

Original Research

A cross sectional study of 50 dwellings of Kishanganj, Patna, Bihar, India to find out the incidence of Diarrhoea in (2018)

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ABSTRACT:

Background: The present study was conducted for assessing the incidence of Diarrhoea among 50 dwellings of Kishanganj, Patna, Bihar. **Materials & methods:** A cross sectional study was conducted in rural area of Kishanganj, Patna, Bihar, India where the selected Target Population was Children of under 5 years of age. Total Sample Size of participant was 50 which were selected by random methods. This study was basically focused on quantitative method. The Inclusion Criteria included was children who were under 5 years of age and were residents of Kishanganj, who follow poor sanitation practices, and use tap water for drinking. Incidence of Diarrhoea was assessed. **Results:** A total 100 children upto 5 years of age were analysed. Among them, 40 percent were boys and remaining 60 percent were girls. Out of them, 26 percent were diarrhoea sufferers. Majority of diarrhoea sufferers belonged to the age group of less than 1 year. Among zone A, zone B and zone C, 18 percent of cases, 75 percent of cases and 68 percent of cases of diarrhoea were reported. Relative risk of diarrhoea with poor sanitation is 2.21. Exposed group (poor sanitation) have more risk than Unexposed group (good sanitation). **Conclusion:** To conclude that, majority of female population from zero to 1 year from zone B and C suffer from diarrhoea due to poor sanitation and dwelling.

Key words: Diarrhoea, Dwelling

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INTRODUCTION

India has made steady progress in reducing deaths in children younger than 5 years, with total deaths declining from 2.5 million in 2001 to 1.5 million in 2012. This remarkable reduction was possible due to the inception and success of many universal programs like expanded program on immunization, program for the control of diarrheal diseases and acute respiratory infection. Even though the deaths among children under-5 years have declined, the proportional mortality accounted by diarrheal diseases still remains high. Diarrhea is the third most common cause of death in under-five children, responsible for 13% deaths in this age-group, killing an estimated 300,000 children in India each year.¹⁻³ To prevent diarrheal disease and to monitor and control U-5MR, the government of India introduced

schemes including child survival and safe motherhood programme in 1992, target-free approach in 1996, reproductive and child health programme-1 in 1997, reproductive and child health programme-2 in 2005, national rural/urban health mission between 2005 and 2012, national health mission since 2013 to-date, the expanded program on immunization, and a program for the control of diarrheal diseases and acute respiratory infection. As a result of various efforts, India has recorded a decline of 52.73% in U-5MR with 55 and 29 deaths per 1000 live births in 2011 and 2015 respectively. India has set its way to achieve the SDG target for under-five child mortality of 25 by 2030.⁴⁻⁹

Hence; the present study was conducted for assessing the incidence of Diarrhoea among 50 dwellings of Kishanganj, Patna, Bihar.

