

Research

Mother's Perception and Attitude toward Traditional Dietary Approaches Concerning the Management of Childhood Diarrhea

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Abstract

Background

Diarrhea is a life-threatening pediatric condition. Predominantly, found in developing countries under 5 years of age. The diarrhea-related death can be reduced by early initiation of dietary management. In developing countries like Pakistan, mothers are supposed to provide traditional foods to their children during diarrhea.

Objective

A cross-sectional study was designed to assess the mothers' perception and attitude toward the traditional diarrheal interventions at home.

Methodology

A cross-sectional, quantitative, self-designed, pre-tested structured survey was conducted in Karachi over a period of one year from January 2017 to December 2017. A total of 500 literate mothers as per inclusion criteria were engaged through Paper-and-Pencil Interviewing PAPI structured questionnaire. Demographic profile and variables related to causes, prevention and dietary management of diarrhea were recorded and analyzed through SPSS 24.0 version.

Results

In terms of perceived traditional dietary interventions, out of 500 mothers, 461 (92.2%) mothers considered mashed banana, 447 (89.4%) yogurt, 433 (86.6%) khichri, 425 (85%) plain rice, 414 (82.8%) cereals, 340 (68%) potatoes and green leafy vegetable, 329 (65.8%) salt-sugar-water and oral rehydration solution (ORS), and 307 (61.4%) sabudana. 421 (82%) of mothers observed an increased prevalence of diarrhea in children younger than 6 months. A

significant relationship was found between the mother's knowledge and the number of children.

Conclusion

Majority of mothers observed the positive impact of given mashed banana, yogurt, khichri, and rice on the reduction of frequency and intensity of diarrhea. However, less use of ORS was found due to its noncompliance. Increased awareness of mothers towards dietary management of diarrhea was significantly associated with a number of children. And last, but not least, the morbidity from diarrhea was high in infants older than 6 months of age.

Keywords: Childhood diarrhea; Traditional dietary approaches; Diarrheal prevalence; Mother's perception and attitude

Introduction

Diarrhea is derived from the Greek word means "dia and rhein" meaning "through and to flow". The universal accepted definition

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of diarrhea proposed by the World Health Organization is “**loose or watery stools at least three times in a day or more frequent passage than is normal for the individual.**” The consistency of stool is more important, frequent passing of formed stools is not considered as diarrhea, nor passing of pasty stools by breastfed infants [1]. Diarrhea on the basis of duration is classified into acute, chronic, and persistent diarrhea associated with different pathological and physiological causes [2,3,4]. When diagnosis diarrhea frequency, consistency, and weight of stool (10 g/kg/day) should be considered [5,6].

5 ml to more than 200 ml fluid/kg body weight/day could be lost during acute diarrhea [7]. Globally, diarrhea is the second top listed infectious disease in infants and children under 5 years of age with morbidity of 1.7 billion and mortality of 846,000 cases annually [8]. In Pakistan, diarrhea after respiratory infections is the second primary cause of mortality as infected 87 in every 1000 children below 5 years of age [9]. Hence, Pakistan was selected for Global Enteric Multicenter Study (GEMS) by Kotloff et al., in 2013 reported 2,195 children in Pakistan, India, Bangladesh and some regions of Africa daily due to moderate to severe diarrhea [10].

The prevention and nutritional management of diarrhea can be done by mothers at home. UNICEF suggested the use of mash banana, yogurt, rice and ORS to prevent growth decline during and after diarrhea. However, the practice of seeking late medical advice for diarrheal management may be life-threatening [11].

Mashed banana is one of the leading traditional interventions, being used by caregivers during childhood diarrhea. It fastens recovery, improves mucosal damage and nutrient absorption [12]. Banana has anti diarrheal effects due to its high starch contents resistant to amylase that produce short-chain fatty acids which enhance the salt and water absorption from the colon. Yogurt being coagulated milk is produced by the fermentation of lactic acid through *Lactobacillus bulgaricus* and *Streptococcus thermophilus*. The intensity of diarrhea is reduced by the antimicrobial activities of probiotics found in yogurt [13,14].

Insufficient feeding and less use of oral rehydration solution (ORS) during diarrhea lead to malnutrition and dehydration [15]. Infants and children with diarrhea associated with acute to severe malnutrition have a higher threat of death compared to non-diarrheal ones [16]. The use of ORS in acute diarrhea is strongly recommended by healthcare professionals. However, in Pakistan, only 37% of children aged under 5 years were given ORS [17].

Material and Methods

Study Design and Period

A cross-sectional, quantitative, self-designed, pre-tested structured

survey was conducted. A descriptive method was adopted to gather the data on the mother's perception and attitude toward the use of dietary interventions at home for the management of childhood diarrhea. The data collected from 500 mothers from January 2017 to December 2017 were scored on a Likert scale and analyzed by SPSS 24.0 software.

