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RESEARCH ARTICLE

EVALUATION OF FEVER-RELATED KNOWLEDGE, ATTITUDES AND PRACTICES OF MOTHERS OF CHILDREN WITH CHRONIC DISEASES: A DESCRIPTIVE STUDY

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ABSTRACT

Purpose: This research was conducted in a descriptive design to evaluate the knowledge, attitudes, and practices of the mothers of hospitalized children with chronic diseases about fever.

Material and Methods: The study was conducted with the mothers of hospitalized children with a chronic disease in the pediatric clinics of a university hospital between 01 September 2018 and 28 February 2019. Considering the frequency as 50%, and the deviation as 0.05, the sample size was calculated as 384 mothers, and this number was increased to 400. The data were collected with the face-to-face survey method investigating the knowledge, attitudes, and practices of mothers about fever, with the consent of the mothers first.

Results: According to the results, 55.0% of the mothers had primary school or below education, and 30.0% knew normal body temperature. The temperature was measured by touching the forehead of the child (49.6%) by mothers with primary school or below education level, and with a thermometer (73.5%) by those with a university degree. 74.8% took their child to a health institution on the first day of fever. When the body temperature increased, 33.7% and 18.3% of the mothers first took off the child's clothes and gave medication to reduce the fever, respectively. Health personnel were the sources of information about the harms of fever for 52.5% of the mothers.

Conclusion: Our study revealed that mothers' anxiety about fever is common, and their anxiety negatively affects their approach to the child with fever, which ultimately leads to unnecessary hospital admissions.

Keywords: Attitude, child, chronic disease, fever, knowledge, mothers

INTRODUCTION

Psychological and social problems due to chronic diseases in children vary depending on the family, child, social environment, the type of disease, and the medical rehabilitation received by the patient, and these factors either make it difficult or facilitate the adaptation of the child to the disease. Children with a chronic disease may experience adaptation problems several times more than normal children. Recent research shows that one of the most significant factors affecting adjustment problems in children is the feeling of inadequacy and restrictions posed by the disease (1). In addition, fever, which is defined as a rise in body temperature and is not a disease on its own, is one of the most common conditions in childhood that worries parents of children with chronic

diseases (2). Therefore, it is pivotal to evaluate the fever-related knowledge levels of mothers.

Fever is one of the situations frequently encountered in childhood and causes serious concerns in parents. Body temperature, depending on the type of thermometer used; can be found by measuring oral, axillary, rectal, skin and ear. In addition, tympanic measurement methods have been used frequently in recent years (3). Temperature measurements; axillary 37.2°C, oral 37.5°C, rectal 38°C and tympanic 38°C and above are expressed as fever. In the temperature data obtained according to the axillary measurement method; subfebrile fever (36.8-38°C), mild fever (38-38.5°C), moderate fever (38.5-39°C), high fever (39-40°C) and hyperthermia (41-43°C). No matter which method is preferred during temperature measurement, evaluation with only one method may lead to erroneous results (4-6). Subfebrile fever is a type of fever in which the body temperature ranges from 36.8°C to 38°C for a long time. This type of fever is seen in localized infections such as dental granuloma, sinusitis or chronic tuberculosis (6). Fever may occur due to many diseases; Collagen tissue diseases, malignancies, chronic diseases and infectious diseases are the most common causes of fever. Fever in children is important as it guides the diagnosis of many chronic diseases. In addition, fever can create pictures that change the course of chronic diseases and cause negative health problems in children with chronic diseases (4). Health professionals, parents, and caregivers should have sufficient knowledge of fever and related approaches. Due to the constantly changing information about fever, there are different methods and applications for its determination. It has been reported that fever anxiety still exists among both parents and healthcare professionals (2). High fever is a problem that can occur usually due to viral and serious bacterial infections. Apart from infectious diseases, some other factors can also cause fever. Fever, defined as sub febrile, may be due to health problems that can often heal spontaneously, but since a fever of 38°C and above may be of bacterial origin, it is necessary to examine the presence of infections and determine whether antibiotic use is required (7).

