Profile and Seasonal distribution of Acute Gastroenteritis cases admitted in Isolation Disease Hospital: A Record base Analysis

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Abstract*—Acute Gastroenteritis is a public health problem in developing countries. So this record based study was conducted on Acute Gastroenteritis cases attended at Isolation disease Hospital (IDH) attached to SMS Medical college, Jaipur (Rajasthan) India. Total 1088 Acute Gastroenteritis cases were attended during 2018 at IDH. Out of that 563 (51.75%) were males and 525 (48.25%) were females with M:F ratio1.02 in favour of males. Majority of cases were in middle age group i.e. 57% cases in 21 to 50 years of age group. No significance difference was found in sex wise distribution of cases as per age. When seasonal variation of these cases were seen maximum cases were observed in summers and rainy season i.e. 68.11% from May to August with peak in May. So summer and rainy season had more cases of Acute Gastroenteritis.*

Keywords: Acute Gastroenteritis, Profile, Seasonal Variation.

I. INTRODUCTION

Gastroenteritis, also known as infectious diarrhea, gastric flu, or stomach bug. It is inflammation of the lining of the intestines caused by a virus, bacteria or parasites.[1] The symptoms may include diarrhea, vomiting, abdominal pain and sometimes fever, lack of energy & dehydration may occur.[2,3]

Gastroenteritis is usually caused by viruses but some bacteria, parasites and fungi may also cause gastroentritis.[3.4] In children, Rotavirus is the most common cause of severe disease.[5] In adults, Norovirus and Campylobacter are common causes.[6,7] Another study conducted in the Lucknow[8] also reported rotavirus as a major cause of acute diarrhoea in children aged two months to two years.

In 2015, there were two billion cases of gastroenteritis, resulting in 1.3 million deaths globally.[9] Children and those in the developing world are most commonly affected.[10]

So this study was conducted on records of Acute Gastroenteritis cases attended at IDH of SMS Medical College, Jaipur in year 2018 with the aim to study the its epidemiological distribution and its seasonal variation.

II. METHODOLOGY

This record based descriptive study was conducted to study epidemiological distribution and seasonal variation of Acute Gastroenteritis cases attended in year 2018 at Isolation Disease Hospital (IDH) attached to Sawai Man Singh Medical College, Jaipur (Rajasthan) India.

Records of all Acute Gastroenteritis cases attended in year 2018 at Isolation Disease Hospital (IDH) were observed and detail information given in patient information sheet of each case was noted down.

Statistical Analysis: These details were entered in Microsoft excel 2010 worksheet. Data were complied and infer with Microsoft excel 2010. Results were expressed in percentages.

III. RESULTS

In present study, out of total 1088 Acute Gastroenteritis cases were found to attend. Out of that 563 (51.75%) were males and 525 (48.25%) were females with M:F ratio1.02 in favour of males. Majority of cases were in middle age group i.e. 57% cases in 21 to 50 years of age group. When significance of difference in sex wise distribution of cases as per age was analysed it was found without significant difference. (Table 1)

Table 1
Age and Sex wise distribution of Acute Gastroenteritis cases

S. No.	Age Group	Male	Females	Total	
				No.	%
1	**11-20 Years**	41	57	98	**9.01**
2	**21-30 Years**	145	121	266	**24.45**
3	**31-40 Years**	111	90	201	**18.47**
4	**41-50 Years**	92	76	168	**15.44**
5	**51-60 Years**	68	75	143	**13.14**
6	**61-70 Years**	72	72	144	**13.24**
7	**71-80 Years**	26	25	51	**4.69**
8	**> 80 Years**	8	9	17	**1.56**
	Total	563	525	1088	100.00