MATERIALS & METHODS

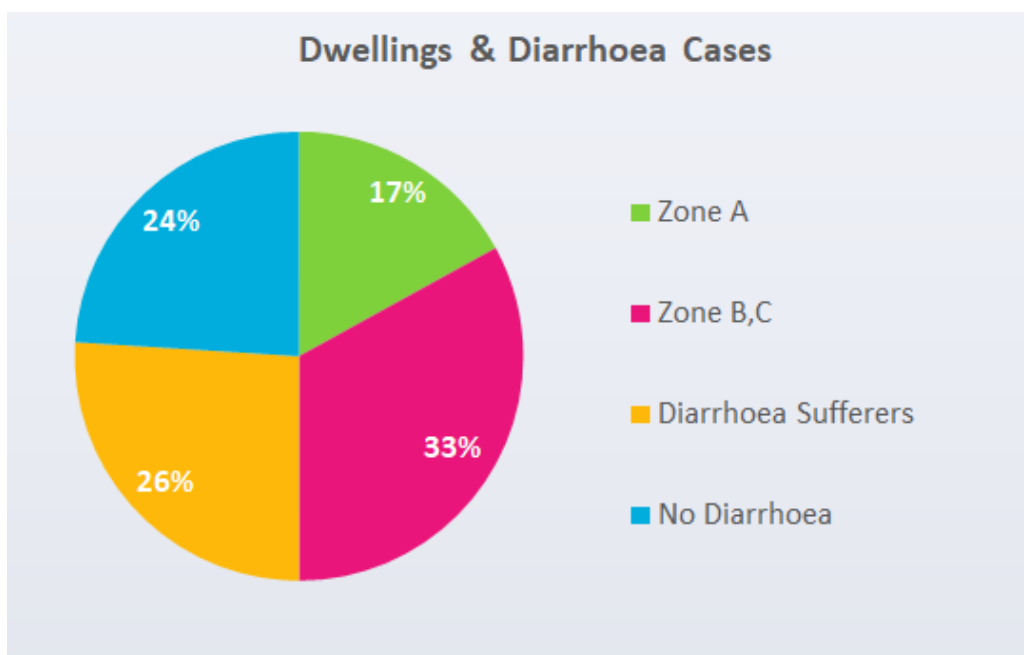
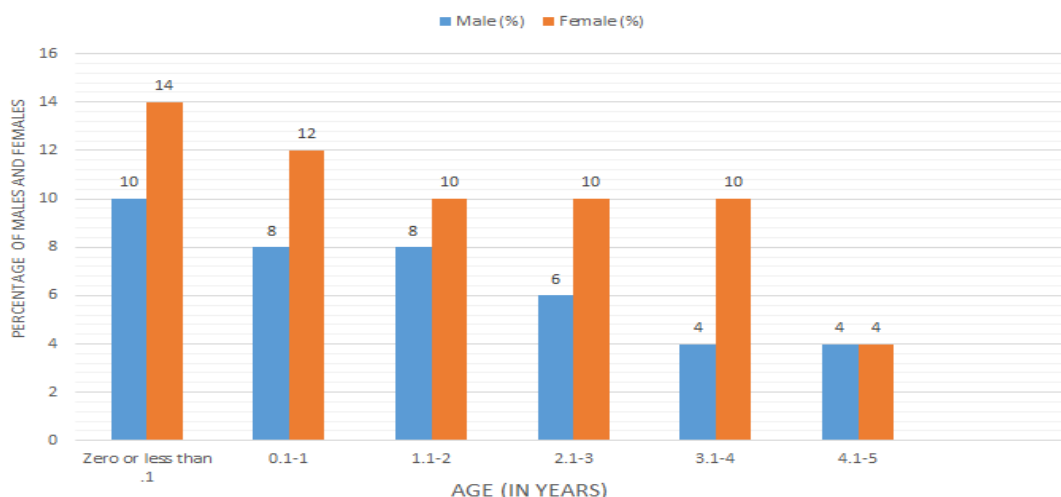
The present study was conducted for assessing the incidence of Diarrhoea among 50 dwellings of Kishanganj, Patna, Bihar. A cross sectional study was conducted in rural area of Kishanganj, Patna, Bihar, India where the selected Target Population was Children of under 5 years of age. Total Sample Size of participant was 50 which were selected by random methods. This study was basically focused on quantitative method. The Inclusion Criteria included was children who were under 5 years of age and were residents of Kishanganj, who follow poor sanitation practices, and use tap water for drinking. Incidence of Diarrhoea was assessed. All the results were recorded in Microsoft excel sheet and were analyzed by SPSS

Software. Chi-square test and Univariate regression curve was used for evaluation of level of significance.

