

BELIEFS AND PRACTICES IN CHILDHOOD FEVER MANagements AMONG PARENTS IN TANGAIL OF BANGLADESH

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Abstract

Fever is the most affected and common disease for a child which need to be taken care of seriously. To identify parent's knowledge, beliefs, misconceptions and management practices regarding childhood fever, a cross-sectional survey was conducted among parents in the Tangail region of Bangladesh using structured questionnaire consisted of both 'yes/no' responses and multiple-responses types (n=70). All parents believed that treatment of fever with medication could cause harmful effect. The harmful effects most frequently reported by parents were liver damage (17.14%), kidney damage (7.14%), overdose (4.28%) and maximum of them believed that treatment could also cause many others harmful effects (82.85%) which are not mentioned in the questionnaires. The study showed that maximum of the parents would recognize fever just by touching their child (75.71%). 84.28% of the parents believe natural treatment like cold sponging is more appropriate over medicine to treat child fever. The frequency of doses administered by parents were observed to be dependent on physician's instructions (41.42%), pharmacist's instructions (88.57%), the degree of elevated temperature (1.42%) and instructions given on the medication leaflet (4.28%). In cases of dosage forms, most of the parents prefer syrups (97.14%) than other dosage forms. 70% of the parents said that they use acetaminophen to treat fever of their children. Our study results demonstrated the strong need of increasing knowledge of fever management among the parents.

Key words: *Fever, parents, beliefs, practices, misconceptions, managements, antipyretics.*

Introduction

Misconceptions regarding management of child fever are common matter among parents. In many cases even this may cause 'fever phobia' to the parents which can only be eradicated with adequate training and educations to the parents (Karwowska *et al.*, 2002). Though fever is harmful or dangerous to children it may also come as self-limiting beneficial response against infection (Schmitt *et al.*, 1980, Kluger, 1992 and Fruthaler, 1985). But unrecognized fever caused by serious bacterial infection could create significant damages to the children. Healthcare sector like, hospital, clinic or NGO type organization may play a crucial role to develop knowledge of parents on this issue (Impicciatore *et al.*, 1997). They may provide training to the parents

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regarding use of thermometers to recognize fever caused by serious bacterial infections and subsequent management with or without medications (Taveras *et al.*, 2004).

Though several studies have been conducted on childhood fever management practices around the globe (Jalil *et al.*, 2009, Crocetti *et al.*, 2009 and Walsh *et al.*, 2008), till now to date no study has been reported on Bangladesh or especially in Tangail areas. Therefore, this study was designed to find out the beliefs, practices and level of knowledge of parents regarding management of child fevers.

Material and Methods

Study Design and Area. An interview based survey was designed following the published method (Athamneh *et al.* 2014, Kelly *et al.*, 2016, de Bont *et al.*, 2014 and Sa'ed *et al.*, 2013) with a convenient sample collected from Tangail. A total of 75 parents (22 to 54 years old) having at least one child aged zero to six years were interviewed. Sampling was done from both the rural and suburban areas of Tangail, Bangladesh. Before interviewing, the objective, procedures, confidential matters and future benefits of our study were detained properly to the respondents.

Data collection procedure. Data collection was done by a simple questionnaire. Out of 25 respondents, 70 were taken for the final analysis based on standard practices.

Statistical analysis. MS Excel was used for the statistical analysis. The percentages were found for each response of participants to a specific question. Final results were presented as absolute numbers and percentages.

Results and Discussion

Seventy completed questionnaires have been evaluated with diverse socio-demographic characteristics presented in Table 1. The mean age of the parents was 33.4 ± 7.6 years and they had children aged less than six years. Three-quarter of the parents were the mothers (75.71%). Most of the participants were from village (62.85%) while rests of the remaining were from the sub-urban areas. The education level of both fathers and mothers varied starting from high school (4.28%) to graduate degree (2.85%) respectively. Most of the fathers (40%) and mothers (37.14%) had education from colleges. The male participants were more educated with high school degree, graduate degree, and post-graduate of 14.28%, 35.71%, and 5.71% respectively. The female participants had high school degree, and graduate degree for 27.14%, and 24.28% respectively. There were no unemployed parents (both mother and father) in this survey. 37.14% parents (both father and mother) were employed while 87.14% parents had only father or mother is employed. 51.42% parents were having the average (15000–40000 BDT) income level and 35.71% mothers were from the high (40000–80000 BDT) income level of family whereas, 10%

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and 2.85% parents were having low (less than 15000 BDT) and very high (more than 80000 BDT) income levels.

Table 1. Socio-demographic data of parents participating in the study (N = 70).

