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# Why are there delays in seeking treatment for childhood diarrhoea in India?

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## Author's contributions

NM conceived the idea and planned the study. RPU and NM did the review of literature. NM performed the statistical analysis. RPU and NM prepared the manuscript. All the authors read and approved the final manuscript.

**Short running title:** Factors affecting treatment seeking for childhood diarrhoea

**Key words:** *Childhood diarrhoea, Delay, Gender Bias, Treatment seeking, ORS knowledge.*

## Why are there delays in seeking treatment for childhood diarrhoea in India?

### ABSTRACT

#### Aim:

To examine the barriers and facilitating factors for seeking treatment for childhood diarrhoea and to determine the main causes for delay in seeking treatment.

#### Methods

Data from Indian Demographic and Health survey 2005–06 (NFHS-III) was used. Mothers were asked if their children (<5-years) had suffered from diarrhoea during the two weeks preceding the survey. Data were collected on the time of seeking treatment after start of the illness, and days waited to seek treatment after the diarrhoea started. Multivariate logistic regression analysis was performed to find the determinants of seeking treatment at the health facility and the factors responsible for the “delay” in seeking advice/treatment.

#### Results

Out of a sample of 41,287 children, 3890 (9.4%) reportedly had diarrhoea. Sixty percent of children with diarrhoea were taken to a health facility. Mother's education till higher secondary and above (OR 1.65; 95% CI, 1.08 – 2.54), richest (OR 1.76; 95% CI, 1.24 – 2.48) wealth index, mother's lack of knowledge of oral rehydration salts (ORS) (OR .54, 95% CI, 0.44 – 0.66) and possession of a health card by the mother (OR 1.35; 95% CI, 1.12 – 1.62) increased the odds of seeking treatment. There was a strong

gender bias; a male child had lower odds of experiencing a “delay” in seeking treatment, compared to a female child (OR 0.71; 95% CI, 0.55 – 0.92). Access to a health facility still remains a major issue: Treatment seeking was delayed when distance to a health facility was reported as a “major problem” (OR 1.33; 95% CI, 1.01 – 1.76).

### **Conclusion(s)**

Improved care seeking for childhood diarrhoea in India is still constrained by access to a health facility and requires expansion and strengthening of the public health system. The caregivers, especially the mothers need to be educated about the importance of seeking timely treatment and the benefits of oral rehydration solution.

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### **Keynotes:**

- Treatment for childhood diarrhoea is often inappropriate and delayed.
- There is a strong gender bias in seeking care for childhood diarrhoea with higher treatment delays for females.
- Access to a health facility still remains a major issue in accessing treatment for childhood diarrhoea.
- Mother’s lack of education and knowledge regarding Oral Rehydration salts need to be addressed for timely treatment of childhood diarrhoea.

## **INTRODUCTION**

The beginning of the 1980s saw approximately 4.6 million child deaths from diarrhoea which sparked the World Health Organization’s program for Control of Diarrhoeal Diseases.<sup>[1]</sup> The primary danger from diarrhoea is severe dehydration, and repeated bouts can lead to death. Another concern is malnutrition from persistent diarrhoea predisposing the child to future bouts of enteric infections. Diarrhoea accounts for 11% of the total under-five deaths, which makes it the second leading cause of death in this age group.<sup>[2,3]</sup> India alone contributes to nearly half a million diarrhoeal deaths globally.<sup>[4,5]</sup>

The majority of diarrhoea related deaths can be prevented by early diagnosis, timely use of oral rehydration solution (ORS), continued feeding and utilization of qualified health care providers.<sup>[3,6]</sup> Childhood diarrhoea is an important risk factor associated with child malnutrition and India has among the highest child malnutrition rates in the world accounting for 42% of world’s underweight and 31% of world’s stunted children.<sup>[7-12]</sup> Given the high rates of child malnutrition in the population, delays in seeking appropriate medical treatment for diarrhoea can prove to be fatal and could lead to adverse outcomes. Thus, it becomes essential for the caregivers to recognize the severity of the diarrhoeal episode and seek treatment at the earliest.

