

# RISK FACTORS FOR DYSPEPSIA IN MEDICAL STUDENTS OF INDIAN ORIGIN

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## ABSTRACT

Dyspepsia is a condition of the digestive system, with a fairly high frequency globally, originating from both organic and functional pathologies. Many studies have been conducted on dyspepsia, but very little is known about the risk factors, evolution and management for dyspepsia among medical students. The objective of the study consisted in the assessment of the epidemiological features and the clinical manifestations of dietary and lifestyle factors associated with dyspepsia among medical students of Indian origin. The study involved 52 medical students originating from India, who completed a questionnaire developed by us, between January 2022 and February 2023. According to the study's findings, food and habits are linked to a high frequency of dyspepsia among Indian medical students. To lower the prevalence of dyspepsia among medical students, strategies that encourage good eating practices, regular physical exercise, stress management, and regular meal schedules should be implemented in practice.

**KEY WORDS:** *dyspepsia, medical student*

## INTRODUCTION

Dyspepsia is a condition of the digestive system, with a fairly high frequency globally, ranging from 7 – 40% [1], originating from both organic and functional pathologies. Functional gastrointestinal disorders are digestive tract-related symptoms that are chronic and recurrent but cannot be associated with anatomical or biochemical problems.

The Rome IV criteria define functional dyspepsia in gastroduodenal disorders as any combination of 4 symptoms:

postprandial fullness, early satiety, epigastric pain, and epigastric burning that are severe enough to interfere with the usual activities and occur at least 3 days per week over the last 3 months with an onset of at least 6 months in advance. They are associated with a poor quality of life, psychological stress and decreased school attendance, physical activity and social life [ 2].

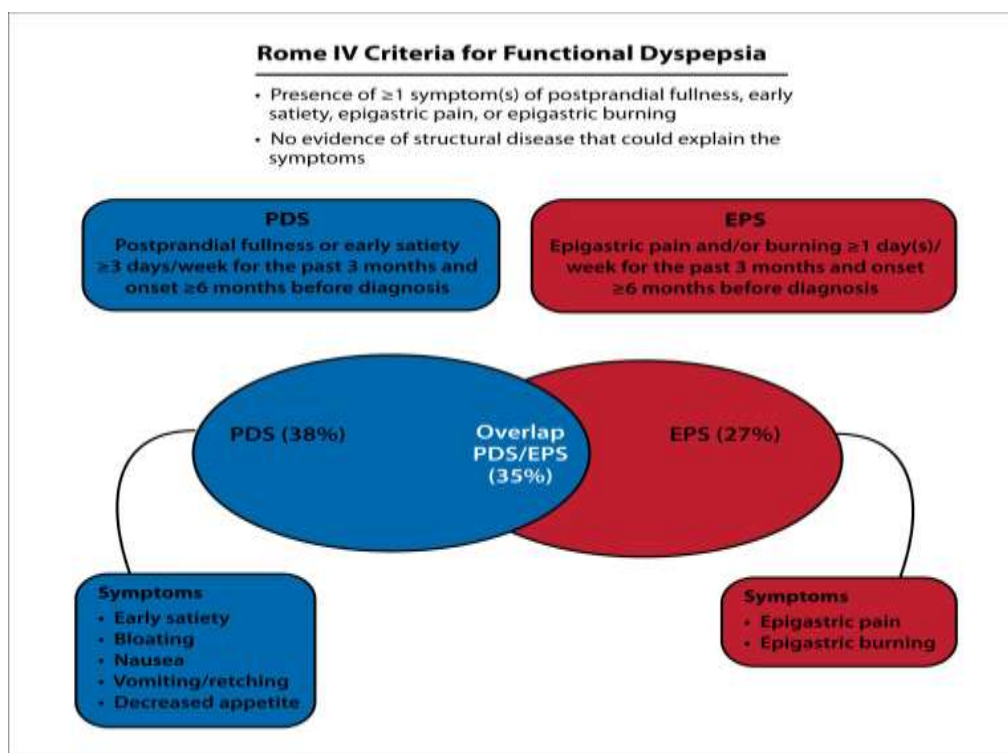


Figure 1. Rome IV categories and criteria for functional dyspepsia [3]



Dyspepsia can be brought on by a variety of illnesses, including GERD, peptic ulcers, lactose intolerance, cholecystitis, melancholy or anxiety, stomach cancer, and commonly as a result of alcohol or medication. Possible causes of dyspepsia include NSAID use, which is particularly relevant to ulcer dyspepsia and lifestyle choices like smoking and increasing caffeine intake [1].

