

Mother's Awareness and Practices Regarding Home Management of Childhood Diarrhea in a Squatter Settlement of Karachi

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ABSTRACT

Background: Diarrhea is cited as one of the main causes of death for infants and children, especially in squatter settlements, owing to poor sanitary conditions. Treatment and prevention of diarrhea can be managed at home by primary caregivers. It is therefore important for mothers and primary care givers to be aware of strategies for management and treatment of diarrhea.

Objective: To assess the awareness of mothers regarding home management of childhood diarrhea in a squatter settlement of Karachi.

Methods: A cross sectional study was conducted from 2012 to 2013 among mothers from Gulshan-e-Sikanderabad of Karachi who had at least one child under age of 5years. In total 110 mothers were interviewed. Non probability convenience sampling technique was used. Data was collected by structured questionnaire filled via personal interview. Informed consent was obtained before collection of data. Data Analysis was done by using SPSS version 20.

Results: Out of total 110, 93 (84.5%) mothers said that their children had an episode of childhood diarrhea during last 3 months. For the management of diarrhea 91 (82.7%) mothers took their children to PHC centre and 99 (89.9%) mothers were aware about ORS. Almost two third of them aware about the ingredients of homemade ORS but their knowledge about correct amount was poor. Dirty water and food was identified as the important causes of diarrhea by 106 (96%) and 76 (69%) mothers respectively. According to 101 (91.8%) mothers hand washing would be an effective measure to prevent diarrhea.

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Conclusion: Despite the high rate of diarrhea in this community, knowledge of mothers regarding home management of diarrhea was found satisfactory. Adopting the preventive measures and intensifying the mothers education is the dire need to reduce the high rate of diarrhea in this community.

KEY WORDS: *Childhood Diarrhea, Home Management, Awareness and Practices of Mothers, Squatter Settlement.*

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INTRODUCTION

Childhood mortality in Pakistan is a major cause of concern as every year about 400,000 infants die in the first year of their life. Out of every 10 children one child dies before reaching the age of five and one among 30, just after they are born.^{11,2} The deteriorating child health situation could be seen in the annual health report of the Pakistan Medical Association (PMA) for the year 2011, which says one child dies every minute from EPI (expanded program on immunization diseases), diarrhea and acute respiratory infection (ARI).¹

Diarrhea is the leading cause of childhood death in Pakistan. A community based survey measured diarrhea in the preceding two weeks among children under 5 years of age as 28%.³ Worldwide mortality of children under five years due to diarrhea is estimated up to 1.5–2 million children per year.⁴ According to World Health Organization,⁵ estimates of mortality from diarrheal diseases among children in developing countries turned out to be 1.6 million deaths per year.⁴ In another survey conducted among children less than 3 years of age in rural Sindh Pakistan, prevalence of diarrhea was found as 51%.⁶ Several factors are likely to contribute to the very high diarrhea morbidity and mortality rates, including poverty, female illiteracy, poor water supply and sanitation, poor hygiene practices, lack of exclusive breast feeding, breast feeding for less than one year, and inadequate health services.^{7,8}

Diarrhea is among those communicable diseases which is both preventable and curable. Early and correct identification of diseases and prompt initiation of management plays a key role in reducing diarrhea related mortality.⁹ Increase fluid intake and continued feeding by caregivers

especially by mothers are vital measures that prevent diarrhea related child mortality.⁹ It has been found by various studies that traditional beliefs, barriers and practices regarding childhood diarrhea and its management by mothers are vary among different communities.¹⁰ Goldman et al highlighted that health seeking behavior and the selection of treatment are influenced not only by the traditional beliefs, but also by socio-demographic factors, distance of health care facilities and the type of health care providers.¹¹ It has been noted as well that mother's knowledge and education is not sufficient for home management of diarrhea but this is also very important to know their belief patterns about a particular diseases followed by interventions to modify their beliefs, practices and their responsibilities.¹⁰

