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A Study on Maternal Knowledge and Practices Regarding Childhood Diarrhoea in a Tertiary Care Hospital, Sylhet

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ABSTRACT

Diarrhoea is one of the leading causes of childhood morbidity and mortality. Proper knowledge about diarrhoea, healthy dietary practices during a diarrhoeal episode and correct health-seeking behaviour of the mother are crucial to managing and preventing childhood diarrhoea. The objective of the study was to determine the knowledge and practices regarding diarrhoea among mothers of children under the age of five. This descriptive cross-sectional study was conducted from July to December 2019 in the paediatrics ward, Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet, Bangladesh. A total of 200 mothers were enrolled by convenient sampling. Among them, 49% of the mothers considered watery and increasing frequency of stool as diarrhoea while 46.5% of mothers considered only the passage of watery stool as diarrhoea. The majority (36%) of the mothers didn't know the cause of diarrhoea, while eating mud, dirty food and drinking contaminated water were considered causes of diarrhoea by 35.5% and 33% of the mothers, respectively. Thirsty and dry skin were considered sings of dehydration by 30.5% of the mothers, while 48% of the mothers didn't know the signs of dehydration. Washing hands (49.5%), cleaning the environment (46%), maintaining personal hygiene (36%), boiling water (15%) and properly covering food (14.5%) were the measures stated by mothers that can prevent diarrhoea. During diarrhoeal episodes, 55% of the mothers used more fluid, while 40% restricted children's diet. The majority (67.5%) of the mothers visited registered physicians within 2 days of the onset of diarrhoea, while 37.5% self-medicated. The majority (69.5%) of the mothers knew how to prepare oral rehydration saline correctly. There is inadequate maternal knowledge regarding diarrhoea, its prevention and management. This condition may be improved if mothers were given proper health education regarding diarrhoea.

Key Words: *Diarrhoea, Knowledge, Practice, Under five children.*

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INTRODUCTION

Diarrhoea is defined as the passage of three or more loose or liquid stools per day, or more frequent passage than normal for the individual[1]. Diarrhoea is caused by a variety of bacteria, viruses, and parasites. Contaminated food or drinking water and poor personal hygiene are responsible for the spread of these organisms, causing diarrhoea[1].

Diarrhoea is the second largest cause of death in children under the age of five, killing approximately 525,000 children each year. Every year, an estimated 1.7 billion diarrhoeal incidents occur worldwide[2].

Early intervention with suggested oral rehydration therapy and continuing good feeding practices can prevent the majority of these deaths. In the management

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of childhood sickness, caregivers play a critical role. Child health care practices have been identified as a major contributor to mortality rates among children under the age of five[3].

Primary preventive strategies such as using clean water, hand washing, excellent cooking practices, exclusive breast feeding, immunization, sanitary excreta disposal, use of latrines, and proper sanitary and hygienic practices can prevent the majority of mortalities and morbidities associated with diarrhoea. Secondary preventive interventions include early diagnosis of dehydration due to diarrhoea and prompt oral rehydration therapy, increased & continued feeding of energy dense meals in addition to breastfeeding, zinc therapy, and the use of appropriate antibiotics for bacterial cases of diarrhoea[4].

Several studies have examined mothers' health-seeking behavior and health-care use in relation to diarrhoeal diseases in developing countries and have discovered many characteristics that influence the pattern of health-care seeking for diarrhoeal diseases. Caretakers' perceptions and attitudes about the severity of diarrhoeal disease have an impact on whether or not to seek treatment[3,5,6].

Diarrhoea is not fatal itself, but the mother's lack of awareness and misguided approach to its management results in a high level of mismanagement and severe dehydration. Improved maternal awareness and care-seeking behavior could save a large number of diarrhoea-related children′s morbidity and mortality[1,7]. Therefore, the objectives of this study were to assess the knowledge and practices regarding diarrhoea among mothers of children less than five years of age.

METHODOLOGY

This descriptive cross-sectional study was conducted from July to December 2019, in the paediatrics ward, Jalalabad Ragib-Rabeya Medical College Hospital, Sylhet, Bangladesh. A total of 200 mothers were included in the study, and a convenient sampling method was used. Inclusion criteria were all mothers with at least one child under the age of five and admitted in the paediatrics ward owing to diarrhoea. Informed verbal consent was taken from every mother before inclusion. Those who refused to participate in the study were excluded. Data was taken by face-to-face interview with a pre-designed questionnaire. Data on sociodemographic characteristics, mothers' knowledge of diarrhoea, including definition and causes of diarrhoea, signs of dehydration, consequences and prevention of diarrhoea, and mothers' practicing behaviour during diarrhoeal episodes, including use of fluid and food, dietary preferences, visits to registered physicians, and drugs used by mothers at home, were collected. Following the interview, each mother was asked to demonstrate an oral rehydration saline (ORS) preparation technique. The data was analysed by SPSS V21. Data was presented as frequency, percentage, bar and pie charts.

