

Inclusion Criteria

- Mothers of children aged between 0 and 12 years
- Mothers accompanying their children to the pediatric outpatient department
- Mothers who were willing to participate and provided written informed consent

Exclusion Criteria

- Mothers of critically ill children requiring immediate emergency care
- Mothers who were unwilling to participate
- Mothers who could not complete the interview

Study Tool

Data were collected using a **pre-tested semi-structured questionnaire**, administered through face-to-face interviews. The questionnaire consisted of the following components:

- **Section A:** Socio-demographic profile of the mother, including age, education, occupation, family income, type of family, number of children, and housing conditions
- **Section B:** Knowledge-related questions assessing understanding of fever definition, normal body temperature, temperature measurement sites and tools, first response to fever, peripheral cooling practices, and antipyretic use
- **Section C:** Attitude-related questions evaluating maternal fear, beliefs, and perceptions regarding fever and its consequences
- **Section D:** Response practices adopted by mothers during febrile episodes, including healthcare-seeking behavior and medication practices

Assessment of Knowledge:

Knowledge regarding fever was assessed using 10 structured questions, with each correct response awarded one mark. The total knowledge score ranged from 0 to 10 and was categorized as follows:

- **Low knowledge:** 0–3
- **Moderate knowledge:** 4–6
- **High knowledge:** 7–10

Socioeconomic Status:

Socioeconomic status of the participants was assessed using the Modified Kuppuswamy Socioeconomic Scale, based on the education and occupation of the head of the family and the monthly per capita family income.

Data Collection Procedure: After explaining the purpose of the study, written informed consent was obtained from each participant. Face-to-face interviews were conducted using the structured questionnaire. All interviews were carried out by the investigator, and confidentiality of responses was ensured.

Ethical Considerations: Ethical approval for the study was obtained from the Institutional Ethics Committee of Ayaan Institute of Medical Sciences prior to the commencement of the study. Participation was voluntary, and anonymity and confidentiality of the participants were maintained throughout the study.

Statistical Analysis:

Data were entered into Microsoft Excel and analysed using standard statistical software. Descriptive statistics such as frequency and percentage were used to summarize socio-demographic characteristics and response patterns. Inferential statistics were applied to assess the association between maternal knowledge levels and selected socio-demographic variables. A p -value of $<0.05^*$ was considered statistically significant.

RESULTS

A total of 100 mothers of children aged 0–12 years attending the Pediatric Outpatient Department of Ayaan Institute of Medical Sciences Hospital and Research Centre were included in the study. The findings are presented under the following headings: socio-demographic characteristics, knowledge regarding fever, attitudes toward fever, response practices during febrile episodes, and factors associated with maternal knowledge.

More than half of the mothers were aged 18–25 years (54%). The majority were homemakers (92%) and had primary-level education (53%). Nearly half of the participants had three to four children (47%), and equal proportions belonged to nuclear and joint families (50% each). [Table 1]

Only 15% of mothers correctly identified the fever threshold and normal body temperature. Manual assessment by hand was the most common method (60%). The axillary route was the preferred site for temperature measurement (50%). [Table 2]

A high level of anxiety related to fever was observed, with 90% of mothers expressing fear during febrile episodes and 85% perceiving fever as harmful. [Table 3]

Peripheral cooling was the most common initial response to fever (40%), followed by antipyretic use (30%). A considerable proportion used inappropriate or incorrect cooling methods. [Table 4]

Paracetamol was the most commonly used antipyretic (81%). However, 40% of mothers did not consider dosage, indicating a risk of inappropriate drug administration. [Table 5]

Only 5% reported a history of febrile convulsions. Most mothers sought emergency care during convulsive episodes, reflecting appropriate care-seeking behavior in such situations. [Table 6]

Maternal knowledge regarding fever showed a statistically significant association with socioeconomic status, age, and education level ($p < 0.01$). Higher education and socioeconomic status were associated with better knowledge and more appropriate fever management practices.

The study revealed suboptimal knowledge and high anxiety levels among mothers regarding childhood fever. Inappropriate assessment methods and response practices were common. Maternal education and socioeconomic status significantly influenced knowledge and practices related to fever management.