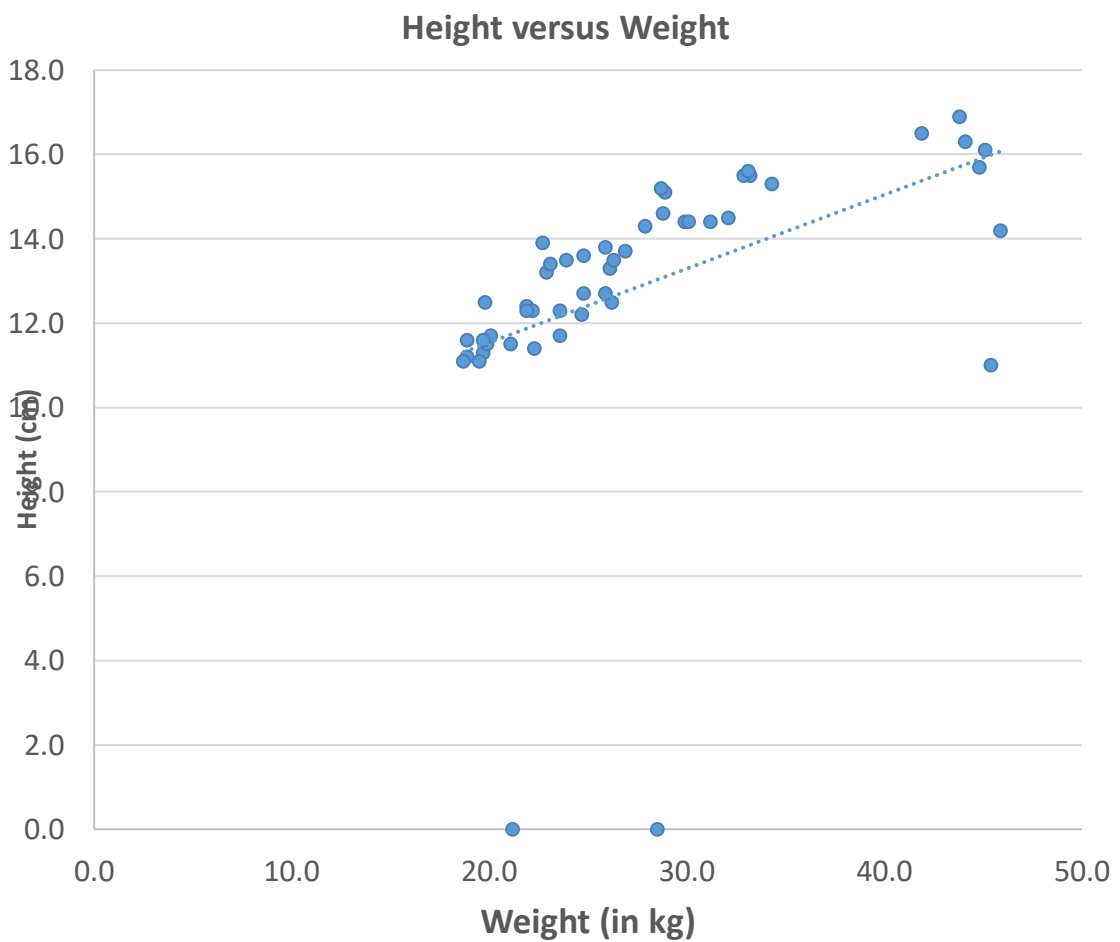
RESULTS

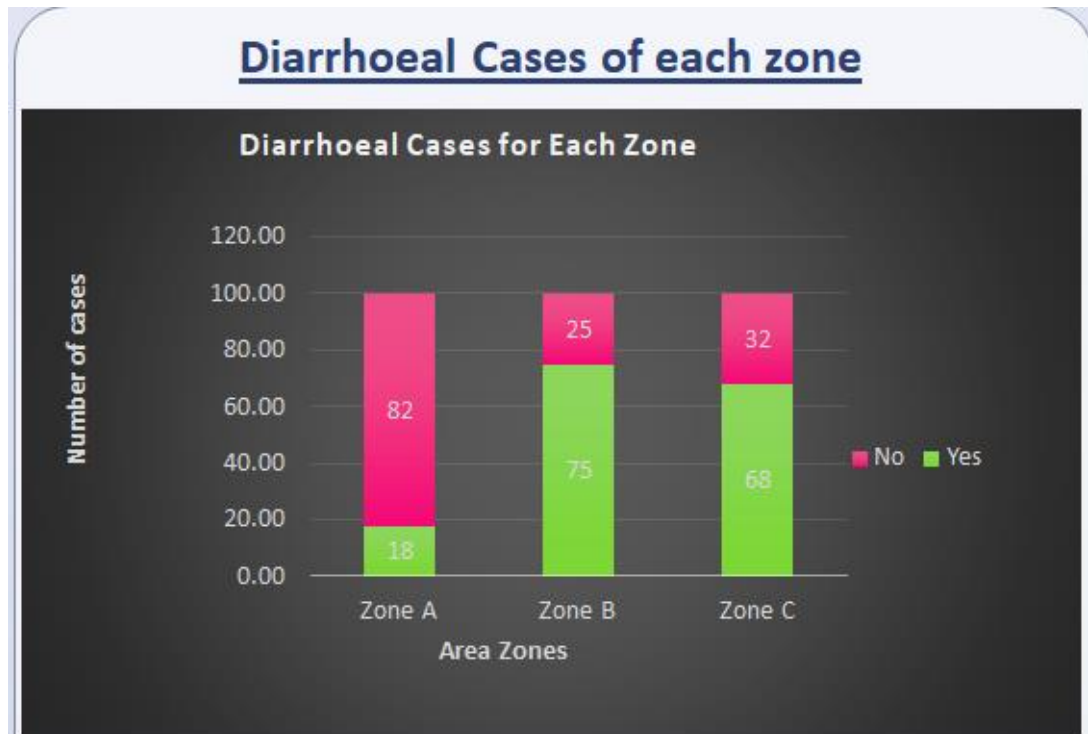
A total 100 children upto 5 years of age were analysed. Among them, 40 percent were boys and remaining 60 percent were girls. Out of them, 26 percent were diarrhoea sufferers. Majority of diarrhoea sufferers belonged to the age group of less than 1 year. Among zone A, zone B and zone C, 18 percent of cases, 75 percent of cases and 68 percent of cases of diarrhoea were reported. Relative risk of diarrhoea with poor sanitation is 2.21. Exposed group (poor sanitation) have more risk than Unexposed group (good sanitation)

