



CODEN [USA]: IAJ PBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1319067>Available online at: <http://www.iajps.com>

Research Article

**PRIVATE MEDICAL STUDENTS AND THE FACTORS OF
ANXIETY, DEPRESSION AND STRESS: A CROSS-SECTIONAL
RESEARCH ABOUT THE PSYCHOLOGICAL ISSUES**¹Dr. Tooba Sohail, ²Dr. Mohammad Ahmed Imran, ²Dr. Shoukat Ali¹Aziz Bhatti Shaheed Teaching Hospital, Gujrat²Lahore general hospital**Abstract:**

Objective: To identify the frequency of depression, stress and anxiety amongst medical profession students (undergraduates) and mechanism to cope these psychological issues.

Methods: This study is cross sectional in nature. The location of this study was Services Hospital, Lahore (November, 2016 to September, 2017). The students attended the campus for at least 6 months. For assessment of depression, stress and anxiety, we utilised two stress, depression and anxiety measurement scales.

Results: The sample size was 283 students. Both scales labelled them highly stressed as they scored greater than the cut off on each scale. Students from MBBS and SONAM were less stressed as compared to dental hygiene program students. Factors responsible for these issues were such as home sickness, meeting the expectations of the family for better performance in the academics, pressure to pass exam etc.

Conclusion: Depression, stress and anxiety are rampant amongst medical undergraduate students. Proper knowledge and awareness, timely management and recognition of such issues can prevent the students from falling a prey to such problems and thus leading them to improve not only quality of life but also academic grades.

Keywords: Depression, University Students, Medical Education, Mental health of students.

*** Corresponding author:****Dr. Tooba Sohail,**Aziz Bhatti Shaheed Teaching Hospital,
Gujrat

QR code



Please cite this article in press Tooba Sohail et al., *Private Medical Students and the Factors of Anxiety, Depression and Stress: A Cross-Sectional Research about the Psychological Issues.*, Indo Am. J. P. Sci, 2018; 05(07).

INTRODUCTION:

The perception of incongruity between the demands of environment and capacities of individuals to meet those demands is termed as Stress. When an individual confronts a scenario appearing overwhelming to tackle is the cause of stress occurrence [1]. Favourable stress is useful in some circumstances as it increases function of brain. When this stressful situation continues and seems difficult to tackle, it is termed as distress [2]. Stress can trigger depression or anxiety, other psychological complications and medical problems i.e. poor wound healing and blood pressure [3]. Medical education has become increasingly demanding nowadays. Similarly, it is posing serious threats to the medical students. Co curricular activities are compromised owing to the workload of the studies. Researchers have validated medical student's fact about stress than the other students [4].

Undergraduate programs which are offered at Aga Khan University are midwifery, nursing, medicine and related profession of health. In the light of international curriculum standards in these programs, evaluation and engagement of the students are ensured. Students are not only imparted academic curricula but their professional grooming is also taken care of. Various factors can be causes of stress i.e. peer pressures, academic demands, financial constraints, choosing career and time management etc [4, 5]. Prevalence of stress in many countries nowadays. Malaysia is estimated to have 41.9 percent, Thailand 61.4 percent and British universities 31.2 percent [6 – 8]. We aimed at the identification of frequency of depression, stress and anxiety amongst medical profession students (undergraduates) and mechanism to cope these psychological issues.

METHODS:

This study is cross sectional in nature. The location of this study was Services Hospital. Lahore (November, 2016 to September, 2017). The recruited students were all students of MBBS (from 1st year to 5th year) and students of Diploma in dental hygiene (from 1st to 2nd year). These students had attended the campus for at least six months. Individuals who were suffering from depression or having medicines for any such issue were dropped from the study. Approval from the concerned agency was granted. Students were disseminated via an email/ sms about the aim of the study. Their written consent was received for the study. They were informed that their anonymity and confidentiality will not be compromised. Distribution of the questionnaires was done afterwards. Twenty minutes were an average

time to fill these two questionnaires. Demographic and Biophysical profiles of the respondents were obtained too such as year of education, age, height, weight and city of residence etc.

