



Irritable bowel syndrome among medical students and its association with anxiety.

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ABSTRACT... Objective: To find out the frequency of Bowel Syndrome (IBS) among medical students according to ROME 111 criteria. To find out the frequency of common subtypes of IBS among the IBS positive medical students. To observe the association between anxiety, depression, and irritable bowel syndrome according to HAD scale. **Study Design:** Cross Sectional study. **Setting:** Medical Students of BUMDC. **Period:** September to November 2020. **Material & Methods:** The study was conducted among the medical students at a private medical college in Karachi. Ethical approval taken. After taking consent questionnaires were given. The total students with irritable bowel syndrome were presented by their frequencies, then finding were analyzed using ROME 111 and HAD scale. **Results:** A total of 370 students were included after considering inclusion and exclusion criteria. Out of which 152 students (41%) were found to have irritable bowel syndrome according to ROME 111 criteria. The most common IBS subtypes seen in our study was IBS –D (diarrhea) 80. Among those students diagnosed with IBS, anxiety was positive in 100 students while depression was seen in 5 students according to HAD scale. **Conclusion:** This study concludes that medical students are more prone to develop IBS which is aggravated by stress related anxiety for having extensive curriculum and pressure from the peers of having good score in exam among intellectual section of the society which is not an easy task to cope up.

Key words: Anxiety, Depression, Diarrhea, Irritable Bowel Syndrome, Medical Students.

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INTRODUCTION

IBS is a prevalent GIT condition, accounting for 20-50% referrals to gastro clinics.¹ The prevalence of the disease worldwide ranges between 5.7-34%. It is high among the Western population from 10 to 15% than Asian ones from 1 to 10%. The exact prevalence of IBS in Pakistani population is unknown.² However, a study was conducted in past among the college students which showed 34% prevalence.³ It is a condition in which the patient presented with diffuse abdominal pain, which is relieved by defecation, abdominal distension and change in the frequency of intestinal habits without any biochemical or organic cause.⁴ Diagnosis of irritable bowel syndrome is on the basis of Rome III criteria, which comprise of certain bowel symptoms like frequency and duration of bowel movements.⁵ According to ROME111 criteria Irritable bowel syndrome is defined as recurrent abdominal pain

or discomfort for at least 3 days per month during last 3 months associated with two or more of the following features:

1. Improvement with defecation. And/or
2. Onset associated with a change in frequency of stool. And/or
3. Onset associated with a change in form (appearance) of stool.

The sensitivity of this Criterion is 65% for the diagnosis of IBS.⁶

Diagnosis of IBS is also established through the exclusion of organic gastrointestinal disease. There are, three recognized subtypes of IBS (1) diarrhea-predominant, (2) constipation-predominant, and (3) alternating diarrhea and constipation.⁷

The exact cause of IBS remains undefined. Currently, mentioned mechanisms include

exaggerated visceral hypersensitivity, gastrointestinal motor disturbances, and abnormal regulation of serotonin, post infectious IBS, and bacterial overgrowth. In addition, the brain gut axis has been suggested.⁸ But in some cases, genetic role has also been documented. Results of past studies revealed that girls especially in their twenties are more prone than boys of having IBS.^{9,10} One of the major contributors to IBS is stress.¹¹ In patients having IBS stress is one of the factors that increases the bowel movements.¹²

Medical education is one of the most challenging and the most stressful education, and this may predispose to high rates of IBS.¹³ Medical students are considered to remain under more stressful environment than other groups of the studying population due to heavy burden of tough studies, their long duration stressful academic environment and mental exhaustion due to numerous exams and clinical workloads¹⁴ Stress is not only physical it is also related to sleeplessness and also psychological as they have heavy burden of studies. Their living routine, and their dietary habits are also affected, the tough academic environment might be the reasons for high occurrence of irritable bowel syndrome in them. Many studies have been done to determine the prevalence of IBS among medical students, and different ways of managing these patients. In order to improve their quality of life, different ways can be taken to help them physically, and psychologically.¹⁵ Occurrence of IBS can compromise their quality of life also as students can have problem in focusing on their studies. The role of stress can partly justify the high prevalence of IBS seen among medical students. So, the rationale of this study is to determine the frequency of Irritable bowel syndrome among the medical students in Pakistan, to determine the frequency of IBS subtypes and to determine its association with anxiety and stress.

MATERIALS & METHODS

Study was conducted among MBBS and BDS students at a private medical college in Karachi during a period of 3 months. The study was commenced after the ethical approval taken from the ethical committee of BUMDC in September

to November 2020. Medical student both /male and female with their age from 18 to 25 years were included in the study. Random sampling technique is used. Participants with diagnosed inflammatory bowel diseases, individuals with marked weight loss that is 10 lb. or more or 5% of the weight loss over a period of 6 months, any malignancy and known psychiatric illness were excluded from the study.

