SHORT RESEARCH REPORT

Awareness of mothers of under-five children about home management of fever in Eid Babiker, Khartoum North, Sudan

Amel Ahmed Hassan[1], Sahar Ahmed Mohamed[2]

[1]*Faculty of Medical Technical Sciences, Department of Nursing, Alzaiem Alazhari University, Khartoum North, Sudan.*
[2]*Department of Medical Nursing, Faculty of Nursing Sciences, University of Khartoum, Khartoum, Sudan.*

ABSTRACT

Background Fever is the most commonly recognized feature of disease and it is also the common symptom that prompts parents to take their children to the clinic. This study aimed to clarify the awareness of mothers of under-five years old children regarding home management of fever.

Methodology This is a descriptive cross sectional community based study conducted in Eid-Babiker. Convenience sampling method was used to include 40 mothers of under-five children who met the selection criteria. Data was collected using structured interview questionnaire; it was analyzed using statistical package for social sciences.

Results Among 40 mothers included, the majority (n= 28, 70%) of mothers age group was 20-40 years; education level of mothers' in 50% was a primary and 50% was a secondary school. Most of the participants (n=22, 55%) had more than three children. The results also showed that mothers were aware of intensity of fever and 62.5% of mothers took measurement of temperature at home. In addition, 47.5% of them administered antipyretics to their children without doctor consultation. Regarding seeking medical care, 87.7 % (n= 35) preferred treatment at home. A mother's education level and number of children were significantly related to her ability to measure temperature at home (p=0.01), to deal and treat the child with fever at home, and when to take under-five children with fever to hospital.

Conclusion The study concluded that mothers of under-five children in Eid-Babiker were aware about meaning of fever, common causes and preferred to treat fever at home.

***Correspondence to** sahar88@uok.edu*

INTRODUCTION

Normal core body temperature is described between 36 and 36.8 °C[1]. It is highest at about 18 to 24 months of age. Most doctors define fever as a temperature of 100.4° F (38° C) or higher when measured with a rectal thermometer[2]. Fever is one of the most widespread childhood symptoms occurring in 40 % of children under six months. The underlying disorder causing fever in children can range from mild and self-limiting illness to more serious viral and bacterial disease. Fever is the body's natural response to infection and raising the body temperature helps the body to fight against infection. Therefore, it is not always necessary to treat the fever[3]. Fever is also a common sign of self-limiting viral infections; however, they may signify serious illnesses in less than 10% of cases and bacterial infections in approximately 4%[4]. Parents frequently have concerns about fever and perceive it as a disease rather than a symptom of illness and their practice of home managing of fever varies according to their background and experience[5].

Upper respiratory tract infections are the most common causes of febrile episodes in children under the age of five years. During the infection, body temperature commonly fluctuates with a brief

pyretic intervals during the day; but the presentation of a single infectious disease with distinct febrile episodes separated by days of normal temperature is much less common[6].

On the other hand fever 'phobia' has been reported to lead to aggressive management by the parents, causing harmful effects on children. Several studies assessing parental knowledge, attitude, and practices regarding fever have concluded that parental knowledge regarding fever is inadequate; as a result of which there are many errors in their approach to fever. These include wrong methods for measuring fever at home, inappropriate use of antipyretic drugs and antibiotics and incorrect use of physical methods of lowering fever. Awareness and sound attitude of mothers of children under-five years regarding home management of fever can reduce the development of complications that may occur with and reduce frequency of hospital admission[8]. The aim of this study was to clarify awareness of mothers of under-five children about home management of fever.

SUBJECTS AND METHODS

In this descriptive, cross-sectional community based study conducted in Eid-Babiker East Nile Locality, the target population was all mothers of under-five children. The data was collected using structured interview questionnaire after testing its validity and reliability. The interview took 60 minutes with each mother. Convenience sampling method was used to include 40 mothers of under-five children. Demographic and awareness data were collected; basic scoring was done by giving "1" for correct item and "0" for negative item. The data was analyzed using statistical package for social sciences (SPSS); Approval for the study was obtained from health authorities of Eid-Babiker and participants' informed verbal consents were taken.

