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Annelerin Ateş Fobisi ve Ateş Yönetimi

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ÖZ

Ateş; çocukluk çağında en sık karşılaşılan bulgulardan biridir. Çocuklara verdiği rahatsızlık ve dışarıdan fark edilebilir olması nedeni ile aileler için endişe kaynağıdır ve çocuk acil servislerine en sık başvuru nedenlerinden biridir. Bu çalışma 0-6 yaş grubu çocuğu olan annelerinin ateş ile ilgili bilgi düzeylerini saptamak, ateş fobisinin nedenlerini sorgulamak ve ateş yükseldiğinde nasıl yönettiklerini belirlemek için yapılmıştır. Bu çalışmaya 2010 yılı Nisan–Ekim ayları arasında Düzce'de bir Devlet Hastanesi'nin pediatri kliniğine çeşitli nedenlerle başvuran ve çalışmayı kabul eden 0-6 yaş grubu çocuğu olan anneler alındı. Annelere 30 sorudan oluşan bir anket uygulandı. Ankette çocuk ve anneye ilişkin demografik özelikleri içeren sorular ile annelere ateşin tanımı, ölçüm yöntemleri, ateşi düşürmek için yaptığı uygulamalar, ateşin yönetimi ve potansiyel tehlikeleri ile ilişkili sorular soruldu. Çalışmada 0-6 yaş grubu çocuğu ola 135 anne ile görüşüldü. Annelerin %97.7'si çocuğun ateşinin düşürülmesi gerektiğini, %84.5'i çocuğun ateşi olunca havale geçirmesinden, %15.2 beyin hasarı, %11.4'ü ölmesinden korktuğunu belirtmişlerdir. Annelerin yalnızca %7'si 40°C ve üzerini yüksek ateş olarak tanımlamışlardır. Annelerin %38.1'i ilk ateş düşürücü ilaç olarak parasetamolü, %38.1'i ise ibuprofeni tercih etmekteydi. Ailelerin ateş fobisi çocukların yüksek dozlarda antipretik almalarına neden olmaktadır. Ailelere saglik personelleri tarafindan atesin tanimi ve atesin yonetimine ilskin dogru bilgi vermek ve yapilan geleneksel yanlış uygulamlari anlatmak bilinç düzeyini arttıracaktır. Ateşle ilgili olarak toplum düzeyinde olumlu davranış biçimlerinin desteklenmesi, zararlı olanların belirlenerek eğitim yolu ile düzeltilmesi önemlidir.

Anahtar Kelimeler: Ateş; fobi; anne; enfeksiyon.

Mothers' Fever Phobia and Fever Management

ABSTRACT

Fever is not only the most common clinical symptoms in childhood but also the causes of most applications in children emergency services. It is a frequent cause of parental concern because children easily feel ill and fever is noticeable from outside. This study was conducted to determine the knowledge of Turkish mothers' with had 0-6 age group children about fever. Also the study inquires reasons of fever phobia and tries to determine the fever management options during fever rise. This study was conducted from mothers with 0-6 age group children and who have applied to Duzce State Hospital Pediatric Clinic with variety of reasons. A 30-item questionnaire consisting of close ended questions was developed for this survey. The questions of survey are about socio-demographic characteristics of the children and their mothers', the mothers' definition and measurements methods of fever, their applications to cope fever, fever management and potential risks of fever. 135 mothers with 0-6 age group children were interviewed face to face. 97.7% of mothers' indicated the child' fever needed to be reduced, 84.5% of mothers afraid of febrile convulsion when child's fever rise, 15.2% of mother afraid of brain damage, 11.4% of mother afraid of the childs'death. Only 7% of mothers define 40 degrees and above as high fever. 38.1% of mothers prefer paracetamol, 38.1% of mothers prefer ibuprofen as first fever-reducing medication. Families' fever phobia results with high dose use of antipyretic. Education that will be given by health professionals to families based on emphasizing the wrong traditional implementations risks. If note that most of mother education level were primary school and important is clear definition of fever and fever management strategies will help the parents to reduce fever easily and this will increase their awareness. It is important to strengthen the positive behavior pattern of rural community and avoid from harmful implementations through educational programs are very important and crucial in fever management.