Ethical Approval

The study was approved from the Department of Pharmaceutics, University of Karachi. Verbal consents were taken from all respondents along with the disclaimer was emphasized on the top of the questionnaire. No violations of confidentiality occurred throughout the study.

Target Population and Inclusion Criteria

The employed criteria used as a prerequisite for the participation in the study as follows,

1. Mothers having a child below 5 year of age.
2. Children had diarrhea in the previous four to six months.

Research Instrument

A self-designed, Paper-and-Pencil Interviewing PAPI structured questionnaire in the English language was employed as per research objectives. Responses were recorded on open and close ended multiple choices and on Likert scale options. Demographic information such as mother's qualification, number of children, and diarrheal age were also recorded. Considering the variations and tend to get more insight, provided the opportunities to the respondents to response in the extra space given at the end of each question.

Pilot Study

Research survey was initially tested with 15 mothers during the pilot phase in order to test tool's reliability and validity. The pilot study indicated few minor modifications such as clarity of options and wordings provided an opportunity for the researcher to make necessary amendments.

Research Sampling Strategy and Data Collection

Purposeful random sampling is being used to get the appropriate information on every research parameters and reliable results. According to inclusion criteria, data were recorded carefully from 500 mothers belong to the literate community of Karachi, Pakistan.

Statistical Analysis of Quantitative Data

The extracted data was encoded and recorded in the Microsoft Excel spreadsheet. Once completed had exported the data into SPSS version 24.0. Descriptive analysis was applied to observe the frequencies of each outcome.

Results

The Researcher sought to investigate the experience of mothers by asking the question for diarrheal age in their children. The results are presented in below table I

The above table depicted the perception of mothers which was assessed regarding the age of diarrhea in their children. With reference to diarrhea below 6 months of age, 130 (26%) denied and 370 (74%) mothers were agreed. In terms of prevalence of diarrhea after 6 months of age, 79 (15.8%) mothers were not agreed whereas a significant number of mothers 421 (84.2%) were agreed that diarrhea is more prevalent in children after 6 months of age.

It can be inferred from the above table that the average value of diarrhea in infants older than 6 months is more compared to infants younger than 6 months. Hence, mothers observed more diarrhea in their babies after 6 months of age.

The Graph I pointed out the variations exist among mothers with regard to dietary management of diarrhea. Out of 500 mothers, 461

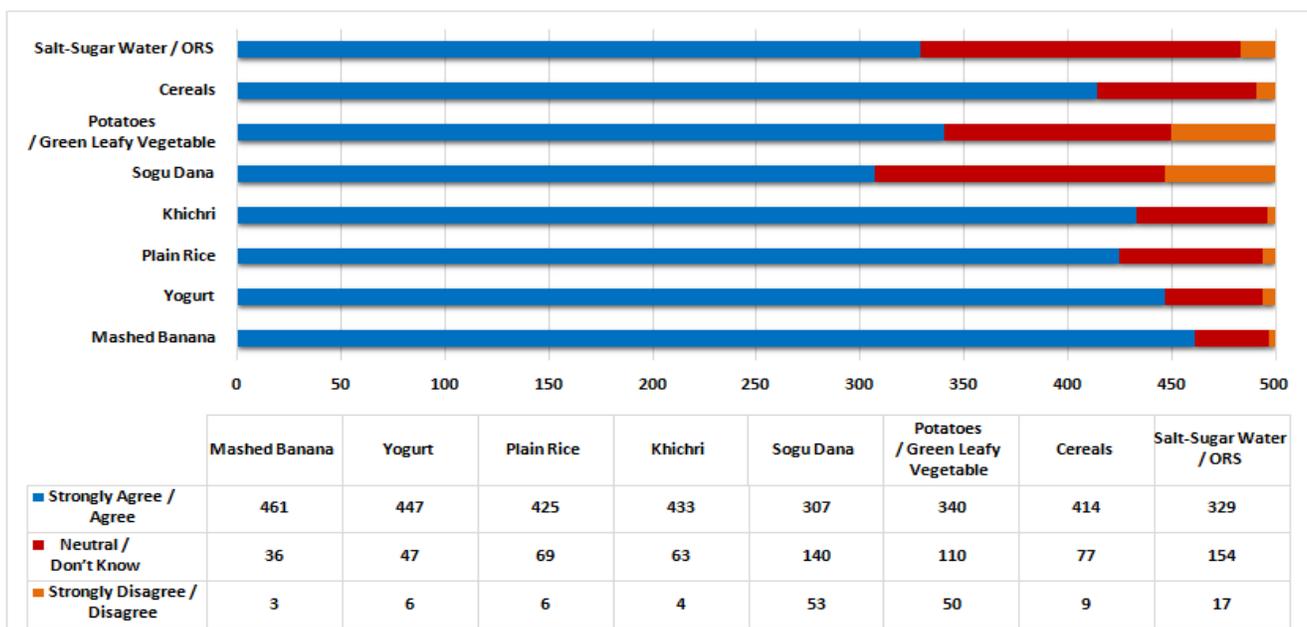
Table I - Mothers' responses to Diarrheal Age in their Children