According to the national family health survey (NFHS) -3, nationally, 9 percent of children under the age of five years had diarrhoea in the two weeks preceding the survey.<sup>[13]</sup> Sixty percent of children with diarrhoea were taken to a health facility; 43 percent were treated with oral rehydration therapy (ORT), including 20 percent who received oral rehydration salts (ORS). More than a quarter (26 percent) of children with diarrhoea did not receive any type of treatment at all.<sup>[13]</sup> Using the data from the same survey, the authors document the factors that influence treatment seeking at a health facility and those that

influence the timings of seeking treatment. The findings of this study would help understand the familial and social factors that influence treatment seeking.

## **MATERIALS AND METHODS**

### **Sampling design and study sample**

The current study utilized the data from India's National Family Health Survey-3 (NFHS-3), conducted by the International Institute for Population Sciences (IIPS) and Macro International from November 2005 to August 2006.<sup>[14]</sup> A nationally representative household-based sample was obtained through a stratified, multistage cluster sampling strategy. Also, a "household wealth index" was calculated from a standard set of interviewer-observed assets, including ownership of consumer items and dwelling characteristics. Individuals were ranked on the basis of their household score and divided into quintiles, each representing 20% of the score, between 1 (poorest) and 5 (wealthiest).<sup>[14]</sup>

### **Data collection**

The NFHS-3 involved household surveys that were administered verbally with help of trained interviewer(s) in either English or the principal language of each Indian state.<sup>[14]</sup> For information related to childhood diarrhoea, ever-married women in the reproductive age (15-49 years) were interviewed.<sup>[13]</sup> They were asked if their children (<5-years) had suffered from diarrhoea during the two weeks preceding the survey. There were questions that aimed to capture the time of seeking treatment after start of the illness, place where the treatment was sought first and days waited to seek treatment after the diarrhoea started. The two-week recall period was considered to ensure an adequate number of cases to be analyzed and to reduce recall errors.<sup>[13]</sup>

### **Plan of analysis**

Data analysis was done using STATA statistical software (STATA 10.0, College Station, TX). Wherever applicable, proportions and mean with standard deviation were reported. Pearson's chi-square and student t-test were used to compare proportions and mean respectively. Logistic regression analysis was performed to find the determinants of seeking treatment at the health facility and the factors responsible for the "delay" in seeking treatment. Adjusted odds ratios were reported with 95% confidence intervals.

The key variables considered were mother's age and education; indicator representing women's autonomy i.e. mother's work status and whether she works outside the home or at home; gender and age of the child; birth order, number of siblings aged 0-5 years and place of residence. Economic status influences decisions regarding health care utilization.<sup>[15-17]</sup> Consequently, *wealth index* (poorest, poorer, middle, richer and richest) was included as a variable in the analysis.

Easy accessibility of health services is important for prompt treatment seeking. To account for this, *distance to the health facility* was added. Home treatment is often sought as the first line of management for majority of neonatal and childhood illness and diarrhoea is no exception to this.<sup>[18-21]</sup> We expected

home management to delay seeking treatment at a health facility; if at all treatment was sought. Thus, whether *home treatment was given or not* was included as a variable. *Possession of a health card* meant prior interaction with a health facility and an increased tendency to visit health facility. In a typical Indian house, women are responsible for majority of the household chores. Thus having more women in the household makes it easier for the mother to care for her child and visit a health facility, if needed. Keeping this in view, *number of other females aged 16-49 years* in the house was included as a variable in the analysis.

The cut-off time for the dependent variable “delay” was set at 1 day, since anything more than 1 day was roughly above the mean duration of illness before outside treatment was sought. Moreover, in the sample of children used in the analysis, 43% were underweight, 48% were stunted and 24% were severely stunted.<sup>[13]</sup> Given that malnutrition in combination with diarrhoea is a potentially serious condition, the critical delay was set towards the lower side.