Keywords: Fever; phobia; mother; infection.

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INTRODUCTION

Fever is a major source of concern for health professionals and families although the physiological response to fever is very useful for the host (1,2). "Fever Phobia" is very common among families with children in fever and expresses over-exaggerated concern of the families (3). Doctors and nurses prefer to treat all children with fever according to families high concern and their preference (4). Although fever below 41.7 very rarely cause neurological problems (1,5) health care professionals usually treat fever very exaggeratedly and support the fears of the families (2,6). The best existing evidences show that antipyretics are not effective in reducing the duration of illnesses. Contrarily they worsen and extend the treatment of some diseases such as chickenpox and upper respiratory tract infection (2). Also, it is reported that antipyretics does not block febrile seizures (7). It can be stressed that most appropriate approach in order to treat the fever in children is to find out the underlying causes rather than using routine antipyretics for analgesic impacts especially for the children with no crying and fussing, with good general condition whose diet and sleep patterns were not influenced and had no cardiopulmonary problem (2,8).

Fever is not a disease itself but a symptom of an underlying disease. In fact, only fever above 41.7 is considered as high fever and may cause cerebral edema and even death. Fever is actually the body's alarm mechanism for the infections (1). The measurement of the temperature, based on location such as the forehead or inner ear, may give very different results (1,9). Measurement from auxiliary with mercury thermometer is considered secure but loses popularity because of its breaking possibility and using difficulties for families (3). Most families try to understand the fever with palpation method rather than measuring it with a tool which is not a very sensitive method of measurement (1,10). Fever is defined as high in 38°C for rectal, 37.8 °C for oral and 37.2 °C for axillaries measurements (11).

Antipyretics are very common to treat fever between health care professionals (2,4,6). Acetaminophen and ibuprofen are widely used antipyretics in children older than 6 months. Ibuprofen is contraindicated for children below 6 months. Acid Acetylsalicylic may cause Reye syndrome so it is not used for infants and children. It has been found that ibuprofen is more effective than acetaminophen in reducing fever. Today, although evidence showed that single use of ibuprofen and acetaminophen is effective for treatment of fever, even in single treatment case they should not be given routinely and they should be used after informing the families and making a common decision (1,8).

Ashley and Liebelt (12) reported that 67% of families use ibuprofen and acetaminophen in an alternative way to cope fever from 81% of their health professionals recommendations. It can be pointed out that health professionals trigger families fever phobia by using such antipyretics alternatively on children with low fever. Alternative treatments and implementations become more and more widely used among families. It is also seen that the ratio of 27% 2001 in USA drastically rose to 52-67% in 2007 (2,12). Even in single use of drug, only half of the families use true and regular doses so that this error increased in alternating treatment. Inappropriate dose use of antipyretics brings risks such as ineffective treatment and high toxicity levels (2,13,14). Also non-pharmacological treatment methods of conventional external cooling, reducing ambient temperature, loss of water from the body and providing cold air flow can be used to reduce fever. Studies show that using acetaminophen with support of wiping the body with cold water or warm water showers are more effective than single use of acetaminophen (8).

Fever management should be known by the person who is responsible for child care. The child care role is often accepted from the mother in Turkish society. Therefore, it is very important for the mothers to know the definition of fever, the methods of fever measurement and first intervention. Especially rural areas in Turkey, mother's education level and family income generally low and difficult to reach to reach the hospital immediately in case of emergency. Generally hospital located city center in Turkey. That's way the important is childhood fever management at home in rural area. The purpose of this study was to determine mothers' fever phobia and practices regarding the management of fever. Deficiencies also were identified as well in order to contribute towards the realization of training activities for mothers.

METHOD

This study was planned and designed as a descriptive and cross-sectional one in order to determine the level of fever knowledge, to inquire about the reasons for fever phobia and to figure out how the fever rise was managed by the mothers of children between 0-6 ages in Turkey.

The study was conducted from the applicants, the mothers of children between 0-6 ages, of pediatric clinic in Duzce State Hospital for various reasons and who accepted to participate to the survey. Permissions were obtained from the provincial health office and hospital management with written informed consent forms from the families to perform the study. Face to face interview technique was used and volunteer families who verbally approved to participate were informed about the aim and methodology of the study.

