

Knowledge, attitude and behaviour of the parents about management of acute gastroenteritis

Ebeveynlerin akut gastroenterite ilişkin bilgi, tutum ve davranışları

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ABSTRACT

Objective: Proper management of dehydration at home could decrease both mortality and morbidity. We aimed to quantify the knowledge, attitude and practice of intermediate and high social status families in diarrhea management.

Methods: Parents with children aged between 6 months, and 5 years were enrolled. Sociocultural levels of the parents, their knowledge, attitude and practice about feeding, fluid intake and usage of oral rehydration fluid for diarrhea were questioned.

Results: There were 189 parents in the study group. Parents with high sociocultural class consisted 79.4% of the group. Over 90% of the parents stated that breastfeeding should continue. Parents said that food amount should be the same (54.1%) or increased (33%). Parents, mostly increased fluid intake in case of diarrhea (93.3%). The difference between sociocultural classes was not significant. Knowledge on usage of oral rehydration fluid was not sufficient.

Conclusion: Regardless of the sociocultural level all parents should be informed properly on the management of diarrhea and dehydration.

Key words: Diarrhea, fluid therapy, parents, health knowledge, attitudes, practice, social class

ÖZET

Amaç: Dehidratasyonun evde tedavisinin doğru yapılması gerek mortalite, gerekse morbiditeyi azaltabilmektedir. Bu çalışmada, orta ve üst sosyal sınıfta yer alan ailelerin ishale yaklaşıma ilişkin bilgi, tutum ve davranışlarını ölçmeyi amaçladık.

Yöntemler: Çalışmaya 6 ay 5 yaş arasında çocuğu olan ebeveynler alındı. Ebeveynleri sosyokültürel düzeyleri; beslenme, sıvı alımı ve oral rehidratasyon sıvısı kullanımına ilişkin bilgi, tutum ve davranışları sorgulandı.

Bulgular: Çalışma grubunda 189 ebeveyn vardı. Yüksek sosyokültürel düzeyde olan ebeveynler grubun %79.4'ünü oluşturmaktaydı. Emzirmenin sürdürülmesi gerektiği ebeveynlerin %90'ından fazlası tarafından belirtildi. Ebeveynler besin miktarının aynı (%54,1) ya da daha fazla (%33,0) olması gerektiğini söylediler. Ebeveynlerin çoğunluğu (%93,3) ishal durumunda sıvı alımını arttırmaktaydı. Sosyokültürel düzey grupları arasındaki fark anlamlı değildi. Oral rehidratasyon sıvısı kullanımına ilişkin bilgi düzeyi yeterli değildi.

Sonuç: Sosyokültürel düzeyden bağımsız olarak tüm ebeveynlerin ishal ve dehidratasyon tedavisi konusunda uygun bir biçimde bilgilendirilmesi gereklidir.

Anahtar kelimeler: İshal, sıvı tedavisi, ebeveynler, sağlık bilgisi, tutum, davranış, sosyal sınıf

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INTRODUCTION

Acute gastroenteritis causes deaths of millions of children each year, mostly in developing countries ⁽¹⁾. Dehydration due to loss of fluid and electrolytes may occur especially in young children. Fluid losses resulting from diarrhea and vomiting can be as high as three times the circulating blood volume. To compensate this situation, intracellular fluid moves out, causing dehydration. Early and adequate administration of oral rehydration solution together with appropriate food may prevent both morbidity and mortality ⁽²⁾.

In 1983 dehydration due to diarrhea was among the top 5 causes of infant mortality in Turkey ⁽³⁾. Although a number of programmes were run by Ministry of Health decreased deaths, annual number of diarrhea cases remained unchanged ⁽³⁾. Major outcome of these efforts was to increase awareness and knowledge of parents and health workers in the management of dehydration. As health system pays less attention to acute diarrheal diseases, knowledge level of parents and physicians in the management of dehydration may decrease.

