

URBAN PARENTS' UNDERSTANDING OF FEVER IN CHILDREN: ITS DANGERS, AND TREATMENT PRACTICES

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ABSTRACT

One hundred urban parents were interviewed for their knowledge, attitude and treatment practices towards fever in children. Only 55% parents were aware of the normal body temperature and 23% of the febrile temperature. A total of 58% considered fever as a disease, 91% felt that fever could go on rising if unchecked, and 60% believed that if it is brought down the child would be cured. As home treatment, paracetamol was used by 57% parents, and cold sponging by 29%. Sixty three per cent were of the opinion that a doctor must be consulted for any fever. The understanding of fever and home treatment practices were significantly better in highly educated parents. Above points must be considered while counselling parent of a febrile child, and for formulating health education package for the parents.

Key words: *Fever, Health education, Urban parents.*

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When counselling parents of a febrile child, it is essential that the physician is aware of the parent's concerns and apprehensions. Schmitt in a hospital based study had shown that American parents are greatly concerned about fever in their child, and view this as an event which may lead to serious complications(1). Our unpublished data, also suggest an inappropriate knowledge and unrealistic fears of fever among rural parents in Haryana. The purpose of this study was to systematically document and analyse understanding of fever, its dangers, and relevant treatment practices among urban parents. The information may be useful in planning appropriate health education material for the parents.

Material and Methods

One hundred parents who brought their young children (below 6 years of age) to the Pediatric Outpatient Service of Nehru Hospital, Chandigarh, comprised the study population. After verbal informed consent, they were interviewed for their understanding of fever and its harmful effects, and treatment practices. The interviewer (VS) used a proforma containing 15 simple, open ended questions, about parents understanding of normal temperatures, fever and its dangers, fever as the cause or effect of disease, and treatment practices and attitude. Parental occupation and educational status was also recorded.

Parental socio-economic status was graded as A, B and C, which corresponds respectively to Classes I and II, Classes III and IV and Classes V and VI of the classification used by the Indian Council of Medical Research (ICMR) studies on Growth and Development(2). Thus, Group

A included parents who had a graduate degree or a higher qualification and were working as managers, independent professionals or Government or Armed Forces officers. Group B included parents who had at least secondary level education and were employed as junior officers, school teachers, office workers, skilled workers, etc. Group C parents were uneducated or were educated at the most upto primary level and were employed as laborers, unskilled or semiskilled workers.

Simple frequency distribution of the parental response was obtained for various questions, for the total population and within different socio-economic groups. Chi-square test, if necessary with Yate's correction, was used for determination of statistical significance of the observed differences.

Results

The mother was the informant in 60%, father in 38%, and others in 2%; 28% belonged to SE Group A, 34% to Group B and 38% to Group C. The replies obtained from the two types of informants--mother and father were not significantly different. Therefore, for further analysis pooled data was used.

Normal body temperature and fever: As shown in Table I, only 55% of the parents were aware of the normal body temperature, 50% considered the fever when the child 'felt warm'. Only 23 and 26% parents, respectively, were aware that fever is a body temperature above 100°F, and high fever a temperature above 103°F. Fever was considered as 'a disease by itself' by 58% parents.

The parental awareness of body temperatures and understanding of fever was significantly better in the SE Group A, as compared to Groups B and C (Table I).

Ninety one per cent parents, distributed equally in all the three SE groups, thought that unless checked, fever could go on rising higher and higher, and 60% believed that the child may become completely alright, if the fever could be brought down.

Harmful effects: Seventy six per cent parents believed that high fever could harm the child. However, only 17 parents defined temperature limits of such a high fever, that can harm the child, as that exceeding 103°F. Parental concern for harmful effects of high fever included the child 'getting very sick' (29%), convulsions (15%), brain damage (16%) and death (5%). No significant difference was seen among the parents from the three SE groups on this count, except a significantly higher concern for brain damage among SE Group-A parents (35%) as compared to Group-B (3%) and C (13.2%) ($p < 0.05$).

Treatment at home: Antipyretic treatment for fever was resorted to by 57 parents; 61% (35/57) of them used it as and when required while others used it 2-4 times a day. In all the instances they used brands containing paracetamol. Ten out of 57 parents using the drug, thought that it was necessary to wake up a febrile child from sleep to give Antipyretic medicine; 8 of them were from SE Group-A. Cold sponging was practised by 29% of the parents only; they used it for higher fever (14%) or for fever above 102°F (15%). Parents from SE Group-A used antipyretic medicines and cold sponging more frequently than the other groups ($p < 0.05$, Table I).

Sixty three per cent of parents felt that a doctor must be consulted for any fever, while 30% thought that consultation should be sought if fever persists for 2 days or more. No significant difference in this attitude was seen in the three SE-groups.