For the purpose of assessment of anxiety and depression, a validated and pretested scale was utilised known as “Aga Khan University Anxiety and Depression Scale”. The scale consisting of twenty-five items (twelve somatic and thirteen psychological) was purely developed to be used for local population. Scale of zero to three was used for the indications of symptoms severity. A scale of 19 was a cut-off for anxiety with eighty one percent of specificity, seventy four percent of sensitivity, eighty eight percent of negative predictive value and sixty three percent of positive predictive value [9-11]. In addition to this, another self reported and validated questionnaire (“the Student-Life Stress Inventory”) was utilised for the stressors' assessment [12]. This questionnaire was a 51-item questionnaire. It contained 09 categories i.e. 04 reactions to stressors and 05 stressors). These 05 stressors are self-imposed, conflicts, changes, frustrations and pressures. Four stress reactions were cognitive appraisal, behavioural, physiological and emotional. While responding to “Student-Life Stress Inventory”, respondents, at first, asked to report about an overall stress view (mild, moderate, severe respectively from 1, 2 and 3). Then they were instructed to rate every of the fifty-one items on a 5-point “Likert scale” i.e. one=never, two=seldom, three=occasionally, four=often, five=most of the time. Addition and record of the values for first 08 categories were also performed. Last category values were reversed, at first, and then they were added and recorded accordingly. In order to have the overall inventory scores, addition of the recorded values for 9 categories was executed. Finally, in order to detect the coping approaches of the various stressors, an open-ended question was framed on the questionnaire.

The least size of sample was n=196 to acquire a power of ninety five percent with a fifteen percent approximate anxiety/ depression prevalence and a dual sided five percent significance level. Nonetheless, n=283 students were registered in our research. Storage of data carried out. Its analysis was executed with the use of SPSS. Percentages and count were given for study years and qualitative parameters. SD and mean were given for scores on scales, BMI and age. By using Tukye's test, additional post hoc analysis was executed. By using independent sample t-test, comparison between scores and gender was performed. To evaluate the

connection of these scores with other factors, spearman correlation of the rank was executed. For the verification of relationship amongst SONAM, DDH and MBBS students, Pearson chi square test was carried out (P-values < 0.05).

RESULTS:

A total of 283 students were enrolled in our research. BMI was normal. 61.48 % of the students were living in hostels. 38.3 percent were living in local surroundings. In MBBS, female to male ratio was identical. From SONAM, majority of male students participated. In contrast, female gender was dominant respondents from DDH program.

Fourteen percent medical school students have family history of depression. In DDH students, the percentage was 26.3. However, no such case was reported in SONAM. Our study findings have

revealed that the percentages of the failures cases were 21.1 in DDH, 53.3 in SONAM and 41.1 in MBBS.

In all the programs being in vogue at AKU, every student scored more than 19 on AKUADS. It reflects the trend of anxiety and stress comparatively higher than that of depression. When some students were asked; forty percent of SONAM, 36.8 percent of DDH and twenty percent of medical school students revealed that have mild depression. As far as student response about the stress, highest score was observed in the students of DDH than various other programs. Females were reported to have suffered from stress greater than the male gender.

Detailed outcomes analysis has been shown in the given tables and correspondent figures.

Table – I: Demographics of participants

Undergraduate Degree		Mean	± SD
MBBS (249)	Age (year)	20.91	1.99
	Weight (kg)	65.6	11.91
	BMI (kg/m ²)	22.5	3.05
SONAM (15)	Age (year)	22.53	1.8
	Weight (kg)	64	5.91
	BMI (kg/m ²)	22.09	1.513
DDH (19)	Age (year)	20.26	1.24
	Weight (kg)	57.32	14.35
	BMI (kg/m ²)	21.78	4.44

Table – II: Personal and Family triggers for anxiety/ depression

Family Triggers		MBBS		SONAM		DDH	
		N	%	N	%	N	%
Family history of depression	Yes	35	14	0	0	5	26.3
Are the family members receiving treatment	Yes	20	57	0	0	3	15
Level of activity	Sedentary	44	18	4	27	4	28.6
	Walk 3 times/week	95	38	8	53	5	35.7
	Walk 5 times/week	110	44	3	20	5	35.7
Have you failed an exam	Yes	102	41	8	53	4	21.1