Assessing the parent's level of knowledge, attitude and practice on dehydration therapy would provide vital information for national program managers. Natural target for programs dealing with gastroenteritis is families with low social status. Children from such families are in high risk for mortality and morbidity due to gastroenteritis. But families with intermediate and high social status may have a number of risk factors.

In this study we aimed to quantify the knowledge, attitude and practice of parents of intermediate and high social status families in oral rehydration therapy and management of diarrhea.

MATERIAL and METHODS

The study setting was the outpatient clinics of Dr. Behcet Uz Children's Hospital, Izmir. Our hospital is a major teaching hospital serving to Aegean region with a population of over 5 millions. Parents of chil-

dren between age of 6 months, and 5 years were enrolled in the study. Questionnaire forms were filled by the same researcher by face-to-face interviews. Social and cultural level (SCL) was classified based on the classification system created by Boratav was used ⁽⁴⁾. Social status was the main determinant of this classification. This scoring system used educational level of the mother and occupation of the head of household. When a family was discovered to be in low SCL, they were not included in the study group. Study group consisted of intermediate SCL and high SCL. Knowledge, attitude, and practice of each parent whose children had diarrhea within the last six months were questioned

Data was collected in 4 subgroups: 1. Demographic data; that is mother's age, parent's education level and occupation. 2. Feeding data; breastfeeding frequency, use of diet formula, amount of food per feeding, choice of food during diarrhea. 3. Fluid management data; amount and kind of fluid given. 4. Oral rehydration therapy; preparation, amount, way of giving ORS, use of antidiarrheal medication.

The study protocol was approved by the local Ethics Committee. Informed consent was obtained from either parent.

Statistical analysis was performed using SPSS for Windows, version 15.0 statistical software package (SPSS, Inc., Chicago, USA). Chi-square test was used for differences in comparisons. A p value <0.05 was considered significant.

RESULTS

Study group consisted of 189 parents. Thirty four children (18.0%) had episodes of diarrhea within the last 6 months. Demographic characteristics of the study group are shown in Table 1. Mean age of the mothers of the children was 31.6±4.6 (21-47) years. Most of the mothers were graduated from high school or university (72.5%) as the fathers (76.7%). Most of the children were in high SCL (79.4%) and the rest were in the intermediate SCL (20.6%). Both SCL groups (64.1%, 66.2%) preferred first level facilities

(private practice and family physician) in case of diarrhea.

Table 1. Education level of the parents.

		Intermediate SCL (n=39) (%)	High SCL (n=150) (%)
Education level of mothers	Illiterate	2.6	0.0
	Literate	2.6	0.0
	Primary school	71.8	1.3
	Intermediate school	2.6	12.7
	High school	15.4	36.7
	University	5.1	49.3
Education level of fathers	Illiterate	0.0	0.0
	Literate	2.6	0.0
	Primary school	41.0	5.3
	Intermediate school	10.3	10.0
	High school	46.2	32.7
	University	0.0	52.0

Over 90% of the parents stated that breastfeeding during diarrhea should continue. Attitude in both groups was in favour of continuing breastfeeding. All mothers in the high SCL group continued breastfeeding when their child had diarrhea. In the intermediate SCL group, only 66.7% of the mothers continued breastfeeding. Knowledge, attitude and practice of the parents on breastfeeding during diarrhea are shown in Table 2. Knowledge and attitude of the parents were similar in high SCL ($p=0.267$). Even

though the families stated that breastfeeding should be given more frequently, none of them did so when their child had diarrhea. Also some of them decreased breastfeeding even they knew it should not be done. Around half of the parents from both groups stated that low lactose formulas should not be used in case of diarrhea. Attitude and practice in both groups were also in favour of not using formula at all (Table 2). A considerable number of the parents had the knowledge and attitude of using diet formula. But most of them have not used these formulas when their children had diarrhea.

Almost all of the parents in both groups knew that the amount of food given should be same or more ($p=0.173$). There were no differences between the groups in terms of attitude ($p=0.454$) and practice ($p=0.462$). Table 2 gives the detailed information on knowledge, attitude and practice about amount of feeding during diarrhea.

