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ORIGINAL RESEARCH

ASSESSMENT OF CORRELATION OF STRESS AND SUBSTANCE ABUSE AMONG MEDICAL STUDENTS

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Abstract:
Background: Stress is a term frequently used in a variety of social, academic and employment settings. The present study was conducted to assess correlation of stress and substance abuse among medical students.
Materials & Methods: 390medical students of both genders were enrolled. All were subjected to perceived stress scale (PSS), perceived academic stress scale (PASS), drug abuse screening test (DAST-10) and the alcohol use disorders identification test (AUDIT).
Results: Out of 390 subjects, males were 170 and females were 220. The mean PSS score was 21.3, PASS score was 38.5, AUDIT score was 8.3 and DAST score was 2.9. There was a positive correlation of PSS and PASS with the AUDIT and DAST score respectively ($P< 0.05$).
Conclusion: There was high levelsof prevalence of stress and drug use/abuse among medical students.
Key words: Stress, Medical education, Abuse

Introduction:

Stress is a term frequently used in a variety of social, academic and employment settings. Everyone needs a certain amount of pressure to perform at their best. However, when pressure exceeds a person's ability to cope, this results in stress. Moreover, stress can set up a cycle of distress and reduce ability to cope even in ordinary situations. In today's ultra competitive environment, students face more stress than ever, be it related to studying, examinations, or peer, teacher or parental pressure. University students, often experience undue amounts of stress, which can have negative academic, emotional and health outcomes.
Students frequently believe that they lack the necessary knowledge and skills to practise medicine. Students gradually gain increasing responsibility for patient care throughout the fifth and internship (sixth) years. Despite the fact that students are supposed to become more competent, they continue to feel incompetent and nervous. They learn to cope with their emotions by acting overconfident at times, striving to read "everything," and challenging

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everyone. As a results, medical students all throughout the world experience a lot of stress. Medical students from throughout the world have been reported to be at risk for psychological stress, mental illnesses and a reduction in life satisfaction.The present study was conducted to assess correlation of stress and substance abuse among medical students.

Materials & Methods:

The present study comprised of 390medical students of both genders. The consent was obtained from all enrolled subjects.

Data such as name, age, gender etc. was recorded. All were subjected to perceived stress scale (PSS), perceived academic stress scale (PASS), drug abuse screening test (DAST-10) and the alcohol use disorders identification test (AUDIT).

Perceived Stress Scale (PSS) has10 items have been designed to tap how unpredictable, uncontrollable and overloaded, respondents find their lives. Score ranging from 0-4, 0 being never and 4 being very often. Perceived Academic Stress Scale (PASS) has 18 items, have five-point rating scale. Drug Abuse Screening Test (DAST-10): DAST scores range from 0-8 and the alcohol use disorders identification test (AUDIT) is a self-report scale with a 4-point scale. Scores ranging between 8 and 15. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

Results:

Table I Distribution of subjects

Total- 390		
Gender	**Males**	**Females**
Number	170	220

Table I shows that out of 390subjects, males were 170 and females were 220.

Table II Assessment of scoring scales

Scoring scales	**Mean**	**SD**
PSS	21.3	5.4
PASS	38.5	11.2
AUDIT	8.3	5.6
DAST	2.9	1.6

Table II, graph I shows that mean PSS score was 21.3, PASS score was 38.5, AUDIT score was 8.3 and DAST score was 2.9.

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Graph I Assessment of scoring scales

