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Signa Vitae

ORIGINAL RESEARCH

Evaluation of Knowledge, Attitudes and Practices of Parents Presenting to a Hospital Emergency Department with a Complaint of Fever in a Child

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Abstract

Objective: This study aimed to investigate the knowledge, attitudes and practices of parents presenting to a hospital emergency department with a complaint of fever in a child. **Methods:** A total of 504 pediatric admissions for fever were included in this study. A 21-item questionnaire form was applied to caregivers via face-to-face interview method. **Results:** Overall, 37.1% of the mothers were primary school graduates and 81.5% were housewives. Only 11.7% of parents reported that they use a thermometer in measuring fever, 41.3% reported that they check fever with less than 30-min intervals and 85.7% stated the risk of seizure as the most fearful condition related to high fever. Mothers with higher vs. lower educational level were more likely to use thermometer in fever measurement ($p = 0.046$), use a 30-min interval between subsequent fever measurements ($p = 0.041$), and use antipyretic drugs ($p = 0.045$) rather than warm shower ($p = 0.027$) for the management of fever. Fathers with higher vs. lower educational level were more likely to accompany their wife in hospital admission ($p = 0.008$), to use thermometer in fever measurement ($p = 0.045$), use a 30-min interval between subsequent fever measurements ($p = 0.002$) and use antipyretic drugs ($p < 0.001$) rather than warm shower ($p = 0.003$) or emergency admission ($p = 0.003$) in the management of fever. **Conclusion:** In conclusion, our findings indicate a need for improved practice among caregivers regarding the approach to febrile child in terms of objective measurement and better management of high fever. Given the direct association of educational attainment with caregivers' approach to febrile child, healthcare professionals should be able to carry out more effective training activities to improve the approach of parents to a febrile child to prevent inappropriate practices by reducing the unnecessary fear and to ensure better practice regarding identification, interpretation and management of fever in a child.

Keywords

Febrile child, Emergency admission, Parents, Knowledge, Practice

1. Introduction

Fever is one of the most common complaints of childhood that constitutes an important part of emergency applications [1–3]. However, it is a clinical condition that is frequently misinterpreted by families and is often not approached properly [4]. Sometimes even normal body temperature can be considered as fever by families leading to implementation of inappropriate practice patterns [5–8]. Informing parents about the definition, appropriate measurement and treatment of fever is considered to relieve anxiety among parents and to reduce unnecessary applications to the emergency room [9].

Mothers usually take care of the febrile child and in-

TABLE 1. Sociodemographic characteristics of parents.

General features	n	(%)
Mother's educational status		
Illiterate	57	11.3
Literate	54	10.7
Primary education	187	37.1
Secondary education	147	29.2
Graduated from a University	59	11.7
Father's educational status		
Illiterate	24	4.8
Literate	46	9.1
Primary education	158	31.3
Secondary education	191	37.9
Graduated from a University	85	16.9
Mother's Profession		
Housewife	411	81.5
Worker	24	4.8
Officer	40	7.9
Self-employment	18	3.6
Private sector	9	1.8
Retired	2	0.4
Father's Profession		
Unemployed	76	15.1
Worker	176	34.9
Officer	91	18.1
Self-employment	129	25.6
Private sector	25	5
Retired	7	1.4

tervene with fever in the first place [10]. However, low maternal educational level, high number of children in the family, disadvantageous conditions of household environment, insufficient knowledge of mothers about approaching to a febrile child and lack of reliable fever measurement method at home have been considered amongst the main factors related to poor management of a febrile child [11–13].

In addition to implementation of planned and systematic health trainings, nurses and doctors have important roles in raising awareness among families and encouraging the right health behavior in approaching the febrile child with use of appropriate measurement methods and accurate interpretation [14]. Accordingly, determining the current knowledge and practices of the families about their approach to a febrile child seems to play a key role in identifying needs and planning health education for them.

This study was therefore designed to evaluate the fever-related knowledge, attitude and practices among parents presenting to a hospital emergency department with a complaint of fever in a child.

2. Materials and methods

2.1 Study population

A total of 504 pediatric (aged 0-12 years) emergency admissions due to the complaint of fever for any reason and their parents were included on a voluntary basis in this descriptive questionnaire-based study conducted between November-December 2019.

