

# Prevalence of Gastrointestinal Infections in Hostel Residents of Lahore, Pakistan

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## Abstract

To maintain our good health, properly functioning gastrointestinal (GIT) track is always considered essential. Though in current era, living standards are much improved now but still gut infections are frequently reported around the globe. Because in third world countries, like Pakistan even in big cities people don't have dietary sources of good quality. That's why; a survey of randomly selected 10 hostels was conducted to estimate the prevalence of gastrointestinal infections among them. The results showed that mostly sufferers fall in age group of 18-28years and among them, females are more than males. Important causative factors for transmission of enteric pathogens are intake of impure water (in 42% cases), unhygienic food (in 18% cases) and blend of these two (in 33% cases) with major symptoms of abdominal discomfort, acid reflux, nausea and vomiting. But still only 19% gastric patients of hostel take proper medication for cure and rest of other are left untreated either due to lack of awareness or financial constraints. So these issues should be seriously addressed by the authorities to control the frequency of GIT infections among hostilities of Lahore, Pakistan.

**Keywords:** gastrointestinal; infections; hostel residents; impure water; unhygienic food; enteric pathogens.

## 1. Introduction

Infections are inflammation of gastrointestinal tract involving both stomach and small intestine.

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Viral gastroenteritis is an inflammation of caused by viruses while the bacterial gastroenteritis happens when bacteria cause *infection* in the gut. Microbiota of gut contains transcendently several anaerobes that including *Bacteroides*, *Eubacterium*, *Bifidobacterium*, *Fusobacterium*, *Peptostreptococcus* and *Atopobium*. In case of facultative anaerobes Enterococci, Lactobacilli, Enterobacteriaceae and Streptococci have been reported [1]. Maintaining this construction is fundamental for the gut hemostasis in light of the fact that underlying and metabolic elements of the commensal microbiota restrain gut colonization of microorganisms [2]. Numerous risk factors count up for the incapacitating in safe wellbeing status of gut that may connected with tuberculosis contamination [3]. The impacts of modification in intestinal microbiota on respiratory viral diseases have also been concentrated in this regard [4]. Intestinal parasitic diseases are internationally endemic and have been portrayed as establishing the best single overall reason for illness [5]. Gastrointestinal (GIT) sicknesses contribute altogether to the weight of ailment from irresistible illnesses around the world. Looseness of the bowels is the subsequent driving reason for preventable ailment in youngsters under age five [6]. Despite the solid relationship between gastrointestinal sicknesses and factors like helpless disinfection, deficient admittance to safe drinking water and other danger factors, both asset rich and less created nations the same are affected by gastrointestinal disease [7]. The danger factors anyway seem, by all accounts, to be appropriated distinctively among created and agricultural nations therefore, the occurrence of explicit microorganisms may vary between each setting [8]. Several examinations have depicted, the microbe's related risk factors, their expenses and weight of ailment on medical services. Nonetheless, there are not many examinations that gauge the pervasiveness of microbes influencing populaces in various areas around the world. Non-industrial nations world regularly experience comparable disinfection and destitution related risk factors, which inclines their populace to diarrheal sicknesses. Notwithstanding, the rate of sickness in created nations will in general be not so much nonexclusive but rather more identified with irregularity, travel and food borne transmission [9]. A few enteric miniature organic entities are answerable for GIT ailments and are bacterial, viral or parasitic in nature [10]. An overall assessment demonstrates that a single causative life form is recognized in about half of suggestive cases [11]. In asset restricted areas under-detailing is conceivable, with the information one-sided towards specific microorganisms and relate principally to explicit age gatherings [12]. A study was reported the percentage and identify the factors related with intestinal parasitic infections among one to five years old children living in an urban slum of Karachi, Pakistan. The percentage of Intestinal parasitic infections was estimated to be 52.8%. The most common parasite was *Giardia lamblia* which followed by *Ascaris lumbricoides*, *Blastocystis hominis*, *Hymenolepis nana*, *Endolimax nana*, *Entamoeba coli* and *Iodoamoeba butschlii*. Approximately, 43% children were infested with single parasite and 10% with multiple parasites. Intestinal parasites are widespread in these areas where poverty was implicated as an important risk factor for infection. Effective poverty decline programs and promotion of deworming could reduce intestinal parasite carriage. There is a prerequisite for mass scale campaigns to create public awareness about health and hygiene [13]. Gastrointestinal (GI) diseases are quite possibly the most continuous medical conditions among individuals venturing out to low pay nations [14, 15], which may significantly influence sightseers' occasion or marketable strategies. Among the etiological elements microscopic organisms were discovered to be the most well-known, yet infections and parasites may likewise be liable for GI diseases. Among the voyaging individuals, travelers' diarrhea (TD) is a wide margin the most well-known GI contamination [16, 17]. Its manifestations typically show up inside the initial one fourteen days of movement; in 10% of patients can