RESULT

The study enlisted the participation of 200 mothers who had at least one kid under the age of five years. The mean age of the mothers with SD was 25±5 years. The majority (63.5%) of the respondents had completed the secondary school certificate examination (SSC). Most (80.5%) of them belonged to rural areas, and 52% of the respondents′ monthly family income was above 10,000 Bangladeshi taka (Table-I).

Regarding knowledge of diarrhoea, 49% of mothers considered watery stool plus increased frequency to be diarrhoea, whereas 46.5% considered merely watery stool to be diarrhoea. When asked about the cause of diarrhoea, 36% of mothers claimed they didn't know, 35.5% stated that eating mud and dirty food caused diarrhoea, and 33% claimed contaminated water caused diarrhoea. In the survey, 48% of mothers stated that they were unaware of the signs of dehydration, while 30.5% claimed thirsty and dry skin were indicators of dehydration. The diarrhoea causes weakness, according to nearly half of the mothers (49.5%). In terms of diarrhoea prevention, 55% of mothers were aware of several preventive methods, such as hand washing (49.5%), keeping a clean environment (46%), maintaining personal hygiene (36%), boiling water (15%), and properly covering food (14.5%) (Table-II).

Table-I: *Socio-demographic characteristics of the mothers (n=200)*

Characteristics		Frequency	Percentage
Maternal age	Mean age (Years ± SD)	25 ± 5	
	<20 years	19	9.5
	20-29 years	143	71.5
	30-40 years	38	19.0
Maternal educational qualification	Illiterate	21	10.5
	SSC	127	63.5
	>SSC	52	26.0
Residence	Urban	39	19.5
	Rural	161	80.5
Family Income (bdt*/month)	<5000	17	8.5
	5000-10000	79	39.5
	>10000	104	52

*bdt- Bangladeshi Taka

Regarding dietary practices, 55% of mothers said they provided their children more fluid during diarrhoea, 22% said they supplied less fluid and 21.5% said they gave the same amount as a typical child. But 40% of mothers said they gave less food to their children, while 28.5% of mothers gave more food and another 27.5% of mothers gave the same amount as a normal child. ORS was given to their children by 83.5% of mothers. The diets commonly used by mothers during a diarrhoeal episode were hotchpotch (50.5%), breast milk (46.5%) and rice powder (13.5%). The majority of mothers (67.5%) attended a registered physician within two days of the onset of diarrhoea, although 37.5% utilized medicine at home without a qualified physician's prescription (Table-III).

The causes of self-medication were drug seller's advice (52%), village doctor's advice (26.7%) and physician's prescription of these drugs previously for the same or other children (21.3%) (Figure-1). Metronidazole (54.7%), ciprofloxacin (33.3%), nitazoxanide (32%), and azithromycin (9.3%) were the most commonly used antibiotics at home without a prescription from a doctor (Figure-2).

Among the study population, 69.5% of mothers knew how to prepare ORS correctly (Figure-3).

Table-II: *Knowledge of the mothers regarding diarrhoea (n=200)*

Characteristics		Frequency	Percentage
Definition of diarrhoea	Watery stool	93	46.5
	Increased frequency	9	4.5
	Watery stool & increased frequency	98	49
Cause of diarrhoea	Drinking contaminated water	66	33
	Eating mud and dirty food	71	35.5
	Evil's eye	17	8.5
	Teething	13	6.5
	Others	24	12
	Don't know	72	36
Signs of dehydration	Sunken eye	33	16.5
	Thirsty & dry skin	61	30.5
	Decrease urine output	24	12
	Others	14	7
	Don't know	96	48
Consequences of diarrhoea	Weakness	99	49.5
	Loss of weight	14	7
	Unconsciousness	6	3
	Convulsion	5	2.5
	Death	44	22
	Don't know	70	35
Prevention of diarrhoea	Boiling water	30	15
	Properly covering food	49	14.5
	Washing hands	99	49.5
	Cleaning environment	92	46
	Maintaining personal hygiene	72	36
	Don't know	90	45

(One respondent considered more than one response)