Variable	Item	Frequency (%) N = 70
Gender	Male	17 (24.28)
	Female	53 (75.71)
Number of children	1 child	26(37.14)
	2 children	33(47.14)
	3 children	9(12.85)
	4 children	2(2.85)
Father's educational level	Less than high school	3 (4.28)
	High school degree	10 (14.28)
	College	28 (40)
	Graduate degree	25(35.71)
	Above	4 (5.71)
Mother's educational level	Less than high school	6(8.57)
	High school degree	19 (27.14)
	College	26(37.14)
	Graduate degree	17 (24.28)
	Above	2(2.85)
Employment status	Both works	26 (37.14)
	One of them works	61 (87.14)
	Neither works	0 (0.00)
Income level of the family	Low (less than 15000 BDT)	7 (10)
	Average (15000–40000 BDT)	36(51.42)
	High (40000–80000 BDT)	25(35.71)
	Very high (more than 80000 BDT)	2(2.85)
Residency	City	26 (37.14)
	Rural	44(62.85)

Table 2 represents the data of using different methods for child fever recognition and the remedies used to manage feverish children other than drug. Among seventy participants none of them said that they were accustomed to recognizing child fever by only measuring temperature. Most of the parents (75.71%) were reported to use touching method and rest of them (28.57%) were accustomed to using both touching and measuring method for fever recognition. Among other remedies used in addition to the drug, cold sponging and water pouring were more popular with the value of 84.28% and 68.57% respectively. 4.28% parents used drugs only while none of the parents used ice pack as other remedies.

Table 2. Parents' methods for managing childhood fever (N = 70).

Variable	Frequency (%)
Fever recognition	
Touching child	53(75.71)
Measuring temperature	0(0.00)
Touching and measuring	20(28.57)
Other remedies used in addition to drugs	
Cold sponging	59(84.28)
Ice pack	0(0.00)
Water pouring	48(68.57)
I use drugs only	3(4.28)

Beliefs and practices regarding management of childhood fever as shown in Table 3, we have presented most common beliefs and practices affecting the use of antipyretic for managing childhood fever as reported by parents. When asked about the drugs generally used in child fever, 100% of parents reported using acetaminophen while 2.85% reported using ibuprofen, 1.42% of parents reported using antibiotics, 1.42% answered using aspirin, and 5.71% parents answered using homeopathic methods. Maximum daily dose frequencies used by the parents were reported as 2 times, 3 times, and 4 times by 1.42%, 97.14%, and 2.85% parents respectively. Most of the parents (97.17%) preferred to use syrups and 7.14% preferred using both syrups and suppositories. A large number of participants (82.85%) didn't know about the specific harmful outcomes associated with antipyretic use and answered "others". 17.14%, 4.28%, 7.14% parents reported that they believe liver damage, overdose, kidney damage respectively are the outcomes of the harmful effects of antipyretic medications. No parent believed that effects on stomach, immunity suppression, and allergic reactions are the harmful effects of antipyretic drugs.

5.71% parents answered that they used previous advice of doctor for reducing fever where 90% parents decided consulting to the pharmacist, 1.42% parents decided through consulting with other persons, 38.57% parents practiced self-medication and 42.85% parents were accustomed to calling the doctor. None of the parents practiced medication based on information from media.

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During using antipyretic drug, parents considered various sources including leaflet, physician's instructions, pharmacist's instructions, and severity of accompanying disease symptoms.

Table 3. Beliefs and practices influencing antipyretic use for managing childhood fever as reported by parents (N = 70).

Variable	Frequency (%)
Daily maximum frequency of antipyretic usage	
1	0 (0.00)
2	1 (1.42)
3	68 (97.14)
4	2 (2.85)
5	0 (0.00)
6	0 (0.00)
Preferred antipyretics pharmaceutical dosage form	
Syrups	68 (97.14)
Suppositories	0 (0.00)
Injections	0 (0.00)
Syrups and suppositories combined	5 (7.14)
Beliefs about the harmful outcomes associated with antipyretic use	
Liver damage	12(17.14)
Overdose	3 (4.28)
Kidney damage	5 (7.14)
Effect on stomach	0 (0.00)
Immunity suppression	0 (0.00)
Allergic reactions	0 (0.00)
Other	58 (82.85)
Drug administered for Fever management	
Acetaminophen	70(100.00)
Ibuprofen	2(2.85)
Aspirin	1(1.42)
Antibiotics	1(1.42)
Homeopathic methods	4(5.71)
Who decides which drug would be right for fever lowering?	
Previous advice from the Doctor	4(5.71)
Consulting the pharmacist	63(90.00)
Consulting other persons	1(1.42)

Information gathered by media	0(0.00)
I decide by myself what I think is right	27(38.57)
I call my doctor	30(42.85)
Other	0(0.00)
To give a fever lowering drug, you consider:	
Drug instructions on leaflet	3(4.28)
Physician's instructions	29(41.42)
Pharmacist's instructions	62(88.57)
Severity of accompanying disease symptoms	2(2.85)
Child's age	1 (1.42)
Child's weight	1(1.42)
Degree of temperature elevation	1(1.42)
Child's inactivity	0(0.00)
Drug instructions on leaflet + Child's weight	0(0.00)