When a mild fever is seen in children, parents, especially mothers feeling the need to reduce it immediately may apply unnecessary and wrong practices. The anxiety and fears of the parents increase with the rise of the child's fever, and especially the mothers may feel helpless. Parents without sufficient knowledge and experience about fever and who do not know exactly when, how, and when to intervene with the child may give the child incorrect and unnecessary drugs without a doctor's examination and evaluation (8). The level of knowledge about disease and fever is directly related to the traditions, customs, and cultures of societies, which also significantly affects the approach and behavior of families about fever. Every time their child has a fever, considering the possibility of significant bacterial infection, parents may either initiate antibiotic therapy themselves or insist that doctors prescribe antibiotics. As a result, parents use unnecessary antibiotics in cases of low fever and viral infections that may heal spontaneously (8, 9). Informing families about the necessity of correct approaches in case of high fever and minimizing the problems that may occur with the help of correct practices can be achieved by giving the necessary health education to the families. One of the essential responsibilities of healthcare professionals is to ensure that parents, especially mothers, measure their children's temperature with the appropriate methods and have sufficient knowledge about the appropriate approaches to these children (10, 11). The present research was conducted to evaluate the knowledge, attitudes, and practices of mothers with chronically ill children hospitalized in the pediatric clinics of a university hospital about fever. It is thought that determining the level of knowledge of mothers about fever, one of the most common symptoms in childhood, and educating them on the appropriate approaches will reduce unnecessary drug use and malpractices.

MATERIAL AND METHODS

This study was conducted with mothers of hospitalized children with chronic diseases in the pediatric clinics of a university hospital between 01 September 2018 and 28 February 2019. Since there is no similar study and the number of mothers who practice is unknown, a frequency of 50% was considered to determine the sample size at unknown frequencies. Considering the frequency of application on a 50% scale and the deviation on a 0.05 scale, the sample number was calculated as 384 mothers and this number was increased up to 400.

Data Collection Tools

A questionnaire consisting of 48 questions and two parts was used to collect the data. The first part

Table 1 Maternal socio-demographic characteristics

Characteristics		n	%
Gender of the Child	Girl	190	47.5
	Boy	210	52.5
Child's Age Group (years)	≤ 1	35	8.8
	2-3	37	9.3
	4-6	57	14.2
	7-12	157	39.2
	13-18	114	28.5
Mother's Age Group (years)	≤ 40	270	67.5
	≥ 41	130	32.5
Mother's Education Level	Primary school and below	220	55.0
	Secondary school	56	14.0
	High school	75	18.8
	University	49	12.2
Mother's Employment Status	Yes	53	13.3
	No	347	86.7
Place of Residence	Village	100	25.0
	Province	25	6.2
	City	275	68.8
Income Level	Below minimum wage	71	17.7
	Minimum wage	162	40.5
	Over Minimum wage	167	41.8

includes eight questions about the mothers' socio-demographic characteristics (child's gender, the mother's age, education level, monthly income, etc.), and the second part includes 40 questions about the knowledge, attitudes, and practices of the mothers about fever.

The questionnaires were administered using the face-to-face interview technique. The mothers admitted to the hospital were interviewed individually, and the study was conducted with those who met the inclusion criteria and agreed to participate in the study. In the study, the normal body temperature value was taken as 36.5-37.5 °C, which is accepted by the World Health Organization (12). Body temperatures considered as fever according to the measurement sites are as follows; axillary 37.2°C; tympanic 38°C; rectal 38°C; oral 37.5°C and above (4, 6, 13).

Ethical Standards Disclosure

This study was conducted according to the guidelines in the Declaration of Helsinki, and all procedures involving participants were approved by the Research Ethics Committee of Karadeniz Technical University on 23 July 2018 with protocol number 2018/190. All mothers gave informed consent to participate in the study voluntarily.

Evaluation of the Data

The data were evaluated with SPSS 25.0 (SPSS Statistics 25 Soft., IBM (Armonk, NY; IBM Co.)) package program. Numbers and percentages were used to present categorical variables. Chi-square analysis was performed for the comparison between variables. As a result of statistical evaluations, $p<0.05$ was accepted as significant.