A 30 item questionnaire was designed and used. The respondent asked to answer questions about their demographic characteristics, the definition and measurement methods of fever, the applications used for reducing fever, fever management methods and its potential threats. Mothers who have received special health education training and existing health service staff in any type of organization were not included in the study. The findings of this study were evaluated using descriptive statistical methods of analysis mean and frequency.

FINDINGS

135 parents were included in the study who applied for various reasons to Duzce State Hospital. Table 1 shows the descriptive findings about the mothers and children.

135 mothers have participated to the survey. According to age groups 77 (57%) of the children were 4-6 years. Age groups for mothers were 8 (5.9%) in 15-20 age group, 31

(23%) in 21-25 age group, 56 (41.5%) in 26-30 age group and 39 (28.9%) were in 31 and above age group. 102 mothers (75.6%) have graduated from primary school and 126 (93.3%) of them are housewives.

Table 2 shows the information about applications of mothers to cope fever

From information and practices of mothers on fever conditions it was determined that 84 (62.2%) of the mothers understand fever manually by touching and the rest 51 (37.8%) of them use temperature measurement method. The measurements were made in from different parts of the body; 111 (82.2%) were measured in axillary, 2 (1.5%) were measured in rectal way and 3 (2.2%) were measured from the rectal. 61.5% of the mothers stated that the general measurements were made by thermometer. When it comes

Table 1. Socio-demographic characteristics of the mothers with 0-6 age group children

Socio-demographic characteristics (n=135)		Number	%
Age of the Child	0-2 years	18	13.4
	2-4 years	40	29.6
	4-6 years	77	57
Siblings number	1-2	93	69.4
	3 and above	42	30.6
Living area	Rural	63	45.3
	Urban	72	53.7
Sosyo Economic Status	Low	22	16.3
	Average	83	61.5
	High	30	22.2
Age of the Mother	15-20	8	5.9
	21-25	31	23
	26-30	56	41.5
	31 and above	39	28.9
Mother's Educational Level	Literacy	9	6.7
	Primary School	102	75.6
	High School	18	13.3
	University	3	2.2

Table 2. Mother's Applications to Cope Fever

Socio-demographic characteristics (n=135)		%	Number
Understanding the way of fever rise	By manual touch	84	62.2
	By temperature	51	37.8
Location for measurement of fever	Axillary	111	82.2
	Oral	10	11.6
	Rectal	3	2.2
	Ear	1	0.7
Method of Fever Measurment	Digital thermometer	75	5.9
	Mercury thermometer	34	55.6
	Manual	36	34.1
Definition of Fever	37 and above	52	38.6
	38 and above	57	37.3
	39 and above	19	14.1
	40 and above	7	5.2
Where did you get information about fever?	TV, Radio, Newspaper	22	16.4
	Doctor, Nurse	77	57.5
	Family	36	26.9
Does fever need reduce?	Yes	132	97.8
	No	3	2.2
Why do you want reduce fever?	For child be comfortable	24	17.8
	Prevent organ damage	8	5.9
	Prevent seizerus	78	57.8
	For treatment illness	25	18.5
First application during the rise of fever	Only warm application	42	31.1
	Only antipyretic	23	17
	Warm application and antipyretic	57	42.2
	Take to doctor	7	5.2
	Cover the top	2	1.5
How did you apply peripheral cooling	Alcohol, vinegar, cold water	35	37
	Warm water/ warm shower	75	63
Mothers' Preferences of Antipyretics	Ibuprofen	43	31.9
	Paracetamol	43	31.9
	Antibiotic	4	3
	NA	45	33.3

