

## Research Article

# Perception of fever and management practices by parents of pediatric patients

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## ABSTRACT

**Background:** The febrile child is a common pediatric presentation in both primary care and the emergency department. An assessment of parents' perception to recognize fever in their child, as well as management practices was the focus of this study.

**Methods:** The study was done prospectively in which interviews were taken by researchers. One hundred and sixty four parents, whose children were less than 14 years old, had fever as one of the presenting complaints and admitted in pediatric department of Rama medical college & research center, Kanpur, were included in this study.

**Results:** Majority of the parents 114 (69.51%) managed the fever initially at home. Only a few parents (17.07%) correctly managed the fever by taking their children to hospital or to a qualified practitioner, rest of the parents primarily rely on local medical store or unqualified practitioner.

**Conclusion:** Parents need to be educated, when they consult health facilities especially during vaccination visits. Decreased appetite was the most common presenting complaint along with fever in children and it should be taken as a significant factor during health education of fever for early and appropriate consultation.

**Keywords:** Fever, Parental perception, Pediatric patients, Paracetamol

## INTRODUCTION

The febrile child is a common pediatric presentation in both primary care and the emergency department. Fever is said to occur in children when the body temperature is above 37°C (98.6°F). It occurs when various infectious and noninfectious processes interact with the host's defense mechanism.<sup>1</sup> In most children fever is either due to identifiable microbiologic agent or occurs during exposure to excessive environmental heat or during heavy physical work.<sup>2</sup> Fear and anxiety attached to fever by most mothers and some physicians are so much that it is labeled 'Fever Phobia'.<sup>3-6</sup> The quest to understand and enhance parents' management of fever continues into the 21<sup>st</sup> century as researchers continue their search to

understand parents' fever perception and management concerns thus improving parents' perception and management of childhood fever. As wide range of childhood illnesses are accompanied by fever, many of which are treated at home prior to presentation to hospital. An assessment of parents' perception to recognize fever in their child, as well as management practices was the focus of this study.

## METHODS

The study was done prospectively in which interviews were taken by researchers. One hundred and sixty four parents, whose children were less than 14 years old, had fever as one of the presenting complaints and admitted in

pediatric department of Rama medical college & research center, Kanpur between June and November, 2012. Preferentially better respondent in between the Parents were interviewed with a semi-structured questionnaire within 48 hours of admission. Information was taken regarding demographics of the parents and the children, parents' perception of fever and its management. Parents that did not give their consent were excluded. Responses of the parents were filled into the questionnaire by the Interviewers because some of the parents were illiterate and may not be able to read and fill the questionnaire appropriately.

## RESULTS

### *Demography of the parents and their Children*

In our study sixty five (39.63%) patients were coming within five kilometers of distance while 34 (20.73%) patients were coming from over a distance of 50 kilometers. Few (6.09%) of the patients were neonates, 28 (17.07%) were aged 1-12 months, 67 (40.85%) were 1-6 years and rest are above six years old. Majority (65.85%) of them were males. Onset of fever in the patients, before presenting to the hospital, ranged from within 24 hours (6.09%) to more than one month (4.38%) of fever. Most of the patients present between 24-72 hours (32.92%) and 3-7 days (45.73%) of fever, rest 11.58% children present between 7-30 days of fever.

Education level of the parents interviewed in our study was ranged from illiteracy 19 (11.58%) to high school pass was 34 (20.73%). Most of the parents 59 (35.97%) were educated up to or less than primary education. Only 11 (6.70%) parents were postgraduate. In our study Majority of the parents had two children (35.97%) or one child (32.92%). Only 16 (9.75%) had four or more than four children. Their occupation varied from agriculture (32.92%), semiskilled labors (26.21%) to petty shopkeeper (14.63%), only 4.38% parents were qualified professionals. At the time of admission temperature were normal in 22 (13.41%) patients, 96 (58.53%) patients had temperature below 104°F, while rest 46 (28.04%) had fever more than 104°F.

### *Parents' knowledge of fever*

In our study primarily fever was perceived by parents as hotness of the whole body of the patient, only few parents 24 (14.63%) use the thermometer for the detection of fever. Majority (75%) of them used electronic thermometer to detect fever, rest using mercury thermometer. They were able to correctly use it by cleaning and shaking well (when required). Parents were used the thermometer by inserting in armpit (80%) and rest in oral cavity. Contact period was also adequate in our study (3 to 5 minutes) as stated by parents. The main possible causes of fever perceived by parents in our study were infection by 67 (40.85%), changing weather by 59 (35.97%) and eating something wrong by 24 (14.63%)

parents. Presenting complaints associated with fever were highlighted in table 1. The pediatricians' diagnosis of the febrile condition was as shown in table 2.

