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## Knowledge of mothers towards management of children with fever

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**Abstract**--Background: Fever is a typical reason for youngsters to visit the doctor. Fever and its consequences alarm parents, and there is a disconnect between their comprehension and actual behavior in controlling fever, which is influenced by a range of circumstances and attitudes. Therefore, the present study aimed to assess mothers knowledge towards management of children with fever and determine the associated socio-demographic variables in Karbala Province/ Iraq. Methods: A descriptive cross-sectional study conducted in Karbala Hospitals/ Iraq by purposive sample of 200 mothers was selected through the use a non-probability sampling approach. The reliability of the questionnaire was achieved through a pilot study and then presented to experts to prove its validity. The total number of items included in the questionnaire was 14-items for knowledge. The data was collected by using the interview method and analyzed by the application of descriptive and inferential statistical data analysis approach. Results: Out of 200 mothers studied in study and indicated that (47.5%) of the mothers exhibited a poor knowledge towards management of children fever. There were significant association in knowledge with regards mothers age ( $p=0.000$ ), education level ( $p=0.049$ ) and sources of information ( $p=0.000$ ). Conclusions: Knowledge in terms of management of children with fever, mothers expressed a poor level due to influenced by mothers age (knowledge significantly higher with introduced age), education level (knowledge significantly higher with mothers who are institute and above graduated) and sources of information (health institutions significantly higher knowledge scores). Conducted an education sessions by local official in primary health care centers which indeed helps to develop mothers knowledge in related to management of children fever and reduce hospitals burdens

**Keywords**---knowledge, mothers, fever children.

## **Introduction**

Fever is a common complaint in children, accounting for almost 65 percent to 70 percent of all visits to the pediatrician [1]. Fever is a self-limiting sickness that brings parents discomfort as well as distress and anxiety. These variables add up to higher health-care costs and antibiotic usage. In addition, parents regularly make unnecessary phone calls and visits to doctors, which may result in unnecessary laboratory tests or even the prescription of medicines to children to calm their anxieties [2,3]. Ineffective fever control in children is the greatest source of anxiety for mothers [4]. Despite the fact that the mother, as the child's primary caregiver, plays the most significant role in their health, the data demonstrate that women lack the requisite knowledge and home management skills to control their children's fevers [5]. As a result, it is vital for mothers to have sufficient knowledge, awareness, and home management abilities in this area [6]. Therefore, the present study aimed to assess mothers knowledge towards management of children with fever and determine the associated socio-demographic variables in Karbala Province/ Iraq.

## **Methods**

To investigate mothers understanding on how to manage their children's fever. A purposive sample of (200) mothers whose children had fever and were treated in hospitals in Karbala Province, Iraq, was used in the non-probability sampling procedure. The data was collected using interview methods and included (socio-demographic data and knowledge questions consisted of 14-items pertaining to the care of children with fever). Validity was given to a panel of 11 arbitrators were asked to offer their opinions and suggestions on each of the study questionnaire's components in terms of language appropriateness, association with the dimension of study variables to which it was assigned, and suitability for the study population. To assess the questionnaire's reliability, data were collected from nurses, and the test was administered to 20 subjects from the study population who were not part of the original sample. Cronbach's alpha was discovered to be 0.79. A SPSS-20.0 were used analyzed the information was evenly distributed. One-way analysis of variance were used to examine variations in variables based on socio-demographic characteristics. For continuous variables, descriptive data is reported as mean standard deviation, and for categorical variables, it is shown as number (percent). Statistical significance was defined as a p 0.05.

## **Results**

Finding show participants age, the mean age is 26, the age 20-29 years old were recorded the highest percentage ( $n=76$ ; 38%). In regard with education level, the mothers expressed the elementary school graduated ( $n=60$ ; 30%). Occupation related findings, the housewife mothers were predominated ( $n=176$ ; 88%). In terms of residents, more than half of participants were rural residents ( $n=116$ ; 58%). In regard with monthly income, mothers exhibit a certain limit enough

income ( $n=108$ ; 54%). In terms of children number, mothers exhibit to had 2-3 child's ( $n=100$ ; 50%). Child's age related findings, the age 2 to 3 years old were highest ( $n=80$ ; 40%). Concerning sources if information, the mothers were use their family a best sources for information about child's fever ( $n=111$ ; 55.5%).