RESULTS

According to the results, 52.5% of the mothers had a son, and the mean age was 9.2±5.1 years. 67.5% of the mothers were aged 40 and below, their mean age was 37.8±7.5 years, and 55.0% had a primary school and below education level. 86.7% were unemployed, and 84.5% were housewives. The income level was

Table 2. Distribution of mothers' knowledge about fever (n=400)

Characteristics		n	%
The Status of Knowing the Normal Body Temperature	Yes	120	30.0
	No	280	70.0
The Status of Knowing Fever Limits Based on the Measurement Sites			
Axillary	Yes	240	98.4
	No	4	1.6
Tympanic	Yes	30	88.2
	No	4	11.8
Oral	Yes	11	68.8
	No	5	31.2
Rectal	Yes	2	66.7
	No	1	33.3
Benefits of Giving an Antipyretic to the Child			
Preventing seizure		155	32.2
Comforting the child		117	24.3
Accelerating the recovery		117	24.3
Reducing fever		70	14.6
Ensuring a comfortable sleep		22	4.6
The Dangers of Fever in Children			
Seizure probability		257	64.1
Sign of serious disease		101	25.2
Brain damage probability		42	10.5
Risk of death		1	0.2
Information Source of the Dangers of Fever			
Physician		202	42.2
Research		84	17.5
Immediate circle of friends		81	16.9
Experience		61	12.7
Nurse		49	10.3
Television		2	0.4
Fever Measurement Frequency			
0-15 min.		100	25.0
15-30 min.		162	40.5
30-45 min.		94	23.5
45-60 min.		44	11.0
Reasons to See a Doctor			
High fever		165	30.1
Persistent fever		154	28.1
Prolonged fever		103	18.8
Fear of seizure		78	14.2
Comorbid complaint		47	8.6
Risk of death		1	0.2

mostly above the minimum wage (41.8%), and 68.8% lived in the city (Table 1).

30.0% of the mothers knew the normal body temperature, and most of them (98.4%) who measured the temperature from the axillary knew the reference values for fever. Mothers generally answered the question of the benefits of giving antipyretic drugs to the child as it prevents seizures. Among the possible harms of fever to the child, most of the mothers stated that the child may have seizures. The source of information for most of the mothers about the harms of fever was physicians. When their children got a fever, most mothers preferred to measure the temperature at 15-30 min. intervals. They generally consulted a doctor when body temperature increased (Table 2).

81.8% of the mothers had a thermometer at home, and they mostly preferred digital ones. The temperature was mostly measured with thermometers on the axillary site. 20.8% of mothers applied a substance to their bodies when their children had a fever, and the most widely used substance was vinegar water. The ratio of mothers using antibiotics for fever before going to a doctor was very low. Most mothers woke up their children at night to give antipyretic, often at intervals of 4-6 hours. Fear of fever was due to seizure probability for most of the mothers and the possibility of a serious illness for a quarter of them. Most of the mothers took their children to a doctor on the first day when they had a fever and gave antipyretic before going to the hospital (Table 3).

The most common practice that mothers did when their children had a fever was to take off the clothes and bathed with lukewarm water when the temperature rose beyond 38°C. Mothers mostly used Paracetamol as an antipyretic drug. The most common practice was to call 112 in case of a seizure and take the child to a doctor in case of persistent fever (Table 4).

Mothers who knew normal body temperature were mostly university graduates. Mothers with primary school or lower education preferred to touch their children's foreheads more, and university graduate mothers preferred to measure temperature with a thermometer. There was a statistically significant difference between the status of preferring to determine temperature by touching the forehead and using a thermometer according to the education level of the mother. Most high school graduate mothers preferred the frequency of giving antipyretic drugs as 4-6 hours. The frequency of giving antipyretic agents also showed a statistically significant difference according to the education level. Mothers without a thermometer at home were mostly those with primary school or below education level. The status of having a thermometer at home showed a statistically significant difference according to the education level. Secondary school and high school graduates preferred the digital thermometer the most. There was a statistically significant difference between preferring the tympanic site to measure temperature according to the education level. High school and university graduates used the tympanic region more for temperature measurement. The status of paying attention to the antipyretic dose was found to be high in all mothers regardless of education level. High school graduates generally used antipyretic drugs without a prescription. Those using antipyretic drugs with a doctor's prescription were mostly secondary school graduates. Mothers with primary school and below education used antibiotics more without seeing a doctor ($p<0.05$). As a result of post-hoc analysis; according to education level of mothers; a significant difference was found in university graduate mothers who determined fever with thermometer, compared to primary school and below and secondary school graduates. A significant difference was found in mothers with high school graduates who had thermometer at home compared to those with primary school and below education. In addition, a significant difference was found in high school and university graduate mothers who took temperature measurement from the tympanic region compared to mothers with primary school and below education (post-hoc test, Table 5).

