

Original Research Article

## **Prevalence and Determinants of Gastro-Intestinal Disorder among Hostel Resident of a Medical College of Central India**

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Received: 06/01/2016

Revised: 21/01/2016

Accepted: 23/01/2016

### **ABSTRACT**

**Introduction:** Gastro-intestinal disorder are more common among all hostel residents, it may due to unhygienic mess condition or taking food mostly from outside. it can be modifiable factor, at present time most of student live hostel life in his/her life time period for study, then it became a matter of concern to know the prevalence and etiology of it and try to modify it.

**Material and Methods:** A cross –sectional study was conducted in UG, PG Girls and Boys hostels of S.S.M.C. Rewa M.P. A random sampling method was used to obtain study population. The total sample size was 296, Data were collected in a pre-structured questionnaire and analyzed with the help of InStat Graph pad and appropriate statistical tests were applied.

**Result:** The overall prevalence of GIT Disorder was found to be 63.17% among hostel residents, The prevalence was more common 69.10% in Boys Hostels and less common 54.23% in girls hostel and it will increase as the duration of stay in Hostel were increased, and it was more common in Non-Vegetarian (70.53%).

**Conclusion:** High prevalence of GI disorders was related to living condition and dietary pattern so if we can improve the hygiene in hostel and regulate their dietary pattern than the prevention of various GIT problems can be done.

**Keywords:** GIT disorder, Dietary factor, Non-vegetarian.

### **INTRODUCTION**

Diseases of the gastrointestinal tract that primarily affect areas other than the oral cavity, The digestive tract is a long muscular tube that moves food and accumulated secretions from the mouth to the anus. As ingested food is slowly propelled through this tract, the gut assimilates calories and nutrients that are essential for the establishment and maintenance of normal bodily functions. Protein, fats, carbohydrates, vitamins, minerals, water, and orally ingested drugs (prescription and nonprescription) are digested in this tract. The digestive system

is composed of the esophagus, stomach, small intestine, and large intestine. Each of these components performs specific functions as ingested substances move through the different anatomic areas. Additionally, the exocrine functions of the pancreas, liver, and gall bladder combine to complete the assimilation of dietary calories and nutrients. The disorders are presented under the following anatomic divisions: esophagus, stomach, small intestine, large intestine, and hepatobiliary tree. A final section on gastrointestinal syndromes introduces disorders that affect both the oral cavity and the gastrointestinal

tract but that are not primarily oral or gastrointestinal in etiology. Gastroesophageal reflux disease (GERD) is one of the most commonly occurring diseases affecting the upper gastrointestinal tract. Heartburn is the cardinal symptom of GERD and is defined as a sensation of burning or heat that spreads upward from the epigastrium to the neck. <sup>[1]</sup> Dysphagia is also a common presenting complaint that may serve to prompt the dentist to refer the patient to the patient's physician. Several studies have shown that a number of airway problems that were previously thought to be idiopathic, such as laryngitis, chronic cough, hoarseness, and asthma, are in fact the result of micro aspiration of refluxate into the airway. <sup>[2,3]</sup>

Peptic ulcer disease is a common benign (nonmalignant) ulceration of the epithelial lining of the stomach (gastric ulcer) or duodenum (duodenal ulcer). When patients or physicians refer to ulcers or ulcer disease, they are usually referring to a duodenal or gastric ulcer. About 6% of patients attending a dentist office will have peptic ulcer disease. <sup>[4,5]</sup>