The questionnaire form elicited 21 items including 11 questions about socio-demographic characteristics and 10 questions related to fever-related knowledge, attitudes and practices of parents. The questionnaire form was prepared in Turkish based on expert opinion and applied to the parents by the same researcher using a face-to-face interview technique.

Written informed consent was obtained from each participant who agreed to participate in the study and the study was approved by the Ethics Committee of Harran University Faculty of Medicine (Date of approval: 18/11/2019, Protocol No: 19/05/01)

2.2 Statistical analysis

Statistical analysis was made using IBM SPSS Statistics for Windows, version 23.0 (IBM Corp., Armonk, NY). Chi-square ($\chi 2$) test was used for the comparison of categorical data. Data were expressed as mean $\pm$ standard deviation (SD), median (minimum-maximum) and percent (%) where appropriate. $p < 0.05$ was considered statistically significant.

3. Results

Overall, 277 of 504 (55.0%) pediatric patients were female and the mean age was 5.4 ± 4.2 years (ranged 0 to 12 years), while the majority (82.4%) of children had at least one sibling. The hospital admissions were made by the mother in 44.6% of cases and by both parents in 33.5% of cases. The mean $\pm$ SD maternal and paternal age was 31.2 ± 7.2 years and 36.1 ± 8.1 years, respectively (Table 1).

Overall, 37.1% of the mothers were primary school graduates and 81.5% were housewives, while 37.9% of the fathers were secondary school graduates and 34.9% of them were workers (Table 1).

Overall, 283 (56.2%) parents reported that they have noticed the fever by touching, while 11.7% reported to use thermometer-based measurement with and 244 (48.4%) stated that they repeat the measurement at 30-min intervals. The time to hospital admission was within the first 6 hours after noticing fever in 64.3% of cases. The most frightening situation related to fever was reported to be the risk of seizure by 432 (85.7%) parents, while 398(78.9%) parents reported that they first take of the child's clothes and 371(73.6%) parents reported that they use antipyretics (paracetamol-based drugs in 60.3%) after realization of the high fever (Table 2, Table 3).

TABLE 2. Parents' knowledge and practices about fever.

Caregiver who brought the child to the hospital	**n**	**%**
Mother	225	44.6
Father	86	17.1
Both parents	169	33.5
Other	24	4.8
How did you first notice that your child had a fever before applying to the hospital?		
By touching	283	56.2
From appearance (redness of the face or ear, restlessness, etc.)	162	32.1
With thermometer	59	11.7
How often did you take a temperature measurement?		
Less than 30 minutes	208	41.3
30 minutes apart	244	48.4
1 hour apart	49	9.7
More than 1 hour apart	3	0.6
How long after you realized the height of the fever you have admitted to the hospital?	n	%
Within the first 6 hours	324	64.3
Within the first 6-12 hours	101	20
Within the first 12-24 hours	47	9.3
Within 24-48 hours	20	4
Within 48-72 hours	7	1.4
After 72 hours	5	1
What is the most frightening situation for you as a parent regarding the high fever?	n	%
The risk of seizure	432	85.7
The possibility of serious illness	45	8.9
Brain damage	18	3.6
Death	9	1.8
Does the patient have a previously known disease?	n	%
No	487	96.6
Yes	17	3.4
What did you do first when you notice the high fever?		
Take off his/her clothes	398	78.9
Give him/her a warm shower	341	67.7
Give him/her antipyretic drugs	371	73.6
Wipe his/her body with vinegar water	29	5.7
Wipe his/her body with ice water	18	3.6
Wipe his/her body with alcohol or cologne	6	1.2
Give his/her antibiotics	25	4.9
Only observe the child without doing anything	4	0.8
Apply to the hospital immediately	129	25.6

Mothers with higher educational level as compared to those with lower educational level were more likely to use thermometer in understanding that the child had a fever ($p = 0.046$), use a 30-min interval between subsequent measurements ($p = 0.041$), and use antipyretic drugs ($p = 0.045$) rather than warm shower ($p = 0.027$) for the management of fever (Table 4).

Fathers with higher educational level as compared to those with lower educational level were more likely to accompany their wife in hospital admission ($p = 0.008$), to use thermometer in understanding that the child had a fever ($p = 0.045$), use a 30-min interval between subsequent

TABLE 3. Medicines used by parents as antipyretics.

