

Gastric Disorders in Medical Students: A Cross-Sectional Analysis of Dietary, Lifestyle, and Psychological Factors

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ABSTRACT

Background: Gastric problems, including conditions such as Gastro-Esophageal-Reflux-Disease (GERD), gastritis, and functional gastrointestinal disorders, are increasingly observed among young adults, particularly medical students. The demanding academic environment, irregular dietary habits, inadequate sleep, and elevated stress levels make this group especially vulnerable. **Aim:** This study aims to determine the prevalence of gastric problems among medical students and to analyze their association with food habits, lifestyle factors, and psychological stress. **Materials and methods:** A cross-sectional study was conducted among 100 undergraduate medical students at MGM Medical College over a period of six months. Data were collected using a structured, self-administered questionnaire covering demographics, dietary patterns, lifestyle behaviors, stress levels, and gastric symptoms. Descriptive statistics were used to estimate prevalence, while inferential analysis was planned to identify associations between risk factors and gastric symptoms. The study evaluates key contributing factors such as irregular meal patterns, frequent consumption of spicy and processed foods, sleep deprivation, physical inactivity, and academic stress. **Result:** Gastric complaints showed strong, multi-factorial associations with student habits. Specifically, increased junk food consumption, shorter sleep duration, and higher academic stress levels were significantly correlated with a greater prevalence of symptoms. **Conclusion:** This study demonstrates a high prevalence of gastric problems among medical students, with 93% of participants reporting gastrointestinal symptoms. Findings highlight that these disturbances are multi-factorial, heavily driven by irregular dietary habits, lifestyle factors, and severe academic stress. This can support the development of targeted interventions and wellness programs aimed at improving both gastrointestinal health and overall well-being in this population.

Keywords: Gastric problems, Medical students, Prevalence, Food habits, Lifestyle factors, Stress, Gastroesophageal reflux disease (GERD), Irritable bowel syndrome (IBS), Cross-sectional study

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RESEARCH PAPER

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INTRODUCTION

Gastric problems, which include conditions such as gastroesophageal reflux disease (GERD), gastritis, irritable bowel syndrome (IBS), and functional dyspepsia, represent a significant and growing public health concern. These conditions are often chronic in nature and can substantially affect an individual's quality of life, academic performance, and overall well-being. Globally, functional gastrointestinal disorders are highly prevalent, with studies suggesting that a considerable proportion of young adults experience recurrent gastrointestinal symptoms.¹

Medical students constitute a particularly vulnerable population due to the demanding nature of their academic environment. The rigorous curriculum, long study hours, irregular eating patterns, and lack of adequate sleep contribute to unhealthy lifestyle practices. In addition, high levels of psychological stress, anxiety, and examination pressure further exacerbate gastrointestinal disturbances. The interaction between psychological stress and gastrointestinal function is well established, with stress known to influence gut motility, secretion, and sensitivity.^{2,3,5}

Dietary habits also play a critical role in the development of gastric problems. Frequent consumption of spicy, fatty, and processed foods, along with irregular meal timings and late-night eating, has been associated with an increased risk of gastrointestinal symptoms. Lifestyle factors such as physical inactivity, excessive screen time, and the use of substances like tobacco and alcohol may further contribute to the burden of these conditions.^{4,6,7}

Despite increasing recognition of these issues, there remains a need for comprehensive studies that evaluate the combined effect of dietary patterns, lifestyle behaviors, and psychological stress

on gastric health among medical students.^{8,9} Understanding these associations is essential for identifying modifiable risk factors and developing effective preventive strategies.¹⁰

Therefore, this study aims to determine the prevalence of gastric problems among medical students and to examine their association with food habits, lifestyle factors, and stress levels. The findings are expected to provide valuable insights that can inform targeted interventions and promote healthier lifestyles within this high-risk group.