There aren't many differences between those with sickness and healthy people in terms of nutrition and way of life, even among patients who are aware of the foods that regularly make them feel worse. Mixed sensory-motor issues, such as decreased stomach adaptation to a meal and gastric hypersensitivity, are seen in people with functional dyspepsia [4].

The altered stomach mechanic sensitivity and stomach neuromuscular dysfunction, including extended gastric emptying, decreased gastric fundus relaxing with blunted postprandial adaptation, and decreased protracted gastric emptying, have been found in the patients with dyspepsia. Around 40% of people with functional dyspepsia have poor stomach accommodation, and up to 70% exhibit aberrant antroduodenal manometry findings [5].

Additionally, research has demonstrated that individuals with functional dyspepsia experience delayed stomach emptying [6].

There are several factors that might influence the pathophysiology of functional dyspepsia. Poor gastric adaptation, delayed stomach emptying, visceral hypersensitivity, stomach acid, hereditary factors, early experiences in life, lifestyle choices, microinflammation in the duodenum, and previous infections are a few of them. A randomized, double-blind, placebo-controlled study found a significant relationship between symptoms and lower stomach accommodation in those with functional dyspepsia. Numerous publications claim that some people with functional dyspepsia may experience difficulties with stomach emptying, and a meta-analysis determined that about 35% of functional dyspepsia patients may experience significantly delayed emptying [7].

Spicy foods commonly cause heartburn after eating. The justification is twofold. The first is that capsaicin, a compound found in many spicy foods, slows digestion and increases the amount of time food spends in the stomach. The longer food stays in the stomach, the more probable heartburn is to develop. Second, consuming spicy food can make

esophageal irritation worse, which might make heartburn worse. People who have heartburn, esophageal issues, or ulcers frequently experience heartburn more quickly and intensely than healthy individuals do when eating spicy foods [8].

Dyspepsia has been linked to psychological discomfort, and studies have shown that both distress and anxiety can precede symptoms and that symptoms can also cause distress and worry. As a result, a proposed bidirectional gut-brain pathway mechanism [9].

Treatment of functional dyspepsia can be both non pharmacological and pharmacological. Modifications in diet and lifestyle are needed first. Acid neutralization and acid production inhibition are the two basic drug therapies for functional dyspepsia. [10]

Many studies have been conducted on dyspepsia, but very little is known about the risk factors, evolution and management for dyspepsia among medical students, fact, which determined the initiation of this study.

## PURPOSE

Assessment of the peculiarities of dyspeptic syndrome in Indian medical students that are studying at the "Nicolae Testemițanu" University of Medicine and Pharmacy in the Republic of Moldova.

## OBJECTIVE

To study the epidemiological features and the clinical manifestations of dietary and lifestyle factors associated with dyspepsia among medical students.

## METHODOLOGY

We developed a Questionnaire, which was applied to medical students from India, studying at the "Nicolae Testemițanu" University of Medicine and Pharmacy in the Republic of Moldova. The study included 52 students and ran from January 2022 to February 2023.

## RESULTS

Considering 52 medical students' responses, 92,3% of them are in the age group of 18 to 28 years, 27 female and 25 male. The results shows that 15.4% students are having Gastritis, 9.6 % - GERD, 1.9 % - IBD and most of them - 73% do not have a confirmed diagnosis (Figure 2).

