

Knowledge And Practice On Childhood Diarrhea Among Mothers Having Children Under Five Years Of Age In Madhuban, Sunsari, Nepal

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Abstract: Rotavirus is a leading cause of acute diarrhea and causes about 40% of hospitalization for diarrhea in children under five years of age. Hence the study aims to assess the mothers' knowledge and practice regarding childhood diarrhea in Madhuban, Sunsari, Nepal. The descriptive cross-sectional study design was used for the study. A total of 117 respondents were selected using simple random sampling method's random number table. Data were collected using face to face interview method through a semi-structured questionnaire and analyzed using SPSS 11.5. The finding revealed that 93.2% of the respondents were literate. All of the respondents had knowledge of giving ORS when their child suffered from diarrhea. The entire respondent used to wash hands before preparation of ORS and after assisting the bowl movement washing of their children. Majority of them (92.5%) said that they gave more amount of fluid while their child was suffering from diarrhea. About 68.4% of respondents had ORS at their home. Education had a higher impact on the mother about the diarrhea management of their children. The study showed that the use of ORS is in increasing trend, overcoming the use of salt-sugar solution. But on the other hand low percentage of mothers had knowledge that vitamin A prevents children from diarrhea. Therefore, at the community level, mother and child who are in vulnerable condition should be identified and proper education and advice should be given on the importance of Vitamin A, ORS and zinc tablets for the management of diarrhea.

Key Words: Knowledge, Practice, Mothers, Children under Five Years, Nepal.

Introduction

Diarrhea is defined as the passage of three or more loose or liquid stools per day [1]. Diarrhea causes death by depleting body fluids resulting in dehydration. Rotavirus is the leading cause of acute diarrhea and causes about 40% of hospitalization for diarrhea in children under five years of age. Diarrhea continue to be a leading cause of childhood morbidity and mortality globally and holds second rank (after pneumonia) for mortality in children under five years of age, despite the advance in case management and diagnostic technologies over the last decades[3] About 6.3 million children under age five died in 2013, nearly 17000 every day. Worldwide, diarrhea causes 9% death of children under five years of age [4]. The incidence of pathogens causing diarrhea varies between developed and developing countries. In developed countries about 70% of diarrheal cases are of viral, 10% - 20% of bacterial and <10% of protozoal origin. In developing countries 50% - 60% cases are of bacterial [5]. Nearly 90 percent of children who die from pneumonia and diarrhea live in Sub-Saharan Africa and South Asia [6]. The problem is particularly serious in Asia where about half of all rotavirus deaths in children occur in an estimate of 500 kids a day [7]. Diarrhea, a common disease is one of the major determinants of childhood morbidity and mortality in Nepal [9]. The 2006 NDHS showed that 12 percent of children under five years suffer from diarrhea while 2011 shows increasing trend i.e. 14% of Nepalese children under five had diarrhea. Children age 6-23 months are most susceptible to diarrhea [8, 10]. The Integrated Management of Childhood Illness (IMCI) guidelines advise the use of Oral Rehydration Therapy (ORT), along with continuous feeding and zinc for appropriate diarrhea case management [11]. The use of Oral Rehydration Solution (ORS) largely depends on the level of knowledge and attitude of the child's mother [14]. Oral rehydration therapy has prevented more than 50 million child deaths in

the last 25 years [12]. Despite the fact that ORS can substantially reduce the mortality and morbidity resulting from diarrhea, poor knowledge pertaining to diarrhea and its management has posed the third world countries with diarrhea associated deaths and ill-health among children [21]. Moreover, child health care practice has been recognized as a significant factor behind mortality rates among under-five age group children [15]. Therefore, the study aims to assess the mothers' knowledge and practice regarding childhood diarrhea and its management in Madhuban, Sunsari, Nepal.

Methods

A descriptive cross-sectional study was conducted in Madhuban, Sunsari district of Nepal among the 117 mother's having children under five years of age.