REVIEW OF LITERATURE

Functional gastrointestinal disorders are increasingly common among young adults and medical students due to stress, unhealthy food habits, and irregular lifestyles.¹ Medical students are particularly vulnerable because of demanding academic schedules, examination pressure, inadequate sleep, and poor dietary practices.²

Gastroesophageal reflux disease (GERD) is one of the most common gastric disorders affecting students. According to Vakil et al., factors such as irregular meal timings, spicy food intake, smoking, obesity, and stress significantly contribute to GERD symptoms.³ Similarly, Okami et al. found that psychological stress and unhealthy lifestyle behaviors were strongly associated with irritable bowel syndrome (IBS) among medical and nursing students.⁴ Stress has been identified as an important precipitating factor for gastric symptoms. Sansone and Sansone reported that medical students frequently experience stress-related physical disorders because of academic burden, emotional exhaustion, and sleep deprivation.⁵ Stress affects the gut-brain axis and may alter gastrointestinal motility and secretion, leading to symptoms such as abdominal

RESEARCH PAPER

pain, bloating, and acidity.

Several cross-sectional studies have demonstrated a high prevalence of gastrointestinal disorders among medical students. Naeem et al. reported a significant prevalence of IBS among medical students in Karachi and found strong associations with anxiety, lack of sleep, and irregular eating habits.⁶ Likewise, Tan et al. observed a considerable prevalence of IBS among Malaysian medical students and highlighted the role of dietary habits and psychological stress.⁸

Atta et al. studied GERD symptoms among medical students in Saudi Arabia and observed that junk food consumption, late-night eating, reduced physical activity, and stress were major risk factors.⁷ Their study emphasized the importance of lifestyle modification in reducing gastric complaints.

Recent studies continue to support the relationship between stress, lifestyle, and gastric disorders among medical students. Al-Obeidi et al. reported a high prevalence of IBS among medical students in Oman and concluded that poor sleep quality and academic stress significantly increased gastrointestinal symptoms.⁹ Similarly, Saini et al. found that GERD symptoms negatively affected the lifestyle, concentration, and academic performance of medical students.¹⁰

Overall, previous literature suggests that gastric problems among medical students are multi factorial and are strongly associated with dietary irregularities, unhealthy lifestyle habits, sleep deprivation, and psychological stress. However, limited studies have comprehensively evaluated these factors together among Indian medical students. Therefore, the present study aims to assess the prevalence of gastric problems and their association with food habits, lifestyle factors, and stress among medical students.

METHODOLOGY

This study was conducted to assess the prevalence and associated factors of gastric

problems among medical students.

Study Design and Setting

A cross-sectional study was carried out over a period of six months at MGM Medical College. The study targeted undergraduate medical students across different academic years.

Study Population and Sample Size

The study population consisted of medical students currently enrolled at MGM Medical College. A total of 100 students participated in the study.

Participants were selected based on voluntary participation.

Inclusion and Exclusion Criteria

Students were included if they were currently enrolled in the MBBS program, willing to provide informed consent, and able to understand and respond to the questionnaire in English. Students with a known history of major gastrointestinal diseases such as Crohn's disease, ulcerative colitis, celiac disease, or gastric cancer were excluded.

Additionally, those on long-term medications affecting gastrointestinal function and those unwilling to participate were excluded.

Data Collection Tool and Procedure

Data were collected using a structured, self-administered questionnaire. The questionnaire included sections on demographic details, food habits, lifestyle factors, stress levels, gastric symptoms, diagnosis, and help-seeking behavior. The questionnaire was distributed and completed in a single session to ensure consistency in data collection.