Medicines	n	%
Paracetamol	223	60.2
Ibuprofen	122	32.9
Paracetamol + chlorpheniramine maleate	9	2.5
Paracetamol + chlorpheniramine maleate + pseudoephedrine hydrochloride	11	2.9
Ibuprofen + chlorpheniramine maleate	4	1
Ibuprofen + chlorpheniramine maleate + pseudoephedrine hydrochloride	2	0.5

TABLE 4. Mothers' knowledge and practices about fever according to educational status.

		Mothers' educational level								
		Illiterate/ literate		Primary education		Secondary education		Higher education		p value
		n	%	n	%	n	%	n	%	
Caregiver who brought the child to the hospital										
Mother		55	49.5	78	41.7	61	41.5	31	52.5	0.271
Father		24	21.6	27	14.4	27	18.4	8	13.6	
Both parents		27	24.3	67	35.8	55	37.4	20	33.9	
Other		5	4.5	15	8	4	2.7	0	0	
How did you first notice that your child had a fever before applying to the hospital?										
By touching		76	68.5	102	54.5	76	51.7	29	49.2	**0.046**
From appearance (redness of the face or ear, restlessness)		26	23.4	67	35.8	47	32	22	37.3	
With thermometer		9	8.1	18	9.6	24	16.3	8	13.6	
How often did you take a temperature measurement?										
Less than 30 minutes		51	45.9	88	47.1	53	36.1	16	27.1	**0.041**
30 minutes apart		45	40.5	85	45.5	79	53.7	35	59.3	
≥1 hour apart		15	13.5	14	7.5	15	10.2	8	13.6	
How long after you realized the height of the fever you have admitted to hospital?										
Within the first 6 hours		70	63.1	128	68.4	92	62.6	34	57.6	0.356
Within the first 12 hours		19	17.1	34	18.2	33	22.4	15	25.4	
Within the first 24 hours		13	11.7	18	9.6	9	6.1	7	11.9	
After 24 hours		9	8.1	7	3.7	13	8.8	3	5.1	
What did you do first when you notice the high fever?										
Take off his/her clothes	No	23	20.7	40	21.4	29	19.7	14	23.7	0.944
	Yes	88	79.3	147	78.6	118	80.3	45	76.3	
Give him/her a warm shower	No	46	41.4	52	27.8	41	27.9	24	40.7	**0.027**
	Yes	65	58.6	135	72.2	106	72.1	35	59.3	
Give him/her antipyretic drugs	No	40	36	49	26.2	32	21.8	12	20.3	**0.045**
	Yes	71	64	138	73.8	115	78.2	47	79.7	
Apply to the hospital immediately	No	97	87.4	159	85	122	83	51	86.4	0.787
	Yes	14	12.6	28	15	25	17	8	13.6	

measurements ($p = 0.002$), and use antipyretic drugs ($p < 0.001$) rather than warm shower ($p = 0.003$) or direct hospital admission ($p = 0.003$) (Table 5).

4. Discussion

Fever is very common in infancy and childhood, especially in the first three years, and high fever may cause undesirable conditions in the child during this period [15–17].

TABLE 5. Fathers' knowledge and practices about fever according to educational status.