Functional bowel disorders, and among them irritable bowel syndrome (IBS), are now recognized as common chronic bowel disorders that influence 5 to 25 per cent of populations <sup>[5-10]</sup> Because of the absence of any certain diagnostic clinical or para-clinical tests for this category of disease, <sup>[11]</sup> the diagnosis mainly relies on criteria on which there is an almost unanimous consensus. <sup>[11-14]</sup> Hepatitis A (formerly known as infectious hepatitis) is an acute infectious disease of the liver caused by the hepatitis A virus (HAV). <sup>[15]</sup> Many cases have few or no symptoms, especially in the young. <sup>[16]</sup> The time between infection and symptoms, in those who develop them, is between two and six weeks. <sup>[17]</sup> When symptoms occur, they typically last eight weeks and may include nausea, vomiting, diarrhea, jaundice, fever, and abdominal pain. GI disorders like diarrhea, amoebiasis, hepatitis GERD, IBS, Gastritis

etc. are very common among hostel residents because of unplanned diet schedule, unhygienic conditions in kitchen areas, unsafe drinking water, frequently taking meal out-side and stress in student life which ultimately affects their performance and day to day activities by keeping all these thing in the mind a observational cross-sectional study are conducted in Hostels of S.S.M.C. Rewa M.P. India with the objective of -To find out the prevalence of Gastro intestinal disorders among hostels residents in S.S.M.C. hostels and To assess the determinants of prevalent Gastro intestinal disorders.

## **MATERIALS AND METHODS**

**Study type:** This was an observational cross-sectional study. Study Area: This study was conducted in both UG and PG Girls and Boys hostels of S.S.M.C. Rewa M.P. India.

**Sampling methods:** Sample was collected randomly from all four Hostel residents of S.S. Medical College, Rewa, after applying inclusion and exclusion criteria the total obtained sample size was 296, participant were interviewed with the help of pre-structured and pretested proforma by face to face interview from Four hostel including two Girls and two Boys hostel with two P.G. and two U.G. hostel residents respectively.

**Inclusion and exclusion criteria:** included only those participants who were given consent to participate in the study, not have any prior chronic GIT disease when he/she joined the Hostel, have been living in hostel since at least one year and using hostel mess regularly for food. Those participants who were not giving consent to participate in the study or have any Chronic GIT disease before joining the hostel or living less than one year in the hostel or taking food from other source than hostel mess are excluded from the study.

**Study duration:** It was 3 months (1st July-30th Sep 2013.).

**Statistical Analysis:** Data were cleaned, compiled and analyzed on InStat Graph pad and Epi-info 2000 for statistical analysis, chi-square test are applied and  $P < 0.005$  is considered statistically significant.

## RESULTS

In the present study the total no. of participants were 296 after applying inclusion and exclusion criteria. In the Table No.1 the participants are distributed upon the basis of various socio-demographic factors like age group, sex, Religion, educational qualification, Marital status, dietary habit, Area from which he/she belong to show their socio-demographic profile. In the present study 178 of them were males, in males most 146 of them belong to UG Boys hostel and 32 from PG Boys hostel and 118 were

female's participant, in female 104 of them from UG Girls hostel and 14 were from PG Girls hostel. Most common age group was 20-30 year 273(92.22%), >30 year is 15(5.06 %) participant and least one were belonged from <20 year was 8(2.70%) in these study from U.G. Hostel maximum participant were from M.B.B.S. 2<sup>nd</sup> prof (2<sup>nd</sup> and 3<sup>rd</sup> year combined) were (162) and the number of 3<sup>rd</sup> prof was 51 and least 6 was from P.G.3rd year from girls hostel. In the study participant most 269(90.87%) of them were Hindu by religion followed by Muslim 19 (6.41%) and other were 8 (2.70%) but according to their dietary habit most of them were 184 (62.16%) vegetarian and 112(37.83%) were non - Vegetarian, we found GIT Disease was common in Non-Vegetarian participants out of 112, 79(70.53%) participant have some short GIT Disorder.