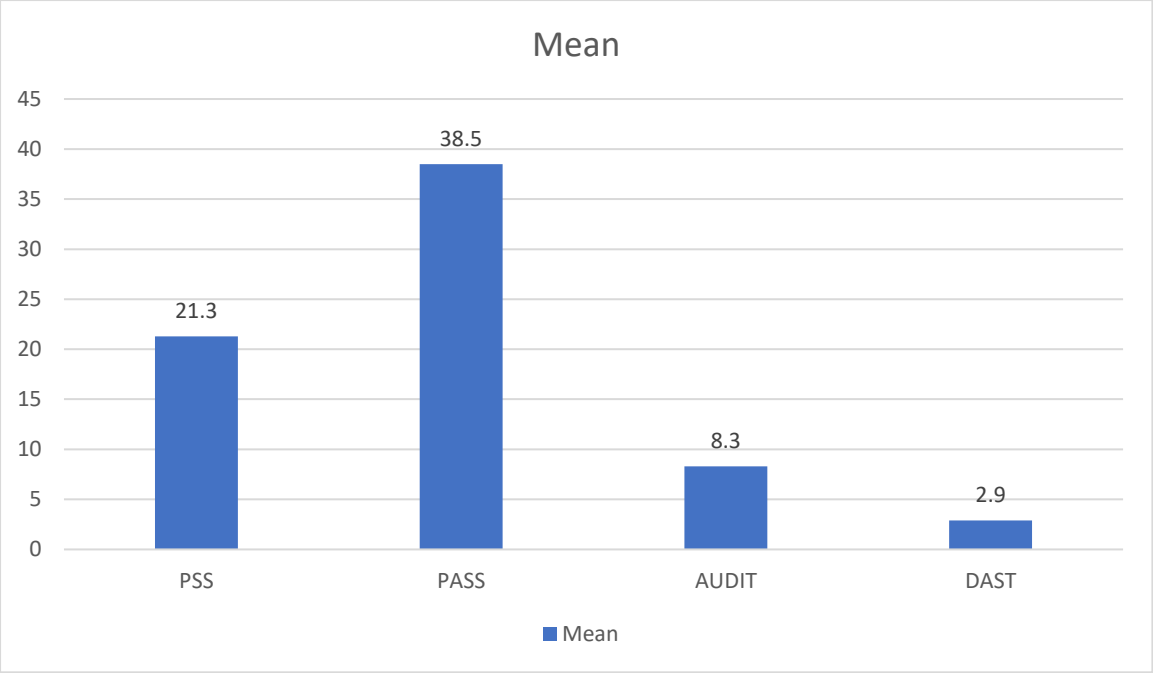

Table III Correlation of PSS and PASS with the AUDIT and DAST score

Scoring	PSS		PASS	
	r	p	r	p
AUDIT	0.36	0.01	0.46	0.03
DAST	0.30	0.02	0.38	0.02

Table III shows positive correlation of PSS and PASS with the AUDIT and DAST score respectively (P< 0.05).

Discussion:

University students face multiple stressors such as academic overload, constant pressure to succeed, competition with peers and in some countries financial burden as well as concerns about the future. As all this may lead to psychopathology, the health of university students, especially healthcare students, has been the subject of increasing focus in recent years. The present study was conducted to assess correlation of stress and substance abuse among medical students.

We found that out of 390 subjects, males were 170 and females were 220. Tavolacci et al determined the prevalence of main substance use and behavioral addictions among students

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in higher education in France and to examine the relationship with perceived stress.A self-administered questionnaire was filled out by university student volunteers from Upper Normandy (France) either by anonymous online questionnaire or by paper questionnaire. Data collected included socio-economic characteristics, Perceived Stress Scale (PSS), substance use (tobacco, alcohol, and cannabis) and hazardous behaviors: alcohol abuse problems, smoking, consumption of cannabis, eating disorders, and cyber addiction.A total of 1876 students were included. Mean PSS score was 15.9. Highly stressed students (4th quartile) were compared with lesser stressed students (1st quartile). A positive relation was observed between female gender, regular smokers, alcohol abuse problems, risk of cyberaddiction and especially eating disorders and increasing PSS score. PSS score however, was not significantly related to the curriculum, regular alcohol use, drunkenness or binge drinking even after additional controlling for use of other substances. We found a significant negative association between stress and practice of sport: students with the most physical activity were less likely to report perceived stress

We found that the mean PSS score was 21.3, PASS score was 38.5, AUDIT score was 8.3 and DAST score was 2.9. Sharma et al[14] in their study a total 200 undergraduate medical students were recruited. The stress level was analysed using perceived stress scale (PSS) and perceived academic stress scale (PASS). Substance abuse was analysed using drug abuse screening test (DAST-10) and alcohol use disorders identification test (AUDIT). A significantly high correlation was found in the stress level and substance abuse among undergraduate medical students. PSS exhibit correlation of 0.3589 with AUDIT and 0.3194 with DAST. PASS exhibit correlation of 0.4760with AUDIT and 0.3775with DAST.

There was a positive correlation of PSS and PASS with the AUDIT and DAST score respectively ($P< 0.05$). Benbassat J et al[15] found evidence of moderate rates of Internet use in the healthcare sector among adult internet users, as well as moderate effects of the Internet on the knowledge of users. Internet is clearly an important tool with the potential to improve information dissemination. The Internet is a means of transmitting information on health. The rise in popularity and possibilities of the Internet has led to a revolution in the provision of health-related information and treatment. While the health sector has primarily employed the Internet as a psycho-educational portal, advances in interactive technology have increased the potential of the medium to deliver targeted health interventions and other behavior change programs.

The body responds to stress by secreting stress hormones into the circulation. Overproduction of the stress hormone cortisol has a deleterious impact on memory. Cortisol affects the hippocampus, prefrontal cortex and amygdala in particular. Because it possesses numerous receptors that are sensitive to cortisol, the hippocampus controls cortisol production through a negative feedback process under normal conditions. Excess cortisol, on the other hand, affects the hippocampus' capacity to both encode and remember memories in the case of chronic stress.[16]

Conclusion:

Authors found that there was high levelsof prevalence of stress and drug use/abuse among medical students.

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