DISCUSSION

This study was conducted in a descriptive design to determine the fever-related knowledge, attitudes, and practices of mothers of children hospitalized for chronic disease in the pediatric clinics of a university hospital serving a wide region, where patients with different socio-cultural backgrounds are diagnosed and treated. Our results revealed that most of the mothers did not know the values of normal body temperature. They considered fever above 38ºC when they measured their children from the axillary, rectal, tympanic, and oral sites. Considering the fact that axillary 37.2°C, oral 37.5°C, rectal 38°C, and tympanic 38°C and above are defined as a fever depending on the measurement site (4, 6, 13),

Table 3. Attitudes of mothers about fever (n=400)

Attitudes		n	%
Having a Thermometer at Home	Yes	327	81.8
	No	73	18.3
Type of the Thermometer	Digital	281	70.3
	Mercury	64	16.0
	Others (Infrared)	55	13.7
Way of Measuring the Temperature	With a thermometer	175	35.4
	Touching the forehead	172	34.8
	General Appearance	118	23.9
	Others	29	5.9
Temperature Measurement Site	Axillary	244	57.1
	Forehead	130	30.5
	Tympanic	34	8.0
	Oral	16	3.7
	Rectal	3	0.7
In Case of High Fever, Applying Any Substance to the Child's Body	No	317	79.2
	Yes	83	20.8
The Substance Applied to the Child's Body	Vinegar Water	74	89.2
	Cologne	3	3.6
	Rosewater	2	2.4
	Olive oil	2	2.4
	Vicks	1	1.2
	Alcohol	1	1.2
Using Antibiotics Before Seeing a Doctor	Yes	8	2.0
	No	392	98.0
Waking the Child at Night to Give an Antipyretic	Yes	310	77.5
	No	90	22.5
Frequency of Using an Antipyretic	< 4 hours	98	24.5
	4-6 hours	232	58.0
	≥ 7 hours	70	17.6
Time to Take the Child to the Doctor	1. day	299	74.8
	2. day	82	20.5
	3.day	16	4.0
	4. day ≤	3	0.8
Reasons of Fear of Fever	Seizure Probability	257	64.1
	Sign of a Serious Disease	101	25.2
	Brain Damage Probability	42	10.5
	Risk of Death	1	0.2
Giving Antipyretic Before Going to the Hospital	I will give in case of fever	279	69.8
	No, I won't, as I'll take him/her to the hospital	121	30.3

although most of the mothers did not know the normal body temperature according to the measurement site, they were able to accurately detect the presence of fever. This result shows that most of the mothers involved in our study detecting the presence of fever of the child. Previous studies demonstrated that as the education level of parents' increases, they understand the concept of fever correctly, measure it correctly, and use a thermometer (14-16). The presence of mothers in our study who do not know normal body temperature and those determining the temperature by touching or looking at children's general appearance highlights the necessity of raising the awareness of families in our region about fever.

A relevant study determined that emergency services were over-occupied due to admissions for fever and that as the education level of the parents increased, the number of applications to health institutions increased (17). In our study, consistent with previous studies (14, 18), high fever was one of the most significant reasons for hospital admissions, and most of the mothers stated that they took their child to the doctor in case of persistent fever. The fact that even very slight increases in body temperature are considered as fever by mothers regardless of education level may be related to insufficient knowledge about this subject or to fear and anxiety. Another study on the subject showed that all mothers were worried when their child had a fever. The most common reason for fear and anxiety of fever was the seizure probability (15). Parents who have children with chronic diseases may experience chronic grief. This situation creates serious stress on them and causes them to feel powerless. In addition, it significantly affects parents' ways of coping with this situation and complicates fever management when their child has a fever (19). In another study, the most important reason for fear when the children of mothers got a fever was the seizure of the child (20). In our study, the most common reason for fear of fever was also the seizure probability for most of the mothers and a sign of a serious illness for one-fourth of them.

