

Prevalence of gastroenteritis and its outcome at pediatric inpatient department: A hospital based study

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Abstract

Children are considered to be backbone of any nation. India is considered home to the largest number of underweight and stunted children in world. Nutritional problems among children cause major morbidity and mortality in India¹. Death in children constitutes more than 34% of total death in India.² Acute gastroenteritis (AGE) or acute enteritis refers to diarrhea, which is abnormal frequency and liquidity of fecal discharges i.e. more than three loose stools per day. Diarrhea is caused by many different infectious or inflammatory processes in the intestine. These processes directly affect enterocyte secretory and absorptive function **Aims and Objective:** To study the prevalence of Gastroenteritis and its associated factors and its outcome in admitted patients. **Methodology:** It is Hospital based prospective study of the all the patients admitted to paediatric ward for Acute Gastroenteritis during one year, total no of 297 children were admitted to ward **Result:** Seasonal trend was observed during the months of May(30), June(45) and July (74), the maximum no of patients were observed in the 10-12 years age group 134(45%), followed by 7-9 yrs age 74 (25%), the problem of severe grade of diarrhea was more in the Non-immunized or partially immunized group than Completely immunized group. The difference was statistically significant ($\chi^2=239$, $p<0.0001$). Also the severe grade of diarrhea was more common in the Children whose personal hygiene was unsatisfactory the difference is statically significant ($\chi^2=210$, $p<0.001$). **Conclusion:** As the main contributory factors for admission to ward due to diarrhea were in adequate immunization and un satisfactory hygienic practice so emphasis should be given to improve these things.

Keywords: Diarrhea, Malnutrition, Immunization, Personal Hygiene.

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INTRODUCTION

Children are considered to be backbone of any nation. India is considered home to the largest number of underweight and stunted children in world. Nutritional problems among children cause major morbidity and mortality in India¹. Death in children constitutes more than 34% of total death in India.² Acute gastroenteritis

(AGE) or acute enteritis refers to diarrhea, which is abnormal frequency and liquidity of fecal discharges i.e. more than three loose stools per day. Diarrhea is caused by many different infectious or inflammatory processes in the intestine. These processes directly affect enterocyte secretory and absorptive function³. In children, viral pathogens such as Rotavirus accounts for 70-80% of all diarrheal episodes globally, 20-30% is due to bacteria and only 0-5 % is due to other parasites. These enteropathogens get transmitted in the body via contaminated food or water, unhygienic conditions like lack of hand hygiene and travel to endemic areas etc. Sometimes seafood, dairy, poultry and bakery products also results in acute gastroenteritis.^{4,5} Acute Gastroenteritis (AGE) though often considered a benign disease, remains a major cause of pediatric morbidity and mortality around the world, accounting for 1.87 million deaths annually in children younger than 5 years i.e. roughly 19% of all child deaths⁶. The problem of Under

nutrition was more in un-immunized (92.86%) children followed by 91.92% in partially immunized and 22.03% in completely immunized children^{7,8,9}. Poor environmental sanitation and lack of safe drinking water result into high rate of infections and protein energy malnutrition¹⁰, malnutrition also responsible persistent diarrhea and this is vicious circle².

AIMS AND OBJECTIVE

To study the prevalence of Gastroenteritis and its associated factors and its outcome in admitted patients.

METHODOLOGY

It is Hospital based prospective study of the all the patients admitted to paediatric ward for Acute Gastroenteritis during one year, total no of 297 children were admitted to ward .All the information like Immunization status, personal Hygienic practice etc were asked by structured proforma. Chi-square test is used for statistical analysis.

RESULT

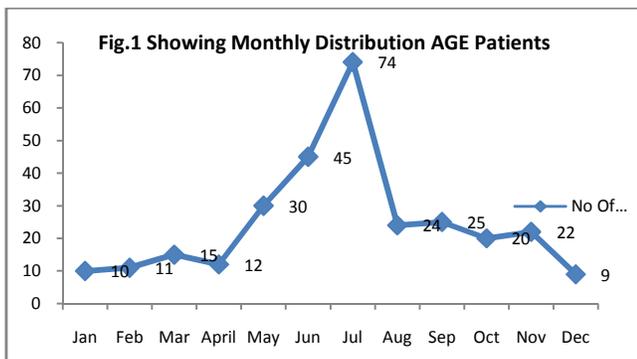


Figure 1: Shows the no of patient as per the month, from figure it is clear that a seasonal trend was observed during the months of May(30), June(45) and July (74)

Table 1: Distribution of Patients as per Age wise

Age in Years	No Patients (Percentages)
0-2	5(2%)
2-4	15%
5-7	45(15%)
7-9	74 (25%)
10-12	134(45%)
>12	24 (8%)
Total	297(100%)

From Table 1: the maximum no of patients were observed in the 10-12 years age group134 (45%), followed by 7-9 yrs age 74 (25%).

Table 2: Distribution of Patients as per Immunization status and Personal hygiene

Immunization status	Severe dehydration	Mild to moderate dehydration	Total	p-value
Completely Immunized	26 (20.00%)	104(80.00%)	130	$\chi^2=239$, p<0.0001
Non-or partially immunized	156 (94.00%)	11(6.00%)	167	
Total	182	115	297	
Personal Hygiene	Severe dehydration	Mild to moderate dehydration		$\chi^2=210$, p<0.001
Satisfactory	22(18.03%)	100(81.97%)	122	
Unsatisfactory	160(58.18%)	15 (5.50%)	275	
Total	182 (61.27%)	115(38.72%)	297	

From Table 2: It is clear that the problem of severe grade of diarrhea was more in the Non-immunized or partially immunized group than Completely immunized group. The difference was statistically significant($\chi^2=239$, p<0.0001). Also the severe grade of diarrhea was more common in the Children whose personal hygiene was unsatisfactory the difference is statically significant ($\chi^2=210$, p<0.001).