RESULTS

In this study,40 mothers were included, the majority of mothers' (n=28, 70%) age group was 20-40 years, and their education level was in 50% primary and 50% secondary school; most of the participants (n=22, 55%) had more than three children and 70% (n=38) were of moderate socioeconomic status.. Eighty percent (n=32) of the mothers were aware of meaning of fever and intensity and 62.5% (n=23) took measurement of temperature at home. About half (47.5%) administered child's medication in the form of antipyretics without doctor consultation (Table 1). Table 2 shows the significant association between the educational levels with measurement of fever at home

Table 1. Awareness of mothers of under-five years old children regarding home management of fever. (n=40):

Items	Frequency	%
Definition of fever:		
-Correct	32	80
-Incorrect	8	20
Intensity of fever:		
-Mild	26	65
-Severe	4	10
Measurement of temperature at home:		
-Yes	25	62.5
-No	15	37.5
Common causes of fever:		
-Malaria.	13	32.5
-Respiratory infections.	13	32.5
-Inflammation	14	32
Frequency of fever		
-Usually	27	67.5
-Sometime	13	32.5
Taking child with fever to hospital		
-Yes	5	12.5
-No	35	87.5
Methods of Treating fever at home		
-Antipyretic	19	47.5
-Bathing	9	22.5
-Traditional	12	30

Table 2. Educational level and measurement of fever at home using thermometer (n=40).

Educational level	Measurement of fever		p-value
	Yes	No	
Primary*	8	7	0.010
Secondary**	16	9	
Total	24	16	

*8 years of school **12 years of school

DISCUSSION

The present study was conducted to clarify awareness of mothers of under-five children about home management of fever. Almost all the mothers had primary or secondary school education and the majority were between 20-40 years of age, had more than three children and were of moderate socioeconomic status. It is therefore not surprising to find that these mothers had high knowledge of fever, its intensity and causes as well as being able to measure the temperate at home. This is comparable to the findings of the study done in Wad Medani, Gezira State that included 250 mothers of under-five children and reported that 78.4% were housewives, 52.0% had secondary school education and 61.6% of them were of moderate economic status. The study confirmed the associations between knowledge about fever and educational level in these mothers[9]. A similar study done in Gezira State in Al Dagala, Alhassahissa Locality, which involved 224 mothers, also showed that mothers had good knowledge about fever and its causation[2]

Moreover, a study done in Irbid, Jordan revealed that there was a significant positive association between the mother's age, household income, mother's level of education, and number of children, with knowledge and practices of fever[10]. Furthermore, a study done in Kwahu Hospital at Atibie, reported that mothers' knowledge of childhood fever was significantly associated with their age ($p = 0.0001$), age of the child ($p = 0.04$), number of children in the family ($p = 0.0001$), and level of education of the mothers ($p = 0.0001$)[4] However, this disagreed with study done in Saudi Arabia which found no difference in knowledge or practice towards child's fever in relation to difference in demographic characteristics of participants[5]

This study also showed that mothers are aware of the intensity of fever because they measured the temperature using axillary thermometer In addition they perceived that it could be treated at home by bathing and traditional management using home remedies, while nearly half (47.5%) give their child's antipyretics without doctor consultation. This is comparable with study done in Riyadh, Saudi Arabia which reported that most parents (82%) touch their children to confirm fever, 68% use oral thermometer, and 63% use axillary thermometer; 84% applied cold compression, 75% gave their children non prescribed fever medication, 61% gave their children plenty of fluids, but 6% took their children to the doctor right away. Almost one-third of participants reported having difficulty either in choosing fever medicine or giving the proper dose and frequency[5]

Regarding seeking medical care the vast majority of mothers in this study preferred to treat their febrile children at home. These results disagreed with study done in Al Dagala, Alhassahissa Locality that reported that 83.5% of mother took their febrile children to health centre although 74% knew correct practice towards medication used in home management, and 48.8% used paracetamol[2]

In this study home management of fever without doctor consultation using taped sponging, antipyretic or traditional was significantly associated with the age of mother, number of children and level of education ($p=010$) which was in turn related to mother's knowledge of fever. In agreement with our study, is the study conducted in Wad Medani, Gezira State that revealed that the overall knowledge of the participants towards home care of their febrile children was good, but the attitude was moderate, most of the them misused the antipyretics medications and had poor knowledge about their side effects[9] Comparatively, a study done in India; revealed that fever awareness was fair among urban parents. Mothers had better awareness than fathers. Increased awareness for correct fever management of under-five children is desirable among urban parents to reduce misuse of antibiotics and antipyretics[8]

CONCLUSION

The study concluded that mothers of under-five children in Eid-Babiker were aware about the meaning of fever, fever intensity, common causes, fever measurement and home management of fever. In addition most mothers didn't take their children to the clinic every time they had fever. The limitation of this study is the small sample size and further large scale research is recommended.

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