The Age and Sex distribution



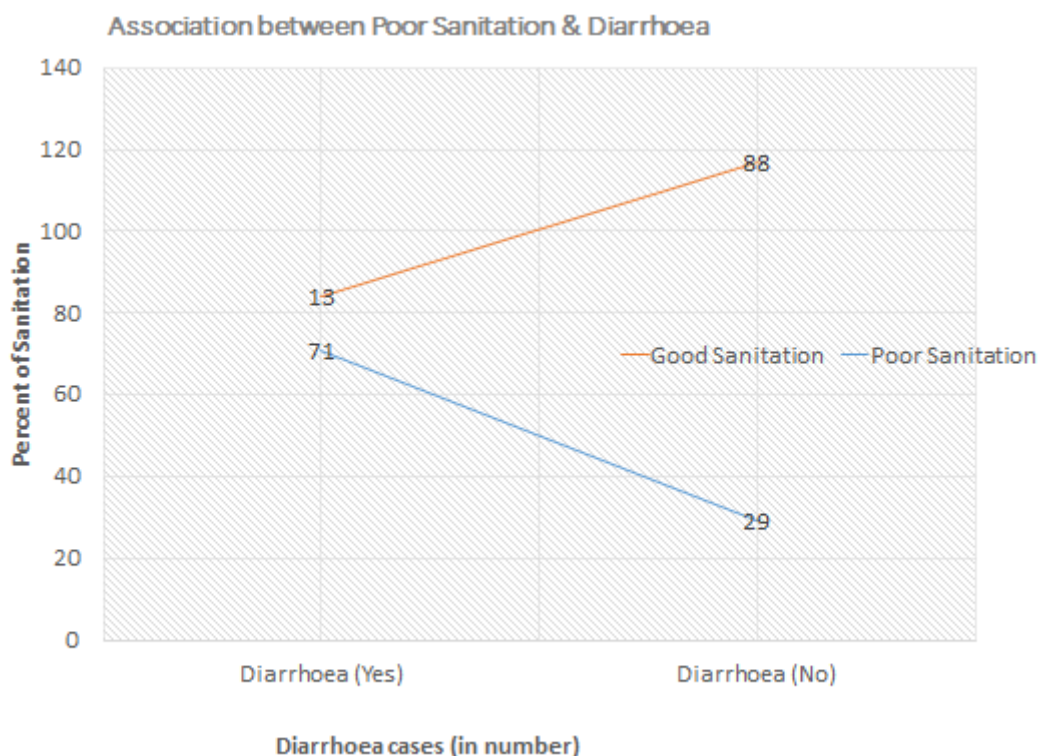
Age (in Years)	No Diarrhoea	Good Sanitation	Age (in Years) 5	Diarrhoea Sufferers	Poor Sanitation
Zero or less than .1	3	3	Zero or less than .1	9	9
0.1-1	3	1	0.1-1	7	9
1.1-2	5	3	1.1-2	4	6
2.1-3	5	4	2.1-3	3	4
3.1-4	5	3	3.1-4	2	4
4.1-5	3	2	4.1-5	1	2
Total	24	16	Total	26	34





