

PREVALENCE OF IRRITABLE BOWEL SYNDROME AND ITS ASSOCIATED FACTORS AMONG MEDICAL STUDENTS AND INTERNS: A CROSS SECTIONAL STUDY

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ABSTRACT

Background

Irritable Bowel Syndrome (IBS) is a common functional gastrointestinal disorder characterized by chronic abdominal pain and altered bowel habits. Medical students are particularly susceptible to IBS due to the unique stressors and lifestyle factors associated with their rigorous academic environment. This study aims to determine the prevalence of IBS among medical students and identify associated factors contributing to its occurrence.

Aim:

To determine the prevalence of irritable bowel syndrome and its associated factors among medical students and interns.

Materials and methods:

A cross-sectional study was conducted among medical students at Sree Mookambika Institute Of Medical Science, Kanyakumari district. Data were collected using a self-administered

questionnaire, which included the Rome iii criteria for diagnosing IBS, along with questions related to demographic information, using perceived stress scale questionnaire to identify stress levels, Pittsburgh sleep quality index for sleep patterns, and GAD 7 anxiety scale.

Statistical analyses were performed to determine the prevalence of IBS and identify significant associated factors.

Results:

Out of the 126 medical students surveyed, 44.4% (n = 56) met the criteria for IBS. The prevalence of IBS was higher among female students (54.8%) compared to male students (45.2%). Third-year students exhibited the highest prevalence of IBS at 53.1%, followed by second-year students at 51.9%. Notably, 53.3% of students with anxiety had IBS, 32% of students with stress had IBS, and 45.8% of students with sleep disturbances had IBS.

Conclusion:

The prevalence of IBS among medical students is high, with associations found with stress, sleep quality, and anxiety. These findings highlight the need for targeted interventions and support systems within medical schools to address these factors and improve the overall well-being of medical students.

Keywords: Anxiety, Irritable Bowel Syndrome, Medical students, stress, physical activity, sleep quality

INTRODUCTION:

Irritable bowel syndrome is a functional bowel disorder characterized by recurrent abdominal pain in association with abnormal defecation in the absence of a structural abnormality of the gut[1]. According to Rome IV criteria, IBS is characterized by recurrent abdominal pain, on an average of at least 1 day a week in the last 3 months, associated with two or more of the following criteria: a) a change in frequency of stool or association with a change in form (appearance) of stool[2]. This is one of the most commonly diagnosed gastrointestinal conditions and it is associated to poor quality of life in patients [3,4], b) increased health care costs [5] and c) high work absenteeism [6].

Common risk factors for IBS include female gender, younger age, emotional and psychological stress [7], and sleep disturbances [8,9]. Interestingly, some studies have reported a high prevalence of IBS amongst particular populations, such as medical students and other health care

workers [10,11]. The worldwide prevalence of IBS among general population ranges from 5.7-34% [12]. The overall prevalence of IBS in western countries as reported by various studies ranges from 17-22%. However, in Asian countries a highly variable range of prevalence has been observed i.e., 2.3-34% [13,14,15].

AIMS AND OBJECTIVE:

To determine the prevalence of irritable bowel syndrome and its associated factors among medical students and interns.

METHODOLOGY:

This cross-sectional study was conducted from September 2022 to December 2022 at Sree Mookambika Institute of Medical Sciences, Kulasekharam, involving first, second, third, and fourth-year medical students and interns. The sample size calculation was based on an estimated prevalence (p) of IBS at 44.5%, the required sample size was 119¹⁸. A non-probability sampling technique, specifically consecutive sampling, was employed. Those who were present on the day of data collection included. Those who were absent on the day of data collection excluded.

Study tools included the Rome III criteria for diagnosing IBS, Pittsburgh Sleep Quality Index (PSQI) to assess quality of sleep, Perceived Stress Scale to identify stress levels, and Generalized Anxiety Disorder Questionnaire to estimate anxiety level.

Data were collected using a pretested questionnaire, entered in MS Excel, and analysed using SPSS Trial Version 20.0.

RESULTS:

Out of the 126 medical students surveyed, 84(66.6%) females and 42(33.3%) male students and interns. Among them 44.4% (n = 56) met the criteria for IBS.

