

A Community Based Cross-Sectional Study of Prevalence and Risk Factors of Diarrhoea among Under-Five Children in Rural Field Practice Area of Darbhanga Medical College

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Abstract:

Introduction: Globally, approximately 5 lakh under-five mortality is reported to be caused due to diarrhoea which is drastically large figure. This is a community based cross-sectional study of prevalence and risk factors of diarrhea among under five children in rural field practice area of Darbhanga medical college, Darbhanga. This study also assess the knowledge and utilisation of ORS among mothers of under five children in the study area.

Material and Method: This is a community based cross sectional study conducted for a period of 2 year in the rural field practice area under RHTC Kalyanpur, attached with DMCH, Darbhanga. A total of 400 under-five children residing in the study area and who suffered from diarrhoea in last two weeks were included in the current research study. The children who were chronically ill at the time of data collection and the ill or suffering mothers of the indexed children were excluded from the study. An informed consent were taken from all the study subject.

Result: In our study, the overall prevalence of diarrhoea among under five children was found to be 9%. The prevalence rate was highest in the age group of 13-24 months, and lowest in the age group of 25-36 months. Prevalence rate of diarrhoea of 7% in male child and 11% in female child was seen in this study. On analysing the risk factors, it was found that percentage of fully immunized children in the study population was 77%. Partially immunized children had higher risk for diarrhoea compared to fully immunized children and the data was found to be statistically significant ($p < 0.001$) in case of diarrhoea. In our study, Breast feeding was found to be a boon to prevent diarrhoea cases. Only 2.23% (6 out of 268) children who are exclusively breast feeded suffers from diarrhoea).The families practicing insanitary practices of garbage disposal showed high risk of diarrhoea as compared to children whose family dispose garbage's in rubbish pit.

In our study 88.5 % of the mothers had already heard about ORS and its uses during diarrhoea cases, 65% of mothers knew the correct method of preparation of ORS subjected to be given to children. In this study, knowledge and utilization of ORT was found to be significantly associated with socio demographic factors such as mother's education ($p < 0.001$), type of family ($p < 0.001$), immunization status ($p < 0.001$), and socioeconomic class. Present study shows that a direct relationship exists between mother's education and health of children as highly educated mothers will have better information about childcare and they can apply their knowledge in best possible way. Educational status of mother was found to be associated with ORT knowledge and statistically significant in case of diarrhoea ($p < 0.001$).

Conclusion: The prevalence of diarrhoea was 9 % among under five children in the present study, lower than that of NFHS-5 (2019-20) in Bihar is 13.7%. In the present study, we found maximum diarrhoea cases in the children aged 13-24 months. Utilization of ORT by the mothers in the current study was adequate (88.5%) out of which only 65% use correct preparation method. The study has also emphasised the impact of improved sanitation facility, safe drinking water and garbage disposal on the diarrhoea prevalence of under-five children in India.

Keywords: Diarrhoea, Under Five Children, ORS, ORT and cross-sectional study.

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Introduction

Childhood mortality is a significant public health concern mostly in developing nations of the world [1]. According to the recent report of United Nation's Inter-Agency Group for Child Mortality Estimation (UN IGME), more than 5.0 million children under age 5 died in 2021. In India, under-five mortality though has declined since past years but still remains an issue of concern. According to UN IGME, 31 deaths per 1000 live births was estimated in year 2021 for India which has decreased from approximately 100 deaths per 1000 live births in 1990 [2]. The three diseases which are responsible for maximum under-five child mortality are pneumonia, diarrhoea and malaria in order of them being more infectious and deadly. UNICEF reports that pneumonia, diarrhoea and malaria caused approximately 30 per cent of deaths among children under the age of 5 in 2019 across the globe.[3] Diarrhoea is the second most world's deadliest disease of under-five age group. Globally, approximately 5 lakh under-five mortality is reported to be caused due to diarrhoea which is drastically large figure.

Diarrhoea causes the loss of electrolytes and water and thus, dehydration induced by diarrhoea is the severe most threat in diarrhoeic patients. If not managed properly, diarrhoea can also leads to severe malnutrition and compromised immunity. UNICEF recommends use of oral rehydration therapy and zinc as essential interventions for prevention and decreasing of mortalities caused by acute watery diarrhoeas. Proper sanitation, nutrition, education, behavioural modifications and hygiene are some important measures to help the countries in satisfactory prevention and treatment of diarrhoea.