Table (1):Socio-Demographic Characteristics of Mothers

Variables	Class	n=200	%
Age/years ( $M \pm SD = 26.58 \pm 7.186$ )	<20 years old	48	24.0
	20-29 years old	76	38.0
	30-39 years old	64	32.0
	$\geq 40$ years old	12	6.0
Education Level	Illiterate	56	28.0
	Read & Write	40	20.0
	Elementary School	60	30.0
	Secondary School	20	10.0
	Institute and above	24	12.0
Occupation	Employment	24	12.0
	Housewife	176	88.0
Residents	Rural	116	58.0
	Urban	84	42.0
Income/month	Sufficient	44	22.0
	To a certain limit	108	54.0
	Insufficient	48	24.0
Number of Children	1 child's	52	26.0
	2-3 child's	100	50.0
	>3 child's	48	24.0
Child's Age	< 1 year	84	42.0
	2-3 years	80	40.0
	4-5 years	36	18.0
Sources of information	Family	111	55.5
	Internet	15	7.5
	Social media	11	5.5
	Health institutions	63	31.5

Findings demonstrated that the (47.5%) of mothers expressed a poor level of knowledge related to management of child's with fever.

Table (2):Mothers Knowledge of Management of Children Fever

Knowledge	Freq.	%	$M \pm SD$
Poor (M=14-23)	95	47.5	22.81 $\pm$ 8.084
Fair (M=24-32)	72	36.0	
Good (M=33-42)	33	16.5	
Total	200	100.0	

M: Mean for total score, SD=Standard Deviation for total score

Table (3):Statistical Differences in Mothers knowledge with regards their Age (n=200)

Knowledge	Source of variance	Sum of Squares	d.f	Mean Square	F	p≤ 0.05
Age	Between Groups	15.405	3	5.135	19.752	.000
	Within Groups	50.953	196	.260		
	Total	66.358	199			
Education	Between Groups	3.150	4	.788	2.430	.049
	Within Groups	63.208	195	.324		
	Total	66.358	199			
Monthly income	Between Groups	.138	2	.069	.205	.815
	Within Groups	66.220	197	.336		
	Total	66.358	199			
Number of children	Between Groups	.008	2	.004	.012	.988
	Within Groups	66.350	197	.337		
	Total	66.358	199			
Child's age	Between Groups	.966	2	.483	1.455	.236
	Within Groups	65.392	197	.332		
	Total	66.358	199			
Sources of information	Between Groups	6.147	3	2.049	6.670	.000
	Within Groups	60.211	196	.307		
	Total	66.358	199			

Findings demonstrated that there were highly significant differences in mothers knowledge with regard their age groups, education level and sources of information ( $p < 0.01$ ).