Table 3: Outcome of Patients Admitted to Pediatric ward

Duration of Symptoms at Admission	Mild to Moderate Dehydration	Severe Dehydration
Median	3 (range 1-9)	6(2-12)
Mean	2.89 (range 1-6)	6.1(1-10)
Duration of Hospitalization	Mild to Moderate Dehydration	Severe Dehydration
Median	2(range 1-7)	7(range 2-8)
Mean	3.1(range 1-6.8)	7.5(range 2-9)

From Table 3: It is clear that Median and mean days of hospital is more in severe forms of Dehydration i.e. 6 and 6.1respectively whereas for Mild moderate dehydration it is 2 and 3.1 respectively.

DISCUSSION

From Fig.1. Shows the no of patient as per the month, from figure it is clear that a season trend was observed during the months of May (30), June (45) and July (74). This could be due the fact that the Gastrointestinal infection are most due to the contamination of water and food, so during the rainy and summer ending moths there is much contamination of water and breeding of flies causing the contamination of foods and water, so for the management of patients load or to keep all the drugs adequate for the treatment the season trend of the disease should be understood. Finding is similar to S. Villa (1999)¹² From Table 1: the maximum no of patients were observed in the 10-12 years age group134 (45%),

followed by 7-9 yrs age 74 (25%) This could be due the fact that this new age group i.e. 7-9 and 9-12 is becoming more vulnerable for malnutrition and vice-versa for the diarrheal infection so it not odd to see the problem becoming more common in this age group as compared other <7 yrs age group. From Table 2: It is clear that the problem of severe grade of diarrhea was more in the Non-immunized or partially immunized group than Completely immunized group. The difference was statistically significant ($X^2 = 239$, $p < 0.0001$). This indicates that even if the disease encountered in the fully immunized children the grade of Dehydration is mild to moderate, immunization is very important to prevent this infections. Also the severe grade of diarrhea was more common in the Children whose personal hygiene was unsatisfactory the difference is statically significant so all the measures of person hygiene i.e. hand washing before eating and after toilet should educated to children ($X^2 = 210$, $p < 0.001$). Findings are similar to Sana Fatima (2012)¹¹ From Table 3: Median and mean days of hospital is more in severe forms of Dehydration i.e. 6 and 6.1 respectively whereas for Mild moderate dehydration it is 2 and 3.1 respectively. So efforts should be taken to prevent severe forms of Dehydration so the morbidity in the form of days of hospital admission can be reduced and the mortality of the patents also can be reduced.

CONCLUSION

As the main contributory factors for admission to ward due to diarrhea were in adequate immunization and un satisfactory hygienic practice so emphasis should be given to improve these things.

REFERENCES

1. Harishankar, Dwivedi S, Darbal SB et al. Nutritional status of children Under 6 years of age. *Ind J Prev Soc Med*, 2004 July–Dec; 35(3and4):156-62.
2. K.Park, Park's Textbook of Preventive and Social Medicine, Jabalpur; 21sted. M/s Banarsidas Bhanot Publishers; 2011: 590,491,113.
3. Nelson, Essentials of pediatrics, fifth edition, section XVI, chapter :112, Acute Gastroenteritis, pages, 512-515
4. Angela Revelaset al A review on Acute gastroenteritis among children in the developing world ,*South Afr J Epidemiol Infect* 2012;27(4) 156- 162
5. Amandeep et al. Pediatric Emergency Medicine Practice Acute Gastroenteritis, an update on emergency medicine practice. July 2010, medline.com
6. Pathak et al. Adherence to treatment guidelines for acute diarrhoea in children up to 12 years in Ujjain, India - a cross-sectional prescription analysis, *BMC Infectious Diseases* 2011 .
7. Balaji V Ukarande, A S Nagaonkar. A Study of Factors like Immunization, diarrheal and respiratory infections Responsible for Protein Energy Malnutrition in rural Maharashtra. *International Journal of Recent Trends in Science And Technology*. 2014; 13(1): 35-38
8. Padmas, Inge H, Frans W, Weaning initiation patterns and Subsequent linear growth progression among children aged 2–4 years in India. *International Journal of Epidemiology* 2002; 31: 855–863.
9. Ayaya SO, Esmail FO, Rotich J, Socio-economic factors predisposing under five-year-old children to severe protein energy malnutrition at Moi Teaching and Referral Hospital, Eldoret, Kenya. *East Afr Med J* 2004 Aug; 81(8):415- 421.
10. Burden of disease in India -back ground paper NCHM, 2007
11. Sana Fatima, Nuzhath Irfana, Sabiha Mirza Mushtaq. A Cross-Sectional Study to Assess Prevalence and Management of Acute Gastroenteritis in Pediatric Inpatients of A Large Teaching Hospital. *IOSR Journal Of Pharmacy* December 201; 4, (1): 12- 26
12. S. Villa, H. Guiscafie et al Seasonal diarrheal mortality among Mexican children, *bulletin of WHO*, 1999, Pg 77

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