According to NFHS-5, Bihar ranks second in the under-five mortality rate with 56 deaths per 1000 live births in the five years before 2019-20.[4] Four districts of Bihar reported highest prevalence of diarrhoea to approximately 20%. Two weeks before NFHS-5, India reported a 10% prevalence rate in children under five years age. However, 29 different districts showed greater than 15% including districts of Bihar.

It is important to know the occurrence of diarrhoea in children of different populations and how effectively the mother and other family members respond in handling the child with diarrhoea. This may help in designing of proper preventive measures for effectively reducing mortality and morbidity due to diarrhoea in children. In view of this a community based cross sectional study was conducted for a period of 2 year in the rural field practice area under RHTC Kalyanpur, attached with DMCH, Darbhanga among children under-5 year.

Material & Methods

Our study was Community based cross sectional study from a time period of January 2021 to December 2022 conducted in the rural field practice area under RHTC Kalyanpur, attached with DMCH, Darbhanga.

According to NFHS-5 (2019-20), prevalence of diarrhoea in under-five children in Bihar is 13.7%. At 95% confidence interval, sample size (n) = z^2pq/D^2 , where;

p=prevalence (i.e., 13.7%), z=Standard Deviation at 95% confidence interval (=1.96), q=1-p (=86.3), D=Precision or Relative error(5%).

Substituting these values in above equation, we get $n = 1.96^2 \times 13.7 \times 86.3 / 5^2 = 182$. Therefore, sample size was estimated to be 182.

Since, cluster sampling method was used, sample size needs to be adjusted with a correction factor, i.e., design defect. Multiplying the sample size with design effect of 2, the adjusted sample size came out to be $182 \times 2 = 364$. To this, a non-response rate of 10% was added. The final sample size obtained was 400.

Sampling Method

Cluster sampling method was used for the current project.

Sample Technique

Cluster sampling method was done considering single researcher and limited resources. There are total 123 villages, 275 ward and 31 panchayat in Kalyanpur. Population of kalyanpur is 3,10,439. 40 villages was selected randomly, each village being considered as a cluster. 10 study subjects were selected from each cluster, thus, to cover a total of 400 study subjects.

Data Collection

Each selected village was visited, and ASHA and other local health workers were contacted. After rapport build up with the local staff, health team was formed. A health team consisting of researcher, ASHA and other local people was constituted. Transect walk was done from a randomly selected center of village to select first house and then a house-to-house survey was done to obtain 10 eligible study subjects from each village.

Children under-five years in each house was identified. If any eligible participant's guardian/caregiver refuses to participate, then the next house was visited. If the child/guardian of child was not available at the time of first visit, a second visit was made. If more than one under-five children were present in same house, then respondent was selected randomly. After identifying study subjects, informed consent and the purpose of the study was explained to

their mother/guardian of each subject. A pre- tested semi- structured questionnaire was administered to the mother/caregiver in face-to-face interview. The questions in the interview schedule were asked in the local language. The questions were mostly open-ended, and the probable responses were listed to facilitate minimizing the interview time.

Data Analysis

Data was entered in MS Excel, and frequencies, proportions, and percentages were calculated. For statistical measurement, SPSS version 20 software was used.

Result

Using the Cluster sampling method, 400 under 5 children were selected for the study. There was no

refusal to take part in the study. According to gender distribution it was found that 55% of children were male whereas 45% of children were females. The highest number of children belongs to the age group of 25-36 months, followed by 49-60 months, and lowest number of children were found to be in the age group of 0-12 months.

The conducted studies for under five population shown the prevalence of diarrhea as 9% as summarized in Table 1. The maximum number of cases reported in the age group of 13-24 months were 12 and least number of cases found in the age group of 0-12 months were 3. Maximum prevalence of diarrhoea were found in age group 13-24 months and lowest prevalence were found in 25-36 months.