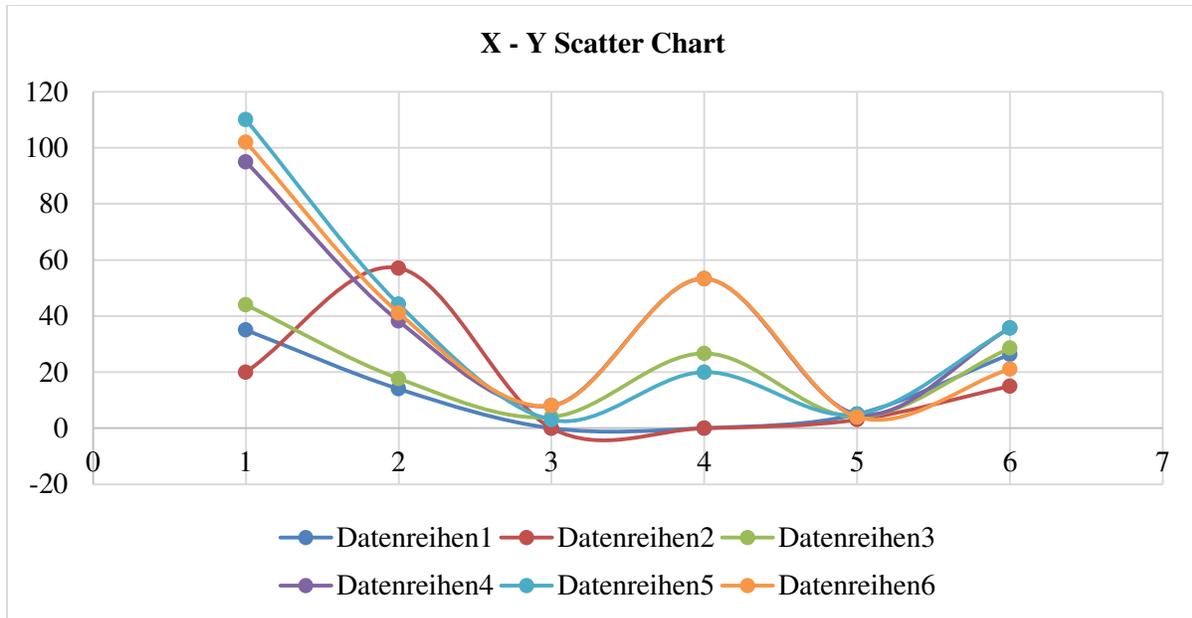


Table – III: AKUADS scores

AKUADS Score	Mean	± SD	p value
MBBS	47.92	5.97	0.145
SONAM	50.8	6.95	
DDH	46.89	6.18	