**Table I.: Socio-demographic characteristics of the study population**

S.N	Socio-economic Character	Any GI Disorder Present	No Any GI Disorder Present	Prevalence of GIT Disorder among different groups	Test of significance
1.	<b>Age group (years)</b>				
	<20	3	5	37.5	$\chi^2=2.562$ d.f=2, P=0.2778
	20-30	175	98	64.10	
>30	9	6	60		
2.	<b>Sex</b>				$\chi^2=6.739$ d.f=1, p=0.0094
	Male	123	55	69.10	
	Female	64	54	54.23	
3.	<b>Religions</b>				$\chi^2=4.312$ , d.f=2, P=0.1157
	Hindu	169	100	62.82	
	Muslim	15	4	78.94	
	Other	3	5	37.7	
4.	<b>Education Qualification</b>				$\chi^2=6.692$ , d.f=5, P=0.2445
	MBBS II Prof	96	66	59.25	
	MBBS Final Part I	31	20	60.78	
	MBBS Final Part II	21	12	63.63	
	INTERNSHIP	10	4	71.42	
	PG II Year	16	5	76.19	
	PG III Year	13	2	86.66	
5.	<b>Marital Status</b>				$\chi^2=0.2913$ , d.f=1, P=0.5894
	Married	19	9	67.85	
	Un-married	168	100	62.68	
6.	<b>Dietary habit</b>				$\chi^2=4.195$ , d.f=1, P=0.0405
	Vegetarian.	108	76	58.69	
	Non-Vegetarian.	79	33	70.53	
7.	<b>Permanent address</b>				$\chi^2=11.673$ d.f=1, P=0.0006
	Urban	142	62	69.60	
	Rural	45	47	48.91	

**Table no.2: Distribution of Participants having GIT disorders and not having GIT disorders according to type of Hostel**

S.N.	Residential area	No. of healthier Participant	No. of disease participants	Prevalence of disease
1	P.G.Girls Hostel	4	10	71.42
2	P.G.Boys Hostel	3	19	86.36
3	U.G.Girls Hostel	50	54	51.92
4	U.G.Boys Hostel	52	104	66.66
Total=		109	187	

Chi square=11.972, d.f=3, P value=0.0075

In the present study the distribution of participants according to Gender was statistically significant that GIT disorders were more common in male as compared to females ( $p=0.009$ ), and according to their dietary habit there is also statistically significance association of GIT disorder with their dietary habit as it was more common in non-vegetarian peoples ( $p=0.040$ ) and their distribution of participants according to their permanent residential address was also statistically significant. ( $P=0.0006$ ) it was more common in urban based addressee hostel residents.

In the present study the prevalence of GIT disorder was highest 86.36% in P.G. Boys Hostel followed P.G. Girls Hostel 71.42%, Then U.G. Boys Hostel 66.66% and least one in U.G. Girls Hostel

which was found to be 51.52%. This distribution was also found statistically significant. ( $p<0.05$ ).

**Table No.3: GIT Symptoms of various patients**

S.N.	GIT Symptoms	No. of Participants	Percentage (%)
1	Dyspepsia	187	100
2	Acidity	186	99.46
3	Abdominal pain	184	98.39
4	Vomiting	163	87.16
5	Altered bowel habit	148	79.14
6	Flatulence	145	77.54
7	GIT bleeding	31	16.57

\*=multiple choice question.

In the present study the participants who were suffer from any GIT problem the most common GIT complain was Dyspepsia by all patients followed by Acidity, Abdominal pain, Vomiting, Altered bowel habit, Flatulence and least common complaint was GIT Bleeding only in 16.57% patients.

**Table No.4: Prevalence of various GIT diseases**

S.N	GIT Disease	No. of participants (n=187)	Percentage (%)
1	Gastritis	183	97.86
2	GERD	178	95.18
3	Peptic-Ulcer	102	54.54
4	Hepatitis	58	31.01
5	Amoebiasis	31	16.57

\*=Multiple choice question

**Table No.5: Determinants of GIT Disease**

S.N	Determinants of GIT Disease	No. of Participant	Percentage (%)
1.	Unhygienic mess condition	187	100
2.	Stress	168	89.83
3.	Late night sleep	124	66.31
4.	Unsafe drinking water	111	59.35
5.	Irregular eating habit	102	54.54
6.	Taking frequently food from outside	86	45.98

\*=multiple choice question

In the present study the most common GIT Disorder was Gastritis 97.86% followed by GERD 95.18%, Peptic-Ulcer 54.54%, Hepatitis 31.01% and Amoebiasis was least common disorder 16.57%

As per the possible determinants of more frequent GIT problem shown in Table No.4, according to study population most frequent determinant was unhygienic mess condition, followed by Stress, Late Night Sleep, unsafe drinking water, irregular eating habit, least common was taking food frequently from outside only in 45.98% patients.