Most of the mothers used antipyretic drugs before consulting a doctor (15). In our study, most of the mothers gave antipyretic to their children to reduce the fever before going to the hospital. The most important step in the management of fever in childhood is the correct measurement and definition of fever. Therefore, although which measurement method and which region should be used for measurement is still a controversial issue, body temperatures may vary depending on the site of the measurement (21). In our study, most of the mothers measured temperature from the axillary region, which is consistent with the results of previous studies (15, 16). Another study investigating the preferences of temperature measurement sites revealed the rectal method as the most common site (22). The temperature of children was measured with a thermometer by slightly more than one-third of the mothers, by looking at the general appearance by nearly one-fifth of them, and by touching the forehead subjectively by a little more than one-third of them in our study. The ratio of subjective determination of fever by touching was found to be higher than our study results in two different studies (77.2%, 83.3%) (16, 23). The results of these studies emphasize that parents should be made more aware of the low reliability of this method.

People's knowledge of disease and fever is affected by the cultures, traditions, and customs of the societies in which they live, which causes differences in the attitudes and behaviors of parents about fever. In a study, it was determined that mothers had some applications like lukewarm bath, cold application, vinegar water, cologne, or alcohol application to their children to reduce fever (24). In our study, most of the mothers took the child's clothes off, gave an antipyretic, bathed with lukewarm water, and took the child to a health center. In addition, it was observed that mothers still experienced a considerable level of panic and anxiety about fever, and accordingly, they continued some malpractices. To reduce these concerns of mothers, written and visual materials including information about fever should be prepared for parents, especially in children's services. In many studies performed in different parts of the world, the first application of parents to reduce fever is reported to be using an antipyretic (25, 26). In another study, a cold application was the most widely used method for fever (27). In case of fever, it is very important to bath the child with lukewarm water correctly without harming. During the application, it is necessary to stay away from traditional practices like applying vinegar, alcohol, etc. (16). Parallel to this, most of the mothers in our study stated that they did not use any substance on their children's bodies, and most of those who used preferred vinegar water. Our study results are similar to those of previous studies in our country (15, 28). Bathing with lukewarm water should

Table 4. Practices of mothers when their children have fever

Practices	n	%
Removing clothes	244	33.7
Giving antipyretic	132	18.3
Bathing the child with lukewarm water	106	14.7
Taking the child to a health center	72	10.0
Lukewarm water compress	55	7.6
Cold application	51	7.1
Vinegar water	27	3.7
Giving plenty of fluids	18	2.5
Ventilating the room	15	2.1
Rubbing with alcohol	1	0.1
Cover the child with something	1	0.1
Rubbing with lemon water	1	0.1
Lukewarm Water Application Time		
If the temperature rises beyond 38°C	169	41.2
Persistent fever despite an antipyretic	148	36.1
In the early stages of fever	90	22.0
In case of seizure	3	0.7
Antipyretic Medicine Used		
Paracetamol	196	48.5
İbuprofen	98	24.3
Paracetamol/ibuprofen alternately	81	20.1
Don’t know	20	5.0
Aspirin	5	1.2
Novalgin	3	0.7
Ketoprofen	1	0.2
Practices in Case of Seizure		
Calling 112	165	31.6
Applying to a health institution	156	29.9
Bathing with lukewarm water	94	18.0
Bathing with cold water	47	9.0
Giving an antipyretic	26	5.0
Side lying	21	4.0
Rubbing the face with water/cologne	11	2.1
Don’t know	2	0.4
Practices in Case of Persistent Fever		
Seeing a doctor	375	88.6
Cold application	32	7.6
Waiting for the fever to break	9	2.1
Giving antipyretic again	7	1.7

be made if high fever persists for thirty minutes after the administration of antipyretic, and it should be done for a minimum of 5 minutes and a maximum of 30 minutes (2, 6). In our study, bathing with lukewarm water was done by approximately half of the mothers when the fever level rose beyond 38°C, by approximately one-third of them when the child's fever did not decrease despite taking antipyretic, and by approximately one-fifth of them as soon as the child's temperature rose. Akbayram (29) determined that 74% of parents woke their children up at night to give antipyretic drugs, which is very close to the result in our study.

