Association of Maternal Knowledge and Practices Regarding Prevention and Care of Diarrhea at Home for Children less than 5 years of Age: A Study Conducted in Tertiary level Hospitals of Lahore, Pakistan

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ABSTRACT

Background: Diarrhea is second major killer disease for children less than 5 year of age, and maternal lack of sound knowledge and related correct practices in this regard conflicts with WHO treatment guidelines for diarrhea. Objective: 1) to assess the level of maternal knowledge and practices regarding prevention and management of diarrhea at home; in children below five years of age 2) to identify association between maternal knowledge and practices regarding prevention and care of diarrhea at home. Methods: It was a cross sectional study conducted in three tertiary level hospitals of Lahore selected randomly. Study population was mothers having children less than 5 year of age coming to pediatric Outdoor in these hospitals. Calculated sample size was 296; and non-probability purposive sampling technique used to recruit the sample. Data was collected from 300 respondents; study instrument was KAP questionnaire adopted and modified and data was taken upon the variables of knowledge and practice. Data analysis plan was: descriptive statistics for all variables, Bivariate analysis upon knowledge and practice scores, Pearson Correlation upon the two variable scores. Results: 61.7% respondents had good knowledge score, whereas 32% and 6.3% had average and poor score respectively. 39.3% were found to have good practice score, whereas 54% and 6.7% were found to have average and poor practice level score. Highly significant association (P< 0.000) was found between knowledge and practice levels; and Pearson correlation of 43.8% was found between the two variables. Conclusion: Health education communication should be conducted by health care workers so as to give the right knowledge about ORS intake and its preparation; and adoption of correct dietary practices by the mothers during diarrheal episode of the child.

Key words: Diarrhea, under 5-year children, knowledge, practices, mothers

INTRODUCTION

Childhood diarrhea is the passage of unusually loose or watery stools, usually at least three times in twenty-four-hour period. Nevertheless, it is the consistency of the stools rather than the number that is more important. Recurrent passing of formed stools is not labeled as diarrhea.\textsuperscript{[1]} Unsafe and unhygienic practices in the prevention and management of diarrhea are definitely linked with undesirable health outcomes; and contradict with the WHO guidelines. Such practices comprise of: restriction of fluids, breast milk, and food intake; inappropriate usage of contemporary medicines.\textsuperscript{[2]} WHO states that the diarrhea accounts for 15% of all deaths in under five year of age.\textsuperscript{[3]} Comparatively diarrhea is highly prevalent in developing countries than in developed; mostly due to lack of knowledge and correct practices in management of diarrhea.\textsuperscript{[4]} Another research conducted in a developing country found that 56.2% of women had good knowledge and 37.6% of them had good practice of home management of diarrhea; and this study concluded that caregivers had slightly adequate knowledge but poor practices in this regard.\textsuperscript{[5]} in developing countries.
unsafe practices related to management of diarrhea are quite prevalent in varied degrees; mostly including fluid and breast feeding reduction, withholding all types of food, and inapt use of medication. Inappropriate management of diarrhea at home can result in higher risk of mortality due to increased dehydration or residual health consequences due to complete food restriction during the diarrhea period. (2) Pakistan a developing country with poor socio-economic status and low literacy rate is reported to have diarrhea as the cause of 16% of all children deaths.[3] In a KAP study conducted in Civil hospital Karachi, Pakistan it was found that only 35% of the mothers could respond with two correct signs of dehydration due to diarrhea in a child; 80% mothers knew how to prepare Oral Rehydration Salt (ORS); regarding health care seeking practices only 52% mothers took the child to doctor after two days of continuous diarrhea; and 30% of the mothers were in habit of doing self-medication for their child in diarrhea.[8] It is observed that both knowledge and practices are required by the mothers for correct diarrheal management at home. Another research stated that a considerable number of mothers who knew about ORS never actually made it for their young ones.[7] Another study found that complementary feeding practices were poor among mothers of under five children; especially the non-educated women.[8] In a study conducted in Karachi, Pakistan 26% of correct dietary practices of mothers during their child’s diarrheal episode was found.[9] Problem statement developed for this study is: Pakistan as a developing country that has low literacy rate and a high rate of deaths due to diarrhea among children under five year of age; needs to improve the knowledge and practice level of mothers regarding diarrhea through well planned comprehensive health education message. Health care professionals and Nutrition experts should be tackling this problem jointly. Though mass communication is being done in this regard, but it has not improved the scenario markedly. Problem is that on account of illiteracy mothers and families need more focused, concentrated and joint efforts of the health care personnel and nutrition experts; in order to get better results. Such health education needs to be conducted at smaller scale starting from grass root level at primary health care level and upto the tertiary level health care facilities. Thus, focus should be on the mothers and families visiting these facilities. Studies of this nature had been done in various parts of Pakistan but few done in tertiary level hospitals in Lahore; as it will also give an insight into the performance of health care provider upon disseminating health education communication for this very problem. Hence this study is justified and is being conducted in the tertiary level hospitals of Lahore; where majority population comes from low socio-economic status and of poor educational status. Objective: 1) to assess the level of maternal knowledge and practices regarding prevention and management of diarrhea at home; in children below five year of age 2) to identify association between maternal knowledge and practices regarding prevention and care of diarrhea at home.