## RESULTS

### Profile of the study participants

For a sample of 41,287 children, mothers were inquired about child’s diarrhoeal episodes in the 2 weeks prior to the interview. Out of these children, 3890 (9.4%) reportedly had diarrhoeal episodes. Table 1 provides details of the key explanatory variables stratified by treatment-seeking behaviour i.e. caregivers who did not seek treatment (group 1) and those who did (group 2). In group 1, around half (44.1%) of the mothers were illiterate compared to slightly more than one-third (36.4%) in group 2 ( $p < 0.001$ ). Gender based difference in distribution of children across the 2 groups was statistically significant with proportionately lesser males in group 1 compared to group 2 (52.5% vs. 55.9%;  $p = 0.04$ ). The children belonging to the poorest quintile in the two groups were 23.4% and 14.8% respectively while those belonging to the richest quintile were 12.7% and 22.4% respectively ( $p < 0.001$ ). Nearly 2/3<sup>rd</sup> of the children in each of the two groups had residence in rural areas.

### Determinants of seeking advice/treatment at a health facility

Mother’s education was an important determinant of seeking treatment for child’s diarrhoea; mothers with higher secondary and above were more likely to seek treatment compared to those who were illiterate (OR 1.65; 95% CI, 1.08 – 2.54) (Table 2). Economic status of the family significantly influenced seeking treatment; children belonging to richer (OR 1.41; 95% CI, 1.06 – 1.86) and richest (OR 1.76; 95% CI, 1.24 – 2.48) wealth index categories had higher chances of being taken to a health facility (Table 2).

Mother working away from home (OR 0.80; 95% CI, 0.67 – 0.95), distance to the nearest health facility being a “major” problem (OR 0.83; 95% CI, 0.70 – 0.98) and mother’s lack of knowledge about oral rehydration solution (OR 0.54; 95% CI, 0.44 – 0.66) were associated with lower odds of seeking treatment. On the other hand, possession of a health card (OR 1.35; 95% CI, 1.12 – 1.62) and residing in a rural area (OR 1.21, 95% CI, 1.00 – 1.46) were associated with higher odds of seeking treatment. Also,

for each unit increase in the number of other females aged 16 – 49 years in the family, the odds of seeking treatment increased by 0.10 (Table 2).

### **Determinants of “delay” in seeking advice or medical treatment**

In the study sample, the mean time from the start of diarrhoeal episode to seeking treatment “outside home” was 1.39 days. Majority of the ill children were taken to a health facility after 1 day of illness (33.8%; 883/2610). There was gender bias in seeking treatment, with a male child having lower odds of experiencing a delay compared to a female child (OR 0.71; 95% CI, 0.55 – 0.92). In children belonging to middle (OR 0.48; 95% CI, 0.31 – 0.73), richer (OR 0.59; 95% CI, 0.37 – 0.92) and richest (OR 0.39; 95% CI, 0.21 – 0.71) categories of wealth index, the odds of delayed-treatment were lower compared to those belonging to the poorest category (table 3).

Children aged 0-5 months (OR 1.68; 95% CI, 1.14 – 2.47) and 6-8 months (OR 2.03; 95% CI, 1.42 – 2.90) had higher odds of delayed-treatment compared to those aged 12-60 months (table 3). Similarly, when distance to the nearest health facility was reported to be a major problem, there was a delay in seeking treatment (OR 1.33; 95% CI, 1.01 – 1.76).

### **DISCUSSION**

Diarrhoeal deaths are largely preventable if adequate treatment is sought early in the course of the illness. Utilizing the data from the National Family Health Survey (NFHS) -3, the authors have highlighted barriers and facilitating factors for seeking treatment for childhood diarrhoea. In the present study, authors find a strong gender bias against a girl child in seeking treatment. Similar findings have been reported by earlier studies.<sup>[22-23]</sup> Also, seeking treatment for a child’s diarrhoea was positively associated with mother’s education. Those mothers who were educated till higher secondary and above had higher odds of seeking advice/treatment compared to those who were illiterate. This improved treatment-seeking behaviour for childhood illness by educated mothers had been reported in other studies as well and calls for empowering women through education.<sup>[24,25]</sup>