Table 1: Prevalence of diarrhoea during the previous two weeks in under-five children

Age groups	No of children seen	No. of diarrhoea cases	Prevalence (%)
0-12 (months)	40	3	7.5
13-24(months)	70	12	17.14
25-36(months)	120	7	5.83
37-48(months)	75	5	6.66
49-60(months)	95	9	9.47
Total	400	36	9

A total of 400 children were taken into a survey of this study in which 40 Children belongs to 0-12 months of age group whereas 360 children belongs to 13-60 months of age group. Most of the children were first in birth order followed by second. 67% of children were given exclusive breastfeeding whereas 21% of children were given bottle feeding, Immunization status were found to be up to date for 77% of the children whereas 23% of the children were having incomplete immunization status. 44% of mothers gave street foods bought from vendors whereas 56% of mother denied the same. Most of the mothers in the present study were found to be illiterate as 36.5 % followed by primary education of 25.5 %, whereas mothers with graduate qualification were found to be very low as 9%. Labour work as occupation were found to be dominated in the present study and very few were found to be in regular profession. 79.5% of the population in the study were Hindus and 20.5 % of the population were Muslims. Nature of family as joint were found to be dominated in the study which was 56.5% followed by nuclear as 31.5% whereas three generation family was found to be 12% only.

Although washroom facilities were available for 71.5% of the children, but most of the washroom were being used by large number of family member making a vulnerable cause of infections to children whereas 28.5% of children were found to be with no proper washroom facility. Proper garbage

disposal methods were adopted by 41.5% of families, whereas unhygienic way of garbage disposal was prevalent in 58.5% of families, thus creating hotspot of infections. Water storage for household uses were sanitary way for only 28 % of families and 72% of houses were found to be storing water in unsanitary way, making children vulnerable to infections. 12.5% of families were used to of cleaning of feeding bottles once a day and 8.5% of families were cleaning twice a day, which is a very less % of families adopting proper cleanliness of feeding bottles.

Pre-treatment of water before use were found for 24.5% of houses and 75.5% of houses were using water without adopting any pre-treatment measures making children prone to water borne infections. Habit of storing cooked food for later use was found to be dominated for 75.5 %of houses whereas 24.5% of houses were not found to be with such habits. Hand wash before eating and feeding children were prevalent in 54% of the families and 46% of families were doing it sometimes, thus compromising the hygiene of children.

The study was conducted on lower, lower middle , and middle socio-economic class. Lower and lower middle class constituted for most of the study population, which was 43.5% and 39.5% respectively whereas middle class constituted for 17% of the study population. All the above study is summarized in Table 2 below:

Table 2: Socio-demographic condition and sanitation characteristic of the study population

1	Child characteristic		
	Child age(0-12month)		40
	Child age(13-60month)		360
	Birth order	1 st	140
		2 nd	134
		3 rd	90
		4 th	36
	Exclusive breast feeding		268 (67%)
	Bottle feeding		84 (21%)
	Immunization status	Up to date	308 (77%)
Incomplete		92 (23%)	
Vendor Street food	Yes	176 (44%)	
	No	224 (56%)	
2	Parent characteristics		
	Educational status of mother		
	Illiterate	146	36.5%
	Primary	102	25.5%
	Middle school	62	15.5%
	High school	54	13.5%
	Graduate	36	9 %
	Occupational status of father		
	Labour	192	48%
	Construction work	72	18%
	Farmer	46	11.5%
	Electrician	48	12%
	Private job	12	3%
	Teacher	8	2%
	Businessmen	18	4.50%
	Govt job	4	1%
3	Religion		
	Hinduism	318	79.5%
	Muslim	82	20.5%
4	Family type		
	Joint	226	56.50%
	Nuclear	126	31.50%
	3 Generation	48	12%
5	Household characteristic		
	Availability of toilet facility		
	Availability of toilet facility	286	71.50%
	Absence of toilet facility	114	28.50%
	Toilet used by up to 3 family members	78	19.50%
	Toilet used by more than 3 family members	208	52%
	Household garbage disposal		
	Rubbish pit	166	41.50%
	Surrounding	234	58.50%
	Water storage		
	Sanitary	112	28 %
	Unsanitary	288	72%
	Bottle cleaning		
	Cleaning once a day	50	12.50%
	Cleaning twice a day	34	8.50%
	Bottle feeding absent	316	79%
	Pre-treatment of water		
	Done	98	24.50%
Not done	302	75.50%	
Store cooked food for later use			
Yes	302	75.50%	

	No	98	24.50%
	Handwash before eating and feeding		
	Yes	216	54.00%
6	Sometimes	184	46%
	Socio economic class		
	Middle	68	17%
	lower middle	158	39.5%
	Lower	174	43.5%

Mother's knowledge regarding use, method of preparation and quantity of ORS given is summarized in Table 3. According to the study, 88.5% of mothers are aware of the significance of ORS in diarrhea cases and only 65% of mother had knowledge of correct method of preparation of ORS while 11.5% of mothers had not known about ORS, which may prove critical for children consequently.