In our study, mothers generally preferred paracetamol as an antipyretic for their children, and the frequency of antipyretic drugs was at appropriate time intervals. This is an indication that mothers receive information from health personnel about the medication to be used and its frequency. In a national study, it was determined that mothers mostly gave antipyretic drugs to their children and used inappropriate doses (30). In another study, in which the knowledge level of mostly parents about fever was high, the use of paracetamol as a drug was not found to be safe and effective by the parents, and they first resorted to non-drug practices to reduce fever (31). In children with fever, the use of antipyretic drugs is quite common. As antipyretic drugs, drugs containing paracetamol, ibuprofen, and acetylsalicylic acid are generally preferred. In many studies conducted in the world and our country, paracetamol is the most preferred antipyretic drug that parents prefer when children have a fever (20, 23, 32). Similarly, in our study, nearly half of the mothers used paracetamol to reduce fever. In two different studies, it was determined that ibuprofen (44%) and chloroquine (52%) preparations were mostly preferred as antipyretic drugs (26, 33). Antipyretic drugs should be used in appropriate doses and frequency. In children, the dose of antipyretic medication is usually determined based on weight. In our study, nearly half of the mothers determined the dosage of antipyretic according to the prescription, weight and age, respectively. Few of the mothers stated that they gave antipyretic drugs according to the severity of the fever.

Worrying that fever may lead to seizures or brain damage causes mothers to call emergency services, apply to hospital emergency services in a panic, and wake their children at night to bathe with lukewarm water or give antipyretic drugs (30, 34). In our study, the top three practices for the fever in children due to anxiety of seizures were to call the 112 emergency departments, apply to a health institution in case of persistent fever, and bath with lukewarm water, respectively. In a study, it was found that when the fever did not decrease after the first application, the second most common application of the mothers was to give antipyretic drugs again, and if the fever persists, the child was usually taken to the doctor (15). In our study, in case of persistent fever, it was generally preferred to take the child to the doctor and do a cold application. Demir and Bayat (28) found in their study that 34.8% of the mothers used over-the-counter antipyretic drugs without the doctor’s recommendation, and Esenay et al. (20) found this rate in their studies as 28.9%. Similar to these studies, in our study, nearly one-fifth of the mothers obtained medication without prescription. In various studies, it has been observed that parents use an unnecessary antibiotic for fever caused by viral infections that are not high and may reduce spontaneously (8, 9). In our study, few of the mothers stated that they used antibiotics to lower their child’s fever before going to the doctor and it was determined that the most important sources of information for mothers about the dangers of fever were physicians, their research, their immediate circle of friends, experience, nurse and television, respectively.

Various studies have shown that as the education level of parents increases, they understand the concept of fever correctly and have a thermometer at home (15, 16). According to our results, mothers with higher education levels preferred digital thermometers more. Some other studies, consistent with our study, also revealed a significant difference between the level of education and the use of a digital thermometer for temperature measurement at home (28, 35). Halıcıoğlu et al. (15) compared mother's education level with having a thermometer and measuring the temperature at home and reported that mothers with higher education levels had a higher rate of having a temperature and measuring the temperature at home. Similarly, Celasin et al. (16) determined a significant difference between the mothers' status of having a thermometer at home, ability to read it and understanding the measurement value when the child had a fever according to their education and socio-economic level. When the education level of the mothers increased, their knowledge about body temparature increased, and they mostly knew the normal body temperature

Table 5. Mothers' knowledge of normal body temperature according to their education level and their practices when their children have a fever

