International Journal of Multidiscipline

Prevalence and Correlates of Depression, Anxiety, and Stress among Undergraduate

Divyansh Kumar¹, Maxamatjanova N.M.², Kritika Bakna³
A Cross-Sectional Study Using DASS-21
¹ Third-year Medical Student, Tashkent State Medical University
² Senior Lecturer at the Neurology and Medical Psychology Department, PhD
³ Third-year Medical Student, Tashkent State Medical University
Corresponding author
Divyansh kumar
E-mail: Dr.divyanshkr@gmail.com

Abstract

Background: Medical students are usually subjected to intense academic and emotional demands, which predispose them to psychological distress. Their well-being and academic performance are negatively impacted by depression, anxiety, and stress, which are now major concerns.

Objective: To find out prevalence and correlates of depression, anxiety and stress among undergraduate medical students by using Depression Anxiety Stress Scale – 21 (DASS-21).

Methods: A cross-sectional survey was conducted among undergraduate medical students using an anonymous online questionnaire that included the DASS-21 scale. The voluntary participation was estimated to be 349-350 students. Descriptive statistics in distributions were analyzed to assess patterns of psychological distress in the domains of depression, anxiety, and stress.

Results: Stress-related symptoms were the most prevalent group of signs, with difficulty in relaxing, irritability and agitation, and excessive nervous energy standing out as the most prevalent among the respondents. Anxiety manifestations like palpitations, trembling, breathlessness, and fear of panic were also common. Symptoms of depression, such as low mood, lack of enthusiasm, and reduction in positive affect, are also present but only at moderate levels. Psychological distress was predominant, with stress being the major domain with manifestations observed in most of the cases, followed by anxiety and depression.

Conclusion: levels of psychological distress are exhibit substantially in undergraduate medical students, including academic pressure, anxiety related to their performance and emotional exhaustion. It is necessary to have routine mental health screening and institutional support mechanisms in place to promote the mental well-being of students.

Keywords: Depression; Anxiety; Stress; Medical Students; DASS-21; Mental Health; Cross-Sectional Study

Introduction

Medical school can feel overwhelming. Between the endless lectures, constant exams, and hands-on clinical work, students are under pressure from every direction. It's no surprise that a lot of them struggle with their mental health.

Depression, anxiety, and stress show up again and again as common problems for medical students around the world. These issues don't just make you feel bad—they mess with your ability to concentrate, hurt your grades, and can even get in the way of becoming the doctor you want to be. The World Health Organization even points to depression and anxiety as top reasons young adults worldwide find themselves struggling, especially in tough academic settings.

To really get a handle on how much these problems affect medical students, researchers often use the Depression

Vol 3. Issue 2 (2026)

Anxiety Stress Scale-21 (DASS-21). It's a simple tool, but it gives a good snapshot of how students are doing mentally. If we want to improve things—make the academic environment healthier, or set up support programs that actually help—we need to know the full picture.

That's what this study set out to do: find out how common depression, anxiety, and stress are among medical students, and what factors might be connected to them, all measured with the DASS-21.

Materials and Methods

Study Design and Participants

The team ran a descriptive cross-sectional study using an online survey. They invited medical students from all years, hoping to capture the full range of experiences. Everyone who took part did so voluntarily, and their answers stayed anonymous. In the end, about 349 to 350 students filled out the survey completely, so those responses made up the final data.

Data Collection Tool

The survey itself had two main parts:

- Basic questions about each student's background and academics
- The DASS-21 scale—a set of 21 questions that measure depression, anxiety, and stress, with each item scored from 0 ("did not apply at all") to 3 ("applied very much")

Ethical Considerations

Before starting, everyone gave informed consent. The survey didn't ask for names or anything that could identify someone. Privacy was a priority throughout.

Statistical Analysis

Researchers looked at the data descriptively, checking how students' answers spread across the different DASS-21 categories. They used these patterns to see how common depression, anxiety, and stress were in the group.

Results

Participant Overview

Roughly 350 medical students finished the survey, answering every question. The

consistency in their responses added confidence to the results.

Stress Domain

Stress topped the list. Many students said they struggled to relax, felt irritable most days, and carried a nervous energy that just wouldn't quit. Overreacting to small problems and being unable to unwind after class were common themes—clear signs of ongoing psychological strain.

Anxiety Domain

Anxiety was right up there, too. Students described racing hearts, trouble breathing, trembling, and a dread of panicking in front of others—especially during exams or evaluations. Academic performance anxiety was a big deal.

Depression Domain

Depression showed up at moderate levels. Some students talked about low moods, losing interest in things that used to excite them, or feeling pessimistic about what's ahead. A few even mentioned feeling emotionally drained or worthless.

Overall Psychological Distress Pattern

Pulling all the results together paints a clear picture:
- Stress symptoms dominated
- Anxiety was also widespread
- Depression was moderate, but still mattered

It's obvious that medical students are carrying a heavy psychological load.

Discussion

This study makes it clear: depression, anxiety, and especially stress are widespread among medical students. Stress stands out as the biggest **issue,** followed by anxiety, then depression—pretty much in line with what other international studies have found. The relentless pace, constant exams, and lack of downtime seem to drive the high stress levels. Anxiety appears closely tied to fear of failure and huge expectations, while the moderate depression likely builds up over time as these pressures pile on.

Conclusion

This study concludes that depression, anxiety, and stress are highly prevalent among undergraduate medical students, with stress being the most prominent psychological concern. Anxiety symptoms are also widely reported, while depressive symptoms are present at moderate yet clinically significant levels. Academic pressure, performance-related fears, and emotional fatigue appear to be major correlating factors contributing to psychological distress in this population.

Recommendations

Routine mental health screening using validated tools such as DASS-21.

Establishment of confidential counseling and psychological support services within medical institutions.

Implementation of stress management and resilience training programs.

Promotion of healthy lifestyle practices, including adequate sleep, physical activity, and balanced academic schedules.

Development of peer-support systems to reduce stigma and encourage help-seeking behavior.

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