Table 3: Mother's knowledge regarding use, method of preparation and quantity of ORS given.

S.no	ORS response	Number	Percentage	
1	Use of ORS	354	88.5%	
2	Don't know about ORS	46	11.5%	
3	Knows correct method of preparation	260	65%	
4	Homemade ORS	Yes	234	58.50%
		No	166	41.50%
5	Mother's knowledge regarding quantity of ORS	As much as demand	146	36.50%
		Don't know	254	63.50%

36.5% of mother had proper knowledge of regarding quantity of ORS to be given while 63.5% of mother didn't had any knowledge regarding quantity of ORS.

Tables 4 shows the association between different socio economic variables and other study characteristics with prevalence of diarrhoea. The Chi-square test was applied to find out the association. The prevalence of the cases of diarrhoea in the present study was found to be more in the female child (11.12%) as compared to the male child (7.27%), and this was not found to be statically significant ($p=0.182$) which means there

is no association between gender and prevalence of diarrhoea. Lower and Lower middle socio-economic class constituted for maximum number of cases 12.64% and 6.33 % respectively, whereas 5.89% of diarrhoea cases were seen in middle class. The data were found to be statically not significant ($p=0.0819$) which means there is no association between SES and diarrhoea cases. The prevalence of diarrhoea was significantly associated with immunization, breast feeding, and garbage disposal. This difference was statistically significant too ($p<0.001$).

Tables 4: Association between different socio economic variables and other study characteristics with prevalence of diarrhoea

Study characteristic	No. of children with diarrhoea	No. of children without diarrhoea	Chi square	P value
Age group				
0-12 month	3	37	0.1221	$p=0.726$
13-60 month	33	327		
Gender				
Male	16	204	1.7809	$p=0.182$
Female	20	160		
Socio economic class (SES)				
Middle	4	64	5.0038	$p=0.0819$
Lower Middle	10	148		
Lower	22	152		
Immunization status				
Up to date	14	294	32.4448	$p=0.00001$
Incomplete	22	70		
Breast feeding				
Exclusively breast feed	6	262	77.0573	$p=0.00001$
Bottle feed	28	56		
Neither breast nor bottle	2	46		

feeding				
Water storage type				
Sanitary	8	104	0.6551	p = 0.418
Unsanitary	28	260		
Garbage disposal				
Rubbish pit	4	162	15.0483	p =0.00010
Surrounding	32	202		
Pre-treatment of water				
Done	4	94	3.8339	p=0.050227
Not done	32	270		
Cleaning frequency of bottle				
Once a day	20	30	2.4706	p =0.115995
Twice a day	8	26		

The association of socioeconomic class, mother's education and type of family with knowledge of ORS preparation is shown in table 5.

Table 5: Association of socioeconomic class, mother's education and type of family with knowledge of ORS preparation

Study characteristics	Poor knowledge of ORS preparation	Good knowledge of ORS preparation	Total Number	Chi square value	P-Value
Mothers' education					
Illiterate	66	80	146	23.1093	p=0.00012
Primary School	34	68	102		
Middle School	26	36	62		
High School	8	46	54		
Graduate	6	30	36		
Socio economic class					
Middle	18	58	76	6.7841	p =0.03364
Lower middle	58	110	168		
Lower	64	92	156		
Type of family					
Joint	94	132	226	20.8884	p=0.000029
Nuclear	24	102	126		
3 Generation	22	26	48		

Discussion

Diarrhoea is one of the most common causes of infant and child death in developing countries (including India). It is the third leading cause of death in India which causes 13% of all deaths/year in children under 5 years of age.[5] Dehydration is the main cause of death in the child who suffer from watery diarrhoea and dysentery. A child passes three or more loose or watery stools per day in diarrhoea.[6] The three essential elements in the diarrhoeal management of children include rehydration therapy, zinc supplementation and counselling for continuous feeding and prevention. Children with less dehydration should be given ORS solution which can be managed at home by mothers. Good health and nutrition is an important element in the diarrhoeal management.[7] A child who has no dehydration needs home treatment and the steps for this give Extra Fluids, Give Zinc Supplements, Continue Feeding.[8]

Mothers play a crucial role for providing primary care for their children. Their proper understanding about nutrition and health strongly effects the care

they provide. Different studies conducted shows an association between Household, socio-economic characteristics and the ability of mothers to provide satisfactory food and primary care.[9] Mother's educational status, prior experience of managing the diarrhoea and society background defines basic knowledge about diarrhoea.[10] WHO recommended that mothers and caregivers should have knowledge to identify the early signs of dehydration such as excessive thirst, reduced urine output, sunken eye, poor skin turgor, excessive drowsiness, restlessness and absence of tear.[11] Thus, Mothers play a central role in management and prevention of diarrhoea.