TABLE I— Frequency Distribution of the Parents' with Regards to their Awareness and Understanding of Normal and Febrile Body Temperature within Different Socio-Economic Groups (All Values Expressed as Column Percentage)

Parents' response	Total (n=100)	SE-Groups		
		A (n=28)	B (n=34)	C (n=38)
Normal temperature is 98-99°F	55	26(92.9)*	15(44.1)	11(28.9)
<i>Fever is when</i>				
(i) Body feels warm	50	3(10.7)*	16(47.1)	31(81.6)
(ii) Temperature > 98°/99°F	27	15(53.6)*	7(20.6)	5(13.2)
(iii) Temperature > 100°F	23	10(35.7)	11(32.3)	2(5.3)
<i>High fever is when</i>				
(i) Body feels 'very warm'	48	1(3.6)*	19(55.9)	28(73.7)
(ii) Temperature > 103°F	26	19(67.9)*	7(20.6)	0(0.0)
(iii) Temperature > 102°F > 101°F / > 100°F	26	9(28.6)	8(23.5)	10(26.3)
<i>Fever is</i>				
(i) a symptom of disease	35	24(85.7)*	9(26.5)	2(5.3)
(ii) a disease by itself	58	3(10.7)*	22(64.7)	33(86.8)
(iii) both	7	1(3.6)	3(8.8)	3(7.9)
<i>Fever can rise</i>				
(i) without limit	91	25(89.2)	30(88.2)	36(94.7)
(ii) upto a limit	5	2(7.1)	3(8.8)	0(0.0)
(iii) don't know	4	1(3.6)	1(2.9)	2(5.3)
<i>Treatment at home:</i>				
(i) Indigenous drugs	3	—	3(8.8)	—
(ii) Antipyretic medicines	57	26(92.9)*	16(47.1)	15(39.5)
(iii) Cold sponging — yes	29	15(53.6)*	8(23.5)	6(15.8)

* $p < 0.05$, by χ^2 -test (with Yates correction) as compared to Groups B and C.

The parents had derived their knowledge about fever and its management from their own parents (50%), relatives (56%), doctors (19%), reading (20%), and friends (15%). Among the SE Group-A parents 61% (17/28) derived it from reading and 32% (9/28) from doctors; the corresponding frequency in the SE Group-B

was 15 and 3% and SE Group-C 13 and 5% ($p < 0.05$).

Discussion

The knowledge and treatment practices of urban parents toward fever in children were largely dependent on the socio-edu-

cational status of the parents. Twenty-eight highly educated parents in SE Group A were the best informed; 93% of them were aware of the normal and 89% of the febrile body temperatures; 86% considered fever as a symptom of an underlying disease, and 93% used antipyretics at home. However, certain fever related attitudes among the parents were unaffected by their SE class. These were : (i) an uniform belief that fever could rise higher and higher without a limit (91% parents); (ii) if the fever can be brought down the child would be alright (61% parents); and (iii) a doctor must be consulted for any fever in the child (63%).

Comparison of findings of this study with a previous study in rural mothers suggested significantly better knowledge among urban parents but similar fears and treatment attitude. More urban parents were aware of the normal (urban 55%, rural 4%) and febrile body temperature (urban 50%, rural 3%); were realistic about serious harmful effects such as brain damage/unconsciousness (urban 16%, rural 38%) and death (rural 42%, urban 5%), and used paracetamol at home twice as often as rural (urban 57%, rural 27%) ($p < 0.05$ for all the comparisons by χ^2 test). On the other hand, a similar number of urban (58%) as well as rural (61%) parents regarded fever as a disease by itself and thought that fever could go up relentlessly unless checked (urban 91%, rural 92%). Also, a similar proportion of parents felt that if the fever was brought down somehow their child would be cured (urban 60%, rural 76%). The need to consult a doctor for any fever was felt by 61% urban and 63% rural parents. These findings reflect prevailing over-anxiety and a psychological compulsion to seek treatment for their child's febrile illness among the parents of all socio-educational strata.

There is a need to educate them regarding fever so as to allay their excessive concerns.

Based on the above finding, and current scientific knowledge about fever(1,3-5) and accepted treatment practice(5-7), it is recommended that the following points should be highlighted while counselling the parents about fever:

1. Fever is a body temperature above 37.8°C (100°F) measured orally or 38°C when measured rectally.

2. Fever is not a disease by itself; it is due to some underlying illness.

3. Fever *per se* does not cause any harm unless the body temperature is 41°C. Generally the body keeps a check on the temperature and it seldom goes beyond 41°C.

4. *Antipyretics* are required only if the temperature exceeds 39°C (102°F) and/or if the child is uncomfortable. If the child is comfortable and sleeping he need not be awakened for antipyretic medication.

5. Cold sponging is necessary only if the temperature is 40°C or higher. It must cover the whole body. Ordinary tap water at a temperature between 30°-37°C is good enough for the purpose. Antipyretics must be used if possible, one hour before cold sponging to derive the best effect from the sponging.

The limits for antipyretics and cold sponging need to be lowered for those children who have experienced a febrile seizure in the past.

6. A doctor must be consulted for fever if--(i) the child is younger than 3 months; (ii) it persists for more than 2 days; (iii) the child appears sick or stops feeding; (iv) the temperature is >39°C; and (v) the child has other symptoms.

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