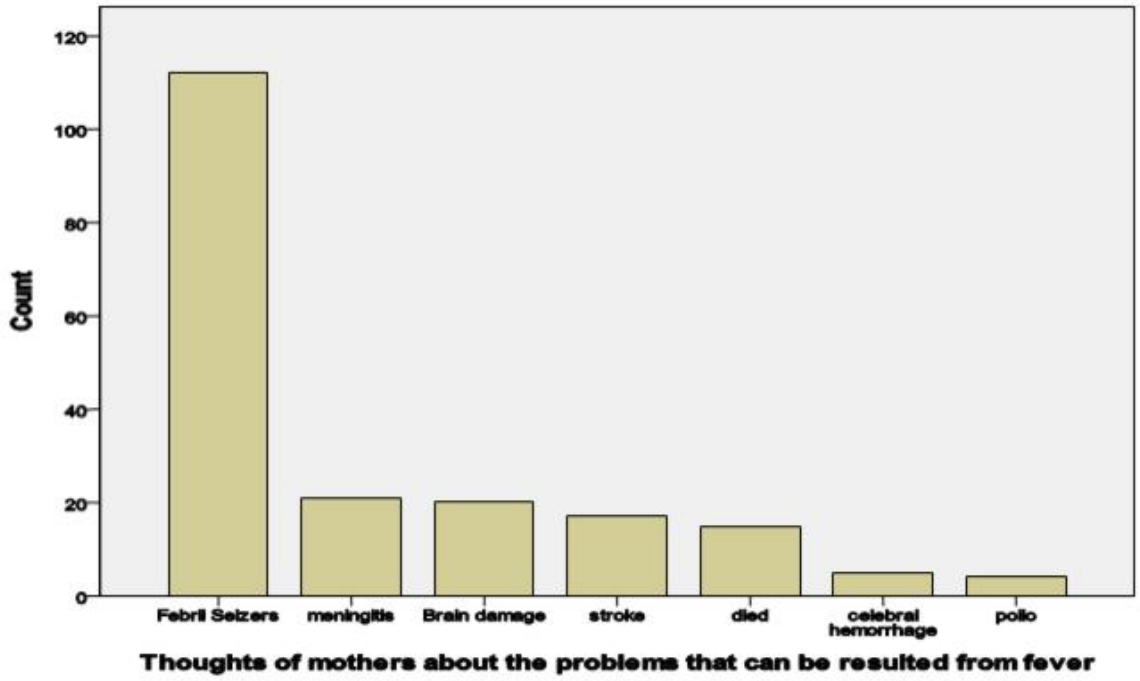

Figure 1. Thoughts of Mothers about the problems that can be resulted from fever (*Families marked more than one choice)

to the fever definition it can be pointed out that 52 (38.6%) of the mothers defined 37 and above, 57 (37.3%) of the mothers defined 38 and above, 19 (14.1%) of the mothers defined 39 and above, 7 (5.2%) of the mothers defines 40 and above as fever. Also, 22 (16.4%) of the mothers stated that they do not know the definition of fever.

The analysis of the first practice of mothers in fever rises reveals that 42 (31.1%) of the mothers only make warm implementations, 23 (17%) of the mothers only use antipyretics, 57 (42.2%) of the mothers make warm implementations and use antipyretics, 7 (5.2%) take the child to doctor and 2 (1.5%) cover the child's body. 57.5% of the mothers learn fever management from health care professionals. It also determined that the methods used for peripheral cooling were as; 35 (37%) alcohol, vinegar or cold water, 75 (63%) warm water, warm shower. The preference of mothers' antipyretics were as use of ibuprofen 43 (31.9%), paracetamol 43 (31.9%) and antibiotic 4 (3%). 45 (33.3%) of the mothers did not know what they have used (See Table2). Also, thoughts of mothers about the problems that can be resulted from fever were given in Figure 1.

The analysis of complications that may occur as a result of fever shows that in the first step most of the mothers 112 (84.5%) thought about the risk of febrile seizures while the other risks respectively pointed out as; 15 (11.4%) deaths, 21 (15.9%) meningitis, 17 of (12.9%) strokes, 20 (15.2%) brain injury, 4 (3%) polio and 5 (3.8%) potential development of cerebral hemorrhage (Figure 1).