Oral rehydration therapy (ORT) is an effective, easily available and inexpensive treatment for diarrheal diseases. Oral rehydration therapy (ORT) was first introduced in 1960s.[12] and is considered as a gold standard for handling fluid loss as a result of acute diarrhea.[13] Different studies shows an association between mother's knowledge about diarrhoea, ORS and prevention of diarrhoea. Most of the diarrhoeal episodes in developing countries are treated at home, and mothers play a key role in

providing care to under-five children. Mother's decision on the type of food given to the child and the overall management plays an important role in disease prevention. The awareness and perception towards diarrhoea, different household and sanitary actions to prevent and/or manage the disease, have supreme importance to decrease diarrhoea-related morbidities and mortalities. On the other hand, mothers' poor knowledge and attitude about the cause of diarrhoea might limit them from taking right decision and timely actions.[14]

In view of the above, the present study was conducted to estimate the prevalence of diarrhoea and to assess the knowledge and utilisation of ORS among mothers of under five years in the study area which was conducted in the rural field practice area under RHTC Kalyanpur, attached with DMCH, Darbhanga

Objective 1: To estimate the prevalence of diarrhoea in last 2 weeks among children of under five years age in rural field practice areas of DMCH

According to NFHS-5 (2019-20), prevalence of diarrhoea in under-five children in Bihar is 13.7%. In our study, the overall prevalence of diarrhoea among under five children was found to be 9% which when compared to a study done by Borah *et al* [15] and Suri *S et al*[16] in Assam and Jammu, was found to be 21.2% and 26.2% respectively. The prevalence rate was highest in the age group of 13-24 months, and lowest in the age group of 25-36 months. The study was conducted for diarrhoea prevalence in the region on the account of several parameters, such a low rate of occurrence of diarrhoea cases must be attributed to awareness on information concerning on childhood diarrhoea and effective prevention measures provided actively by healthcare staff and volunteers. Credit must also be given to high literacy rate among mothers which made them enable to use their knowledge in best possible way regarding diarrhoea and its prevention among children. Prevalence of diarrhoea was found not significantly associated with the age (p value = 0.726). The higher rate of prevalence of diarrhoea is seen during 3-4 yrs of age in this study and other study too as well, this could be due to reduction of maternally acquired antibodies with the increasing age and also due to the contamination of complementary food items, which are generally introduced at this stage. Furthermore, activities such as teething, playing begins at this stage, which makes the children very prone to infection. Habit of regular handwashing before feeding or eating was only 54% among mother and 46% of mothers agreed they do it sometimes, which shows the lack of basic sanitation among mothers and thus making their children vulnerable to infection. Poor practice of cleaning feeding bottles was observed in the present study as it stands only 8.5% for cleaning of

feeding bottles twice a day and 12.5% were found to be cleaning bottles once a day. Prevalence rate of diarrhoea of 7% in male child and 11% in female child was seen in this study.

Objective 2: To assess the risk factors of diarrhoea in under-five children

Partially immunised children had higher risk for diarrhoea compared to fully immunised children and the data was found to be statistically significant ($p < 0.001$) in case of diarrhoea. This is noticeably due to the protective effect of immunization particularly with reference to measles immunization. The percentage of fully immunised children in the study population was 77%. Improving immunization will help to decrease the burden of illnesses due to diarrhoea in children.

In our study, Breast feeding was found to be a boon to prevent diarrhoea cases. Only 2.23% (6 out of 268) children who are exclusively breast feeded suffers from diarrhoea. Our study was in accordance with the study conducted by Rajendirakumar *et al*[17] who proposed that breastfeeding for a minimum of 6 months to infants can significantly decrease incidence of diarrhoeal infections.