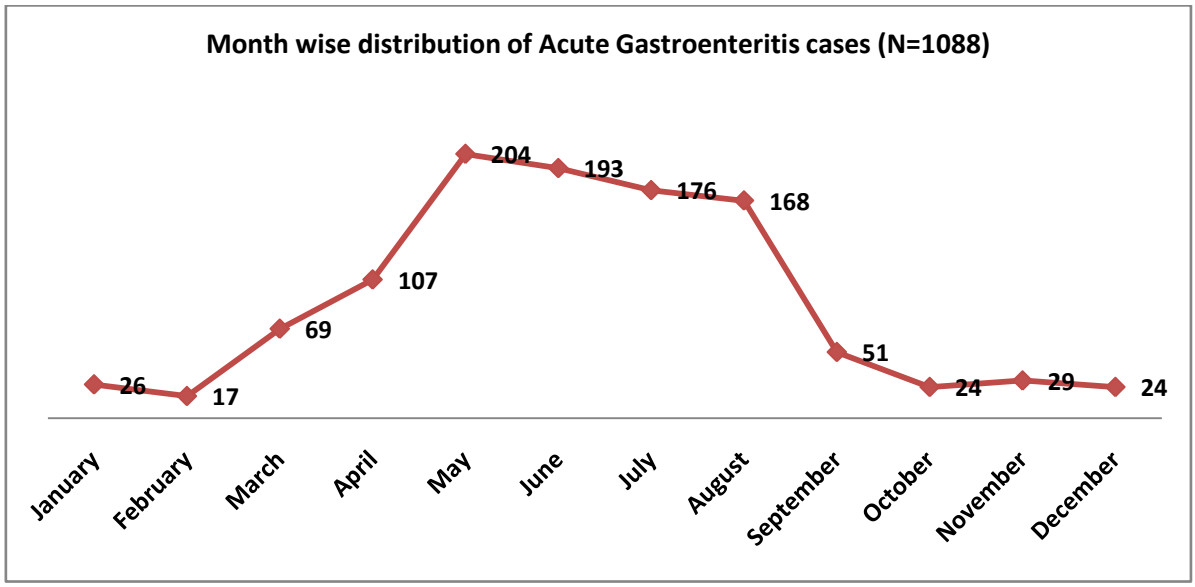
Chi-square = 7.599 with 7 degrees of freedom; P = 0.386 LS=NS

When seasonal variation of these cases were seen maximum cases were observed in summers and rainy season i.e. 68.11% from May to August with peak in May. (Table 2 & Figure 1)

Table 2
Month wise distribution of Acute Gastroenteritis cases (N=1088)

S. No.	Month	Number	Percentage
1	**January**	26	2.39
2	**February**	17	1.56
3	**March**	69	6.34
4	**April**	107	9.83
5	**May**	204	18.75
6	**June**	193	17.74
7	**July**	176	16.18
8	**August**	168	15.44
9	**September**	51	4.69
10	**October**	24	2.21
11	**November**	29	2.67
12	**December**	24	2.21

Figure 1



IV. DISCUSSION

In present study, total 1088 Acute Gastroenteritis cases were studied. Out of that 563 were males and 525 were females with M:F ratio1.02 in favour of males. Majority of cases were in middle age group i.e. 57% cases in 21 to 50 years of age group. No significance difference was found in sex wise distribution of cases as per age.

A study done in Tamil Nadu found highest proportion of Acute Gastroenteritis cases in 41-59 years in their study.[11] In this study, comparatively younger age was also affected may be because in Rajasthan summer are very strong which may affect the younger age group. This fact is supported with the fact that Acute Gastroenteritis cases were comparatively more in summer season also along with rainy season.

When seasonal variation of these cases were seen maximum cases were observed in summers and rainy season i.e. 68.11% from May to August with peak in May. So summer and rainy season had more cases of Acute Gastroenteritis. Other study also support the observation of more cases in rainy season may be because of water quality typically worsens during the rainy season and outbreaks are more common at this time.[10] Although a study[12] conducted in Philippines found that this Acute Gastroenteritis infections are more common in the winter which is contrast to observations of present study. This may be because of different climate of Philippine. Otherwise other studies[10,11] reported maximum occurrence of Acute Gastroenteritis in rainy season.

Along with rainy season these cases were in abundant in summer (May-June) season may be because of heavy summers in Rajasthan.

V. CONCLUSION

Present study concludes that Majority of cases were in middle age group i.e. 57% cases in 21 to 50 years of age group with M:F ratio1.02 in favour of males. No significance difference was found in sex wise distribution of cases as per age. When seasonal variation of these cases were seen maximum cases were observed in summers and rainy season i.e. 68.11% from May to August with peak in May. So summer and rainy season had more cases of Acute Gastroenteritis.

VI. CONFLICT OF INTEREST

None declared till now.

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