Study Variables

The study assessed multiple variables categorized into:

- **Demographic variables:** age, gender, academic year, and residence
- **Dietary factors:** number of

RESEARCH PAPER

meals, meal skipping, junk food intake, spicy food consumption, and late-night eating

- **Lifestyle factors:** sleep duration, physical activity, screen time, smoking, and alcohol consumption
- **Psychological factors:** perceived stress levels, exam-related stress, and anxiety or low mood
- **Outcome variables:** presence and frequency of gastric symptoms, diagnosis, and treatment-seeking behavior

Data Analysis

The collected data were entered into a spreadsheet and analyzed using statistical software such as SPSS. Descriptive statistics were used to calculate frequencies, percentages, and prevalence of gastric problems among participants. Inferential statistical methods, including the Chi-square test, were planned to assess associations between gastric symptoms and various risk factors such as dietary habits, lifestyle behaviors, and stress levels.

Ethical Considerations

Ethical approval for the study was obtained from the Institutional Ethics Committee. Informed consent was obtained from all participants prior to data collection. Confidentiality and anonymity of the participants were strictly maintained throughout the study.

RESULTS

A total of 100 medical students participated in the study. The prevalence of gastric problems was found to be **93%**, indicating a high burden of gastrointestinal symptoms among the participants.

Fig. 1 shows the prevalence of gastric problems among participants.

Demographic Distribution

The study included students from

different academic years, with representation from both genders and varied residential backgrounds (hostel and day scholars).

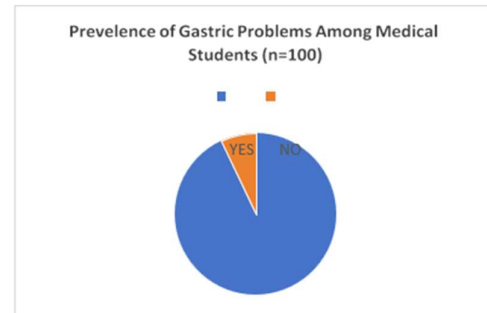


Figure 1: shows detailed demographic distribution.

Food Habits and Dietary Patterns

Irregular eating habits were commonly observed among participants. A considerable proportion of students reported skipping meals, with 38% never skipping meals, 34% often skipping meals, and 28% sometimes skipping meals.

Frequent consumption of junk food and spicy food was also reported, indicating unhealthy dietary patterns among the study population.



Figure 2: shows distribution of meal patterns and dietary habits.

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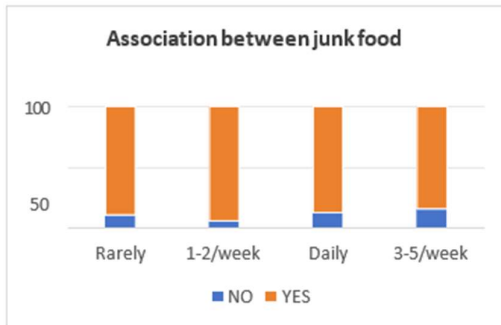


Figure 3: illustrates the association between junk food consumption and gastric problems

Lifestyle Factors

Lifestyle analysis revealed that many students had inadequate sleep duration, high screen time, and low physical activity levels. A majority reported sleeping less than the recommended duration.

Reduced sleep duration appeared to be associated with a higher prevalence of gastric problems.

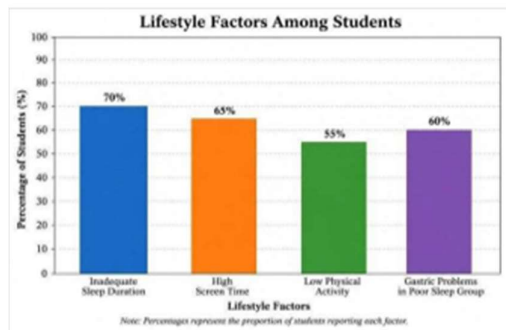


Figure 4: shows the association between lifestyle factors and gastric problems.)

Stress and Psychological Factors

Academic stress was highly prevalent among participants, with most students reporting moderate to high levels of stress. Many students also reported changes in eating habits during examination periods.

Higher levels of academic stress were associated with an increased prevalence of gastric problems.