Gulshan-e-Sikanderbad is a poor resource urban squatter settlement in Keemari area of Karachi. There is no Government health care facility in this area. There were few dispensaries that were run by quacks. Ziauddin University hospital is situated near this community and has been providing primary health care since 1997 through its Primary Health Care (PHC) Centre located within the community. Health status and health seeking behavior of community is similar as it is observed in most of the rural and urban slums of Karachi. Acute respiratory tract infection and diarrhea are the most common childhood illnesses in this community.¹² Majority of the population in this community are *Pathans* and *Afghani*. They have their own beliefs and practices for management of childhood diarrhea. It is hence aimed to know the awareness of mothers regarding illness of diarrhea and also assess the health seeking behavior and practices towards diarrhea management. The results of this study are important as it will help in designing health education programs for

mothers in relation to management of diarrhea and it will also open avenue to conduct an interventional study for improving the health status of community by mother's education.

METHODOLOGY

This descriptive cross sectional study was conducted from 2012 to 2013 among mothers of Gulshan-e-Sikandarabad which is an urban squatter settlement of Karachi with a more than 35000 population.¹² Most of the people in this community were migrants from Khyber Pakhtunkhwa and Afghanistan and belong to low socioeconomic status. Sampling technique used was two staged stratified random sampling in which first stage comprising of division of all the houses in the area into groups of 100 starting from first house. The existing data from mapping of the area available at Ziauddin University was used aiming a representative sample of the area. In the second stage ten houses were randomly selected from each of group of 100 houses so that 10% of the houses were selected. From each house those mothers which having at least one child under the age of five years were selected. Those females who did not give consent, having language barrier and those who were residing as the guest in the house were excluded from the study. In order to avoid missing data total 110 mothers were interviewed after verbal informed consent.

Data was collected by structured questionnaire which was designed after thorough literature search and it was also translated into Urdu. It was finalized after pre testing and data was taken via personal interview. Informed consent was obtained before collection of data. Study protocol was also approved by University ethical committee.

Data Analysis was done by using SPSS version 20. All quantitative variables were presented as mean and standard deviation and all qualitative variables as percentages and frequencies. Appropriate test of significance was used to analyze and p- value < 0.05 was considered significant.

RESULTS

Total 110 mothers with mean age of 26.3 ± 5.4 years were included in this research. Among them 74 (67.3%) mothers had informal

education (like deeni taleem), 26 (23.6%) had formal education and 10 (9.1%) had no education. Regarding the number of children they have, mean number of children was found as 2.8 ± 1.5 .

Of total respondents, 93 (84.5%) mothers said that there was an episode of childhood diarrhea during last 3 months among their children. Mothers were asked about their understanding about diarrhea and diarrhea was defined as loose stools, increase in stool frequency, loose stool with blood and loose stool with abdominal pain by 99 (90.1%), 68 (62.2%), 7 (6.3%) and 6 (5.4%) mothers respectively.

Table 1. Management for a Child Having an Episode of Diarrhea by Mother

Management Options	Frequency	Percentage (%)
Take child to PHC Centre	91	82.7
Take child to local Doctor	59	53.6
Give Homemade ORS	16	14.5
Give Rice water	5	4.5
Juice/Sherbat/soda	4	3.6

Table 1 showed the management options opted by mothers to manage their child having diarrhea. Ninety nine (89.9%) mothers knew about ORS. PHC centre, chemist and local health centers were mentioned as the place of procurement of ORS by 80 (72.7%), 63 (57.3%) and 3 (2.7%) mothers correspondingly. Of them 82 (74.5%) mothers said 4 glasses of water were required to prepare packet of ORS. Mothers were also inquired about the composition of homemade ORS or SSS (sugar salt solution) and 86 (78.2%) were affirmative for water, 85 (77.3%) for salt and 84 (76.4%) for sugar. Regarding the appropriate quantity of these ingredients, four glasses of water was responded by 54 (49.1%) mothers, half spoon of salt by 16 (14.5%) mothers and none of them responded correct quantity of sugar. Ninety six (87.4%) mothers said ORS should be used within 24 hours of its preparation and 95 (86.6%) mothers said ORS should be continued till diarrhea persists.