Poor economic status was a deterrent to seeking treatment in the current study. Those in the poorest quintile were less likely to seek treatment and even if they did, it was delayed. It was observed that mothers working away from home were less likely to take their ill child to a health facility. As mother is the primary caregiver in many of the Indian households child’s health suffers when she has to leave the house for work. Day care facilities hold a promising solution but this concept has not been widely implemented, particularly in rural areas. Recently, the Department of Women and Child Development started “Rajiv Gandhi National Crèche Scheme” for the children of working mothers.<sup>[26]</sup> Under this, at a nominal user charge (Rs. 20/- per child per month for below poverty line families and Rs. 60/- per child per month for other families), trained crèche workers will provide care services for children of working mothers.

A health facility being far off has often been cited in literature as a major hurdle in seeking treatment, particularly in rural areas. There is an added cost in effort, time, and transportation which caregivers must expend as distance increases. In remote areas that are far off from a health facility with no provision for

transport, community-led arrangements for transport seem to be an apt solution, as seen in rural Tanzania.<sup>[27]</sup> In India, emergency ambulance services transporting ill children to and from the facility are in place under the National Rural Health Mission.<sup>[28]</sup> Implementing such schemes on a wider geographical scale and ensuring their sustainability is of prime importance. Developing public-private partnerships to ensure round the clock transport services will be beneficial as well.

There are a few limitations to this study. First is the lack of information on the severity of the diarrhoeal episodes. It is possible that mild bouts of diarrhoea in children did not require treatment especially if these lasted for a very short period. Also, there is no information on the length of the illness; in some cases illness might be recent and may eventually receive treatment. The strength of the study is the large national sample that was randomly chosen and hence does not suffer from self-selection issues that data from health facilities do. Also, incorporation of variables reflecting female autonomy (education and work status), Mother's lack of health knowledge regarding ORS, and finding significant gender bias, adds strength to the study.

## **CONCLUSION**

The findings enhance our understanding of the factors that influence treatment-seeking behaviour of the mother/care-givers in cases of childhood diarrhoea. Most of the factors that negatively affect decision to seek treatment are addressable by creating community awareness and health systems strengthening. The caregivers, especially the mothers need to be educated about the importance of seeking timely treatment and the benefits of oral rehydration solution. Addressing gender-based bias in treatment-seeking requires a multi-dimensional approach ranging from targeting the prevalent customs to formulation of pro-female legislation to promote their autonomy. Community led arrangements for transport, ensuring round the clock availability of emergency ambulance services, developing a community loan fund and universal health care coverage can largely address the existing inequities in health care utilization.

### **Competing interests**

The authors declare that they have no competing interests of conflict.