2.1. Sample Size Estimation

$$\text{Sample size } (n) = Z^2 \times p \times q / d^2$$

Where,

n = required sample size

z = 1.96 for 95% confidence level

p= proportion of diarrhea among under five children be 0.085 [9]

q= (1-p)

d = error allowed in the study = 0.05

Therefore, n= 117

2.2. Sampling Technique

For this study, random number table of simple random sampling was used to select the sample. List of mothers having under-five children was obtained from female community health worker of Madhuban. This list was put into random number table in SPSS version 11.5 and desired sample i.e. 117.

2.3. Data Collection Tools and Technique

A semi-structured questionnaire was prepared based on the extensive literature review. Pre-testing of questionnaire was done with frequent guidance from subject expert. It was checked by the subject expert for its content validity. The researcher himself collected the data using a questionnaire converted into Nepali through face to face interview with the eligible mothers.

2.4. Data Analysis Procedure

Total of 40 questions were there regarding socio-demographic variables, knowledge on childhood diarrhea and practice regarding childhood diarrhea. Data were entered and analyzed using SPSS version 11.5. Descriptive analysis was done using mean, standard deviation, frequency, and percentage for the variables. Chi-square test was used to analyze the association between level of knowledge and selected demographic variables at 0.05 level of significance.

2.5. Ethical Consideration

Ethical clearance was obtained from the Institutional Review Committee (IRC) Nobel College with reference number EPH IRC 214/2018/2019. Verbal consent was taken from each respondent prior to interview.

Results

The mean age of the respondent was 24 years. Majority of the respondents were Hindu (85.5%). About 47% of the respondents were a farmer. Almost all of the respondents were literate (93.2%). (Table 1)

Table 1: Socio-demographic characteristics of respondent (n=117)

Characteristics	Frequency	Percent
Age of respondent		
<20	13	11.1
20-24	50	42.7
25-29	24	29.1
≥30	20	17.1
Religion		
Hindu	100	85.5
Muslim	17	14.5
Occupation		
Farmer	55	47
Housewife	54	46.2
Service	4	3.4
Business	4	3.4
Educational Status		
Literate	109	93.2
Illiterate	8	6.8
Education level (n=109)		
Primary level	45	38.5
Secondary level	37	31.6
Read and write only	21	17.9
Higher secondary and above	6	5.1

Out of 117 respondents, 99.1% gave the correct answer on the definition of diarrhea. Most of them (74.8%) said that eating unhygienic food is the cause of diarrhea. Entire respondent identified loose motion and abdominal pain as the symptom of diarrhea. Majority of them (97.4%) stated dehydration as main complication of diarrhea. Most of the respondents were able to say handwashing as preventive measure of diarrhea. (Table 2)

Table 2: Knowledge of diarrhea

Characteristics	Frequency	Percent
Meaning of diarrhea		
Passing watery stool ≥3 in a day*	116	99.1
Don't know	1	0.9
Causes of diarrhea (MR)		
Eating unhygienic food*	86	74.8
Change in weather*	76	66.1
Drinking dirty water*	75	65.2
Lack of personal hygiene*	53	46.1
Insects	30	26.1
Foul Smell	12	10.4
Spirit	4	3.5
Others	4	3.4
Symptoms of diarrhea (MR)		
Loose motion & abdominal pain	116	100
Vomiting	80	69
Feel thirsty	71	61.2
Fever	42	36.2
Shrunken eye	34	29.3
Headache	16	13.8
Others	1	0.9
Main complication of diarrhea		
Dehydration	114	97.4
Vomiting	1	0.9
Loss of appetite	1	0.9
Lesion in intestine	1	0.9
Prevention of diarrhea (MR)		
Hand washing*	103	88
Use of latrine*	97	82.9
Eat safe food*	64	54.7
Feeding milk	28	23.9
Cover drinking water	16	13.7
Eating solid food more	4	3.4
Spray DDT	3	2.6
Others	2	1.8

*Correct answer, MR=Multiple response

Entire respondent had heard about ORS and said that child suffered from diarrhea should be given ORS. Only 29.1% knew that there is four-step for preparing ORS. Almost all of the respondents (99.1%) were able to depict rehydration as the advantage of ORS. Majority respondents had heard about zinc tablet and among them, 61.5% reported that zinc tablet should be given for ten days or more than ten days. (Table 3)