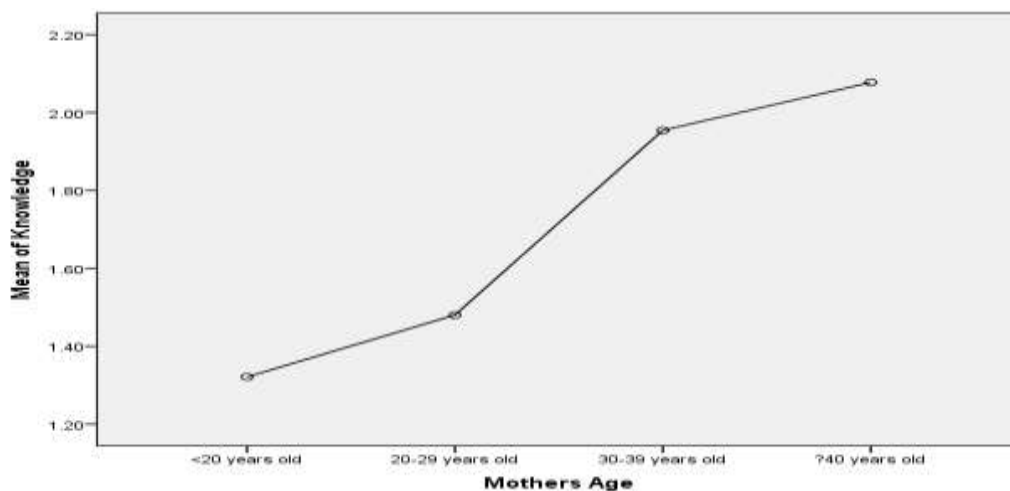


Figure 1. Distribution of Mothers Knowledge according to their Age Groups

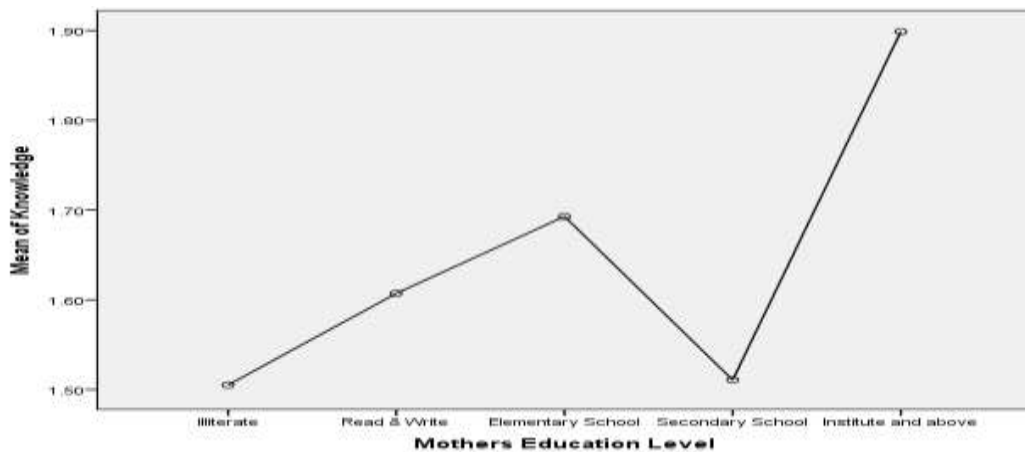


Figure 2. Distribution of Mothers Knowledge according to their Education Level

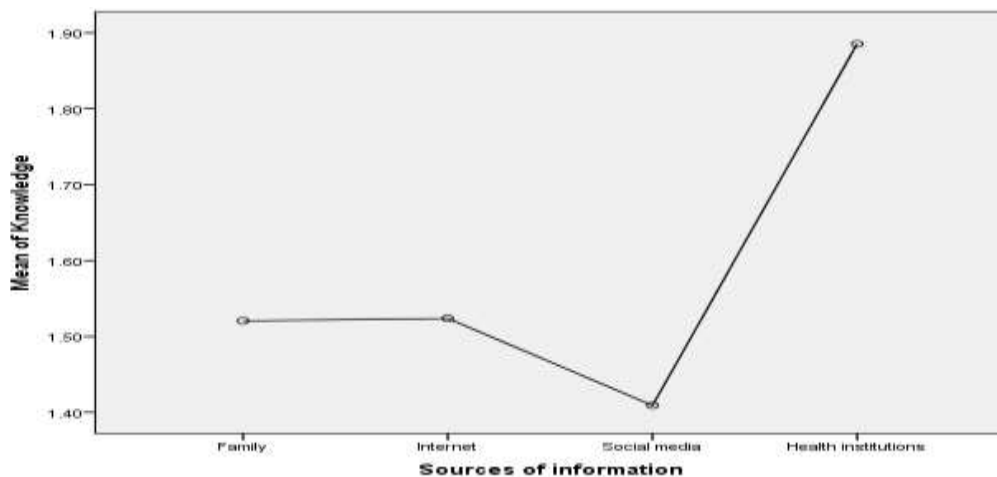


Figure 3. Distribution of Mothers Knowledge according to their Sources of Information

## Discussion

Fever in children is a common reason for visits to the doctor. Parents are concerned about fever and its implications, and there is a gap between their understanding and actual practice in managing fever, which is influenced by a variety of variables and attitudes. Caregivers for children all around the world are frequently ignorant of a fever-like body temperature. They sometimes treat a feverish child incorrectly or inappropriately. According to the results of the current study, 47.5 percent of mothers reported having insufficient information about how to manage their children with fever, as evidenced by low average 22.81 ( $\pm 8.084$ ). This study backs up the findings of the Iraqi Kurdistan Regional Government, which revealed that mothers were unable to effectively their knowledge. In this regard, a training program for mothers visiting basic healthcare facilities should be developed to teach them how to manage their children's fevers [7]. Furthermore, these findings were greater than those of Saudi

parents, with more than 90% of parents demonstrating insufficient awareness of their children's fever, excessive anxiety about the physical damage caused by fever, and belief that antibiotics can lower high temperatures [8]. According to a poll conducted in the United States, 55 percent of parents are unaware of the causes of fever, and only 17.5 percent are aware of how to manage children with fever [9]. In a local study, a similar outcome was reached. However, according to the current study, which encompassed various studies, including one in Morocco, 96.5 percent of the parents polled had an incorrect definition of temperature [10]. Only a thermometer can reliably determine whether a kid is feverish, and armpit temperatures are adequate for clinical fever screening [11]. Unsatisfactory knowledge was found to be 47.5 percent in our study, while fair knowledge was 36 percent and good knowledge was only 16 percent. These findings were found in the previous studies and are regarded concerning in the management of children with fever. According to another study, training mothers on the definition, consequences, and management of fever can boost their confidence in managing fever, as evidenced by fewer medical visits [12]. Increased fever awareness among child caregivers, particularly mothers, will reduce unnecessary child treatment while simultaneously reducing delayed and insufficient fever reactions [13].