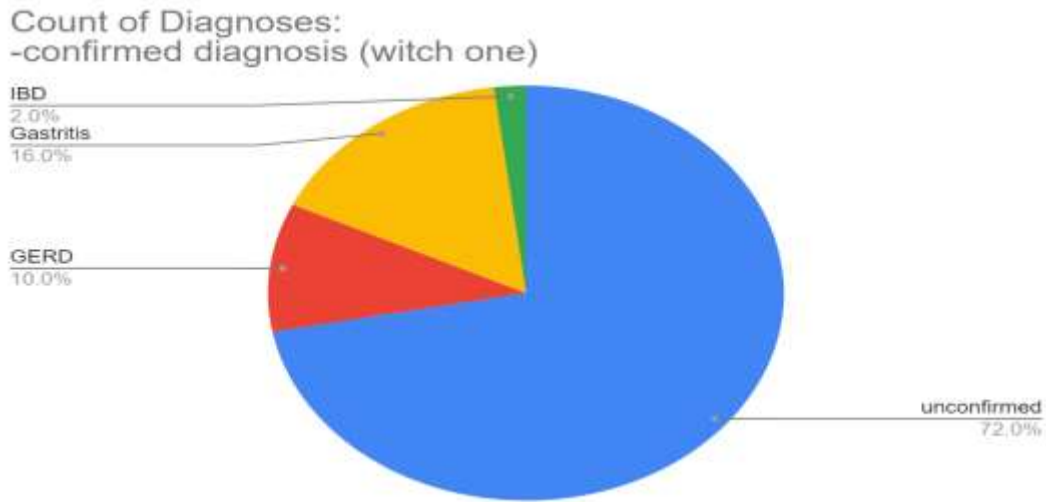


Figure 2. The diagnoses established in students with dyspeptic syndrome

It was established that 48,1 % had nausea, vomiting, dull pain in the abdomen, 42.3 % - heartburn, 34.6 % - loss of appetite, 32.7 % - diarrhea, 28.8 % - flatulence, 26.9 % - constipation, 21,2 % - body weight lost (Figure 3).

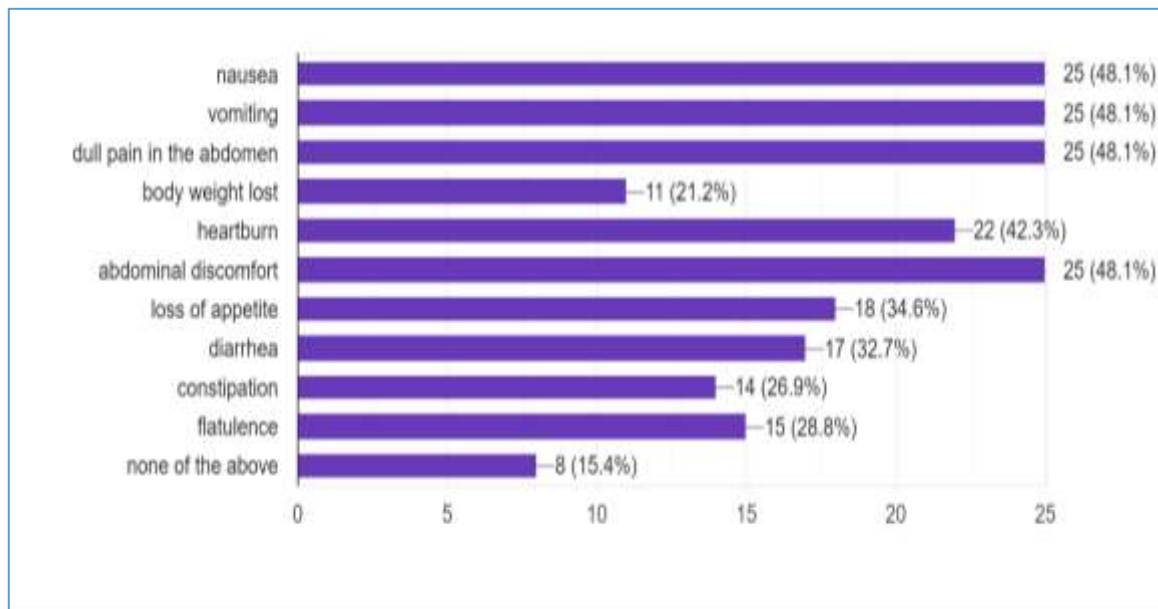


Figure 3. Characteristic of dyspeptic syndrome in examined students

Dyspeptic symptoms appeared mostly in stressful personal situations - 76.9% and during exams - 50%; against the background of skipping meals and the use of spicy food - 88.5%, fast food - 67.3%, insufficient and poor quality sleep - 48.1% (Figure 4).