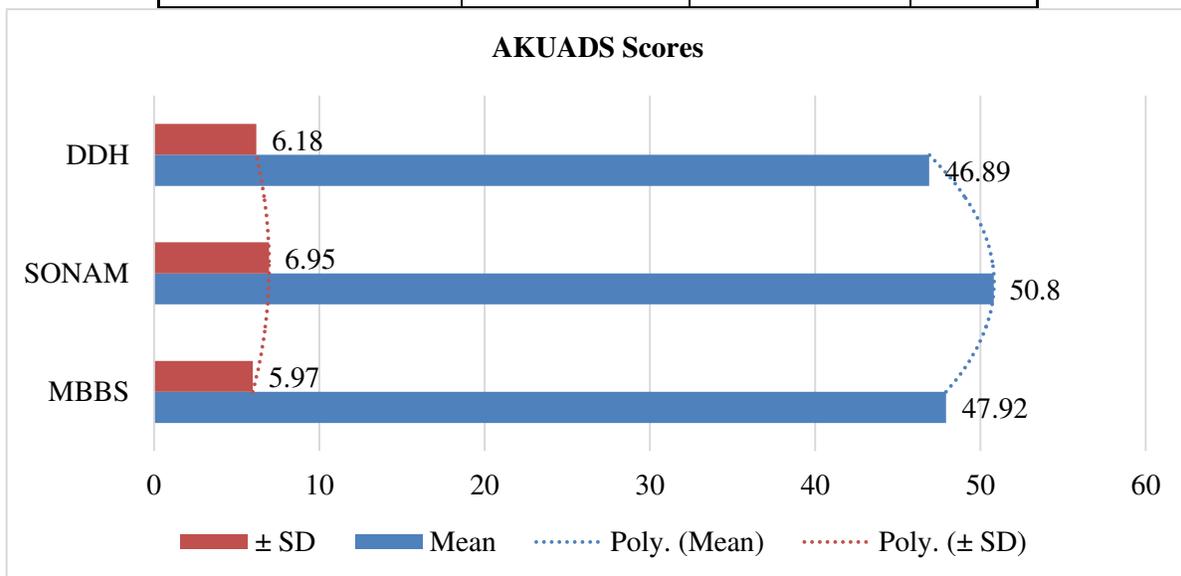
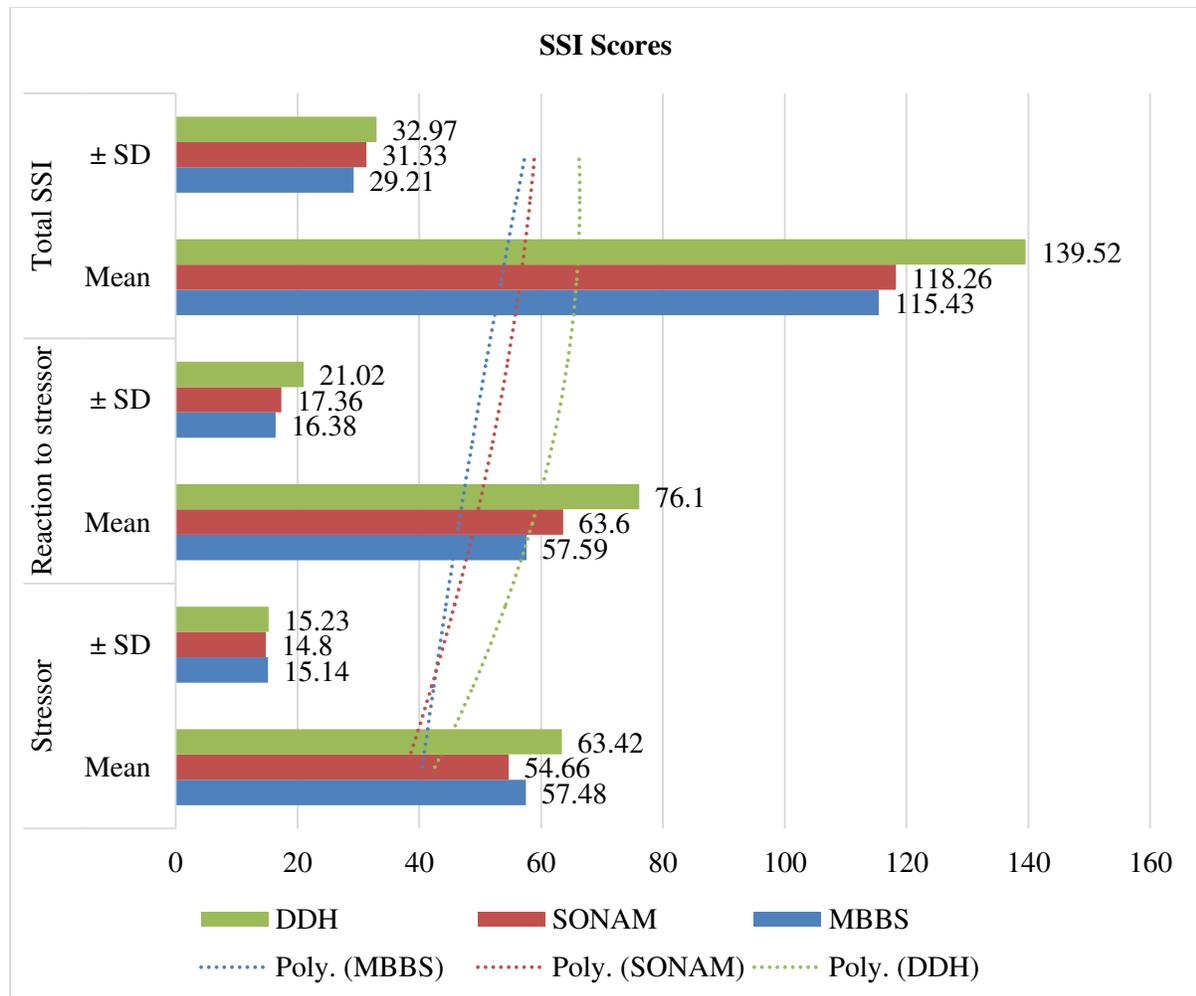