The poor knowledge in current study sample might be due to several reasons; mother occupies herself only with raising her child, lack of sufficient awareness in the media in improving children health, majority of studied sample were from young who are unable to read and write. Health centers need to conduct more awareness sessions on managing children's fever in homes, which may contribute to reducing the burden on hospitals. This response confirmed in Bushehr City Hospitals, who mentioned that the mothers need to be empowering knowledge by attending education sessions deals with management of childhood fever [14]. There were only mothers age, education level and sources of information as a factors associated with their knowledge which are discussion as the following:

Findings demonstrated that there were highly statistically significant differences in mothers knowledge with regard their age groups ( $p=0.000$ ). The age of studied sample considered influencing factors of knowledge about child's fever, the age group ( $\geq 40$  years) were records high mean scores of knowledge, unlike the small age ( $< 20$  years) were records lowest mean scores (Fig. 1). Which means that the higher mothers age significantly associated with improved their knowledge towards management of child's with fever, while the youngest mothers is significantly associated with poor knowledge of child's fever. This findings come in agreement with findings from Kwahu Government Hospital at Atibie, among 1034 case of mothers with children under five years fever, demonstrated findings that there were significant association between mothers knowledge and their age groups, young mothers expressed a less knowledge that those who are older [2]. That is, the mother's experience of managing children with fever is related to their age (the older the age, the greater the knowledge). This was confirmed by Matziou et al. (2008), who are found a positive correlation between mothers' knowledge about fever management and the progression of mothers' ages [15].

Findings demonstrated that there were significant differences in mothers knowledge with regard education level ( $p < 0.049$ ). From the findings, the highest

mean scores of knowledge were increased with those who are institute and above graduated. While, there were lowest mean scores of knowledge were associated with those who are illiterate (unable to read and write) and those who are elementary school graduated (Fig. 2). So, the educational level is an influential and important factor in knowledge, and the difference between an educated mother and an uneducated mother is great. The study included the majority of those who unable read and write (28%) that the reason for the poor of knowledge in our study. This findings is supported by previous studies include a cross-sectional study involved neighborhood health center, and a private practice, confirmed that mothers knowledge significantly increased with higher education [16]. While, another study conducted in hospitals in Riyadh city, confirmed that the low level of education significantly associated with poor knowledge of home management of child's fever [17].

Findings demonstrated that there were highly statistically significant differences in mothers knowledge of child's fever with regard their sources of information ( $p < 0.000$ ). Mothers who are used health institute (physicians and nurses) as a sources of information towards management of child's fever is significantly increased their knowledge because this source specializes in that and gives correct knowledge regarding child fever, and on the contrary, those who use social media significantly associated with poor knowledge (Fig. 3). Those findings come in line with those who are exhibited that the mothers knowledge significantly depends on nurses [18]. The mothers knowledge about fever in children significantly associated with those who are used health care providers as a sources of their information [13]. The better sources of knowledge of mothers about management of children with fever is a primary health care centers staff [19].

## **Conclusion**

Knowledge in terms of management of children with fever, mothers expressed a poor level due to influenced by mothers age (knowledge significantly higher with introduced age), education level (knowledge significantly higher with mothers who are institute and above graduated) and sources of information (health institutions significantly higher knowledge scores). Conducted an education sessions by local official in primary health care centers which indeed helps to develop mothers knowledge in related to management of children fever and reduce hospitals burdens.

## **Study suggestion**

1. Educational sessions can be designed and offered to mothers who attending primary health care centers free of charge by specialized owners deals with management of children fever.
2. Encourage mass media to discuss topics related to management of children with fever.
3. A manual booklet of fever in children and how to manage it should be write in simple words and use attractive pictures given to the mothers and family.
4. Further study is needed to explore other factors related to management of fever in children to prevent complication and reducing hospitals burdens.

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