

The Knowledge and Attitude about Diarrhea of Mothers of Students Attending an Elementary School in a Suburban Area in Istanbul

Nese Keskin¹ , Aysen Surmen² , Dilsad Save³ , Seyhan Hidiroglu³ , Melda Karavus³ 

¹ Ministry of Health, Nigde Community Health Center, Nigde, Turkey.

² Ministry of Health, Yozgat Provincial Directorate of Health, Yozgat, Turkey.

³ Marmara University, School of Medicine, Department of Public Health, Istanbul, Turkey.

Correspondence Author: Nese Keskin

E-mail: drnsyks@gmail.com

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ABSTRACT

Objective: Diarrhea is one of the main cause of morbidity and mortality among children age under 5 years in Turkey though diarrheal disease control program has been performing and death ratio due to diarrheal disease under 5 years has been decreasing year by year in Turkey. This study is undertaken to evaluate knowledge, attitude and practice of mothers about childhood diarrheal diseases in a suburban area.

Methods: This descriptive study was carried out in a primary school in a suburban area of İstanbul. One hundred and forty four mothers of children included accepted in the study with response rate of 85%. A questionnaire form was applied for data collection. Epi-Info programme was used for statistical analysis. In addition to the descriptive statistical methods, for the comparison of qualitative data a chi-square test was used .

Results: In our study, the percentage of mothers who could define diarrhea correctly was 40%. Abdominal pain and watery defecation were the main signs which the mothers understand their children have diarrhea. Most of the mothers indicated that microbes as the cause of diarrhea. One of every two mothers stated that they would take their children to the doctor as they notice their child has diarrhea. Among the homemade treatments we asked, Potatoes cooked in boiling water and banana were the most frequent answers. Only one of mothers mentioned about using drugs at home for diarrhea and percentage of hearing about ORS was 21.5%. Eleven percent of mothers mentioned they believed to decrease liquid intake would be an effective practice in the treatment of diarrhea. Education level was very influential about knowledge and attitude about diarrheal disease.

Conclusion: This study reveals the importance of continuous health education of mothers as well as the need for raising their status especially schooling in communities. Circulating of correct information is also important as well as educating population.

Keywords: Childhood diarrhea, Mother, Knowledge, Istanbul, Turkey

1. INTRODUCTION

Diarrhea is defined as the passage of three or more loose or liquid stools per day (or more frequent passage than is normal for the individual) (1). The incidence of diarrheal diseases varies with the seasons and child's age. As the age is increased, vulnerability is decreased. Incidence is highest in the first two years of life and declines as a child grows (2).

Diarrheal disease is one of the leading causes of mortality and morbidity particularly in developing world. Diarrhea is one of the main cause of morbidity and mortality among children age under 5 years in Turkey though diarrheal disease control program has been performing and death ratio due to diarrheal disease under 5 years has been decreasing year by year in Turkey (3-5). In many developing countries, most diarrhoeal episodes are treated at home, and mothers are the key caregivers to under-five children. They are the ones who decide about the type of food given to the child and the overall management of the disease. Therefore, their knowledge about this common disease is critically important. Awareness of and perception towards diarrhoea, and individual as well as household actions to prevent and/or manage the disease, have paramount importance to reduce diarrhoea-related morbidities and mortalities (6, 7).

This descriptive study is undertaken to evaluate knowledge, attitude and practice of mothers about childhood diarrheal diseases in a suburban area. This study will provide information about diarrhea and also provide insight about maternal role and role of the health workers on control of diarrhea. The knowledge about diarrheal disease may contribute to health care provider to empathize with mothers' point of view and dealing with the situation more effectively. Also there is limited number of studies about this topic in Turkey (8, 9) and our study will contribute to this literature gap.

2. METHODS

This descriptive study was carried out in a primary school in a suburban area of İstanbul. Due to this school is in the education district of medical faculty and relevant for our study, we selected this school. Convenient sampling method was used. Total number of students who had been attended in this school was 420. We invited 170 mothers of students to participate in our study and 144 of these mothers accepted to participate in the study. Response rate was 85%. Mothers of children were invited to the school for interview. The questionnaires formed by examining related literature were

applied by the sixth year students of medical faculty who were trained by the researchers to standardize the data collection. Ethics committee permit and institute permit were obtained to perform our research.

2.1. Statistical Analysis

Epi-Info programme was used for statistical analysis. In addition to the descriptive statistical methods (mean, standard deviation, and frequency) for the comparison of qualitative data a chi-square test was used. Outcomes were analyzed within 95% confidence intervals with a significance level of $p < 0.05$.

3. RESULTS

The mean of mothers' age was 33.2 ± 5.9 with range of 22-55. The mothers' educational level was poor, 11.8 % illiterate, 3.5 % literate, 37.5% of them being elementary school graduates, 15.3 % secondary school graduates and 19.4 % is high school graduates.