Table 1: Socio-demographic Characteristics Of The Study Participants

Variable	Category	Frequency (n=100)	Percentage (%)
Age (years)	18 to 25 years	54	54%
	26 to 40 years	35	35%
	≥ 45 years	06	6%
Occupation	Home maker	92	92%
	Employed	8	8%
Education	Illiterate	14	14%
	Able to read & write	21	21%
	Primary education	53	53%
	Secondary education	12	12%
Number of Children	1 to 2	35	35%
	3 to 4	47	47%
	≥5	18	18%
Type of family	Nuclear	50	50%
	Joint	50	50%
House size	1 to 2 rooms	62	62%
	3 to 4 rooms	36	36%
	≥5 rooms	02	02%

Table 2: Knowledge of Fever and Temperature Measurement Practices

Parameter	Response	n (%)
Normal body temperature is known	Correct	15 (15%)
	Incorrect / Don't know	85 (85%)
Temperature is considered a fever	>37–38°C	15 (15%)
Method of temperature assessment	Digital thermometer	16 (16%)
	Mercury thermometer	4 (4%)
	Manual (by hand)	60 (60%)
	Don't know	20 (20%)

Site of temperature measurement	Axilla	50 (50%)
	Oral	26 (26%)
	Ear	5 (5%)
	Incorrect / Don't know	19 (19%)

Table 3: Attitudes And Fear Related To Fever

Attitude	Response	n (%)
Fever is perceived as harmful	Yes	85 (85%)
Fear/anxiety during a child's fever	Yes	90 (90%)
Fear of death due to fever	Yes	10 (10%)

Table 4: Response Practices During Febrile Episodes

Practice	Response	n (%)
First response to high fever	Remove clothing	20 (20%)
	Peripheral cooling	40 (40%)
	Antipyretic use	30 (30%)
	Consult Physician	2 (2%)
	Antibiotics	3 (3%)
	Don't Know	5 (5%)
Peripheral cooling method	Warm water	10 (10%)
	Shower	20 (20%)
	Cold water	20 (20%)
	Incorrect / Don't know	50 (50%)

Table 5: Antipyretic Use And Dose Consideration

Parameter	Response	n (%)
Antipyretic used	Paracetamol	81 (81%)
	Ibuprofen	13 (13%)
	Suppository	1 (1%)
	None	2 (2%)
Dose consideration	Considered	60 (60%)
	Not considered	40 (40%)
Basis for dose adjustment	Height of fever	8 (8%)
	Weight	10 (10%)
	Physician prescription	20 (20%)
	Age	5 (5%)

Table 6: Febrile Convulsions And Care-Seeking Behavior

Parameter	Response	n (%)
History of febrile convulsions	Yes	5 (5%)
Action during a convulsion	Emergency visit	82 (82%)
	Antipyretic use	13 (13%)
	Don't know	5 (5%)

DISCUSSION

Fever is one of the most common clinical manifestations encountered during childhood and remains a major cause of parental anxiety, often leading to inappropriate management practices. The present study assessed maternal knowledge, attitudes, and response practices regarding fever in children aged 0–12 years.

In the current study, maternal knowledge regarding the definition and accurate assessment of fever was found to be inadequate. Only a small proportion of mothers correctly identified normal body temperature and appropriate fever thresholds. Similar deficiencies in parental knowledge have been widely reported in earlier studies, indicating that misconceptions about fever persist despite its common occurrence in childhood.^{1,3,5} The frequent reliance on manual assessment of body temperature observed in this study further highlights the lack of awareness regarding correct measurement techniques, a finding consistent with observations reported by Anca et al.¹ and Baysoy et al.¹⁴

A high level of anxiety and fear related to fever was noted among mothers in the present study, with the majority perceiving fever as a harmful condition. This phenomenon, commonly referred to as “fever phobia,” has been extensively described in the literature and is known to influence irrational care-seeking behavior.^{3,5,7} Excessive concern regarding fever may lead to unnecessary healthcare visits and inappropriate interventions, even in cases of mild, self-limiting illness.^{4,3}

Regarding response practices, peripheral cooling and early administration of antipyretics were commonly adopted as first-line measures by mothers. Although paracetamol was the most frequently used antipyretic, a considerable proportion of mothers did not consider appropriate dosing parameters. Similar patterns of irrational antipyretic use, including incorrect dosing and unnecessary administration, have been reported in several previous studies.^{8,9,16} Such practices may increase the risk of adverse drug effects and highlight the importance of caregiver education on safe medication use.

The present study also demonstrated a statistically significant association between maternal knowledge and socioeconomic status, age, and educational level. Mothers with higher levels of education and better socioeconomic status exhibited improved knowledge and more appropriate fever management practices. These findings are in agreement with earlier studies, which have consistently shown that education and socioeconomic factors play a critical role in shaping health-related knowledge and behaviors.^{10,11,14}

Febrile convulsions were reported in a small proportion of children in this study, and most mothers appropriately sought emergency medical care during such episodes. Previous studies have shown that a history of febrile seizures significantly influences parental perception and response to fever, often increasing anxiety levels and emergency service utilization.^{3,15,16} This underscores the need for targeted counseling for parents of children with a history of febrile convulsions.