		Fathers' educational level								
		Illiterate/ literate		Primary education		Secondary education		Higher education		p value
		n	%	n	%	n	%	n	%	
Caregiver who brought the child to the hospital										
Mother		4	50	29	46.8	83	52.5	74	38.7	**0.008**
Father		2	25	18	29	14	8.9	35	18.3	
Both parents		2	25	15	24.2	49	31	72	37.7	
Other		0	0	0	0	12	7.6	10	5.2	
How did you first notice that your child had a fever before applying to the hospital?										
By touching		50	71.4	93	58.9	98	51.3	42	49.4	**0.045**
From appearance (redness of the face or ear, restlessness)		18	25.7	46	29.1	68	35.6	30	35.3	
With thermometer		2	2.9	19	12	25	13.1	13	15.3	
How often did you take a temperature measurement?										
Less than 30 minutes		45	64.3	57	36.1	75	39.3	31	36.5	**0.002**
30 minutes apart		18	25.7	87	55.1	97	50.8	42	49.4	
≥1 hour apart		7	10	14	8.9	19	9.9	12	14.1	
How long after you realized the height of the fever you have admitted to hospital?										
Within the first 6 hours		42	60	103	65.2	126	66	53	62.4	0.971
Within the first 12 hours		15	21.4	32	20.3	34	17.8	20	23.5	
Within the first 24 hours		9	12.9	13	8.2	18	9.4	7	8.2	
After 24 hours		4	5.7	10	6.3	13	6.8	5	5.9	
What did you do first when you notice the high fever?										
Take off his/her clothes	No	19	27.1	29	18.4	40	20.9	18	21.2	0.521
	Yes	51	72.9	129	81.6	151	79.1	67	78.8	
Give him/her a warm shower	No	33	47.1	42	26.6	53	27.7	35	41.2	**0.003**
	Yes	37	52.9	116	73.4	138	72.3	50	58.8	
Give him/her antipyretic drugs	No	35	50	26	16.5	52	27.2	20	23.5	**0.0001**
	Yes	35	50	132	83.5	139	72.8	65	76.5	
Apply to the hospital immediately	No	42	60	130	82.3	144	75.4	59	69.4	**0.003**
	Yes	28	40	28	17.7	47	24.6	26	30.6	

Our findings related to sociodemographic characteristics of mothers indicate majority of them to be housewives along with their lower educational attainment, supporting the data from past studies in mothers of febrile children with hospital admission in Turkey [12, 18]. These findings are consistent with the fact that mothers are usually the primary caretakers of children in Turkey [19] and emphasize the likelihood of unemployed mothers to take more responsibility than fathers in child care in routine daily care as well as in case of illness. However, given that lower educational attainment was associated with risk of poor practice in approaching to the febrile child, such as recognition of fever by touching rather than by objective measurement methods, our findings emphasize a need for education of parents regarding correct approach to febrile child. In fact, past studies also reported that mothers mostly used ineffective methods for measuring fever such as by touching (ranged, 65.9 to 82.2%) rather than using thermometers (ranged 16.1 to 20.1%9) [8, 20]. This seems notable given that the correct follow-up of the fever guides the physicians' treatment decision and planning in accordance with the course of the disease.

Moreover, past studies from Turkey indicated regional differences in availability of a thermometer at home as well as knowledge on reading a thermometer, which are considered to affect the choice of appropriate fever recognition method in addition to the educational factors [12, 21, 22]. In studies from Western Turkey, authors noted higher rate of fever measurement with thermometer at home by mothers in relation to their higher education level [12, 18], while in a study from Southeastern Turkey, only half of mothers admitted to hospital with a febrile child reported

presence of thermometer at home [21]. The current study was conducted in Sanliurfa province which is located in Southeastern Turkey and considered to be an undeveloped region of the country with 63.6% of the population living in shantytowns in the city outskirts and in poor socioeconomic and environmental conditions [23]. Hence, the socioeconomic background of parents recruited in the current study seems to be the major factor underlying their poor practice (i.e. thermometer use only by 11.7%, subsequent measurements with < 30 min interval) regarding approach to a febrile child.

Fever in a child can become an important cause of anxiety for caregivers, and unnecessary fears can cause erroneous practices [24–26]. Various studies have shown that anxiety is reflected in mothers' attitudes and behaviors during fever [25, 27–30]. In a study, mothers of a febrile children was reported to measure their children's body temperature very frequently, to stay awake all night to monitor the body temperature, and to wake their children frequently to measure their body temperature or give them antipyretic drugs [12]. In a past study on attitudes of parents with a febrile child in an emergency setting, it was reported that home treatment of fever can be worrisome, with too-frequent dosing and inappropriate topical treatments, while presence of both parents in the emergency department was reported to be associated with lower levels of worry [6]. Accordingly, only one third of presentations to our hospital emergency department with a complaint of fever in a child were performed by both parents, and father with higher educational attainment were more likely to accompany their wives in hospital admission.

The incidence of febrile seizures in children is approximately 4-5% and it has a good prognosis with no permanent damage, whereas it is considered important in terms of associated risk of recurrence and development of afebrile seizures [31, 32]. Parents with a child experiencing a febrile seizure for the first time are considered to experience considerable fear and anxiety due to their lack of comprehension about the event and how to act during the seizure [8, 33]. Notably, the risk of seizure was considered as the most frightening situation related to fever by majority of the parents in the current study, similarly in high and low educational level groups, supporting that fever phobia remains a common condition among caregivers, regardless of the educational attainment [19].