Table 3: Knowledge of diarrhea management

Characteristics	Frequency	Percent
Heard about ORS		
Yes	117	100
No	-	-
Child suffered from diarrhea should be given (MR)		
ORS*	117	100
Zinc tablet*	105	89.7
Curd	58	49.6
Soup	49	41.9
Bhaat ko maad	41	35
Steps for preparing ORS		
One	40	34.2
Four*	34	29.1
Three	23	19.7
Don't know	20	17.1
Advantage of ORS		

Rehydration*	116	99.1
Control fever	1	0.9
Heard of zinc tablet		
Yes	114	97.4
No	3	2.6
Zinc tablet is given for (n= 114)		
<10 days	33	19.7
≥10 days	72	61.5
Don't know	22	18.8

*Correct answer, MR=Multiple response

All of the respondent used private tube well as their regular source of water. Filtering with cloth was the method most of them used for the purification of the water at home. Rest are depicted in table 4.

Table 4: Practice on prevention of diarrhea

Characteristics	Frequency	Percent
Source of water that family use		
Private tube well	117	100
Purification of water at home (MR)		
Filtering with cloth	92	80
Boiling	52	45.2
No purification	2	1.8
Place for defecation and urination by child (MR)		
Potty	73	62.4
Open place	52	44.4
Use of latrine	35	29.9
Public toilet	2	1.7
Diaper	1	0.9
Disposal of garbage from home during diarrhea (MR)		
	116	99.1
Burial *	39	33.3
Burning	21	17.9
Collecting waste at one place		
Throwing waste randomly	5	4.3
Diarrhea prevention (MR)		
Mother's milk *	107	91.5
ORS and zinc	80	68.4
Khichadi/liquid daal	67	57.3
Vitamin A supplementation*	22	18.8
Salt sugar solution	5	4.3
Powder milk	1	0.9

*Correct answer, MR=Multiple response

Cent percent of respondents had prepared ORS and washed their hand before preparation with soap. Almost all of them (96.6%) were aware of keeping the prepared ORS for less than or equal to 24 hours. High number of respondent (94.9%) said that they know the ORS preparation technique. However, among them about 62.16% could only demonstrate it correctly. Whole respondent washed their hand with soap and water after assisting the bowel movement.

Table 5: Practice on ORS and hand washing

Characteristics	Frequency	Percent
Prepared ORS		
Yes	117	100
No	-	-
Washed hand before ORS preparation		
Yes	117	100
No	-	-
Washed hand with		

Soap and water	117	100
Time to keep prepared ORS		
<=24 hours*	113	96.6
Don't know	4	3.4
ORS preparation technique		
Yes	111	94.9
No	6	5.1
If yes, demonstrate (n=111)		
Right	69	62.16
Wrong	42	37.84
Hand washed after assisting the bowel movement		
Yes	117	100
No	-	-
If yes, washed with		
Soap and water	117	100

*Correct answer

Forty-seven percent of respondent had the experience of a child suffering from diarrhea. More than half 56.6% of them breastfed their child six or more than six time during diarrhea. Detail is shown in the table 6.

Table 6: Practice on diarrhea treatment

Characteristics	Frequency	Percent
Child suffered from diarrhea		
Yes	53	47
No	64	53
Time the child is breast feed (n=53)		
<6 times	23	43.4
=>6 times	30	56.6
Treated outside home (n=53)		
Yes	48	90.5
No	5	9.5
If yes, taken to (MR) (n=48)		
PHCC	39	72.2
Clinics	16	29.6
Private hospital	14	25.9
Dhami jhaakri	5	9.3
Health post	2	3.8
Amount of fluid given while child suffered from diarrhea (MR) (n=53)		
More than usual	49	92.5
Less than usual	3	5.7
As usual	1	1.9

*Correct answer, MR=Multiple response

Table 7 illustrates that level of knowledge on the diarrhea of respondents has significant association with their age, level of education and whether their child had suffered from diarrhea while has no relation with religion.