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## REFERENCES

1. Snyder JD, Merson M. The magnitude of the global problem of acute diarrhoeal disease: a review of active surveillance data. *Bull World Health Organ* 1982;**60**:605-13.
2. Pneumonia and diarrhoea: tackling the deadliest diseases for the world's poorest children. United Nations Children's Fund (UNICEF), June 2012. Available at: [http://www.unicef.org/media/files/UNICEF\\_P\\_D\\_complete\\_0604.pdf](http://www.unicef.org/media/files/UNICEF_P_D_complete_0604.pdf), accessed on 13.02.2013
3. Diarrhoea: why children are still dying and what can be done. The United Nations Children's Fund (UNICEF)/World Health Organization (WHO), 2009. Available at: [http://www.unicef.org/media/files/Final\\_Diarrhoea\\_Report\\_October\\_2009\\_final.pdf](http://www.unicef.org/media/files/Final_Diarrhoea_Report_October_2009_final.pdf), accessed on 16.02.2013
4. Boschi-Pinto C, Velebit L, Shibuya K. Estimating child mortality due to diarrhoea in developing countries. *Bull World Health Organ* 2008;**86**:710-7.
5. Million Death Study Collaborators, Bassani DG, Kumar R, et al. Causes of neonatal and child mortality in India: a nationally representative mortality survey. *Lancet*. 2010;**376**:1853-60
6. World Health Organization. The treatment and prevention of acute diarrhoea. Practical guidelines. Second Edition. Geneva: WHO; 1989
7. Brown KH. Diarrhoea and malnutrition. *J Nutr*. 2003;**133**:328S-332S.
8. Guerrant RL, Schorling JB, McAuliffe JF, et al. Diarrhoea as a cause and an effect of malnutrition: diarrhoea prevents catch-up growth and malnutrition increases diarrhoea frequency and duration. *Am J Trop Med Hyg* 1992;**47**:28-35.
9. Subramanyam MA, Kawachi I, Berkman LF, et al. Is economic growth associated with reduction in child undernutrition in India? *PLoS Med* 2011;**8**:e1000424.
10. Sachdev HP. Overcoming challenges to accelerating linear growth in Indian children. *Indian Pediatr* 2012;**49**:271-75.
11. Pryer JA, Rogers S, Rahman A. The epidemiology of good nutritional status among children from a population with a high prevalence of malnutrition. *Public Health Nutr* 2004;**7**:311-17
12. Pelletier DL, Frongillo EAJ, Schroeder DG, et al. A methodology for estimating the contribution of malnutrition to child mortality in developing countries. *J Nutr* 1994;**124**:2106S-2122S.
13. International Institute for Population Sciences (IIPS) and Macro International. 2007. National Family Health Survey (NFHS-3), 2005–06: India: Volume I. Mumbai: IIPS.
14. International Institute for Population Sciences, Macro International. National Family Health Survey (NFHS-3) 2005–06, India. Mumbai: International Institute for Population Sciences, 2007.
15. Najnin N, Bennett CM, Luby SP. Inequalities in care-seeking for febrile illness of under-five children in urban Dhaka, Bangladesh. *J Health Popul Nutr*. 2011;**29**:523-31.
16. Wamani H, Tylleskar T, Astrom AN, et al. Mothers' education but not fathers' education, household assets or land ownership is the best predictor of child health inequalities in rural Uganda. *Int J Equity Health* 2004;**3**:9
17. Schellenberg JA, Victora CG, Mushi A, et al. Inequities among the very poor: health care for children in rural southern Tanzania. *Lancet*. 2003;**361**:561-66.
18. Upadhyay RP, Rai SK, Anand K. Community neonatal practices and its association with skilled birth attendance in rural Haryana, India. *Acta Paediatr* 2012;**101**:e535-9.
19. Kaushal M, Aggarwal R, Singal A, et al. Breastfeeding practices and health-seeking behavior for neonatal sickness in a rural community. *J Trop Pediatr* 2005; **51**:366-76
20. Mane AB, Dohare S, Gitte SV. Child Health: Understanding the home care practices in some illnesses among under-five children in IMNCI implemented rural area. *Int J Biol Med Res* 2012;**3**:1251-54
21. Mohan P, Iyengar SD, Agarwal K, et al. Care-seeking practices in rural Rajasthan: barriers and facilitating factors. *J Perinatol* 2008; **28**:S31–S37
22. Pandey A, Sengupta PG, Mondal SK, et al Gender differences in healthcare-seeking during common illnesses in a rural community of West Bengal, India. *J Health Popul Nutr*. 2002;**20**:306-11.
23. Willis JR, Kumar V, Mohanty S, et al. Gender differences in perception and careseeking for illness of newborns in rural Uttar Pradesh, India. *J Health Popul Nutr*. 2009;**27**:62-71.

