Knowledge and Hygiene Practice of mothers of under- five children regarding Diarrhoea: A study in Bargarh District, Odisha.

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Abstract

Diarrhoea continues to be a major cause of morbidity and mortality among under-five children. Knowledge of mothers regarding signs and symptoms, mode of spread, and healthy practices like exclusive breast feeding up to 6 months, immunization, ORS, good sanitary conditions are essential to prevent morbidity and mortality related to diarrhoea. The present study was conducted with an objective of assessing knowledge and practice of mothers of under-five children regarding management of diarrhoea. A cross-sectional hospital based study was carried out in Bargarh district of Odisha. 120 mothers and their children were selected randomly from the diarrhoea ward of Govt. Hospital of Bargarh district of Odisha for the present study. Result of the study revealed that majority of the mothers were in the age group of 21-30 years and 36.67% mothers had high school level of education. Most of the mothers belonged to lower middle socio-economic class. More than half of participants lacked adequate knowledge regarding danger signs of diarrhoea, and preparation of ORS. Significant association was found between overall knowledge of mothers in managing diarrhoea with their level of education and socio-economic class. It was observed that most of the mothers practiced good personal hygiene during diarrhoea of the children. Self prepared food was used by 90.83% of mothers during diarrhoea where as only 52.5% of mothers prepare special food for their children. A strong significant association was found between socio-economic class, education level of mothers with hygiene practice during diarrhoea ($P=0.042$) in this study. So health education and behaviour change communication should be prioritized to mitigate problems related to diarrhoea.

Keywords: Knowledge, hygiene Practice, Under-five children, Diarrhoea

I. Introduction

Diarrhoea is the second most common cause of morbidity and mortality among under 5 children worldwide. It is defined as the passage of loose, liquid or watery stools more than three times a day [1]. Globally, there are nearly 1.7 billion cases of diarrheal disease and 760,000 deaths in children under 5 every year due to diarrhoea. In India, diarrhoea accounts

for nearly 212,000 under five deaths annually. [2]. Death due to diarrhoea can be prevented by prompt supplementation of salt sugar solution (SSS) at household level or by use of commercial ORS and through integrated management of childhood illness (IMCI) [3].

One of the prime goals of millennium development goals & National health mission (India) is to accelerate efforts towards reduction of childhood mortality due to diarrhoea among under five. To address this issue effectively, ministry of health and family welfare, India in conjunction with UNICEF has initiated a nationwide campaign known as intensified diarrhoea control fortnight (IDCF), which is conducted from 28th July to 8th August of every year from 2014 with the ultimate aim of 'zero child deaths due to childhood diarrhoea'. IDCF also aims to achieve improved coverage of essential life-saving commodity of ORS, zinc dispersible tablets and practice of appropriate child feeding practices during diarrhoea. [4]

Primary preventive measures to control diarrhoea related morbidities and mortalities are use of clean water, hand washing, good cooking practices, exclusive breast feeding, immunization, sanitary disposal of excreta, use of latrines and good sanitary and hygienic practices [5]. However, poor socioeconomic status, lack of knowledge among caregivers, and failure to provide therapy in time are hindering factors in preventing diarrheal deaths [6]. So mothers knowledge and hygiene practice plays an most important role in to reducing diarrhoeal disease among children.

Bargarh is a unique district in Odisha with high literacy rate, better health indices, and health-care facilities. In this context, the present study was conducted to determine the knowledge, and hygiene practice of mothers of under-five children regarding the diarrheal illness in Bargarh District of Odisha.

II. Methodology:

A hospital based observational study was carried out during January to April 2020 in Government District Hospital Bargarh, Odisha. All mothers of under-five children, who admitted in the department of Pediatrics within the study period were interviewed. The children who visited hospital with care-takers other than mother were excluded from the study. After obtaining written consent from the mothers, data was collected from 120 mothers by face-to-face interviews using pretested, self-designed questionnaire containing questions related to their socio-demographic variables, question on knowledge of diarrhoea, food hygiene behaviour, food preparation and hygiene practices about diarrhoea management. The socio-economic class was assessed by using modified Kuppuswamy socioeconomic scale updated for the year 2021. The collected information was tabulated and analyzed using frequency, percentage and Chi-square test.

III. Results

Demographic Profile

Table No.-1 Demographic profile of under-five children.