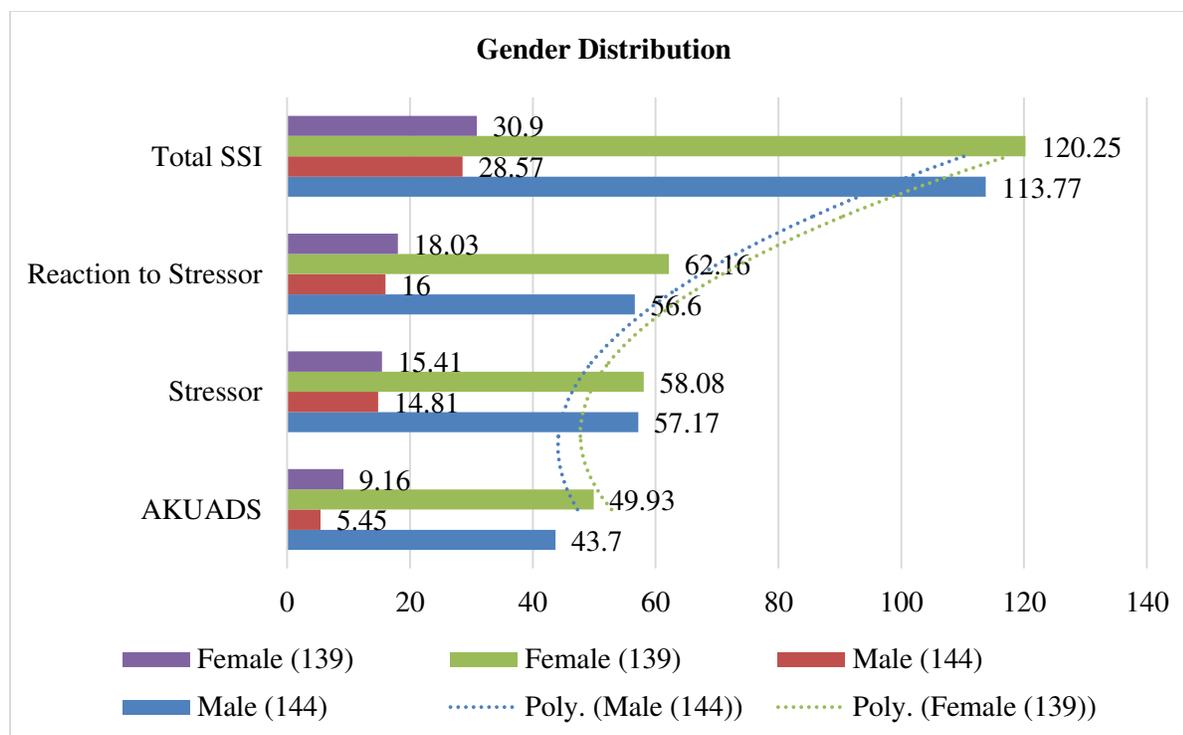