As expected our study has shown that good personal hygiene has a shielding effect against diarrhoea. In a study conducted by Yavatmal by Khadse *et al.* stated that hand washing with soap and water after defecation and before feeding had a protective value against diarrhoea.[18] The families practicing insanitary practices of garbage disposal showed high risk of diarrhoea compared to children whose family dispose garbage's in rubbish pit. This may be due to increased contamination by the flies affecting food hygiene at the family level. In this study children whose family do not do pre-treatment of water and live in insanitary condition have higher risk of diarrhoea. Similar observations were made by Neelam *et al.*[19] who showed that children from poor sanitation suffered more with diarrhoea as compared to improved sanitary and clean dwelling areas. Feeding milk from contaminated bottles may cause transmission of enteric pathogens during early life. In our study a significant association between cleaning of bottles and diarrhoea case was observed.

Objective 3: Assessing the knowledge and utilization of ORT among mothers of under five children

Socio- demographic profile of the mothers: - the study was conducted on 400 mothers, in which 36.5% were illiterate followed by 25.5% who completed their primary education and 15.5% of them had completed their middle school, 22.5 % of them achieved their education of high school and further. Majority of them were living in joint family

(56.5%) followed by nuclear family (31.5%) and only a handful of them were living in 3 generation family (12%). Houses which had access to washroom facility constitute 71.5% and 28.5% had lack of those sanitation facilities.

Knowledge about ORT

In our study 88.5% of the mothers had already heard about ORS and its uses during diarrhoea cases when compared to studies done by Jain H et al [20] in Rajasthan, Ghatam A et al [21] in Telangana and Shah et al [22] in Aligarh, were the awareness rate among mothers was found to be 80%, 62% and 46.5% respectively. This could be attributed to factors like good literacy rate (64%) among mothers and information given during health education program exclusively organised by healthcare staff and volunteers. Our study shows that 65% of mothers knew the correct method of preparation of ORS subjected to be given to children and 58.5% of mothers preferred homemade ORS as remedial measure in case of diarrhoea. 36.5% of mothers had knowledge about right quantity of ORS that must be given.

Association between knowledge and utilization with socio-demographic variables

Certain socio demographic factors play key role in improving the knowledge and utilization of ORT among the mothers. In this study too, knowledge and utilization of ORT was found to be significantly associated with socio demographic factors such as educational ($p < 0.001$), type of family ($p < 0.001$), immunization status ($p < 0.001$).

Present study shows that a direct relationship exists between mother's education and health of children as highly educated mothers will have better information about childcare and they can apply their knowledge in best possible way. On the other hand mothers with less education may not have basic knowledge of ORT, their place of availability, condition and quantity of use in diarrhoea. Educational status of mother was found to be associated with ORT knowledge and statistically significant in case of diarrhoea ($p < 0.001$). The link between mothers education is directly related to their knowledge and preparation for managing diarrhoeas in under-five children was also shown by Saurabh *et al.*[23]

Overall, the study proves that knowledge and information regarding ORT in the community was satisfying but still there are certain areas that need to be concerned in order to live healthier. On the other hand we can also clearly observe that easy accessibility of healthcare services and regular presence of health messengers in the community are providing a helping hand to live healthier day by day.

Conclusion

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Diarrhoea is one of the foremost cause of childhood morbidity and mortality in India. The use of ORS at home in the treatment of diarrhoea in children are recommended by WHO and UNICEF. The prevalence of diarrhoea was 9 % among under five children in the present study, lower than that of NFHS-5 (2019-20) in Bihar is 13.7%. In the present study, we found maximum diarrhoea cases in the children aged 13-24 months.

In this study, 65 % of mothers had good knowledge regarding ORS preparation. Utilization of ORT by the mothers in the current study was adequate (88.5%) out of which only 65% use correct preparation method.

Knowledge of mothers regarding ORT were significantly associated with sociodemographic factors such as education of the mother, type of the family and immunization status of child. The effect of water treatment before use, sanitation, and garbage disposal way was also found to be significantly associated with diarrhoea cases. The study has also emphasised the impact of improved sanitation facility, safe drinking water and garbage disposal on the diarrhoea prevalence of under-five children in India. So further spreading of sanitation program and its importance is very much required. More inspite of all these, there is a need of awareness among mothers and continuous motivation and education through health education sessions/ IEC/ inter personal communication for the correct knowledge about diarrhoea and utilization of ORS. Improving female literacy rate will further increase ORT use also.

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