Table 7: Association between level of knowledge on diarrhea and selected variables

Characteristics	Level of Knowledge		p-value
	Good (n%)	Moderate (n%)	
Respondent age			
<20	1(7.7)	12(92.3)	0.04
20-24	25(50)	25(50)	
25-29	12(35.3)	22(64.7)	
=>30	7(35)	13(65)	
Religion			
Hindu	42(42)	58(58)	0.05
Muslim	3(17.6)	14(82.4)	
Level of education			
Read and write only	5(23.8)	16(76.2)	0.001
Primary level			
Secondary level and	8(17.8)	37(82.2)	

above	31(72.1)	12(27.9)	
The child suffered from diarrhea			
Yes	26(49.1)	27(50.9)	0.032
No	19(29.7)	45(70.3)	

4. Discussion

A cross-sectional study was conducted to find out the knowledge and practice of mother having under five children regarding the childhood diarrhea in Madhuban Sunsari. This study revealed that the 99.9% of mothers knew that diarrhea means frequently passing watery stool for three or more than three times a day. However, a study conducted in five villages of India by Choube A.et.al [2] showed that only 5.6% of mothers say the correct meaning of diarrhea. In this study 74.8% mothers cited unhygienic food as the cause of diarrhea followed by change in weather (66.1%). The survey conducted in Iran [16] revealed that 52% of mothers mentioned that diarrhea occurred due to digestion of contaminated followed by teething (48%). Entire mother preferred to use ORS during childhood diarrhea as compared to the study conducted in NorthWest Ethiopia [23] where minimal percentage of ORS is preferred i.e. 2.2%. Here we can find that 41.9% of mother gave soup for the treatment of diarrhea. Similar finding was depicted by study done by Amare et.al [23] where 36.4% of mothers gave soup for the treatment. According to this study 17.1% of mother did not know how many steps are there to prepare ORS whereas study done among the marginalized community of Morang [9] showed that only 5.4% of mother did not know how many steps are there to prepare ORS. Almost all of the mother (99.1%) said that ORS prevents from getting dehydrated during diarrhea in this study. Opposite finding was illustrated in the study done in Morang district of Nepal [9] where only 8.5% of mother said ORS prevent from getting dehydrated during diarrhea. The study showed that 94.9% of reported that they know the ORS preparation techniques and among them 62.16% could correctly demonstrate the ORS preparation technique. It was found that 99.6% of mothers responded correctly that prepared ORS should be taken within 24 hours. Other studies of South-south Nigeria showed that 58.3% of mothers responded correctly that prepared ORS should be taken within 24 hours. As per this study 99.5% of mothers gave more than usual amount of fluid to their child during diarrhea. The contradictory finding was out in the study conduct by Choube et.al [2] where only 20.4% of mothers gave more than usual amount of fluid to their child during diarrhea. The study depicted that literate mothers have good knowledge on childhood diarrhea and its management as compared to illiterate one. This might be because education of mother increases the awareness among them. With mother having good knowledge on diarrhea, less number of children suffered from diarrhea. Similarly, age of mother also has significant association with knowledge of mother on childhood diarrhea and its management. However, religion does not affect knowledge level.

5. Conclusion

In Nepal with focus on ending the preventable death of newborn and children under five years of age and improving their nutritional status, this study provides insight to the knowledge and practice of mothers having

under-five children regarding the childhood diarrhea and its management. The study enlightens that education had impact on mothers. The finding indicated that although the use of ORS is in increasing trend, overcoming the use of salt sugar solution, still some mothers are unaware of proper way of using the ORS along with zinc tablet. Low percentage of mothers' had knowledge that vitamin A prevents children from diarrhea. However, almost all of the mothers preferred to give the ORS when child is suffering with diarrhea along with vomiting.

6. Acknowledgments

The researcher would like to acknowledge all the participants and all the helping hands who have directly or indirect put their effort for this research.

7. References

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