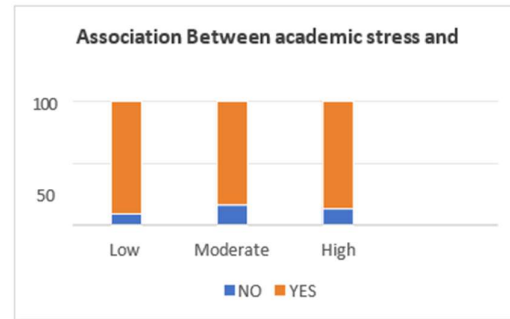


Figure 5: shows the association between academic stress levels and gastric problems.

Summary

A strong association was observed between gastric problems and multiple factors:

- Students with higher junk food consumption showed a greater prevalence of gastric symptoms
- Reduced sleep duration was associated with increased gastric complaints
- Higher academic stress levels were linked with a higher proportion of gastric problems (Fig. 3, Fig. 4, and Fig. 5 illustrate these associations.)

DISCUSSION

The present study highlights a high prevalence of gastric problems (93%) among medical students, indicating that gastrointestinal disturbances are a significant health concern in this population. This finding is consistent with previous studies that report a high burden of functional gastrointestinal disorders among students exposed to academic pressure and irregular lifestyles.^{1,6,8,9}

Dietary habits played an important role in the occurrence of gastric symptoms. A large proportion of participants reported irregular meal patterns, including skipping meals and frequent consumption of junk and spicy food. Such habits can disrupt normal gastric physiology, increase acid secretion, and contribute to symptoms like heartburn, bloating, and abdominal discomfort. These findings are in line with existing literature that associates unhealthy dietary behavior with gastrointestinal disturbances.^{4,7}

RESEARCH PAPER

Lifestyle factors such as inadequate sleep, increased screen time, and reduced physical activity were also commonly observed among participants. Sleep deprivation, in particular, has been shown to affect gastrointestinal motility and increase susceptibility to gastric discomfort. The results of this study demonstrate that students with reduced sleep duration reported a higher prevalence of gastric problems, supporting previous research linking poor sleep quality with gastrointestinal symptoms.^{2,6,7}

Psychological factors, especially academic stress, emerged as a significant contributor. A majority of students reported moderate to high stress levels, particularly during examination periods. Stress is known to influence the gut-brain axis, leading to altered gastrointestinal function and increased symptom perception. The observed association between higher stress levels and increased gastric complaints reinforces the role of psychological factors in gastrointestinal health.^{5,6}

The study also revealed that despite experiencing symptoms, many students did not seek medical attention. This may be due to factors such as time constraints, underestimation of symptom severity, or reliance on self-medication. This gap in healthcare-seeking behavior highlights the need for increased awareness and accessible medical support for students.

Overall, the findings emphasize that gastric problems among medical students are multi-factorial, involving dietary habits, lifestyle patterns, and psychological stress. Addressing these factors through targeted interventions such as lifestyle modification, stress management, and health education may help reduce the burden of gastric symptoms in this population.^{1,4,5}

CONCLUSION

This study demonstrates a high prevalence of gastric problems among medical students, with 93% of participants reporting gastrointestinal symptoms. The findings highlight that gastric disturbances

are a significant health concern in this population.

The study identifies key contributing factors, including irregular dietary habits such as skipping meals and frequent consumption of junk and spicy food. In addition, lifestyle factors such as inadequate sleep, high screen time, and low physical activity were found to be associated with increased gastric complaints. Psychological stress, particularly academic stress, also showed a strong relationship with the occurrence of gastric problems.

The results suggest that gastric problems among medical students are multi-factorial, involving a combination of dietary, lifestyle, and psychological factors. Despite the high prevalence of symptoms, a considerable number of students do not seek medical attention, indicating a need for improved awareness and healthcare access. Overall, the study emphasizes the importance of promoting healthy eating habits, maintaining proper sleep patterns, managing stress effectively, and encouraging timely medical consultation. Implementing these measures may help reduce the burden of gastric problems and improve the overall well-being of medical students.

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