24. Sreeramareddy CT, Shankar RP, Sreekumaran BV, et al. Care seeking behaviour for childhood illness--a questionnaire survey in western Nepal. *BMC Int Health Hum Rights* 2006;**6**:7.
25. Fosu GB. Childhood morbidity and health services utilization: cross-national comparisons of user-related factors from DHS data. *Soc Sci Med* 1994;**38**:1209-20.
26. Rajiv Gandhi National Crèche Scheme for the Children of Working Mothers. Government of India. Department of Women & Child Development. Ministry of Human Resource Development, New Delhi. Available at: <http://www.wcd.nic.in/RajivGandhiCrecheScheme.pdf>, accessed on 26.02.2013
27. Ahluwalia I, Kouletio M, Curtis K, et al. Observations from the CDC: community empowerment: CDC collaboration with the CARE Community-Based Reproductive Health Project in two districts in Tanzania. *J Womens Health Gen Based Med*. 1999;**8**:1015-9.
28. Meeting people's health needs in partnership with states: the journey so far (2005-2010). Ministry of Health and Family Welfare, Government of India. Available at: [http://www.mohfw.nic.in/NRHM/Documents/5\\_Years\\_NRHM\\_Final.pdf](http://www.mohfw.nic.in/NRHM/Documents/5_Years_NRHM_Final.pdf), accessed on 03.03.2013

**Table1. Frequency distribution of key explanatory variables stratified by treatment seeking behaviour from the National Family Health Survey (NFHS-3), 2005-06**

Variables	Did not seek treatment (N=1280)	Sought treatment (N=2610)	P value
	n(%)	n(%)	
<b>Age of mother (years)<sup>a</sup></b>	26.7±5.5	26.5±5.1	0.28
<b>Mother's education</b>			
Illiterate	564(44.1)	952(36.4)	<0.001
Less than primary school	117(9.1)	189(7.2)	
Primary school	97(7.6)	184(7.0)	
Middle school	405(31.6)	940(36.0)	
High school and above	97(7.6)	345(13.4)	
<b>Gender of the child</b>			
Male	672(52.5)	1459(55.9)	0.04
Female	608 (47.5)	1151 (44.1)	
<b>First Child</b>			
Yes	366(28.6)	849(32.5)	0.01
No	914(71.4)	1761(67.5)	
<b>Number of siblings aged 0-5 years<sup>a</sup></b>	0.64 ± 0.68	0.58±0.65	0.01
<b>Age of the child (in months)</b>			
Age (0-5) months	156(12.2)	243(9.3)	0.03
Age (6-8) months	138(10.8)	273(10.5)	
Age (9-11) months	120(9.4)	240(9.2)	
Age (12-60) months	866(67.6)	1854(71)	
<b>No. of other women aged 16-49 years in the household<sup>a</sup></b>	1.62 ± 1.00	1.50 ±0.85	<0.001
<b>Wealth index</b>			
Poorest	299(23.4)	388(14.8)	<0.001
Poorer	266(20.8)	443(17)	
Middle	292(22.7)	556(21.3)	
Richer	261(20.4)	639(24.5)	
Richest	162(12.7)	584(22.4)	
<b>Place of residence</b>			
Urban	412 (32.2)	1020 (39.1)	<0.001
Rural	868(67.8)	1590(60.9)	
<b>Distance to health facility</b>			
Major problem	481(37.6)	738(28.3)	<0.001
Some/no problem	799 (62.4)	1872 (71.7)	
<b>Possession of a health card</b>			
Yes	910(71.1)	2110(80.8)	<0.001
No	370 (28.9)	500 (19.2)	

<b>Mother employed</b>			
Yes	549(42.9)	881(33.8)	
No	731(57.1)	1729(66.2)	<0.001
<b>If employed, working away from home*</b>			
Yes	433(78.9)	673(76.4)	0.22
No	116(21.1)	208(23.6)	
<b>Mother had knowledge about ORS</b>			
Yes	985 (76.9)	2284 (87.5)	<0.001
No	295(23.1)	326(12.5)	
<b>Home treatment given</b>			
Yes	220(19.96)	469(17.9)	0.61
No	1060 (82.8)	2141 (82.1)	

\*Mothers who were employed (n=549) formed the denominator for calculating the percentage

<sup>a</sup> - mean  $\pm$  SD

Pearson's Chi-Square analysis and Student's t-test was used to compare the baseline characteristics of the groups