METHODS

It was a cross sectional descriptive study conducted in three public tertiary level hospitals of Lahore; selected randomly out of a total of seven such hospitals. Selected hospitals were: Mayo hospital, Children hospital, and Services hospital. Study population included mothers who had children under five year of age, visiting public tertiary level hospital. Study variables included: 1) socio demographic variables 2) KAP variables: knowledge regarding diarrhea prevention and management as an independent variable; and practices as dependent variable. Sample size was calculated upon Open Epi software using prevalence of 26% of correct dietary practices in relation to diarrhea, (9) with 5% margin of error, and CI of 95%. Calculated sample size was 296. Non-probability sampling was used to recruit the study population; and purposive sampling technique was applied. Inclusion criteria were kept at: 1) willingness of the respondent 2) mothers of under five-year-old children visiting the selected tertiary level hospital. Exclusion criteria was kept at: 1) unwillingness of the respondent 2) mothers of children older than five year of age 3) mothers coming to private and other public sector hospitals. Data collection tool was personal interview. Data collection instrument was a structured questionnaire adapted from another research questionnaire. (10) Data collection was done from 300 respondents after due permission from the hospital administration. Sample respondents were enrolled after informed written consent; and due communication of the idea and purpose of the study in local language (Urdu). Data was collected by personal interview and due ethical considerations were fully observed for this study. Data analysis was planned as: descriptive statistics to be calculated for socio demographic and other variables mean ±SD calculated, Bivariate analysis applied to identify association between knowledge and practice scores, Pearson Correlation and Coefficient of Determination applied upon knowledge and practice scores. Scoring for knowledge and practices was done according to the reference study as: 1) for knowledge level; 0-7 poor score, 8-11 average knowledge, 12-19 good knowledge 2) for practice level; 0-12 poor practice, 13-19 average practice, 20-32 good practice.[10]

RESULTS

Data for 300 respondents was entered on SPSS 20 and analyzed. Age range for mothers was 18-40 years; majority mothers 43.70% were in age category of 18-25 years, and 38.70% were in age category of 26-30 year; only 4% were in 36-40-year age group. Number of children less than 5 year age showed 70.3% were in 1-3 year age group, 22.3% in 3-5 year age group, and only 7.30% were in age category of 0 months-one year. Results for family income showed that 77.60% respondents had <25000/month, and only 22.40% had 25000-50000/month. Results for family structure showed that 95.70% had complete family, and only 4.30% were a single parent family. Information source for diarrhea revealed that 14.30% mothers did not have any information regarding prevention and management of diarrhea, relatives were the source of information for 64.30% of the mothers, and only 16.70% had received such education from health workers. Regarding the safest source of drinking water only 42.70% and 26.30% mothers had right knowledge about boiled water and filtered water respectively; whereas rest of the respondents did not know about the safe drinking water source.
Table 1: Status of Knowledge Level regarding Prevention and Management of Diarrhea among mothers of under 5-year-old Children visiting Tertiary Level Hospitals (n=300)

<table>
<thead>
<tr>
<th>Knowledge scores</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good (12-19)</td>
<td>185</td>
<td>61.7%</td>
</tr>
<tr>
<td>Average (8-11)</td>
<td>96</td>
<td>32.0%</td>
</tr>
<tr>
<td>Poor (0-7)</td>
<td>19</td>
<td>6.3%</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 2: Status of Practice Level regarding Prevention and Management of Diarrhea among mothers of under 5-year-old children visiting tertiary hospital (n=300)