Diarrhoeal Cases with regards to Age and Sex

Age (in Years)	Male	Female	Diarrhoea Sufferers	No Diarrhoea
Zero or less than .1	5	7	9	3
0.1-1	4	6	7	3
1.1-2	4	5	4	5
2.1-3	3	5	3	5
3.1-4	2	5	2	5
4.1-5	2	2	1	3
Total	20	30	26	24



	Poor Sanitation (YES)	Poor Sanitation (No)	
Diarrhoea (Yes)	24	2	26
Diarrhoea (No)	10	14	24
	34	16	50

DISCUSSION

Every year over ten million cases and over 1000 deaths are reported due to diarrhoea in India. Risk factors behind this innumerable number of cases are many but nearly 90 % are attributed to unsafe drinking water, inadequate sanitation and poor hygiene. Mortality rates are further aggravated in developing countries due to the vicious cycle between malnourishment and infection, lack of sufficient health care services and transportation facilities. These issues has made the possibility of prompt and appropriate management of cases very unlikely. Simple home based management using fluids available at home for rehydration is not being widely practiced. As per the National Family Health

Survey-3 (NFHS) report more than half of the children with diarrhoea do not receive oral rehydration therapy (ORT).^{10- 13}Hence; the present study was conducted for assessing the incidence of Diarrhoea among 50 dwellings of Kishanganj, Patna, Bihar.

A total 100 children upto 5 years of age were analysed. Among them, 40 percent were boys and remaining 60 percent were girls. Out of them, 26 percent were diarrhoea sufferers. Majority of diarrhoea sufferers belonged to the age group of less than 1 year. Our results were in concordance with the results obtained by Joseph N et al who also reported similar findings. In their study, the period prevalence of diarrhoea was 69 (12 %). Commonest associated

symptoms in cases of diarrhoea were fever 30 (43.4 %) followed by abdominal cramps 29 (42 %). Nearly half of the cases with diarrhoea 34 (49.3 %) did not take any medications.¹⁴In another previous study conducted by Nilima, Kamath A et al examined the spatial-temporal variations and to identify the modifiable determinants of diarrhea while controlling for the spatial dependence in the data. The spatial pattern of the percentage of children with diarrhea was persistently associated with the household with a sanitation facility (%). Compared to the diarrhea cases in the period 2007–2008, no much reduction was observed in the period 2015–2016. The prevalence of diarrhea and percentage of household with sanitation were ranging between 0.1–33.8% and 1.3–96.1% in the period 2007–2008 and 0.6–29.1% and 10.4–92.0% in the period 2015–2016 respectively. The least and highest prevalence of diarrhea being consistently from Assam and UP respectively.¹⁵

Among zone A, zone B and zone C, 18 percent of cases, 75 percent of cases and 68 percent of cases of diarrhoea were reported. Relative risk of diarrhoea with poor sanitation is 2.21. Exposed group (poor sanitation) have more risk than Unexposed group (good sanitation) Similar findings were reported in the study conducted by Gupta P et al. The mothers of 450 consecutive children with acute diarrhea attending the UCMS and GTB Hospital's Diarrhea Treatment-cum-Training Unit (DTTU) clinic were included in their study. The mothers were 17-40 years old, of mean age 25.8 years, while their children were 1-98 months old, of mean age 18 months. The 450 children in the study experienced 726 episodes of diarrhea during the preceding month, with 205 of the children having more than 1 episode. Multivariate logistics analysis determined that malnutrition and poor hygienic practices were important, significant factors increasing children's risk of multiple bouts of diarrhea.¹⁶ Different factors responsible for the incidence of diarrhoeal diseases among children of Kishanganj district of Bihar were assessed by Shahnawaz, Kashif et al. The survey consisted of 30 clusters and each cluster consists of about 125 children. The association of diarrhoea in children in relation to some factors like literacy level of parents, housing condition, socio-economic status and sanitary condition of the house, were studied. The percentage of diarrhoea cases in children of both illiterate parents, only father literate, only mother literate and both literate parents, were 20.3%, 16.01%, 10.8%, & 8.6% respectively. The incidence of diarrhoea in good and poor housing was 15.1% & 17.6% respectively. The incidence of diarrhoea in low, middle and poor socio-economic group was 17.8%, 14.1% and 50.0 % respectively. The incidence of diarrhoea among children, living in poor and good sanitary condition was 18.5% and 8.9% respectively.¹⁷

CONCLUSION

To conclude that, majority of female population from zero to 1 year from zone B and C suffer from diarrhoea due to poor sanitation and dwelling.

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