DISCUSSION

This study gives a different social and cultural perspective on fever phobia and ways of management in Turkey case when compared with other case studies. The social and cultural characteristics clearly influenced the Turkish mothers fever approaches and behaviors along the fever management process. In addition, individuals who have participated to the survey were completely mothers that emphasizes the fact that the only and first responsible for childcare are mothers. Also the lack of information about fathers roles and have strengthened this idea. Previous studies have revealed families have insufficient knowledge regarding the management of fever although it is a common finding in childhood (8,15,16). The particular information for the families that should be known about fire can be summarized as; definition of fever, measurement methods, use of antipyretics in right dosage and to be aware that fever is not always a harmful symptom (10,16,17). Thus, mothers can make the appropriate intervention and evaluate the child calmly without panic in fever situation. The knowledge of child caregivers, especially the mothers, will prevent the children from unnecessary applications as well as delayed and inadequate interventions (11).

The assessment of information levels and practices of the mothers about fever show that the majority of mothers (62.2%) understand the fever of the child by touching with their hand. Palpation measurement method is learned from old family members and widely used among Turkish mothers (15,18). Taştan and colleaques (10) also stated that many mothers still prefer to use touching method to detect fever. Celasin and colleaques (18) have determined that 77.2% of mothers use "skin touch", 26.4% of them look at the "general view" of the child, and 50.8% use thermometer in order to identify child's fever. 56.7% of the mothers have thermometer (74.6% percent mercury thermometer) at home. It is thought that if the majority of mothers' use of palpation method for fever measurement which causes higher perception of body temperature, can be decreased, the thermometer training usage implementations would prevent unnecessary interventions such as high use of drugs for fever-lowering.

Fever is defined when the temperature of the child is above 38°C from rectal, 37.8°C from oral, and 37.2°C from axillar ways were measured. The study of Taştan and colleaques (10) has found out that 33.1% of Turkish mothers have no information about the fever and temperature relationships. Also, 26.9% of mothers defined 37° C and over as hyperthermia. Another study from Esenay and colleaques (15) found this ratio as 36%. Sarrell and colleaques' (6) study has determined that 38.8% of families reported that they have started treatment with antipyretic between 37-38°C temperatures. The study of Matzioua and colleaques (17) have revealed that nearly one third of the mothers defined the temperature between 37-38,1 as high fever and expressed about its side effect. Also, 73.1% of the mothers gave antipyretics to their children without any medical consultancy between 37-38.5°C. Walsh and colleaques' (11) studies clearly show the lack of information to determine the degree of fever even it is the most common finding in childhood. Mother's education is very important even in this first step.

Studies relating with fever have emphasized the body's defense mechanism and have recommended non-intervention in 39 degrees below if the children had no cardiopulmonary or neurologic problems (1,14). The question "do you think must reduce your child's fever when it rises?" which is included in the questionnaire has the positive answer "yes" almost from all of the mothers (97.7%). Pursell (3) in his study in London has reported that 65% of mothers feared from the high fever and thought that the fire should absolutely be reduced. The same study has revealed that 10% of the mothers said that they fear from the result of dead and 12% from brain damage. Esenay and colleaques (15) have determined that 83% of mothers find fever harmful to children. Also, Taştan and colleaques (10) have found out that 97.7% of the mothers think fever is harmful and 23.7% percent believe that fever will lead to permanent damages. Celasin and colleaques (18) have stated that 96% mothers' think that high fever is important but only 56.2% of them know the correct consequences and complications of high fever. Mother's first behavior to the fever rises can be summarized as 42.2% warm application and use of antipyretic (Table 2). It has also determined that single use of antipyretic is only 17%. Other studies have showed that mothers monitor fever and make some applications to reduce it (5,15,17).

This study shows that vast majority of Turkish mothers 84.5% expressed febrile seizure about complications of fever. Yigit and colleaques have also pointed out this issue and have found out that 66.6% of the mothers define the

damage of fever as febrile seizure (19). Esenay and colleaques (15) have determined that 92.5% of the mothers feel anxious and fear, even 12% of the mothers thought that their child will die. Different case studies from other countries also were similar and have emphasized the perception of mothers' fever-phobia risks as febrile seizure and brain damage (1,5,17). In fact, febrile seizures that have occurred only because of high fever are very rare in children under 5 years (14). Thus, families can be educated and took information about effective methods to reduce fever. The education programs developed by health professionals who will include prevalence of febrile seizures, preparative factors of febrile convulsions and safe fever management can be implemented so as to deal with fever-phobia and highlight the unnecessary actions done to reduce fever especially in low and non risky levels. Interestingly, the study results have figured out that 15.9% of the mothers were concerned about meningitis risk because of fever. These results have showed the mothers' important lack of knowledge about meningitis infection.