Diet during diarrhea is very important and 60 (55%) mothers said that diet should be decreased during diarrhea while 47 (43%)

mothers said that diet should be increased and 2 (1.8%) were in favor of no change in diet. Of all, 103 (93.6%) mother said breast feeding should be continued during diarrhea. Concerning the preferable choice of diet during diarrhea, Banana, *Khitchri*, Yogurt and milk were answered by 107 (97.3%), 104 (94.5%), 89 (80.9%) and 54 (49.1%) mothers respectively. Mothers were also inquired about the danger signs during diarrhea for which they have to take their child immediately to hospital or to doctor and 66 (60.9%), 49 (44.9%), 45 (40.9%) and 29 (26.4%) mothers were affirmative for sunken eyes, sunken fontanelle, dry mouth & tongue and vomiting respectively.

Figure 1. Causes of Diarrhea as Stated by Mothers

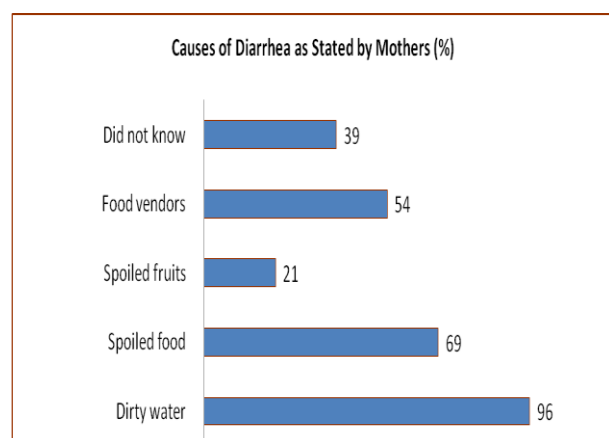


Figure 2. Hand Washing Habits of Mother

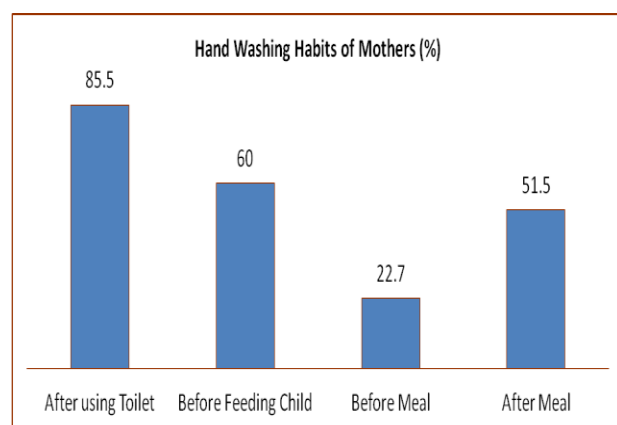


Figure 1 highlighted the causes of diarrhea that were mentioned by mothers. Mothers were then asked about measures that they may take to prevent diarrhea among children for which hand washing was answered by 101 (91.8%) mothers,

drinking clean water by 75 (68.2%) mothers and using clean food by 64 (58.2%) mothers. They were particularly asked about hand washing habit and their replies (Figure 2).

DISCUSSION

The findings of our research showed the high rate of diarrhea in this community which is corresponding with the prevalence of diarrhea in other developing countries particularly in Pakistan.^{6, 14} The study results showed that 84.5% of the households had children suffering from diarrhea in the past 3 months. Shah N et al also reported gastrointestinal diseases as the most commonly perceived diseases in this community.¹² Another study showed prevalence of diarrhea in Karachi from 29% to 37%.¹⁵

The objective of our study was to assess the knowledge and practices of mothers towards home management of childhood diarrhea and found surprising results. Although incidence of diarrhea was very high in this community, on the other hand mothers have very sound knowledge about this condition. Most of the mothers in our study have correctly defined diarrhea while in other developing countries various information was observed as Wilson SE et al study in Burkina Faso showed that mothers were failed to recognize half of the episodes of childhood diarrhea.¹⁶ Conversely Adimora GN reported 71% mothers accurately understand diarrhea.¹⁷ A study conducted in Iran revealed that mother's education played an important role in improving the awareness of mothers towards diarrhea¹⁸ which was also supported by some other researches in Ethiopia and Tanzania.^{19, 20} Whereas another study in Nigeria depicted that 73% females were educated but majority of them had poor knowledge about diarrhea.²¹ In our study only 23.6% mothers have formal education still majority of them correctly identified diarrhea. One reason for this immense behavior is continuous health education sessions regarding different diseases at PHC centre in this community. No doubt education has its own vital role in improving the health status but health education sessions even for uneducated population are also very effective.¹⁰ Adimora GN in his study also stated that education level was not a very important factor in home management of diarrhea.¹⁷