Table – IV: SSI Scores

SSI Scores	Stressor		Reaction to stressor		Total SSI		p value
	Mean	± SD	Mean	± SD	Mean	± SD	
MBBS	57.48	15.14	57.59	16.38	115.43	29.21	0.188
SONAM	54.66	14.8	63.6	17.36	118.26	31.33	0
DDH	63.42	15.23	76.1	21.02	139.52	32.97	0.003

**Table – V: Gender Distribution**

Gender Distribution	Male (144)		Female (139)		P-Value
	Mean	± SD	Mean	± SD	
AKUADS	43.7	5.45	49.93	9.16	0.003
Stressor	57.17	14.81	58.08	15.41	0.612
Reaction to Stressor	56.6	16	62.16	18.03	0.006
Total SSI	113.77	28.57	120.25	30.9	0.068



DISCUSSION:

Mental and emotional disturbances are part and parcel in medical studies. Medical students are expected to be proficient in the knowledge and skills pertaining to it. They have minimum time to relax. They experience not only competitive environment but also academic burden [4, 13, 15].

Our findings have revealed that all the students scored more than nineteen on AKUADS. It is the manifestation of changing severity of stress or anxiety presence amongst the students. Students conducted by various researchers have exhibited the prevalence of anxiety in medical students with varying percentages i.e. forty four percent [16], 45.5 percent [17], sixty percent [18], and 74.2 percent [19].

We observed a significant variation among boys and girls about the handling of various situations and their response to various situations; girls were more stressed than boys in the comparison.

Maximum respondents in our study were residing either with relatives or in a hostel (58.9 percent). Various factors may be traced out for stress issues in these students such as adjustment issues in a new place, socialisation and meeting new people. In addition, fourteen percent were identified to have family history of depression.

While filling the questionnaire, 20 percent have indicated the presence of depressed feelings. Many of these students were not under treatment and were self diagnosed. Later, we referred these cases for suitable treatment and counselling process. In females, SSI and AKUADS scores were considerably higher (120.25 and 49.9) as compared to males (113.7 and 43.7). In another Pakistani study conducted amongst female medical students has indicated that 19.5 percent were depressed and 43.7 percent were anxious [20]. Patriarchal society has marginalised female gender in many cases in Pakistan which have adverse psychological impacts. This reality may be enough to elucidate that females are suffering from anxiety, stress and depression in large numbers.

A significant aspect of our study has indicated that there was not a significant difference in the scores of AKUADS and SSI between the students from first year to five years. No doubt, there was prevalence of either stress or depression in every year but its difference was not noticeable enough. On the other hand, literature suggests that there is enhancement of stress or depression in proportionate throughout the years [21, 22]. A Lahore based study has revealed that lack of recreation, lack of sleep and lack of study life balance may be contributing factors of these psychological problems. There is a difference between other studies and study of ours as it has diverse kind of students who were participants in it. Other studies are confined to either MBBS or some

other medical program. In addition, this study has both identified the stressors/triggers and assessed the prevalence of these psychological issues. Former studies utilised the general form of questionnaire related to depression but we introduced an extra tool which was specially designed to assess the stress amongst the respondents.

A state of the art Sports and Recreation Centre has been developed at Aga Khan University. This provides opportunities to the stressed student to sweat out all the mental tensions. It also renders the facilities such as musical instruments, yoga and exercise machines. Various committees of the students have been formed to discuss the curricula related challenges and problems.

Initially, majority of the students stated that they were reluctant to avail any counselling service. However, with the passage of time, they felt the need of psychologists and faculty mentors provided by the university administration. They were of the opinion that study skill management and stress management sessions should be regularly planned and organised to curb the issues such as anxiety, stress and depression. Multi pronged strategy is the need of the hour to launch comprehensive strategies to help the medical students suffering from such curable ailments.

CONCLUSION:

Depression, stress and anxiety are rampant amongst undergraduate students in medical studies. Proper awareness, timely management and recognition of such issues can prevent the students from falling a prey to such problems and thus leading them to improve not only quality of life but also academic grades.