Table-III: *Practices during diarrhoeal episodes among study mothers (n=200)*

Practices		Frequency	Percentage
Use of fluid during diarrhoea	More fluid	110	55
	Same as in normal child	43	21.5
	Less fluid	44	22
	Don't know	3	1.5
Use of solid food during diarrhoea	More food	57	28.5
	Same as in normal child	55	27.5
	Less food	80	40
	Don't know	8	4
Diet preferences during diarrhoea	ORS	167	83.5
	Khichuri	101	50.5
	Breast milk	93	46.5
	Rice powder	27	13.5
Visit to registered physician	Within 2 days of onset of diarrhoea	135	67.5
	After 2 days	38	19
	Never	27	13.5
Drugs used by mother at home	With prescription of a registered physician	173	86.5
	Self-medication	75	37.5

(One respondent considered more than one response)

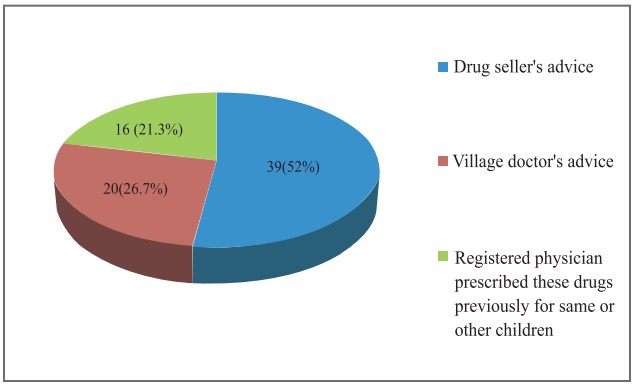

Figure-1: *Causes of self-medication (n=75)*

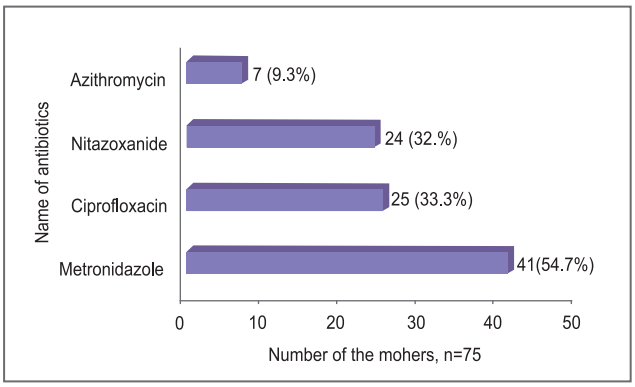

Figure-2: *Commonly used antibiotics in self-medication cases (n=75)*

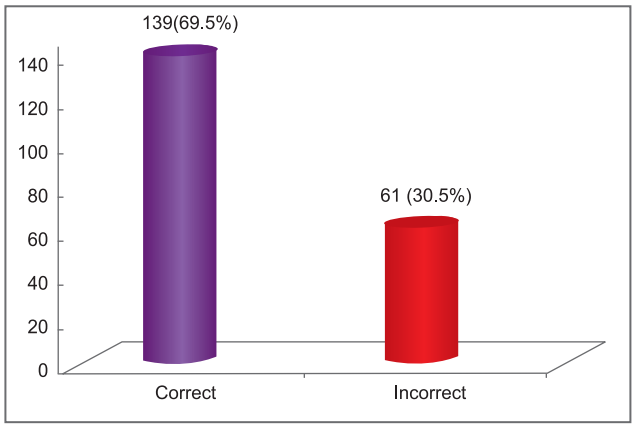

Figure-3: *Preparation of ORS by mother (n=200)*

DISCUSSION

The goal of the study was to assess mothers' knowledge and child care practices during diarrhoea in order to identify the dimensions of knowledge and practice deficits and to take appropriate actions to improve their knowledge and adjust their practices in the right direction.

Among the 200 mothers, 98 (49%) defined diarrhoea as the passage of watery stool more frequently than normal. The rest of the mothers stated either watery or increased frequency of stool as diarrhoea. This result is inconsistent with the study done by Rokkappanavar et al. in Karnataka, India, where they found 93.13% of mothers knew the correct definition of diarrhoea[4]. Another two studies, one in a civil hospital in Karachi, Pakistan and the second one in Nigeria, found that 72% and 78.5% of the mothers defined diarrhoea as the passage of watery stool with increased frequency, which is also dissimilar to our study[1,7]. This may be due to poor health education among the mothers in this region.