**Table2. Determinants of seeking advice/medical treatment by caregivers for child's diarrhoea**

<b>Variable(s)</b>	<b>Adjusted odds ratio</b>	<b>95% CI</b>
<i>Mother's education</i>		
Primary school	0.84	0.63 – 1.13
Middle school	0.93	0.77 – 1.13
High school	0.95	0.64 – 1.42
Higher secondary and above	1.65*	1.08 – 2.54
Illiterate	1	
<i>Gender of the child</i>		
Male	1.08	0.93 – 1.26
Female	1	
<i>Birth order</i>		
	0.93	0.77 – 1.12
<i>Age of the child (in months)</i>		
0-5	0.67**	0.53 – 0.89
6-8	0.85	0.67 – 1.07
9-11	0.86	0.80 – 1.04
12-60	1	
<i>Number of Siblings aged 0-5 years</i>		
	0.92	0.80 – 1.04
<i>Wealth index</i>		
Poorer	1.22	0.96 – 1.54
Middle	1.21	0.95 – 1.55
Richer	1.41*	1.06 – 1.86
Richest	1.76**	1.24 – 2.48
Poorest	1	
<i>Place of residence</i>		
Rural	1.21*	1.00 – 1.46
Urban	1	
<i>Distance to health facility</i>		
Major problem	0.83*	0.70 – 0.98
Small/no problem	1	
<i>Possession of a health card</i>		
Yes	1.35**	1.12 – 1.62
No	1	
<i>Mother works away from home</i>		
Yes	0.80*	0.67 – 0.95
No	1	
<i>No. of other women aged 16-49 years in the household</i>		
	1.10*	1.01 – 1.19
<i>Mother had knowledge about ORS</i>		
No	0.54**	0.44 – 0.66
Yes	1	
<i>Home treatment given</i>		
Yes	0.90	0.74 – 1.09
No	1	

\*Statistically significant at 5%; \*\*statistically significant at 1%

**Table3. Determinants of “delay” in seeking advice/medical treatment by caregivers for child’s diarrhoea**

<b>Variable(s)</b>	<b>Adjusted odds ratio</b>	<b>95% CI</b>
<i>Mother’s education</i>		
Primary school	1.50 <sup>†</sup>	0.95 – 2.39
Middle school	0.97	0.70 – 1.35
High school	0.70	0.31 – 1.54
Higher secondary and above	1.01	0.51 – 1.99
Illiterate	1	
<i>Gender of the child</i>		
Male	0.71**	0.55 – 0.92
Female	1	
<i>Birth order</i>		
	1.01	0.73 – 1.38
<i>Age of the child (in months)</i>		
0-5	1.68**	1.14 – 2.47
6-8	2.03**	1.42 – 2.90
9-11	1.46 <sup>†</sup>	0.97 – 2.20
12-60	1	
<i>Number of Siblings aged 0-5 years</i>		
	1.18	0.95 – 1.47
<i>Wealth index</i>		
Poorer	0.81	0.56 – 1.19
Middle	0.48**	0.31 – 0.73
Richer	0.59*	0.37 – 0.92
Richest	0.39**	0.21 – 0.71
Poorest	1	
<i>Place of residence</i>		
Rural	1.33 <sup>†</sup>	0.95 – 1.85
Urban	1	
<i>Distance to health facility</i>		
Major problem	1.33*	1.01 – 1.76
Small/no problem	1	
<i>Possession of a health card</i>		
Yes	0.86	0.62 – 1.17
No	1	
<i>Mother works away from home</i>		
Yes	0.99	0.74 – 1.33
No	1	
<i>No. of other women aged 16-49 years in the household</i>		
	1.02	0.89 – 1.17
<i>Home treatment given</i>		
Yes	0.79	0.56 – 1.11
No	1	
<i>Mother had knowledge about ORS</i>		
No	0.96	0.67 – 1.39
Yes	1	

† Significant at 10%; \* Significant at 5%; \*\* Significant at 1%