REFERENCES:

1. Hashmi AM, Aftab MA, Naqvi SH, Sajjad W, Mohsin M, Khawaja IS. Anxiety and depression in Pakistani medical students: a multi-centre study. *Health Med.* 2014;8(7):813-20.
2. Inam S, Saqib A, Alam E. Prevalence of anxiety and depression among medical students of private university. *J Pak Med Assoc.* 2003;53(2):44-46.
3. Rizvi F, Qureshi A, Rajput AM, Afzal M. Prevalence of depression, anxiety and stress (by DASS scoring system) among medical students in Islamabad, Pakistan. *Br J Med Med Res.* 2015;8(1):69-75.
4. Rab F, Mamdou R, Nasir S. Rates of depression and anxiety among female medical students in Pakistan. *Eastern Mediterranean Health J.* 2008; 14:126-133.
5. Cheung T, Wong SY, Wong KY, Law LY, Ng K, Tong MT, et al. Depression, anxiety and symptoms of stress among baccalaureate nursing students in Hong Kong: a cross-sectional study. *Int J Environ Res Public Health.* 2016;13(8):779. doi:10.3390/ijerph13080779
6. Macaskill A. The mental health of university students in the United Kingdom. *Br J Guidance Counselling.* 2013;41(4):426-441.
7. Jadoon NA, Yaqoob R, Raza A, Shehzad MA, Zeshan S. Anxiety and depression among medical students: a cross-sectional study. *J Pak Med Assoc.* 2010;60 (8):699-702.
8. Saipanish R. Stress among medical students in a Thai medical school. *Med Teach.* 2003;25(5):502-506. doi:10.1080/0142159031000136716
9. Sherina M, Rampal L, Kaneson N. Psychological stress among undergraduate medical students. *Med J Malaysia.* 2004;59(2):207-211.
10. Ali BS. Validation of an indigenous screening questionnaire for anxiety and depression in an urban squatter settlement of Karachi. *J Coll Physicians Surg Pak.* 1998; 8:207-211.
11. Ali BS, Reza H. Development of an indigenous screening instrument in Pakistan: the Aga Khan University Anxiety and Depression Scale. *J Pak Med Assoc.* 1998; 48:261-265.
12. Khan MS, Mahmood S, Badshah A, Ali SU, Jamal Y. Prevalence of depression, anxiety and their associated factors among medical students in Karachi, Pakistan. *J Pak Med Assoc.* 2006;56(12):583.
13. Gadzella BM. Student-life stress inventory: Identification of and reactions to stressors. *Psychological Reports.* 1994;74(2):395-402.
14. Muzafar Y, Khan HH, Ashraf H, Hussain W, Sajid H, Tahir M, et al. Burnout and its Associated Factors in Medical Students of Lahore, Pakistan. *Cureus.* 2015;7(11): e 390. doi: 10.7759/cureus.390
15. Yusoff MSB, Rahim AFA, Yaacob MJ. Prevalence and sources of stress among Universiti Sains Malaysia medical students. *The Malaysian journal of medical sciences: MJMS.* 2010;17(1):30.
16. Wolf TM, Kissling GE. Changes in life-style characteristics, health, and mood of freshman medical students. *J Med Educ.* 1984.
17. Saravanan C, Wilks R. Medical students' experience of and reaction to stress: the role of depression and anxiety. *Sci World J.* 2014;2014. doi: 10.1155/2014/737382
18. Joseph E. An assessment of academic stress among undergraduate students: The case of University of Botswana. *Educ Res Rev.*

- 2009;4(2):63.
19. Cohen BE, Edmondson D, Kronish IM. State of the art review: depression, stress, anxiety, and cardiovascular disease. *Am J Hypert.* 2015;28(11):1295-1302.
 20. Solanky P, Desai B, Kavishwar A, Kantharia S. Study of psychological stress among undergraduate medical students of government medical college, Surat. *Int J Med Sci Public Health.* 2012;1(2):38-42.
 21. Hoe D, Wah C, Rian C, Eliza Au E, Goud B, Kamath U. Stress manifestations of medical students and its relation with gender and life style changes. *Int Med J Stud Res.* 2012; 2:37-45.
 22. Elias H, Ping WS, Abdullah MC. Stress and academic achievement among undergraduate students in Universiti Putra Malaysia. *Procedia-Soc Behav Sci.* 2011; 29: 646-655.doi: 10.1016/j.sbspro.2011.11.288.