**Table 1: Presenting complaints associated with fever.**

Presenting complaint	Frequency*(n=164)
Decreased appetite	118(71.95%)
Decreased activity	67(40.85%)
Vomiting	59(35.97%)
Irritable/cry	54(32.92%)
Body ache	46(28.04%)
Fast breathing	45(27.43%)
Loose stool	45(27.43%)
Shivering	43(26.21%)
Skin rash	19(11.58%)

\* Frequency indicates multiple responses

**Table 2: Pediatricians' presumed diagnosis in febrile children.**

Diagnosis	Frequency ( n=164)
Malaria	28(17.07%)
Uncomplicated malaria	23
Cerebral malaria	05
Viral encephalitis	26(15.85%)
Typhoid	22(13.41%)
Gastroenteritis	22(13.41%)
Pneumonia	21(12.80%)
ALRI	18(10.97%)
Meningitis	15(9.14%)
Malignancy	05(3.04%)
Septicemia	04(2.42%)
Heat pyrexia	02(1.21%)
Septic arthritis	01(0.60%)

### *Management of fever by the parents*

Majority of the parents 114 (69.51%) managed the fever initially at home. Only a few parents (17.07%) correctly managed the fever by taking their children to hospital or to a qualified practitioner, rest of the parents primarily rely on local medical store or unqualified practitioner.

All the 114 parents involved in self management of the fever were involved in self-medication (Table 3). Preferred supportive ways of fever management at home adopted by the parents include reducing clothing and exposure to air (40.85%), tepid sponging specially of forehead (71.95%) and fanning (9.4%). Harmful steps were avoiding regular bath and wrapping the child up with a blanket were practiced by 32.92 % and 14.63% respectively.

**Table 3: Home medications used in treating febrile children by their mothers.**

Type of drug used	Frequency* (n=114)
Antipyretics	114(100%)
Paracetamol	80
Ibuprofen with paracetamol	4
Anticold syrup with paracetamol	30
Antibiotics	30(26.31%)
Cefixime	19
Amoxiclav	5
Azithromycin	4
ofloxacin	2
Herbal medicine	14(12.28%)
O.R.S.	5(4.38%)

\* Frequency indicates multiple responses

According to majority of parents (62.80%) main source of information about fever were health education talks at clinics and hospitals during previous illnesses and vaccination. Some parents (28.04%) told about having help from elder family member and neighbours’.

## DISCUSSION

Subjective detection of fever by parents and carers has been relatively well studied and they suggest the sensitivity of palpation for the detection of fever ranges from 74% to 97%.<sup>7-10</sup> Our study also suggest that fever was primarily perceived by parents as hotness of the whole body of the patient and only few parents 24 (14.63%) use the thermometer for the detection of fever hence parental perception of fever should be taken seriously.

The beneficial properties of paracetamol as an antipyretic are well reported.<sup>11,12</sup> Singhi found that 57% of parents used paracetamol<sup>13</sup>, which is consistent (69.51%) with present study, but initial consultation rate was less (17.07%) than previous study where (63%) parents thought they should consult a doctor before starting treatment.<sup>13</sup> At the time of admission Temperature were normal in 22(13.41%) patients, alike Blumenthal<sup>14</sup> found the most parents did not know what a normal temperature

was, and believed that untreated fever caused brain damage. Some studies<sup>15,17</sup> highlighted the inability of parents to appropriately administer the correct dose of antipyretic. Kinmonth<sup>16</sup> showed that parents found advice to give paracetamol more acceptable than advice to sponge or unwrap their child, on the contrary in our study Preferred Supportive ways of fever management at home adopted by the parents include reducing clothing and exposure to air (40.85%), tepid sponging specially of forehead (71.95%) and fanning (9.4%) results which are similar to one Nigerian study.<sup>18</sup> Harmful steps were avoiding regular bath and wrapping the child up with a blanket were practiced by 32.92% and 14.63% respectively.

## CONCLUSION

There is a need to strengthen ongoing awareness on the use of paracetamol therapy amongst the parents as the choice of fever management in children. Parents need to be educated, when they consult health facilities especially during vaccination visits. Decreased appetite was the most common presenting complaint along with fever in children and it should be taken as a significant factor during health education of fever for early and appropriate consultation.

This study was done in admitted patients of a medical college; the situation may be very different in out patient department (O.P.D.) especially in a rural setting, where people are at disadvantages of good health care facilities, quality education and poverty. Similar population base study is advised so as to achieve generalized application of the observed interventions of parental fever management.

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