Variables	Category	Frequency	Percentage
Age	6-12 month	22	18.33
	1-3 year	56	46.67
	3-5 year	42	35
Gender	Male	74	61.67
	Female	46	38.33
Religion	Hindu	116	96.67
	Muslim	Nil	Nil
	Cristian	4	3.33
Caste	General	16	13.33
	OBC	45	37.5
	SC	53	44.17
	ST	6	5
Type of family	Joint	63	52.5
	Nuclear	57	47.5
Duration of admission	1day	53	44.17
	2 days	47	39.17
	3 days	14	11.67
	4 days	06	5

Table-1revealed demographic profile of the under-five children suffering from diarrhoea. It was observed that majority 46.67% were under 1-3 year, 35% were in 3-5 year and 18.33% belonged to 6-12 months. 61.67% were male and 38.33% were female. Majority (96.67%) were Hindu and only 3.33% were Christian. Most (44.17%) of the respondents were SC category. 52.5% were belonged to joint family and 47.5% were from nuclear. Majority (44.17%) of patients admitted for one day in the hospital followed by 39.17% for two days and 11.67% for three days [Table 1].

Figure 1: Socio-demographic characteristics of mothers.

Figure -1 reveals socio-demographic characteristics the mothers. Most (45%) of mothers were in the age group of 26-30 years and only 1.67 % were in age group of 16-20 years. Information on education of mothers revealed that 36.67% completed high school education and 18.33 % were educated up to intermediate. Majority of the mothers (49.17%) belonged to lower middle class.

Table No. 2: Assessment of knowledge of mothers regarding Diarrhoea.

Sl.No.	Characteristics	Right answered by mothers	%
	Definition of diarrhea	35	29.17
	Diarrhoeal cause	51	42.5
	Diarrhoeal danger signs	17	14.17
	How is ORS prepared?	35	29.17
	How often should ORS be given?	12	10
	How long should the mixed ORS last?	88	73.33
	Fluids and feeds during diarrheal illness	82	68.33
	Prevention measures	59	49.17

Table -2 describes mothers' knowledge about diarrhoea and its preventive and measures. Most of the (29.17%) mother's defined diarrhoea correctly as the passing of loose stool 3 or more times per day. 42.5% of mothers thought that diarrhoea is caused by drinking contaminated water. Very few mothers had correct knowledge regarding danger sign of diarrhoea. Only 29.17 % mothers knew about the recommended volume of water for mixing a sachet of ORS (i.e., 1000 ml. of water to 1 sachet of ORS or proper preparation method). Only 10 % of the mothers aware about ORS should be given whenever child want to drink, while 73.33% respondents replied that ORS should be mixed within last 24 hour. It was observed that most (68.33 %) of the mothers feed ORS to their children during diarrheal illness. 49.17 % mothers had correct knowledge about preventive measures of diarrhoea during childhood.

Table No. 3: Association between Socioeconomic status, education and knowledge of mothers regarding diarrhoea.

Socio-economicStatus	Poor	Average	Good	P value
Upper Middle	3	17	7	0.013
Lower Middle	27	23	13	
Upper Lower	16	8	6	
Mother’s Education				
Intermediate	3	10	6	0.021
High School	17	16	11	
Middle	10	17	3	

There were eight questions in the questionnaire to assess knowledge level of mothers regarding diarrhoea and its management. Each correct response was given a point of 1 and wrong response was given 0 point. A score of 0-2, 3-5 and 6-8 was considered as having poor, average and good knowledge respectively. Socio-economic status classified according to the Kuppu Swamy Scale(2020). Statistically significant ($P=0.013$) association between socioeconomic status and knowledge of mothers regarding diarrhoea was observed in this study. This indicates that a mother with high socioeconomic status has better knowledge about diarrhoea and its management. Statistically significant association was also observed between education of mothers and knowledge regarding diarrhoea ($P=0.021$). Thus it can be concluded that level of education and economic condition of mothers had significant role in managing childhood diarrhoea.

Table No.4: Hygiene Practices of mothers during diarrhoea of their children.

Practices	Frequency	Percentage
Use of private toilet	94	78.33
Children always wash hand with soap and water after toilet.	108	90
Children always wash hand with soap before eating.	103	85.83
Mother always hand washing with soap and water after toilet.	114	95
Mother always wash hand with soap before feeding.	101	84.17
Hygiene during Food preparation		
Always wash hand with soap before food preparation	87	72.5
Always wash hand with water before food preparation.	96	80
Always use separate utensils for raw and cooked food.	61	50.83
Always use table for preparation of food.	46	38.33
Always use closed domestic waste disposal.	112	93.33
Food-hygiene behavior		
Food cooked by mother.	109	90.83
Cooked special food for child.	57	47.5
Food holding time before < 1 hour eaten.	49	40.83