<table>
<thead>
<tr>
<th>Practice scores</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good (20-32)</td>
<td>118</td>
<td>39.3%</td>
</tr>
<tr>
<td>Average (13-19)</td>
<td>162</td>
<td>54.0%</td>
</tr>
<tr>
<td>Poor (0-12)</td>
<td>20</td>
<td>6.7%</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100%</td>
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Results showed that 29% of mothers were practically giving ORS after every loose stool during diarrhea episode, 23%
Majority mothers knew about which soft diet is to be given to the child during diarrhea. Whereas their choice about giving other fluids to the child during diarrhea showed that 17% mothers gave green tea and rice water to their child during diarrhea; 12% mothers were in practice of giving juices to the child and rest were giving just plain water. Regarding breast feeding practices during diarrhea episode 69.30% mothers said that they did not know about the danger sign of diarrhea; whereas 9% mothers giving homemade ORS to their child. A another local study conducted in Karachi that also found that mother's knowledge about the causative factors of diarrhea was satisfactory.[10] This finding is also supported by another research conducted in India that found very satisfactory level of mothers’ knowledge regarding causative factors of diarrhea.[10]

Present study found that knowledge of mothers regarding danger signs of diarrhea was found to be <50% for initial three danger signs i.e. blood in stools, sunken eyes, and excessive thirst. Whereas 86% of the mothers knew about high frequency of diarrhea for more than three days at home was a danger sign. These findings are still higher than another supporting study conducted in past that showed 26% and 34% mothers knew about sunken eyes, thirsty and dry skin respectively as danger signs. There is one major strength of our present findings that none of the mother responded that she does not know about any of the danger sign of diarrhea; whereas in the comparative study majority (40%) mothers said that they did not know about the danger signs of diarrhea. [13] Another important finding of this study is that we can logically correlate correct practices with resultant reduction in diarrheal episodes in the past 03 months in children as given in table 5; which shows the impact that if right knowledge is in place then correct practices can actually reduce the frequency of such episodes thus maintaining good health of children.

In present study, results showed that 69% of the mothers continued with breast feeding their child during a diarrheal episode. Majority mothers in this study knew about what is the right soft diet that should be given to the child during diarrhea. This finding is consistent with another research that found 70% of the mothers preferred to give soft rice (kichiri), banana, porridge, and yoghurt and rice water.[8] Results in present study also showed that while managing diarrhea at home 55% of the mothers were in habit of giving readymade sachet of ORS to their child during diarrheal episode; whereas 9% mothers giving homemade ORS to their child. A total of 66% mothers knew when to go to a doctor and used health care facility for advice and management of diarrhea.

This again emphasizes upon the association of correct practices with good knowledge of mothers towards prevention and management of diarrhea at home. Furthermore, knowledge regarding homemade ORS preparation is very essential for prevention of further damage; but this study found that only 3% mothers knew the correct preparation procedure of homemade ORS. Majority mothers were not using boiled water for ORS preparation at home. Majority mothers (80%) in this study knew about safe and hygienic preparation of food, washing of hands with soap and water, and hygienic disposal of waste. This finding is supported by another study that shows good level of preventive measures being observed by the mothers.[13]
Present study also found highly significant association (P-value 0.000) between knowledge level and correct practices level among the sample population mothers. This finding greatly strengthens our study that if mothers have proper and right knowledge regarding prevention and management of diarrhea; they will surely tend to have correct practices during a diarrheal episode of their child, which will in turn enable them to take care of their child at home and will also know the right time to seek help from health care professionals. Pearson correlation shows that there is positive correlation (43.8%) between the two variables (knowledge and correct practices scores); with a highly significant association between the two with a P-value of 0.000. whereas Coefficient of Determination shows that 19% of the time change between these two variables is associated. Rest 81% of the time change in these two variables is due to some other factors.

CONCLUSION
It has been found that health care workers had been a source of education to a very small number of the respondents; and mainly the source of education in this case was the relatives. Hence logically the response in giving actual right amount of ORS to children during diarrheal episode and preparation of ORS at home was deficient among the mothers. Health care providers should participate maximally in such education provision.

REFERENCES