continue over seven days [14] About a large portion of a billion groups from created nations travel universally every year, of whom upwards of 100 million travel to a creating locales of the world [18]. Among the last mentioned, 60% will foster loose bowels [19].The most basic GI contamination happens in 11 million of voyaging individuals yearly [20-22]. An absolute of 17% of patients get back with clinical signs of the infection, and 2% foster manifestations after their return billion instances of gastrointestinal diseases around the world, of which 450 million are people who are truly sick, larger part anyway are youngsters and 44 million are pregnant ladies who are contaminated with hookworm, *Nacator americanus* and *Ascaris lumbricoides* [22]. A survey was done to estimate the prevalence and intensity of gastrointestinal infections in hostilities of Lahore, Pakistan.

## 2. Method

**Table 1:** Prevalence survey performa of GIT infections in hostilities of Lahore, Pakistan

Name				
Age	18-22 yrs	23-28 yrs	29-33 yrs	<34 yrs
Gender			Female	Male
Possible cause(s)	a) Intake of impure drinking water		b) Intake of unhygienic/ improperly cooked food	Both factors a and b
Intake of medication for GIT infections' cure			Yes	No
Symptoms			Yes	No
Abdominal discomfort				
Unintentional weight loss				
Nausea and sometimes vomiting				
Acid reflex( heart burn )				
Diarrhea				
Constipation				
Fatigue				
Loss of appetite				
Difficulty in swallowing				
Oral sores				

This study was a cross-sectional descriptive survey of 100 persons (10 hostels) who were residents of various hostels (Township, Johar Town) of Lahore, Pakistan. In sample of this design, patients of gastrointestinal

infection were observed and they were divided in of four age groups: group 1 (18-years), group 2 (23-28years), group 3 (29-33years) and group 4 (34 or above). A questionnaire was designed to assess the knowledge, attitude, and practices of GIT patients along with corresponding demographic variables (Table 1). ANOVA test was used for statistical analysis [23]. The study was approved by the ethical committee of Minhaj University Lahore. Informed verbal consent was taken from each eligible participant before administration of the questionnaire. Willing participants were informed in detail by the investigators about the research project and its consequences. The investigators asked the questions verbally in Urdu and filled out the form. Privacy of the patients was ensured during filling of questionnaires [8, 24].

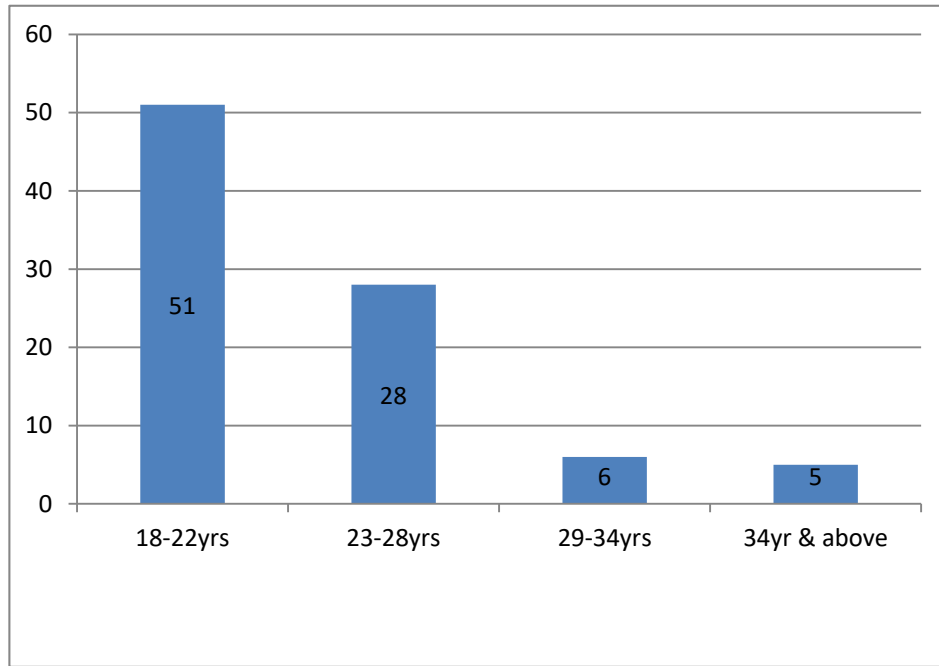
### 3. Results & Discussion

The statistical analysis (ANOVA) to observe the gender wise trend showed that females suffer more than males from various gastrointestinal infections (table 2), the possible reason might be the social pattern that males are more exposed to external environment and from quite early age as spend more time away from homes so comes eatables and gradually they become immune to it [ref. of my foot shoes paper) whereas majority females still remain confined to homes and usually cook by themselves so they are less exposed to readymade and unhygienic and poorly cooked food items [26, 27].