		Education Level											
		Primary School and Below		Secondary School		High School		University		Total		Statistics	
		n	%	n	%	n	%	n	%	n	%	χ^2	p
Knowing Normal Body Temperature													
Yes		58	26.4	15	26.8	27	36.0	20	40.8	120	30.0	5.676	0.128
No		162	73.6	41	73.2	48	64.0	29	59.2	280	70.0		
Way of Measuring the Temperature													
Touching the forehead	Yes	109	49.6	17	30.4	28	37.3	18	36.7	172	43.0	9.265	0.026
	No	111	50.4	39	69.6	47	62.7	31	63.3	228	57.0		
With a thermometer	Yes	79	35.9	22	39.3	38	50.7	36	73.5	175	43.7	24.994	0.0001
	No	141	64.1	34	60.7	37	49.3	13	26.5	225	56.3		
Assessing general appearance	Yes	62	28.2	19	33.9	27	36.0	10	20.4	118	29.5	4.183	0.242
	No	158	71.8	37	66.1	48	64.0	39	79.6	282	70.5		
Others	Yes	14	6.4	6	10.7	7	9.3	2	4.1	29	7.3	2.454	0.484
	No	206	93.6	50	89.3	68	90.7	47	95.9	371	92.7		
Frequency of Giving Antipyretic													
< 4 hours		65	29.5	12	21.4	12	16.0	9	18.4	98	24.5	21.202	0.012
4-6 hours		137	62.3	40	71.4	60	80.0	38	77.5	275	68.8		
≥ 7 hours		18	8.2	4	7.2	3	4.0	2	4.1	27	6.7		
Having a Thermometer at Home													
Yes		163	74.0	50	89.0	69	92.0	45	91.0	327	81.0	19.4	0 0.0001
No		57	26.0	6	10.0	6	8.0	4	8.1	73	18.0		
Type of the Thermometer													
Mercury	Yes	32	19.5	8	16.0	13	18.0	11	24.0	64	19.0	1.11	0.775
	No	132	80.5	42	84.0	56	81.0	34	75.0	264	80.0		
Digital	Yes	138	84.1	44	88.0	61	88.0	38	84.0	281	85.0	1.007	0.8
	No	26	15.9	6	12.0	8	11.0	7	15.0	47	14.0		
Others	No	164	100	50	100	69	100	45	100	328	100	-	-
Temperature Measurement Site													
Axillary	Yes	141	68.5	34	60.7	45	60.0	24	49.0	244	61.0	3.89	0.27
	No	65	31.5	22	39.3	30	40.0	25	51.0	156	39.0		
Rectal	Yes	0	0	1	1.8	1	1.3	1	2.0	3	0.8	4.91	0.178
	No	220	100	55	98.2	74	98.7	48	98.0	397	99.2		
Tympanic	Yes	8	3.6	5	8.9	12	16.0	9	18.4	34	8.5	17.53	0.001
	No	212	96.4	51	91.1	63	84.0	40	81.6	366	91.5		
Oral	Yes	7	3.2	1	1.8	5	6.7	3	6.1	16	4.0	2.96	0.397
	No	213	96.8	55	98.2	70	93.3	46	93.9	384	96.0		
Paying Attention to Antipyretic Dosage													
Yes		217	98.6	56	100	75	100	49	100	397	99.2	-	-
No		3	1.4	0	0	0	0	0	0	3	0.8		
Antipyretic Supply Method													
Without prescription	Yes	38	17.3	8	14.3	16	21.3	7	14.3	69	17.3	1.522	0.677
	No	182	82.7	48	85.7	59	78.7	42	85.7	331	82.7		
With prescription	Yes	208	94.6	54	96.4	70	93.3	46	93.9	378	94.5	0.676	0.879
	No	12	5.4	2	3.6	5	6.7	3	6.1	22	5.5		
Using Antibiotics Without Seeing a Doctor													
Yes		6	2.7	1	1.8	0	0	1	2.0	8	2.0	3.578	0.311
No		214	97.3	55	98.2	75	100	48	98.0	392	98.0		

correctly (15). When our results and literature are evaluated, it is concluded that as the socio-economic status and education level of the mothers increase, they measure fever with more reliable methods and approach their children with fever more consciously.

Study limitations

The main limitation of this study is that the results can only be generalized to the mothers of children with a chronic disease hospitalized in the university hospital where the study was conducted. Inclusion of only mothers in the study and exclusion of fathers is another limitation of the study.

CONCLUSION

Our study revealed that although the mothers did not know normal body temperature, most of them were able to correctly detect the presence of fever according to the measurement region, which shows that most of the mothers involved in our study detecting the presence of fever. It is thought that increasing the awareness of mothers about fever and the training to be given by nurses about correct practices will significantly reduce unnecessary drug use and admissions to health institutions. Childhood fever management is a process that starts at home and should be continued at home with medical recommendations. Parents have important responsibilities in the management of this process. It is thought that raising awareness of parents by nurses on this issue will facilitate coping with fever and increase conscious drug use.

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