## DISCUSSION

The present study is one of its kinds as no data is available on the GIT disorder among medical hostellers. In the present study the prevalence of GIT Disorder was found to be 63.17%, it was more common in age group 20-30 years 64.10% and were equal in both <20 years and >30Years was 60%. similarly study conducted by Mihaela Fadgyas Stanculete et al. [18] in 2015 found that IBS was more common in 20-40 year it was support the finding of present study according to gender the prevalence was more common 69.10% in Boys and less common 54.23%

in girls, but contrast to these finding a study conducted by Mihaela Fadgyas Stanculete, Silviu Matu et al [18] found that the prevalence of IBS was more common in female it may due to, this study include only IBS and conducted on general population. These disorder were more common in PG student 80.55% than in U.G. student 60.76%, due to their long duration of stay in hostel if combined with UG and P.G. duration both and more stress in their life and more work load and don't able to take regular food at time and proper rest, in religion it was more common in Muslim 67.85% than Hindu 62.68 but it was not statistically significant, According to their dietary habit it was more common in participants who consume Non-Vegetarian diet 70.53% than Vegetarian 58.69%, it was also statistically significant. In the present study most of the participants were from urban background and disease was also more common in participants who had urban hometown similarly a study conducted by Mihaela Fadgyas Stanculete, Silviu Matu et al [18] also found the IBS was more common in urban peoples than rural and it was more common in married candidate so these finding were support the finding of present study. Most common GI symptom reported was dyspepsia (72%), followed by Nausea, vomiting, altered bowel habits, abdominal pain and most common GI Disorder reported was gastritis (31%), and least was hepatitis (11.6%). Most common cause of GI disorder found as unhygienic mess conditions (82.00%) and least one was Irregular eating habits (19.40%). Environmental hygiene as a determinate of diarrheal diseases has been pointed out in many studies. [19-23] Maunget al. [24] and Freji et al [25] in their studies pointed out that better family incomes is likely to translate into improvements in housing with more hygienic toilets, fewer flies in the house and ingestion of better weaning foods. According to WHO [26] majority of GIT disease like diarrhoes are attributed to unsafe water, inadequate sanitation and

hygiene. In the present study also environmental hygiene practices of the mess workers were found to be associated with the occurrence of GIT diseases in the students.

#### **Limitations:**

1. Study based on recall basis so recall bias may have been occurred.
2. Through medical check-up was not done in study participant so some form of GIT diseases can have over or under estimated.

#### **CONCLUSION**

So, it can be strongly concluded that Various GIT problem are more frequent in Hostlers life due to the various causes like lack of healthy cooking practices and hygienic practices among mess workers are still a matter of concern. Importance of safe and uninterrupted water supply also can't be ignored; Stress is also a matter of concern in hostler's life.

#### **RECOMMENDATIONS**

On the basis of findings of the study the following can be recommended-

1. There should be Periodic health check-up of hostel residents and Hostel workers.
2. There should be regular monitoring of the hostel mess conditions regarding their hygienic status.
3. Healthy Norms should be applied to all mess workers so that hygienic meal can be provided to the hostel residents.

#### **ACKNOWLEDGEMENT**

The authors are thankful to the study subjects for their cooperation.

**Source of Funding:** None

**Conflict of interest:** Authors not declare any conflict of interest.

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How to cite this article: Niranjana A, Adhikari P, Mishra A et al. Prevalence and determinants of gastro-intestinal disorder among hostel resident of a medical college of central India. Int J Health Sci Res. 2016; 6(2):30-36.

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