Every time reheat the food before feeding child.	55	45.83
Feeding child with warm or hot food.	90	75
Store food in covered or closed pan.	95	79.17
Wash utensils inside the home.	94	78.33
Washed utensils with flowing tap water.	89	74.17
Water source and safe drinking water		
Use supply water.	82	68.33
Drink purified water.	47	39.17
Covered or closed water storage.	97	80.33

Information on hygiene practice of mothers during diarrhoea showed that out of 120 mother's majority (78.33%) of mothers used private toilet. Most of the children washed their hands with soap after toilet, 85.83% children washed hand with soap before eating, 95% mothers always washed their hands with soap and water after toilet. 84.17 % mothers washed their hands with soap before feeding to children. Information on food hygiene behaviour of mothers showed that 72.5% mothers washed hands with soap whereas 80% mothers washed their hands only with water before food preparation. Maximum (93.33%) mothers always used close container for domestic waste disposal. Data on hygiene practice during food preparation revealed that 90.83% mothers prepared food by themselves for their children and 75% mothers fed warm or hot food to their children. 79.17% mothers covered or closed store food. Regarding safe drinking water and their sources, 68.33% mothers used PHD supply water for purpose of drinking whereas only 39.17% mothers used purified water for drinking.

Table No. 5: Association between age group, education, socioeconomic status and hygiene practices regarding diarrhoea in mothers.

Category	Hygiene Practices			P
	Poor	Average	Good	
Age group				0.641
16-26	2	38	15	
26-35	4	40	21	
Educational Status				0.0421
College education	1	15	3	
School education	13	48	40	
Socioeconomic Status				0.012
Lower	4	64	8	
Higher	3	27	14	

Hygiene Practices of mothers regarding diarrhoea illness were categorized as poor, average and good by asking twenty four questions. Each correct practice was given a point 1 and wrong practice was given 0 point. A score of <12, 12-18 and >18 was considered as having poor, average and good hygiene practice respectively. No significant association between age

and hygiene practices of mothers during diarrhoea was observed in this study. However statistically significant association between educational status ($P=0.042$), socio-economic condition ($P=0.012$) of mothers with their hygiene practices during diarrhoea was observed in this study. Thus it can be concluded that education and economic condition of mothers has a pivotal role in diarrhoea management in children.

IV. Discussion

Childhood diarrhoea is the most common cause of morbidity and mortality among under five children. Result of the present study revealed that majority of children (46.67%) in age group 1-3 years were suffering from diarrhea and higher incidence of diarrhoea was found among male children (61.67%) in comparison to female (38.33%) which is similar to the findings of Adeleke. et al (2019) and Padhy et al (2017). Present study revealed that majority of mothers (45%) were in age group 26-30 years and most of them belonged to lower socioeconomic class. Similar finding was also reported by Mahor. R. G (2013). Mothers were aware about diarrhoea but the level of knowledge about definition, cause, danger sign and preventive measures regarding diarrhoea was very poor. The poor knowledge among the mothers about preparation and proper use of ORS during diarrhea was found in this study. Similar findings was also observed by Ansari. M. et al (2011) and Shah et al (2010). Regarding hygiene practices behaviour of mothers, 95% of mothers always washed their hand with soap after defecation, 84.17% washed their hands with soap before feeding to children and 72.5% wash their hands with soap before food preparation. Most of the (78.33%) mothers were using private toilet. Majority of mothers (68.33%) used PHD supply water directly for drinking purpose, whereas only 39.17% used purified drinking water. Information on storage of drinking water, majority (80.33%) covered or closed water storage container whereas 19.17% kept the water container open. Similar finding was also observed by Workie H.M.(2018).

V. Conclusion

The present study was conducted with objectives to assess the knowledge and hygiene practices by mothers of under five children with diarrhoea. The above study concluded that overall knowledge about diarrhoea and its management at home was poor among the mothers. Although mothers were aware about diarrhoea and its management at household level their knowledge pertaining to vital issues such as danger signs of dehydration, actual role of oral rehydration fluids during diarrhoea, correct and complete preparation of ORS solutions and the correct amount of ORS solution to be given to children during diarrhoea was very poor. A significant association between education of mothers with knowledge regarding diarrhea ($P=0.021$) and appropriate hygiene practices during diarrhoea management ($P=0.042$) of mothers found in this study. Thus extensive educational intervention and behavior change communication for parents is need of the hour.

VI. Acknowledgements

I would like to thank Dr. Chandrashree Lenka, H.O.D. P. G. Department Home Scioence, Sambalpur University for her guidance to prepare the paper.

Funding: No funding sources

Conflict of interest: None declared

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