Bathing with warm water, applying warm compresses and using antipyretic drugs have been reported as the most frequent measures to reduce fever in children [24, 34, 35]. Peripheral cooling was consistently reported to be the most common method used by parents to reduce fever in a febrile child as followed by the use of antipyretic agents in our country [10, 12, 20, 25, 36]. Nonetheless, it should be noted that while warm water has been used by most of mothers as an antipyretic method, the high prevalence of wrong practices has also been emphasized such as applying compresses with alcohol and cold water, and frequent use of high dose antipyretic drugs [34].

Certain limitations to this study should be considered. First, due to single-center study design, the study findings cannot be generalized and thus may not reflect the attitudes and practices of the general population. Second, the questionnaire is developed by the researchers and not a standardized validated questionnaire. Third, lack of data on psychometric assessments such as State-Trait Anxiety Inventory is another limitation which otherwise would extend the knowledge achieved on concerns of families about the fever in the current study.

5. Conclusion

In conclusion, our findings indicate a need for improved practice among caregivers regarding the approach to febrile child in terms of objective measurement and better management of high fever. In addition, our findings also emphasize high prevalence of fear phobia among parents that may adversely affect their approach towards the febrile child, leading to unnecessary emergency admission or inappropriate use of antipyretics. Given the direct association of educational attainment with caregivers' approach to febrile child, healthcare professionals should be able to carry out more effective training activities to improve the approach of parents to a febrile child to prevent inappropriate practices by reducing the unnecessary fear and to ensure better practice regarding identification, interpretation and management of fever in a child.

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CONFLICT OF INTEREST

Authors declare no financial or commercial conflict of interest.

ETHICAL STATEMENT

Written informed consent was obtained from each participant who agreed to participate in the study The study was approved by the Ethics Committee of Harran University Faculty of Medicine (Date of approval: 18/11/2019, Protocol No: 19/05/01).

REFERENCES

[1] Özkan H, Öztürk S. The applications made by mothers applying to two family health centres in Eastern Anatolia region when their children had fever. Journal of Dr. Behçet Uz Children's Hospital. 2013;3:121-126.

[2] Araz NÇ. Parents' approach to fever in childhood: Knowledge, attitudes and applications. Turkish Journal of Pediatric Disease. 2013;1:27-32.