The question “What should children eat during diarrhea?” was mostly answered as special diet (less milk, less fat) in both groups. The difference was insignificant between groups. In practice, there was a significant decrease in the intermediate SCL group (68.7%) while high SCL group (90.9%) gave special diet ($p=0.663$). In the high SCL group, practice of giving special diet was consistent with the knowl-

Table 2. Distribution of parent's knowledge, attitude and behaviour on feeding (%).

		Knowledge		Attitude		Practice	
		Social culturel level (%)		Social culturel level (%)		Social culturel level (%)	
		Intermediate	High	Intermediate	High	Intermediate	High
Decreasing breastfeeding	Yes	7.9	3.5	5.3	8.6	33.3	0.0
	No	92.1	96.5	94.7	91.4	66.7	100.0
Low lactose formula use	Yes	55.9	40.6	41.7	41.1	12.5	16.3
	No	44.1	59.4	58.3	58.9	87.5	83.7
Decreasing food intake	Yes	5.3	15.0	10.3	16.2	25.0	15.9
	No	94.7	85.0	89.7	85.8	75.0	84.1
Special diet for diarrhoea	Yes	7.7	11.6	10.3	8.7	31.3	9.1
	No	92.3	88.4	89.7	91.3	68.7	90.9
Decreasing fluid intake	Yes	7.7	1.3	7.7	2.0	12.5	0.0
	No	92.3	98.7	92.3	98.0	87.5	100.0
Appropriate fluid	Yes	56.4	60.5	48.4	51.9	45.6	51.6
	No	43.6	39.5	51.6	48.1	54.4	48.4

Table 3. Distribution of parent's knowledge, attitude and behaviour on giving ORS (%).

		Knowledge		Attitude		Practice	
		Social cultural level (%)		Social cultural level (%)		Social cultural level (%)	
		Intermediate	High	Intermediate	High	Intermediate	High
ORS preparation	Correct	37.0	34.9	31.3	42.4	50.0	30.4
	Incorrect	63.0	65.1	68.7	57.6	50.0	69.6
ORS amount given	Correct	73.3	85.6	50.0	66.9	81.8	76.2
	Incorrect	26.7	14.4	50.0	33.1	18.2	23.8
Way of giving ORS	Correct	68.8	70.7	77.1	64.4	41.7	62.5
	Incorrect	31.2	29.3	22.9	35.6	58.3	37.5

edge level of the participants. In the same group, the knowledge level of half of the parents favoured regular diet. The intergroup difference was significant ($p=0.000$).

Parents from both groups had the knowledge, attitude and practice in favour of giving more fluid. There was no difference between SCL groups as for giving appropriate amounts of fluid ($p>0.05$). There was a significant lack of knowledge, incorrect attitude and improper practice regarding appropriate fluids. The difference between two groups was insignificant. Parents' knowledge, attitude and practice about kind and amount of fluid are given in (Table 3).

There were no significant differences regarding knowledge, attitude and practice about ORS preparation of the parents from both intermediate and high SCL ($p>0.05$). Indeed only 21.2% of the families had given ORS when their children had diarrhea. Almost 2/3 of the families did not know how to prepare ORS correctly. The same trend prevailed for attitude and practice. Although parents' knowledge on the quantity of ORS that should be used was generally correct, attitude towards giving ORS was not so strong in both SCL groups (Table 3). Route of administration of ORS was correct for the intermediate (68.8%) and high (70.7%) SCL groups ($p=0.831$). But correct practice was applied only by 41.7, and 62.5% of the intermediate and high SCL groups, respectively ($p=0.298$) (Table 3). This decrease rate in administration of ORS was not different between SCL groups ($p=0.319$).

DISCUSSION

Diarrhea is still an important problem of the developing countries. Negative environmental factors, poor food sanitation and insufficient knowledge of personal hygiene are the prominent etiological factors⁽⁵⁻⁷⁾. Although there is no significant decrease in the number of annual cases with diarrhea, its mortality rates are decreasing. Decrease in mortality rates is more significant within the first year of life. This is probably related to the increased use of ORS, longer and correct breastfeeding practices and better food and water sanitation⁽⁶⁾.