		Count	%
<6 Months	No	130	26.0%
	Yes	370	74.0%
>6 Months	No	79	15.8%
	Yes	421	84.2%

Table II - Descriptive Analysis

	<6 Months	>6 Months
N	500	500
Mean	.74	.84
Std. Deviation	.439	.365

(92.2%) mothers favored mashed banana, 447 (89.4%) yogurt, 433 (86.6%) khichri, 425 (85%) plain rice, 414 (82.8%) cerelac, 340 (68%) potatoes and green leafy vegetable, 329 (65.8%) salt-sugar-water and ORS, and 307 (61.4%) Sabudana. On the other hand, of the total 500 respondents, 53 (10.6%) were contradicted the use of Sogu Dana, 50 (10%) potatoes and green leafy vegetables, 17 (3.4%) salt-sugar-water and ORS, 9 (1.8%) cereals, 6 (1.2%) yogurt, 6 (1.2%) plain rice, and 3 (0.6%) mashed banana. In terms of unclear response neither agree nor disagree, 154 (30.8%) mothers didn't experience the effectiveness of salt-sugar water and ORS in their children, 140 (28%) Sabudana, 110 (22%) potatoes and green leafy vegetables, 77 (15.4%) cereals, 69 (13.8%) plain rice, 63 (12.6%) khichri, 47 (9.4%) yogurt, and 36 (7.2%) mashed banana.



Graph

Discussion

The mother's perception regarding age-specific diarrhea in their children was high at 6 months onwards. Molbak, Woldemicael, Karim and colleagues had the similar findings that the incidences of infantile diarrhea are highest under 6-11 months of age [18,19,20]. Mothers were asked about the traditional and modern method of managing diarrhea such as mashed banana, yogurt, rice, khichri, sabudana, cereals, sugar salt water or ORS, and potatoes or green leafy vegetables. The preferences of mothers were different regarding the diet, but banana and yogurt were the most effective approaches in managing or treating diarrhea. During the survey, 92.2% of mothers favored banana and 89.4% preferred yogurt. Another study showed that 97.3% and 94.5% of mothers considered banana and yogurt respectively in diarrheal management [21].

Khichri (86.6%), plain rice (85%), cereals (82.8%), potatoes and green vegetables (68%), and Sabudana (61.4%) were associated by mothers with reducing diarrhea in their children. Several studies showed identical to mother's perception for khichri and rice 50%, potatoes and green vegetables 30% and 20% cereals [22].

Although ORS is considered as the cornerstone of managing diarrhea, the controversial results were recorded during the present study due to its low compliance. Only 65.8% were in favor of using ORS in their children. Another study conducted at civil hospital Karachi indicated that 25% of mothers gave the ORS during diarrhea [9]. A similar variable was evaluated during the study in Bangladesh presented that less than 25% of mothers were giving ORS during diarrhea [23]. A study carried out by Salmanudd in and colleagues in the lower middle-class area of Karachi showed that 60% of mothers have less awareness about the way of making ORS [24].

Conclusion

Majority of mothers observed the positive impact of given mashed banana, yogurt, khichri, and rice on the reduction of frequency and intensity of diarrhea. However, less use of ORS was found due to its noncompliance. Increased awareness of mothers towards dietary management of diarrhea was significantly associated with a number of children. And last, but not least, the morbidity from diarrhea was high in infants older than 6 months of age.

Recommendations

Parents should focus on to provide the right nutrition needed to prevent or reduce the episodes and severity of infective diarrhea. Government and healthcare professionals could play a vital role to educate the mothers on the rationale of effective dietary management of diarrhea. In addition, manufacture should take steps for improved

compliance of ORS. Mash banana, yogurt, and rice are the most effective interventions experienced by mothers to recover their children from diarrhea. However, limited use of ORS by literate mothers due to its low compliance in their children incite manufacturer to make ORS more compliant and healthcare professionals to increase the awareness of its beneficial role. Mothers of more than one child had a better understanding of diarrheal prevention and management at home. Majority of mothers experienced the increased incidences of diarrhea in their children after 6 months of age.

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