After analyzing 70 responds, five themes which have been emerged from the data are: assessment and management of child fever, parental knowledge and beliefs regarding fever, sources of knowledge, pharmaceutical products, and initiatives taken during fever. However, there was a desire to get more accessible and consistent information when their children had experienced febrile illness. Moreover, parents displayed reluctance to use the medication of rectal dosage form rather liked to use oral liquid dosage forms. We have observed misconception regarding doses frequency, adverse effects of antipyretics use, consultation of child fever and routes of drug administration (Table 3).

There were some limitations to this study that deserve further discussion. Our results may not be generalized to all Bangladeshi population. Furthermore, data regarding temperature range of fevers were missing from the study which should have included. Our sample size were also limited to 70 as we only interviewed parents who had children within age range of 1 to 6 years.

Conclusion

This study revealed that the suburban & rural parents had various misconceptions about child fever and associated incorrect practices. Parents knew that fever may cause serious consequences to the child health but they are unclear about those consequences. Another serious malpractice was observed in case of consultation of administering drugs to the child, they preferred pharmacists who sell drugs in the local shops rather consulting with doctors. Parents urgently need to be educated about child fever and reliable information sources need to be made available to the parents. Replication of this study in other districts of Bangladesh is recommended to determine the extent of parental knowledge of child fever, misconceptions and mismanagements in different cultures.

References

- Athamneh, L., El-Mughrabi, M., Athamneh, M., Essien E.J. and Abughosh, S. (2014) Parents' Knowledge, attitudes and beliefs of Childhood fever management in Jordan: a Cross-Sectional Study. *Journal of Applied Research on Children: Informing Policy for Children at Risk*. 5(1): 1-30.
- Crocetti, M., Sabath, B., Cranmer, L., Gubser, S. and Dooley, D. (2009) Knowledge and management of fever among Latino parents. *Clin. Pediatr.(Phila)*. 48(2): 183-189.
- de Bont, E.G., Francis, N.A., Dinant, G.J. and Cals, J.W. (2014) Parents' knowledge, attitudes, and practice in childhood fever: an internet-based survey. *Br. J. Gen. Pract.* 64(618): 10-16.
- Fruthaler, G.J. (1985) Fever in children: phobia vs facts. *Hosp. Pract.* 20(11A): 49-53.
- Impicciatore, P., Pandolfini, C., Casella, N. and Bonati, M. (1997) Reliability of health information for the public on the World Wide Web: systematic survey of advice on managing fever in children at home. *B.M. J.* 314(7098): 1875.
- Jalil, H. Jumah, N.A. and Al-Baghli, A.A. (2007) Mothers' knowledge, fears and self management of fever: A cross sectional study from the capital governorate in kuwait. *Kwt Med. J.* 39(4): 349-354.
- Karwowska, A., Nijssen-Jordan, C., Johnson, D. and Davies, H.D. (2002) Parental and health care provider understanding of childhood fever: a Canadian perspective. *Canadian Journal of Emergency Medicine*. 4(6): 394-400.
- Kelly, M., Sahm, L.J., Shiely, F., O'Sullivan, R., McGillicuddy, A. and McCarthy, S. (2016) Parental knowledge, attitudes and beliefs regarding fever in children: an interview study. *BMC public health*. 16(1): 540.
- Kluger, M.J. (1992) Fever revisited. *Pediatrics*. 90: 846-580.
- Sa'ed, H.Z., Al-Jabi, S.W., Sweileh, W.M., Nabulsi, M.M., Tubaila, M.F., Awang, R. and Sawalha, A.F. (2013) Beliefs and practices regarding childhood fever among parents: across-sectional study from Palestine. *BMC pediatrics*. 13(1): 66.
- Schmitt, B.D. (1980) Fever phobia; misconceptions of parents about fevers. *Am.J. Dis. Child*. 134: 176-181.
- Taveras, E.M., Dourousseau, S. and Flores, G. (2004) Parents' beliefs and practices regarding childhood fever: a study of a multiethnic and socioeconomically diverse sample of parents. *Pediatric emergency care*. 20(9): 579-587.
- Walsh, A. Edwards, H. and Fraser, J. (2008) Parents' childhood fever management: Community survey and instrument development. *J. Adv. Nurs*. 63(4): 376-388.
- Wilson, K., Busse, J.W., Gilchrist, A., Vohra, S., Boon, H. and Mills, E. (2005) Characteristics of pediatric and adolescent patients attending a naturopathic college clinic in Canada. *Pediatrics*. 115(3): 338-343.