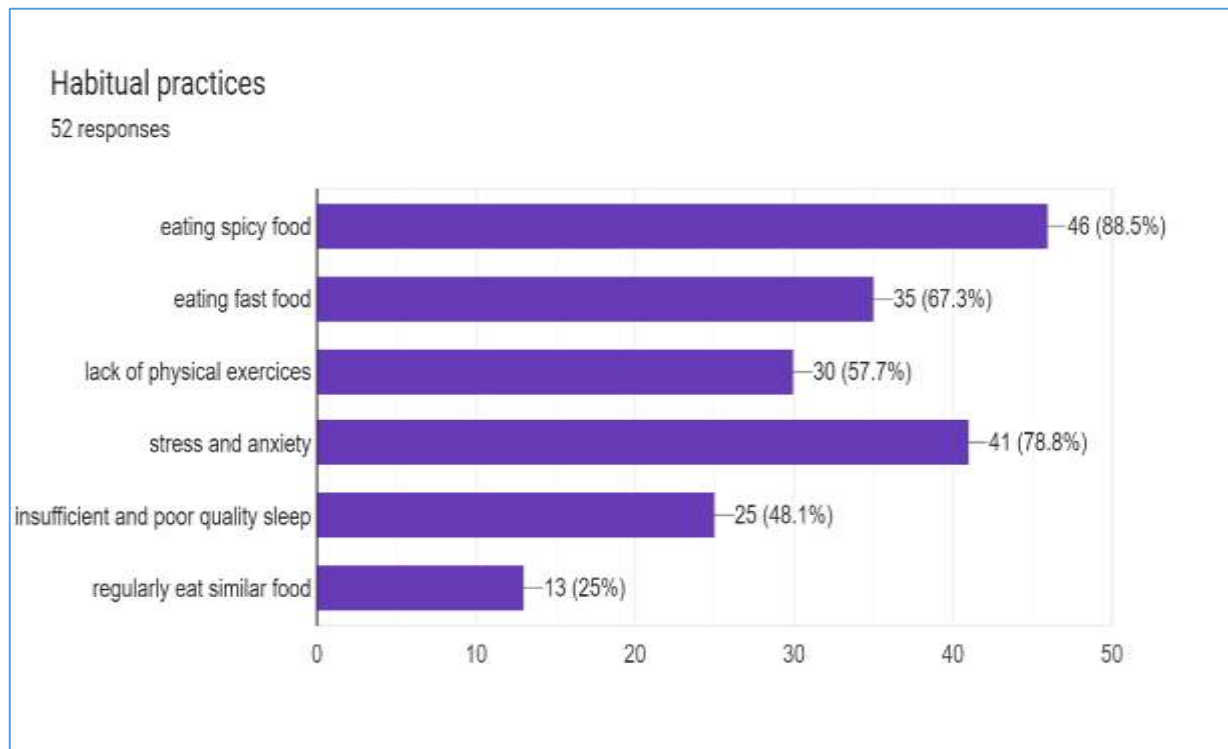


Figure 4. Characterization of the conditions favoring the occurrence of dyspeptic syndrome in the examined students

## CONCLUSIONS

According to the study's findings, food and habits are linked to a high frequency of dyspepsia among Indian medical students. Medical investigation of those with dyspeptic syndrome would be necessary, and in the case of detection of organic pathologies, adequate drug treatment is necessary. To lower the prevalence of dyspepsia among medical students, strategies that encourage good eating practices, regular physical exercise, stress management, and regular meal schedules should be implemented in practice.

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## Conflict of Interest Statement

The authors report no conflicts of interest.

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