Most of the mothers (36%) stated that they had no idea about the aetiology of diarrhoea. The rest of the mothers reported that diarrhoea was caused by eating mud and dirty food (35.5%), drinking contaminated water (33%), evil's eye (8.5%), and teething (6.5%). Mumtaz et al. found that 47% of mothers didn't know the causes of diarrhoea, which is nearly similar to our study[1]. Interestingly, one Indian and one Iranian study demonstrated that nearly one third (30.88%) and nearly half (48%) of the mothers, respectively, consider teething as a cause of diarrhoea. Both are dissimilar to our study[4,8]. Another study in Karachi, Pakistan found that almost half of the mothers (47%) consider evil's eye to be a cause of diarrhoea[1]. Lack of health education may be the cause of this type of misconception.

One of the most serious side effects of diarrhoea is dehydration. In terms of signs of dehydration, nearly half of the mothers (48%) were unaware of them, which is similar to a study performed in Karachi's Civil Hospital, where 40% of the moms were unable to define them[1].

Though diarrhoea is the leading cause of death in Bangladesh, 35% of the respondents didn't know about the consequences of diarrhoea. At the same time, nearly half of the mothers (49.5%) stated that weakness is the only or major consequence, followed by death (22%), weight loss (7%), unconsciousness (3%) and convulsion (2.5%). Mumtaz et al. in a study found that 71% of the mothers stated lethargy as a consequence of diarrhoea, followed by loss of weight (21%), death (4.5%) and unconsciousness (3.5%)[1].

It is vital to adopt effective prophylactic steps to decrease diarrhoea. About 45% of those polled couldn't

name a single preventative practice for diarrhoea. This finding is in line with the findings of Rokkappanavar et al., who discovered that nearly half of the participants were uninformed about diarrhoea prevention measures[4].

When a child has diarrhoea, it is essential to provide more liquids and nourishment to the youngster. In our study, we found that 55% and 28.5% of the mothers offered more fluid and food to their children during diarrhoeal episodes respectively, while 40% of the respondents restricted food. Rehan et al. found similar findings in a study in Nepal, where 41.8% of the mothers restricted foods during diarrhoeal episodes[9].

In this study, 83.5% of the mothers gave ORS to their children and the commonly offered diet included khichuri (50.5%), breast milk (46.5%) and rice powder (13.5%). Mumtaz et al. in a study found that only 25% of the mothers gave ORS to their children during diarrhoea, which is lower than in our study. They also found that the majority (71%) of them preferred a diet comprising khichuri, bananas, and porridge[1]. Another study in Iran found that 63.2% of mothers maintained consistent breastfeeding during diarrhoea, which is a little higher than our study[8].

Patients with diarrhoea in developing countries like Bangladesh are frequently mismanaged at home, leading to poor outcomes. Prompt medical care is essential to shorten the duration of each episode and prevent mortality. In our study, the majority (67.5%) of the respondents visited a registered physician within 2 days of the onset of diarrhoea and 37.5% of the mothers did self-medication. Commonly used antibiotics by mothers without a prescription from a registered physician were metronidazole (54.7%), ciprofloxacin (33.3%), nitazoxanide (32%) and azithromycin (9.2%). The reasons for self-medication were drug seller recommendation (52%), village doctor recommendation (26.7%) and registered physician's prescription of these drugs previously for same or other children to treat diarrhoea (21.3%). In Pakistan, Mumtaz et al. found an almost identical result where 30% of mothers did self-medication[1]. But in Nepal, self-medication was found in 57.4% of the cases, which is much higher than in our study[9].

Almost all the mothers in our study theoretically knew how to prepare ORS. However, only 69.5% were able to show it correctly. Taha AZ conducted a study in a rural health development project in Cox'sbazar, Bangladesh and found that 64% of mothers knew how to prepare ORS in the project area, which is similar to our study[10]. Different research in Karachi, Pakistan[1], Maharastra, India[4] and Karnataka, India[11] revealed nearly identical results.

CONCLUSION

Mothers' knowledge regarding the definition, cause, and prevention of diarrhoea, as well as indicators of dehydration and consequences of diarrhoea, was inadequate. Dietary practices of the mother during a diarrhoeal episode are also unsatisfactory. The mother's incorrect preparation of ORS and self-medication may endanger the child. To improve maternal knowledge and healthy dietary and health-seeking practices related to diarrhoea, health education in the Sylhet region must be strengthened.

LIMITATIONS

It's a hospital-based study in which mothers may have received health education regarding diarrhoea. As a result, their degree of expertise would differ from that of community mothers. That's why a second survey is required to assess the community's degree of knowledge and make comparisons.

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