While managing diarrhea at home the most important role was played by early oral rehydration.²² Majority of the mothers i.e. 89.9% in our study were aware about ORS and 74.5% knew its correct preparation. Similar findings were observed in some other studies like 82 % to 99% females in Nigeria and 90% females in Tehran knew about ORS.^{18, 21, 23} On the contrary only 18% and 27.6% females knew about ORS as reported by Rishi RK and Adimora GN respectively.^{17,24} additionally Rishi RK also noted that 86% of the females knew correct preparation method of ORS packet.²⁴ At the same in our study a large proportion of mothers were knew about the components of homemade ORS or SSS although their knowledge about the correct amount of these ingredients were poor. Knowledge of mothers about homemade ORS was also found inadequate in other studies as 14.3% by Adimore GN and 17% by Rishi RK.^{17, 24} However Okoro BA reported it as 96%.²³ Our study also showed that majority of the females were also aware about the correct time duration of ORS consumption.

Apart from rehydration appropriate diet during diarrhea is also very important. Findings of the studies conducted in India and Pakistan showed that 88% and 10.7% mothers restricted the diet of child during diarrhea respectively.^{25, 26} Same findings were also found in our research where 55% of the mothers restricted diet of child during diarrhea. Conversely 93.6% mothers in our research said that breastfeeding should be continued during diarrhea that is also depicted from the findings by Khalili M where 63.2% mothers continued consistent breastfeeding during diarrhea.¹⁸ Strand TA et al also highlighted the effective role of breastfeeding on the duration of diarrhea.²⁷ In our research we also inquired about the danger signs of diarrhea and most of the females were knew the danger signs.

The most common causes of diarrhea that were narrated by mothers of this community were dirt water and unhygienic food. These two causes were also highlighted by Shah N in his study in the same community.¹² In addition contaminated water and food were the major cause of diarrhea as reported by studies conducted in Iran (52%) and Nigeria (33%) as well.^{17,18} With these preventable causes of diarrhea mothers of this

area were aware about the preventable measures to reduce the burden of diseases but unfortunately they were not practicing them as 84.5% mothers said their child had an episode of diarrhea during last three months.

A very important finding in our study was that despite the high rate of diarrhea in this community and having uneducated background a considerable number of mothers were aware about the home management of diarrhea. Their immense knowledge about diarrhea is the fruitful outcome of health education sessions conducted at PHC centre in the community. Such health education sessions were regularly scheduled, particularly those in which mothers were taught about the preparation of ORS packet and homemade ORS. Unfortunately there was no such study conducted in this area to show the effectiveness before and after these sessions. Importance of PHC centers, health care providers and other health care facilities in improving the knowledge of mothers and care givers about diarrhea was established by other researches as well.^{18,21} The study was conducted using a small sample size due to resources limitation. Therefore, it is suggested further research should be performed in the community focusing the effectiveness of health education sessions with a larger sample size. Majority of the mothers (82.7%) were utilizing services of PHC centre for the treatment of their child having diarrhea. An important observation made through the study was that mothers have sound knowledge about home management of diarrhea so with continuous effort the incidence of diarrhea will also be reduced.

CONCLUSION

Diarrhea was found to be a prevailing disease in Gulshan e Sikanderabad. However, knowledge of mothers regarding signs, causes and home management of diarrhea was found satisfactory. Nevertheless there is still a need of reinforcing mothers of the squatter settlement regarding the proper preparation of homemade ORS. Causes of Diarrhea in this community are all preventable so there is still the need of continuous health education of mothers regarding the management and control of this disease.

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