Parents with sufficient knowledge on the management of diarrhea may easily manage the treatment at home. Almost all of the families seek help from a health facility in case of diarrhea. This was mostly a primary health care services or a private practice. Admission rates to a health care institute of any level were stated to range between 40, and 50% in intermediate and high SCL groups in our country⁽³⁾. High admission rates detected in our study are considered to be due to our study group enrolled from the hospital. Breast milk has an important protective factor in preventing diarrhea. AAP Policy Statement says that any breastfeeding is associated with a 64% reduction in the incidence of nonspecific gastrointestinal tract infections⁽⁸⁻¹¹⁾. This effect lasts for 2 months after cessation of breastfeeding. There are studies showing that parents may discontinue breastfeeding during an episode of diarrhea⁽¹²⁾. As a result of breastfeeding

promoting programmes, parents have learned breast-feeding should not be discontinued. However, practice is not sufficient yet. There were mothers who were stopping or decreasing breastfeeding during diarrhea which should be considered in diarrhea management trainings.

There are a number of so called “diarrhea formulas” with low lactose. But they are not recommended for routine use in diarrhea. Although parents in our study did not use these formulas frequently, they had the knowledge that special formulas might be used.

In order to prevent weight loss, food intake should not be restricted during diarrhea, but rather increased. Most of the parents in our study group had accurate knowledge, attitude and practice in cases with diarrhea. In our country, only 22% of the children with diarrhea were given appropriate amount of food, while 53% of them received deficient amounts of food ⁽³⁾. In our study, we had higher rates, especially in middle SCL.

A special diet of low fat, low sugar and no milk is believed to be beneficial in case of diarrhea in public. Most of the families in our study also had the knowledge of giving special diarrhea diet. It was reported that in our country 91.7% of the university graduates were not giving special diet compared to the 89.5% of elementary school graduates and 82.5% of high school graduates ⁽¹²⁾. Yücecan et al ⁽¹³⁾ stated, that 81% of the mothers knew that their children should be given more food and fluid. But in practice, only 52% of them gave appropriate amount of food ⁽¹³⁾. In our study group while most of the parents had the knowledge of increasing food and fluid intake, their choice of food was usually inappropriate. Parents should be given correct information on this topic.

In both intermediate and high SCL groups, most of the parents knew that amount of fluid given should be increased. While majority of the parents had correctly suggested more fluid, their choice of fluid was mostly inappropriate, like commercial juices, and soda. It was reported that mothers with different levels of education had almost similar attitude for giving

soda, ranging between 15-18% ⁽¹²⁾. This is one of the subjects of high priority in the management of diarrhea.

Oral rehydration solution (ORS) is a safe and life saving tool for dehydration therapy, which is recommended by WHO. Both intermediate and high SCL parents stated that ORS is beneficial in case of diarrhea. But generally they did not know how to prepare the solution. As in other developing countries, control of diarrheal diseases programme was implemented in our country in 80'ies. But after an initial success, rate of ORS use has dropped sharply. Parents had a reluctance in using ORS although they had the necessary information ^(14,15). Majority of them did not know how to prepare ORS. As a result, even the parents stating that ORS should be used were not using it at all.

Diarrheal diseases were one of the most common causes of mortality in 80'ies. Huge efforts at all levels of health care system caused a considerable decrease in mortality although morbidity remained unchanged. Achievements in reducing the mortality of diarrheal diseases might have a negative effect on the priority of such efforts of the health workers. Managing dehydration is still a priority which aims to keep the mortality rates at low levels. Parents and home therapy play a major role in preventing dehydration. Even families with well educated mother and high income have risks related to dehydration. Regardless of sociocultural level all parents should be informed properly on management of diarrhea and dehydration including correct feeding practices and preparation and use of ORS.

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