It was seen from the study that the ratio of gathering information about fever was 26.9% from elder family members or close environment and 57.5% from the doctors and nurses. It can be pointed out that even almost more than half of the mothers get the information from the health professional, the anxiety of mothers about fever-phobia and fever damage were still exaggerated.

Celasin and colleaques (18) have determined that 80.6% of the mothers previously received information about high fever from health professionals. May and Bauchner (4) have conducted a study with pediatricians in the US that shows that 65% of pediatricians think that fever is dangerous for children and 60% think that it may cause febrile seizure, brain damage and death. 72% of the pediatricians stated that the fever must be reduced. Sarrell and colleaques (6) study have indicated that 92% of doctors and 84% of the nurses prefer to use antipyretics when the fever is between 38-40°C. These ratios show that the health professionals influenced the mothers' fever consciousness. This affects the mothers' behaviors and attitudes about fever.

Numerous studies in different regions of the world have determined that the first method is usually referred by mothers to intervene fever was to reduce fever (16,20,21). In this study, the most common used method of intervention for fever were found as 42.2% warm application and antipyretics; while 31.1% only made warm application. Peripheral cooling, if done correctly, have been considered to be a positive approach to fever (13). It has been recommended to firstly use antipyretics rather than warm application in hyperthermia cases. In the study nearly half of mothers use antipyretics and the warm application to lower the fever and this has been accepted as a positive behavior. However, 37% of mothers use alcohol, cold water and vinegar to reduce fever that has revealed the lack of knowledge. It is a traditional way in Turkish community to use vinegar and alcohol to decrease fever. Celasin and colleaques (18) have determined that 8.0% of the mothers use water with vinegar, 2.5% lemon cologne and 0.5% of them use rose water, 2.5% use aspirin as antipyretic drug while 0.5% mix the aspirin in brewed tea, 0.5% mix aspirin in olive oil, mix lemon water and black pepper to cream on child's body, 0.5% cream Vicks on child's body and 2.5% wait many days without any application which is a very wrong but traditional way. Esenay and colleaques (15) study have showed that 28.9% of the mother use fever-lowering medications to the children with fever without doctors' advice, 19% of them use cold water whereas 7.7% use water with alcohol / vinegar applications that are incorrect. Impicciatore and colleaques (21) study conducted in Italy had the findings such as 48% of the mothers use fever-reducing medications without doctors' advice.

It is seen in most of the studies in Turkey and other countries that the most preferred antipyretics were paracetamol (2,3,5,22,23). This study has the equal finding of usage of paracetamol (31.9%) and ibuprofen (31.9%) (Figure 2). Crocetti and colleaques (1) USA study has determined that ibuprofen is the most preferred antipyretics with the ratio of 44%. The unnecessary use of antibiotics is critical because it not only the increases the health expenditures but also has an affect on the possible development of antibiotic resistance. Fever is one of the most frequently encountered infections in childhood and depending on the findings it is more likely the cause of unnecessary use of antibiotics. This study reveals a drastic and dramatic fall in antibiotic usage of mother to 3%. So, it can be pointed out that the more consciousness of mother has increased the more the use antibiotics without doctors' advices were decreased.

CONCLUSION

The mothers had a fever-phobia caused because of the high fever that may result in convulsions and brain damage in childhood and they use of high doses of antipyretics. Mothers in Turkey like other countries have fear from fever in children because of its very harmful results. Mothers did not have enough knowledge about fever management of children. Especially, mother education level is low in generally rural area in Turkey, like this sample. Rural area has some difficulties about the access health services. Thus, in childhood fever, generally mother implemented first fever reduce attempt, at rural area. It is clear that, families must be educated to understand the benefits of the fever, side effects of antipyretics and the use of antipyretics in appropriate single dose and time intervals. The study also has revealed the drastic increase through years in the consciousness level of mothers when correlated with the previous studies. But mothers still have fever phobia because the lack of information and the possibility that fever may cause febrile convulsions. It is thought that mothers' awareness and contribution is very significant in this issue in order to develop a healthy generation.

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