[3] Luszczak M. Evaluation and management of ınfants and young children with fewer. American Family Physican. 2001;64:1219-1226.
[4] Saz EU, Koturoğlu G, Duyu M, et al. Fears of fever and fever management in Turkish families. J Pediatr Inf. 2009;3:161-164.
[5] Işık Esenay F, İşler A, Kurugöl Z, et al. Mothers' approach to feverish child and fever phobia. Turk Arch Ped. 2007;42:57-60.
[6] Betz MG, Grunfeld AF. "Fever phobia" in the emergency department: A survey of childrens' caregivers. Eur J Emerg Med. 2006;13:129-33.
[7] McErlean M, Bartfield J, Kennedy D, et al. Home antypiretic use in children brought to emergency department. Ped Emerg Care. 2001;17: 249-51.
[8] Demir M, Bayat M. 0-5 Age Group Infants Brought in to Tokat Karşıyaka Maternity and Infant Hospital Emergency Service Owing to High Temperature Ailments and Their Mothers' Attitude and Knowledge About High Temperature. Journal of Health Sciences (Nursing Special Issue). 2005;14:22-9.
[9] Kara B. Review of information about fever in childhood. Sted. 2003;12:10-4.
[10] Dalkıran YA. Knowledge levels of mothers related to fever and febrile seizures. Family Medicine Specialization Thesis, 2007, Istanbul.
[11] Özer A, Darendeli R, Ekerbiçer HÇ. Knowledge and behavior of mothers about body temperatures of their children and associated factors. Turkish Journal of Public Health. 2009;7:45-52.
[12] Halıcıoğlu O, Koc F, Akman AS, et al. In feverish children, mothers' knowledge and home management about fever and its relationship with sociodemographical characteristics. Journal of Dr. Behçet Uz Children's Hospital. 2011;1:13-19.
[13] Karwowska A, Nijssen-Jordan C, Johnson D, et al. Parental and health care provider understanding of childhood fever: a Canadian perspective. CJEM. 2002;4:394-400.
[14] Baysoy G, Aydoğmuş T, Akın D, et al. Knowledge, attitudes and behaviors of mothers about fever in their children. Turk Pediatri Ars. 2005;40:282-287.
[15] Betz MG, Grunfeld AF. "Fever phobia" in the emergency department: A survey of childrens'caregivers. EUR J EMERG MED. 2006;13:129-133.
[16] Luszczak M. Evaluation and management of infants and young children with fever. Am Fam Physician. 2001;64: 1219-1226.
[17] Yaman Ş. High fever and its treatment in children. Medical Network Actuel Medicine. 2000;8:40-42.
[18] Celasin NŞ, Ergin D, Atman Ü. Attitudes and Knowledge Concerning High Temperature of Mothers Have 0-6 Age Group Infants Who Are Hospitalized Due To High Temperature Ailments. Fırat University Medical Journal of Health Sciences. 2008;22:315-322.
[19] Gunduz S, Usak E, Koksal T, et al. Why Fever Phobia Is Still Common? Iran Red Crescent Med J. 2016;18:e23827.
[20] Yiğit R, Esenay F, Şen E, et al. Mothers' Information and Applications About High Fever. Journal of Anatolia Nursing and Health Sciences. 2003; 6:48-56.
[21] Araz NC. Parents' Approach to Fever in Childhood: Knowledge, Attitudes and Applications. Turkısh Journal of pediatric disases. 2013; 1:27-32.
[22] Yaramış N, Arıtan S, Işık H ve ark. Applications of mothers with children of 0-6 age group related to high fever. 29th UMEMPS Congress Union of Middle Eastern and Mediterranean Pediatric Societies, 49th Turkish National Pediatrics Congress, Istanbul. 5. National Child Nursing Congress Abstract Book. 2005;431-432.
[23] Ulukanligil M, Seyrek A. Anthropometric status, anaemia and intestinal helminthic infections in shantytown and apartment schoolchildren in the Sanliurfa province of Turkey. Eur J Clin Nutr. 2004;58,1056-1061.
[24] Taştan Y, Yapıcı G, Alikaşifoğlu M ve ark. Fever and its Treatment: What Do the Mothers Know and How They Behave? Turk Arch Ped. 1998;33:85-91.
[25] Rosti L. Fever phobia. Pediatrics. 2002;109:555-556.
[26] Casey R, McMahon F, McCormick MC, et al. Fever therapy an educational intervention for parents. Pediatrics. 1984;73:600-5.
[27] Stuijvenberg M, Vos S, Tjiang GCH, et al. Parents' fear regar¬ding fever and febril seizures. Acta Paediatr. 1999;88:618-22.
[28] Kramer MS, Naimark L, Leduc DG. Parental fever phobia and its corelates. Pediatrics. 1985;75:1110-3. PMid:4000786.
[29] Blumenthal I. What parents think of fever. Fam Pract. 1998;15:513-8.
[30] Yakut A. Febrile Convulsion. Turkiye Klinikleri J Pediatr-Special Topics. 2003;1:119-27.
[31] Çavuşoğlu H. Child Health Nursing. Volume 1, Extended 5th Edition. 2001;5-11,323-325.
[32] Westin E, Sund Levander M. Parent's Experiences of Their Children Suffering Febrile Seizures. J Pediatr Nurs. 2018;38:68-73.
[33] Crocetti M, Moghbeli N, Serwint J. Fever phobia revisited: have parental isconceptions about fever changed in 20 years? Pediatrics. 2001;107:1240-1247.
[34] Walsh A, Edwards H. Management of childhood fever by parents: review. Journal of Advanced Nursing. 2006;54:217-227.
[35] Sünter AT, Ağaç R, Uysal S, et al. Knowledge and Behaviours of Mothers About Fever. Journal of Experimental and Clinical Medicine. 1997;14:106-111.
[36] Temel BA, Arabacı Z, Kahveci T. Mothers' Knowledge, Attitudes and Practices in the Management of Fever in Their Children. Health Academy Kastamonu. 2016.

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