Mothers responded the question of "What does diarrhea mean?" in the following way. The percentage of mothers who could give the definition as " watery defecation more than 3 times a day" was 40% (Table 1). Abdominal pain (60.4%) and watery defecation (59.0%) were the main signs which the mothers understand their children have diarrhea.

Table 1. Distribution of the Responses of the Mothers to the Question of "What Does Diarrhea Mean?"

Diarrhea definition	n	(%)
Watery defecation more than 3 times a day	54	40.0
More than 5 defecation	49	36.3
I don't know	29	21.5
Bloody defecation	3	2.2
Total	135	100.0

Most of the mothers indicated that microbes as the cause of diarrhea. "Cold" was expressed as a cause by 42.4 % of mothers (Table 2).

Table 2. Distribution of the Responses of the Mothers the Question of "What Causes Diarrhea?"

Responses*	n=144	(%)
Microbes	112	77.8
Drinking dirty water	63	43.8
Cold	61	42.4
Dirty and spoiled foods	46	31.9
Antibiotic use	36	25.0
I don't know	12	8.3
Other **	10	6.9
Other diseases	9	6.3

* more than one answer could be chosen, ** worsening of immune system, emerging teeth, eating from market, dirty toilet, fatty foods, hot weather

One of every two mothers stated that they would take their children to the doctor as they notice their child has

diarrhea; 42.8 % of the mothers expressed that they would give some kind of foods to their children at home. Among the homemade treatments we asked, Potatoes cooked in boiling water (86.1%) and banana (79.2%) were the most frequent answers. Leblebi, rice cooked in boiling water, Salty ayran, Peach, Cola – aspirin, Coffee-lemon, warm water with honey, boiled egg, apple, coffee-yoghurt, lime, maya-water were the other choices for diarrhea used by mothers (Table 3). Only one of mothers mentioned about using drugs at home for diarrhea and percentage of hearing about ORS was 21.5%.

Table 3. Distribution of the Responses of the Mothers to the Question of "How Do You Feed a Child with Diarrhea"

Nutrition in Diarrhea	n=144	(%)
Potatoes cooked in boiling water	124	86.1
Banana	114	79.2
Roasted chickpeas	51	35.4
Rice cooked in boiling water	47	32.6
Salty ayran	29	20.1
Peach	22	15.3
Cola – aspirin	22	15.3
Coffee-lemon	21	14.6
Other *	18	12.5
Carrot juice	9	6.3

* warm water with honey, boiled egg, apple, coffee-yoghurt, lime, maya-water

More than half of the mothers (65.7 %) indicated the necessity of more liquid food, but there were still mothers who believed to decrease liquid intake would be an effective practice in the treatment of diarrhea (11.1 %) (Table 4).

Table 4. Distribution of the Responses of the Mothers to the Question of "How Do You Feed Your Children While He Has Diarrhea?"

Responses	n=144	(%)
I give more liquid food	94	65.7
I give more solid food	59	41.0
I give less liquid food	16	11.2
I feed as usual	18	12.5
Other*	7	4.8

* I feed less fatty foods, I give fruits, I feed according to my doctor's recommendations

Education level was very influential about knowledge and attitude about diarrheal disease. While almost half of the mothers graduated from elementary school and above (44.7 %) could define the diarrhea as 'Watery defecation more than 3 times a day', these knowledge level was 15.0 % among the mothers not literate or literate (Table 5). Also the percentage of the mothers who graduated from at least elementary school (72.7 %) differed from the mothers who had not graduated from any school (28.6 %) regarding to giving more liquid food as their children has diarrhea (Table 6).

Table 5. Relation Between the Mothers' Educational Level and Knowledge about Diarrhea Definition

Mothers' Educational Level	Knowledge about diarrhea definition									
	I don't know		Watery defecation more than 3 times a day		Watery defecation more than 5 times		Bloody defecation		Total	
	n	%	n	%	n	%	n	%	n	%
Literate or illiterate	11	55.0	3	15.0	5	25.0	1	5.0	20	100.0
Graduated from at least elementary school	17	14.9	51	44.7	44	38.6	2	1.8	114	100.0
Total	28	20.9	54	40.3	49	26.6	3	2.2	134	100.0

$p < 0.001$, $\chi^2 = 18.480$

Table 6. Relation Between The Mothers' Educational Level and Feeding Their Children with More Liquid Food When They Have Diarrhea

Mothers' Educational Level	Feeding their children with more liquid food when they have diarrhea				Total	
	Yes		No		n	%
	n	%	n	%		
Literate or illiterate	6	28.6	15	71.4	21	100.0
Graduated from at least elementary school	88	72.7	33	27.3	121	100.0
Total	94	66.2	48	33.8	142	100.0

$p < 0.001$, $\chi^2 = 15.592$, $OR = 0.15$ (95% $CI = 0.054-0.419$)

4. DISCUSSION

Participant mothers' educational level was poor. Percentage of mothers defining diarrhea correctly was 40% and most of them was higher educational level. Most of the mothers indicated that microbes as the cause of diarrhea. Mothers preferred solid foods such as boiled potatoes (86.1%) and banana (79.2%) for their children with diarrhea. More than half of the mothers (65.7 %) indicated the necessity of more liquid feeding food and this attitude was also highly related with higher educational level. Most of mothers had not heard about ORS.