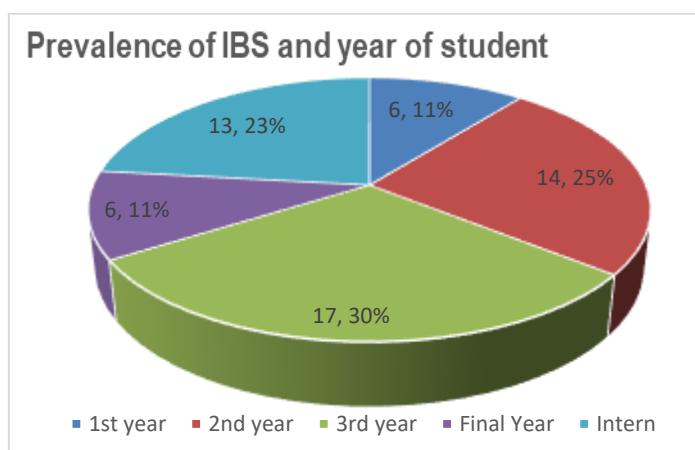
Third-year students exhibited the highest prevalence of IBS at 53.1%, followed by second-year students at 51.9%. Notably, 53.3% of students with anxiety had IBS, 32% of students with stress had IBS, and 45.8% of students with sleep disturbances had IBS.

A total of 126 questionnaires were distributed, completed and analyzed with a response rate of 100%. Results were as followed.

Table 1 shows age, height and weight distribution among the study population

Descriptive Statistics		
	Mean	Std. Deviation
Age	21.26	1.684
Height	159.4	26.04
Weight	62.45	12.08

Male with IBS 45.2% and Female with 54.8%



Factors	IBS		NO IBS		CHI SQUARE	P VALUE
	Frequency	Percentage	Frequency	Percentage		
Sleep disturbance						
Yes	54	96.4	64	91.4	1.308	0.25
No	2	3.6	6	8.6		
Anxiety						
Yes	16	28.6	14	20	1.26	0.26
No	40	71.4	56	80		
Stress						
Yes	8	14.3	17	24.3	1.95	0.16
No	48	85.7	53	75.7		

DISCUSSION:

Irritable Bowel Syndrome is the commonest chronic disorder of the alimentary tract. Its international prevalence is estimated to be 11.2%, and is impacted by various genetic, dietary, and social factors. Several different studies investigated its prevalence and showed a wide range of variability within each geographical region. The current investigation shows that the prevalence of IBS among medical students is 29.4%. This prevalence was lower than our parent study (irritable bowel syndrome among Medical Students and Interns in King Faisal University). This inconsistency in the results might be attributed to different factors limiting the estimation of the actual number of students having IBS, including the sample size and response rate.

Several studies reported findings concerning frequency of IBS among non-medical students. Dong, et al. stated that the prevalence of IBS based on Rome III criteria is 7.85% among university and

college students in China. Nevertheless, results were more supportive of the hypothesis that medical students are more likely to be diagnosed with IBS compared to other students. Similarly Okami, et al. concluded that IBS prevalence rate was higher in the nursing and medical students

The prevalence of anxiety and stress among medical students were significant however no statistical association was found between these factors and prevalence of IBS.

Our study concluded that medical students have higher prevalence of sleep disturbances. Although our study showed no statistical association between sleeping pattern and prevalence of IBS, Ibrahim, et al. study showed that students who slept fewer hours (<8 h/day) had a higher prevalence of IBS than others. Similarly, Liu, et al. reported an association between sleep disturbances and IBS; participants with IBS had a significantly higher Pittsburgh sleep quality index (PSQI) score than others.

Further studies needs to be conducted for identifying sleep disturbances among medical students and various measures needs to be carried out. Stress reduction programmes and interventions to promote mental well being is recommended. Awareness among medical students regarding IBS and its associated factors needs to be encouraged.

LIMITATION: Low sample size.

GENERALIZABILITY: Not Generalizable.

CONCLUSION:

Medical students are at an high risk to get IBS. Our study showed that the prevalence of IBS is 44.4% among medical students and interns. Significant sleep disturbance is prevalent, though no significant association with IBS was found. The amount of anxiety and stress among medical students were average. Improving sleep among medical students could mitigate stressors.

RECOMMENDATION:

we recommend for targeted interventions and support systems within medical schools to enhance student well-being.

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