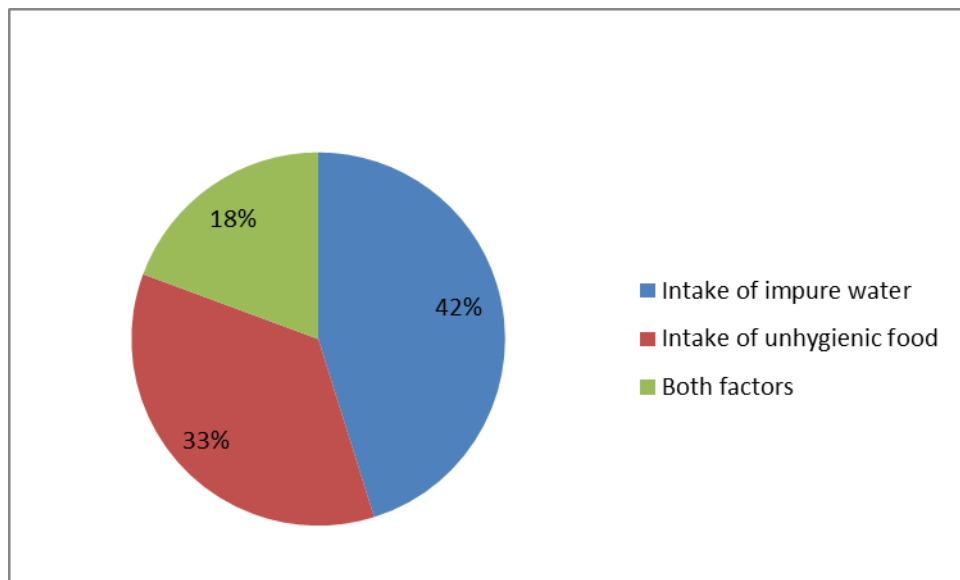
**Table 2:** GIT infections prevalence in Lahore, Pakistan

Gender	Mean ± SEM
Males	24 ± 20
Females	26 ± 23

Similarly, the data of age range highlighted that people of 18-28 yrs. suffer more than older ones (Figure 1) because this age group usually travel form homes and stay in hostels more frequently either for education or for jobs and the root cause of their exposure to GIT infection is mainly due to lack of personal hygiene and proper diet awareness. Figure 2 is presenting that The major cause of these health issues is intake of unhygienic food (42%) after that intake of impure water (18%) whereas a huge percentage (33%) of hostilities are those who are suffering from both types of factors [25-27].



**Figure 1:** Graphical comparison of age of hostilities suffering from gastric infections in Lahore, Pakistan



**Figure 2:** Ratio of commonly reported causative factors of gastric ailments

**Table 3:** Frequency of common symptoms of GIT infections and pattern of medicine intake in hostilities of Lahore, Pakistan

Reported symptoms (%)		
Abdominal discomfort		50
Unintentional weight loss		47
Nausea		50
Vomiting		17
Acid reflux		55
Diarrhea		50
Constipation		43
Fatigue		54
Loss of appetite		55
Difficulty in swallowing		36
Oral scores		40
Medicine intake (%)	Yes	19
	No	81

Moreover, among symptoms of digestive diseases most frequently reported are acid reflux, loss of appetite, abdominal discomfort, nausea, vomiting and diarrhea which caused by diverse enteric pathogens, commonly present in either in unhygienic utensils, on hands or in drinking water and poorly cooked and served food [25, 26] Whereas the data collected for medication was quite striking that hardly 19% of people take proper treatment otherwise still 81% cases are ignored and left untreated due to lack of awareness and financial constraints in Lahore, Pakistan [24, 27].

#### 4. Conclusion

The current survey highlights that even in big cities of Pakistan like Lahore, satisfactory and hygienic feeding facilities are not properly available to various hotel residents. Some lack clean drinking water or in others provided food is not up to the mark due to which hostilities often face gastrointestinal complications. That is why; general public awareness and affordable along with good dietary facilities and alternatives are urgently required to keep hostel residents healthy. In this regard, food quality esurience cells and departments should work further in more organized way to control the prevalence of gastric disorders among hostel residents.

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