



**Libyan International Medical University  
Faculty of Basic Medical Science**

**Effect of Stress on Academic Performance of Undergraduate Medical  
Students**

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**Abstract :**

Medical education is perceived as being stressful, and a high level of stress may have a negative effect on cognitive functioning and learning of students in a medical school. Medical students experience stress during their academic years. This stress is related to financial issues, health problems, social issues and academic difficulties. Stress can either negatively or positively influence academic achievement . Chronic stress among medical students affects academic performance of students and leads to depression, substance use, and suicide (1)(2)(3)

**Introduction :**

Stress refers to the “sum of physical, mental and emotional strains or tensions on a person” . It is defined as a condition typically characterized by symptoms of mental and physical tension or strain as depression or hypertension, which can result from a reaction to a situation in which a person feels threatened or pressured or both .The stress which enhances function (physical or mental, such as through strength training or challenging work) is called eustress, while persistent stress that is not resolved through coping or adaptation and may lead to anxiety or withdrawal (depression) behavior is known as distress . Medical training is identified as full of stress and it is also observed that students undergo tremendous stress during various years of medical training. In many medical schools, the environment itself is an all prevailing pressure situation, providing an authoritarian and rigid system, one that encourages competition rather than cooperation between learners . It is not just the undergraduate study period which brings stress but it may continue during the internship, postgraduate study period, and later into physician's practical life . The stress may also reach burnout levels (1)(2)

**Discussion :**

A high prevalence of stress among medical students is a cause of concern as it may impair behavior of students, diminish learning, and ultimately affect patient care after their graduation . findings of the present studies were that the level of stress decreased as the year of study progressed. The highest prevalence of stress was observed in first year students. This was because first year students started living in a new environment away from their family (1). This finding is in agreement with results of studies . studies did not show any association of stress with grade point average (academic grade) and regularity of attendance in the courses. However, stress was significantly associated with the students' perception of physical problems(2). The studies indicate that there is a relationship between stress and academics; they are inversely proportional to each other. Medical education is perceived as being stressful and a high level of stress may have a negative effect on cognitive functioning and learning of medical students . Females in our study demonstrated more stress as compared to male students(3) The possible reasons for the variability in the levels of stress could be due to certain differences in the curricula, teaching facilities, qualification and experience of the instructors, and the levels of care given to the students . all studies showed that : Academic Related Stressor (ARS) , Teaching and Learning Related Stressor (TLRS) are the most common sources to stress among medical student . Among alcohol user students in the present study, 74.3% had stress symptoms. Alcohol drinking predisposes students to stress. Alcohol largely affects the brain

and the endocrine system. There is a strong association between alcohol drinking and high level of cortisol, which is a stressor hormone. Alcohol is both a sedative and a depressant that affects the central nervous system. Alcohol changes levels of serotonin and other neurotransmitters in the brain. This can make stress worse <sup>(1)</sup>

### **Methods & results:**

1- The study was conducted at Jimma University main campus Ethiopia . A cross-sectional self-administered questionnaire survey was conducted on a sample of 329 medical students . Data collection was done using the General Health Questionnaire with 12 items (GHQ-12) {tools to screen psychiatric problems such as stress}, Medical Students Stress Questionnaire with 20 items (MSSQ-20){ used to identify sources of stress of medical students and it measures severity of stress}, and Drug Abuse Surveillance Test (DAST). There were 317 complete responses from the total of 329 sampled students The proportion of medical students who had symptoms of stress, according to the cutoff point of the General Health Questionnaire (GHQ-12), was 52.4%. The current prevalence of the stress among different batches of medical students (1st to 6th year students) was 58.3%, 57.0%, 48.9%, 56.6%, 50.0%, and 25.0%, respectively. academic related stress (ARS) was the leading cause of stress on students , teaching and learning related stressor (TLRS) and desire and drive related stressor (DDRS) were the second and third causes of stress. Concerning the association between substance use and stress, cigarette smoking, and alcohol drinking were common practices among students who had stress as presented. <sup>(1)</sup>

2-All the male and female medical students in the five academic years of the College of Medicine, King Saud University, were invited to complete the bilingual (Arabic and English) version of the K10 self-administered {measure the level of stress and severity associated with psychological symptoms in population surveys}, during the 2007-2008 academic year. In total, 775 (87%) of approximately 892 students completed the questionnaire. The prevalence of stress of all levels was about 63.8%, and the prevalence of severe stress was 25.2% . The proportion of female students who had stress was higher (75.7%) than their counterpart males (57%). The prevalence of stress was the highest among the first-year students (78.7%), followed by the second-year (70.8%), third-year (68%), fourth-year (43.2%), and fifth-year students (48.3%). There was a high significant association between the study year and the stress levels . There was no significant association between the regularity of attendance in the academic course (yes/no) and the level of stress among the students . The main sources of stress stated by the students were coping with their studies (60.3%), followed by home environment (2.8%). However, 36.9% of the students did not mention any source of stress. <sup>(2)</sup>

3-The study was conducted at Sheikh Zayed Medical College, Rahim Yar Khan, Pakistan. The Institutional Ethics Committee of Sheikh Zayed Medical College, Rahim Yar Khan approved the study. All undergraduate third year medical students were invited to participate in the study. Respondents were asked to rate each source by choosing from five responses, causing no stress at all , causing mild stress, causing moderate stress , causing high stress and causing severe stress. A total of 200 undergraduate medical students participated in the study. Among them 90 (45%) were males and 110 (55%) were females. stress before and after exam Before 79.73 % After 67.42 % . Academic Related Stressor (ARS) (87.3%) Teaching and Learning Related Stressor (TLRS) (86.5%). <sup>(3)</sup>

**Conclusion :**

Undergraduate medical students experience considerable stress in their third year. Academic related factors are the major cause of stress in students stress is a common problem among medical students. Year of study , cigarette smoking, and alcohol intake were identified as risk factors of stress. The initial three years of the courses were more stressful for students than the last two years of the courses . High level of stress was negatively implicated on academic performance. The findings of the studies suggest that the level of psychosocial stress was higher in the female students compared to the male students . Awareness creation about the adverse effect of substance use, academic counseling in the first three years of the courses, and stress reduction interventions were recommended.

**Reference :**

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