Despite the negative consequences of illness not only sanitary but also economically and the considerable therapeutic benefits of ORS, application in developing countries has been remaining so low and only 43.0% of children under five in the 'least developed countries' are receiving ORS for the treatment of diarrhea (10). Since 1980's World Health Organization and UNICEF have been issuing the program named Early Treatment of Diarrhea but unfortunately diarrhea is still a leading health problem for children. Insufficient and inaccurate knowledge about diarrhea is still affecting the appropriate attitude in preventing and treatment of diarrhea. In our study, we too found that there

are still wrong practices and believes about treatment of diarrhea in communities.

In spite of continuous effort for public education especially in primary health care services, in this study it is found that knowledge about diarrhea such as hearing about ORS (22,6%), giving more liquid food (65.7%), defining diarrhea correctly (40.0%) is so deficient. Results of a research reported from Turkey indicated that 40.2% of mothers heard about ORS (9) but asking about ORS usage represented lower rate (6.6%) in another study from our country (8) and percentage of giving more water was almost the same to our study result (65.2%). Also many mother (84.4%) mentioned that they continued breast feeding during diarrhea of children (8). The knowledge that breastfeeding should be continued during diarrhea was only 47.0% in an interventional study performed in Delhi. But, it is promising to see this percentage increased to 90.0 % after intervention for further interventional studies that can be planned in our country (11).

It is also observed that mothers of the children with diarrhea give more fluids in a considerable percentage (65.7%), but still there are mothers who make no changes in the fluid intake of their children with diarrhea (12.6%), and who decrease the fluid intake (11.2%).

It is revealed that educational level plays an important role in deciding to take the child having diarrhea to a doctor. Although in our study mothers having higher education (high school, university graduates) were not represented, graduates of primary school were found to have a considerable important impact on mothers' attitude towards usage of health care facilities. This effect may be attributed to defining role of education of mothers, women's status in communities and mothers' freedom to get into contact with the outdoor environments.

In a study carried out in Belgium majority of mothers were found to prefer home available fluids (78.7 %) and 81.0 % of the mother who attended our study also prefer giving different types of treatments to their children at home. There are many types of traditional feeding practices in Anatolia to treat the child at home, such as bitter, well steeped tea, well steeped tea with pepper, raw onion, lemon salt, banana, salty ayran, kola, boiled potatoes, leblebi, wheat in oil, to keep the child warm etc (12). Especially rice boiled in water is one of the classical menu for diarrheal diseases in the Turkish culture. Ulaş et al. reported that besides more liquid and breast feeding, boiled potatoes (87.6%) and rice (62.6%) were most preferred solid foods for feeding during diarrhea. In our study, potatoes cooked in boiling water (86.1 %) and banana (79.2 %) are the most preferred feeding style supporting our cultural practices. Similar to our culture, a study in Kosovo revealed that rice water (19.6 %), bananas (15.9 %), tea (7.5 %), potatoes (6.5 %) are commonly used to treat diarrhea (13).

"Cold" is one of the important causes of many diseases in the Turkish culture. It is shown that acute respiratory disease, urinary diseases, rheumatological diseases and headache

are thought to be caused by cold in the Turkish culture (12). This study also supported this believe expressing 'Cold' as a cause by 42.7 % of mothers. If the real cause of a disease is not known, preventive measures as well as the appropriate treatment can't be performed seriously. When the TDHS data is compared between the years 1998 and 2008, slight increase in diarrheal disease frequency is observed (30.0 % to 23.0 %) indicating decrease of the poor sanitation practices and the use of contaminated water supplies. In our study, the mothers expressed that dirty-spoiled foods (32.2 %) and dirty water (44.1 %) can cause diarrhea and they seemed to be aware of the diarrhea causing effect of unsafe foods and drinks sold in open markets and school canteens. This awareness also exist in Belgaum reported by results that drinking contaminated water (80.3 %) and eating contaminated food (68.42 %) expressed as cause of diarrhea (14).

5. CONCLUSION

This study reveals the importance of continuous health education of mothers as well as the need for raising their status especially schooling in communities. Circulating of correct information is also important as well as educating population. Eventually planning and performing our study as a descriptive study was a limitation. So that, the results represent the research sample and cannot be generalized for population.

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