Overall, the findings of the present study indicate that misconceptions and anxiety regarding childhood fever remain prevalent among mothers. Despite fever being a common and often benign symptom, inappropriate assessment methods and response practices continue to be widely practiced. Structured health education and counseling interventions targeting maternal knowledge gaps may play a vital role in promoting rational fever management, reducing unnecessary anxiety, and improving child health outcomes.^{2,4,11}

CONCLUSION

The present study found that maternal knowledge regarding childhood fever was inadequate, with widespread misconceptions and high levels of anxiety influencing response practices. Inappropriate temperature assessment methods and irrational use of antipyretics were commonly observed. Maternal education and socioeconomic status were significant determinants of knowledge and response behaviors. Strengthening caregiver education through structured counseling and health education interventions may improve fever management practices, reduce unnecessary anxiety, and promote appropriate healthcare-seeking behavior.

REFERENCES

1. Anca SG, Arica V, Onur H, et al. Knowledge, attitude and response of mothers about fever in their children. *Emerg Med J*. 2011;28:1–5.
2. Casey R, McMahon F, McCormick MC, et al. Fever therapy: an educational intervention for parents. *Pediatrics*. 2004;73:600–605.
3. Stuijvenberg M, Vos S, Tjiang GC, et al. Parents' fear regarding fever and febrile seizures. *Acta Paediatr*. 1999;88:22–26.
4. O'Neill-Murphy K, Liebman M, Barnsteiner JH. Fever education: does it reduce parent fever anxiety? *Pediatr Emerg Care*. 2000;17:47–51.
5. May A, Bauchner H. Fever phobia: the pediatrician's contribution. *Pediatrics*. 1992;90:851–854.
6. Cin S, Ulukol B. *Fever in Children*. 1st ed. Ankara: Oncu Limited; 1999.
7. Rosti L. Fever phobia. *Pediatrics*. 2002;109:555–556.
8. Kramer MS, Naimark L, Leduc DG. Parental fever phobia and its correlates. *Pediatrics*. 2005;75:1110–1113.
9. Huffman GB. Parental misconceptions about fever in children. *Am Fam Physician*. 2002;65:482–483.
10. Ulukol B, Kaksal Y, Cin S. Fever fear and knowledge levels of families, doctors, and medical students. *Health Community*. 1999;9:42–45.
11. Sarrell M, Kahan E. Impact of a single-session education program on parental knowledge of childhood fever. *Patient Educ Couns*. 2003;51:59–63.
12. Blumenthal I. What parents think of fever. *Fam Pract*. 1998;15:513–518.

13. Tastan Y, Yaris G, Alikasifoglu M, et al. Fever and treatment: what do mothers know and how do they deal? *Turk Pediatr Arch.* 1998;33:85–86.
14. Baysoy G, Aydogmus T, Akin A, et al. Mothers' knowledge, attitudes, and behaviors towards fever in their children. *Turk Pediatr Arch.* 2005;40:202–207.
15. Kurugol N, Tutuncuoglu S, Tekgul H. Family attitudes towards febrile convulsions. *Indian J Pediatr.* 1995;62:69–75.
16. Parmar RC, Sahu DR, Bavdekar SB. Knowledge, attitude, and practices of parents of children with febrile convulsions. *J Postgrad Med.* 2001;47:19–23.
17. Stagnara J, Vermont J, Durr F, et al. Parents' attitudes towards childhood fever. *Presse Med.* 2005;24:1129–1136.
18. Risser AL, Mazur LS. Use of folk remedies in a Hispanic population. *Arch Pediatr Adolesc Med.* 1995;149:978–981.
19. Osaka R, Nanakorn S. Health care of villagers in northeast Thailand. *Kurume Med J.* 1996;43:49–54.
20. Van der Stuyft P, Sorensen SC, Delgado E, et al. Health-seeking behavior for child illness in rural Guatemala. *Trop Med Int Health.* 1996;1:161–170.
21. Sunter AT, Agac R, Uysal S, et al. National Pediatric Congress Abstracts. Gaziantep: University of Gaziantep; 1995.
22. Kabakus N, Aygun D. Mothers' thoughts and behaviors about inflammatory diseases of their children. *Child Health Dis J.* 2000;4:356–362.