Those subjects who fulfilled the inclusion criteria were selected. The aim of the study and the contents of the questionnaire were explained to each subject and voluntary participation was requested. Consent was taken from the students prior to data collection. Those participants between 18-25 years of age irrespective of gender were included. They were given a questionnaire to fill in which they identified their gastrointestinal symptoms of IBS given according to ROME 111 criteria. Those found positive for having IBS were then given another questionnaire in which they identified their symptoms of anxiety and depression according to HAD scale.

RESULTS

Total students: 370

IBS positive students: 152

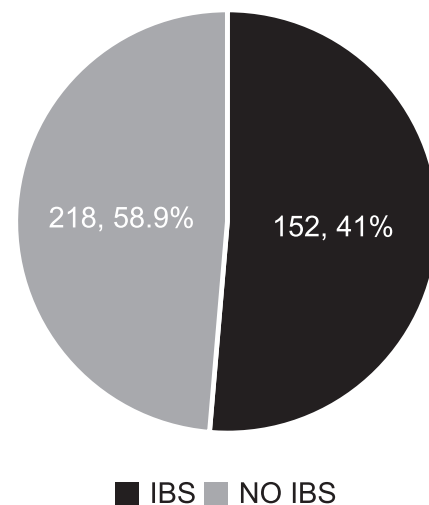


Figure-1. Frequency of Bowel Syndrome (IBS) among medical students according to ROME 111 criteria.

Ibs Subtype	Total Ibs (152)	% of Subtype
IBS Diarrhea	80	52.6%
IBS Constipation	20	13 %
IBS Mixed	50	32.8%
IBS U	2	1%

Table-I. Frequency of common subtypes of IBS among the IBS positive medical students.

Anxiety Among IBS Patient	Number of Patients	% of Patient Among IBS
Mild(borderline)	30	19.7%
Severe (abnormal)	80	52.6%
Absent	42	

Table-II. Anxiety and irritable bowel syndrome according to HAD scale.

Depression Among IBS Patient	Number of Patients	% of Patient Among IBS
Mild (borderline)	3	2 %
Severe (abnormal)	2	1.3%
Absent	148	

Table-III. Depression and irritable bowel syndrome according to HAD scale.

DISCUSSION

In our study the 370 subjects were included among which 152 were found to have irritable bowel syndrome based on ROME 111 criteria that make 41% IBS among total 370 subjects as shown in figure-1. Our results are consistent with the Studies from Iran by Mansour-Ghanaei F¹⁶, and from Bangladesh by Masud MA¹⁷, which found 37.7% and 35% of IBS cases among the medical students. Whereas our result is different from the studies done in Japan by Okami Y et al.¹⁸ Elhosseiny D et al¹⁹, 31% by Qureshi et al in Saudi Arabia²⁰ but the previous studies done in Pakistan by, Naeem SS. et al²¹ and Jafri W et al showed 28.3% prevalence of IBS among the medical students.²² These differences in the frequency could be due to variation in cultural, ethical, and dietary habits of different countries. In this study we have determined the frequency of different subtypes of Irritable bowel syndrome. Our observation also showed that IBS-D (diarrhea) was more common 80 (52.6 %) among the medical students then other subtypes. As shown in Table-I. This is consistent with previous study by Nagasako CK²³ but in another study by Elhosseiny D et.al conclude

constipation remained predominant subtype. Also, in another study by Naeem SS et al.in which IBS-Mixed subtype remained predominant which in our study remained second highest among are subjects 50 (32.8%).

In another finding in our study subjects having, IBS positive with anxiety present in 100 students which is 65.7% among total IBS positive student as shown in Table-II. Based on HAD scale we have determined that those students who had IBS had severe anxiety 80 student (52.6%) as compared to borderline anxiety 30 student (19.7%). This result showed that in medical students' severe anxiety is more prevalent which can be one of the aggravating factors for the occurrence of IBS in them. This finding is consistent with studies done by Al-Turki et al²⁴ Elhosseiny D et al, Naeem SS et al, Blanchard et al²⁵ and Surdea-Blaga et al²⁶ all studies emphasize that stressful life events can exacerbate GIT symptoms. But there was a study done by Farzaneh et al²⁷ that found no significant difference in the psychological association between anxiety and IBS. In our study depression was seen in only 5 subjects (3%) as shown in Table-III. The anxiety among medical students is mainly due to the heavy burden of tough studies and stress of achieving good grades in their medical years. This shows that other than lifestyle and dietary factors anxiety and stress have impact on bowel habits and can alter them resulting in IBS.

LIMITATION

The main limitation of the study is the limitation sample size; this study can further be conducted on large scale In future and comparison studies with other colleges can also be done.

CONCLUSION

This study concludes that medical students are more prone to develop IBS which is aggravated by stress related anxiety for having extensive curriculum and pressure from the peers of having good score in exam among intellectual section of the society which is not an easy task to cope up.




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AUTHORSHIP AND CONTRIBUTION DECLARATION

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1	Sehrish Shafique	Abstract, Result & Discussion, Conclusion.	
2	Naveed Faraz	Introduction, Materials & Methods.	
3	Hina Wasti	Collection of data.	
4	Ambreen Surti	References.	