Perceived Sources of Stress Among The Students Of a Medical College Of Southern Punjab

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Abstract

Objective: To assess the frequency of perceived sources of stress among undergraduate dental students.

Methodology: The cross-sectional study was carried out at a superior college, Multan. Sample size 125 was calculated with 80% power of test and 5% level of significance with 91% high level of stress. The collection of data was based on two components: a list of 14 items, a perceived stress scale, and demographic information and academics. Data was entered and analyzed in SPS V25.0.

Results: A total of 125 students were included. The mean age was 21.25 ± 1.25. There were 61(48.8%) male and 64(51.2%) female. The response rate in this study was 83% (125/150). The mean PSS score was 30.88+13.2 with a median of 29.0 (IQR 22-39). The Mean PSS score for female students was 31.3+9.49 while the male students 30.3+16.34. The mean PSS score of less than 80% of the last exam marks for students was 32.9+10.9 and >80% of exam marks were 27.8+15.6. Only year of study, last exam marks for students and siblings were significant ($p < 0.05$) with PSS score; and the females reported significant levels of perceived stress than their male counterparts. Frequency of examinations, performance in practicals, disappointment with the lectures in class, lengthy academic curriculum, worries about the future & periodic examinations performance were rated as severe

Conclusion: The conclusion of the study, was that students reported higher levels of stress. Demographic factors play an essential role in medical student's stress. PSS stress scale was highly associated with demographic factors like Age, gender low exam marks and siblings can cause high stress levels among students.

Keywords: Perceived stress, Students, Sources of stress, Score.

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1. Introduction

Medical education can make students highly distressed and hurt their mental health and well-being. Most studies have revealed that medical students have high levels of anxiety, which include depressive symptoms,[1,2] and even suicidal ideations.[3] This emotional discomfort makes it difficult for the students to carry out their routine educational processes, evokes stress-induced disorders and performance declines.[4] Moreover, there has been a strong connection between perceived medical stress current mental distress and upcoming health problems. However, a few studies have been done about how stress impacts academic performance during medical school.[5]

Stressors have many types, which result in a negative effect on mental performance, academics and the learning process. According to past research, there are three main areas of academic, emotional and health-related stressors.[6] Many previous studies have shown the academic role, gender, marital status & age as potential stressors. Further, several studies have indicated that medical students have shown higher levels of stress, including the studies conducted in Arab1nations, including Egypt (60.0%),[7] Sudan (50.1%),[8] Lebanon (62.0%)[9] & Saudi Arabia (72.0%).[10,11] In an Indian study, this was indicated that out of 355.0, 323.0(91%) participants (91%) were experiencing high levels of stress.[12]

Keeping this in mind, the main aim of the current study is to evaluate the perceived stress, sources of stress, and the coping mechanisms used by undergraduate students, and to determine the association between perceived stress, sociodemographic factors, and different stressors, as

well as to propose suitable and contemporary solutions. Our findings are important enough for educators and institutional decision-makers to implement techniques that could reduce modifiable sources of stress & stressors.

2. Materials & Methods

This cross-sectional study was carried out at Superior Medical College, Multan. Students are being assessed after each module known as summative assessment. Further, Students have to take one to two, assessment tests during the module too. The exam is divided into two parts, theory and practical. The written exam consists of MCQs & short answer questions. The practical exam is different for pre-clinical and clinical years. For preclinical1years there is the objective1structured practical1exam (OSPE), and for clinical1years there is the objective structured clinical exam (OSCE). As a result, many assessment tools are being used.

There were 72 to 75 students in each class and we encouraged all second-year and third-year students to participate in this research. However, only 125 students returned the questionnaire. The sample size 125 was calculated with 80% power of the test and 5% level of significance with 91% high level of stress. The participants were chosen by convenience sampling from each class, and the data were gathered using a bilingual anonymous self-administered questionnaire. After obtaining approval from the hospital ethical committee, demographic data like age, residence, number of siblings and father's annual income were noted.

The stressors that were included in the study questionnaire were derived from studies that had been previously published.[11,12] It includes 331 stressors, categorised as academic, health-related and psycho-social. For each potential stressor the frequency of occurrence was classified as never, rarely, sometimes, often and always, and these were scored as 1, 2, 3, 4 and 5, respectively. The severity rating used a Likert scale (1–10), which ranges from not severe to very severe. The students were required to indicate if they had been affected by any of the stressors

An already validated and reliable Perceived Stress Scale (PSS-14) for measuring perceived stress. The reliability of PSS is 0.85 (Cronbach's coefficient) with a test-retest

reliability during a short retest interval (several days) of 0.85.[20] The fourteen items on the PSS-14 are divided into seven positive and seven negative ones, expressing perceived self-efficacy. The positive items are 4, 5, 6, 7, 9, 10, 13, and the negative ones are 1, 2, 3, 8, 11, and 14. On a five-point Likert scale (0 = never to 4 = very often), each item was scored. Total PSS-14 scores can vary from 0 to 56. A greater score on this scale indicates more stress, whereas a lower value indicates low stress. In this research, the prevalence of stress was found to be 51.2% Fig: 1 by taking the 28 PSS score as the cut-off value between the stressed and the unstressed students.

We also measured the academic progress of the participants by their performance in the last module examination. Demographic details like age, and marks in the last examination, father's annual income residence, number of siblings and year of study.

Data was entered and analyzed by using SPSS V 25. Perceived stress scales were presented as frequency and percentage. Quantitative variables like PSS. A group of stressors (i.e. academic, psychosocial and health-related) were presented as frequency and percentage. Independent sample t-test and one-way ANOVA test were used to observe the mean difference in PSS1 between demographic variables and groups of stressors. P value < 0.05 was taken as significant.

3. Results

A total of 125 students were included. The mean age was 21.25 ± 1.25. There were 61(48.8%) male and 64(51.2%) female. The response rate in this study was 83% (125/150). There were 70(56.0%) preclinical and 55(44.0%) from clinical years. Students came from the urban1areas was 107(856%) & from the rural1areas 18(14.4%). Only 21(16.8%) students were hostilities and 104(83.2%) day scholar. Out of 125, 75(60.0%) students had less than 80% marks while 50(40%) had greater than 80% marks. The number of siblings include, 88(70.4%) students with ≤5 siblings while 37(29.6%) students with> 5 siblings. Only 20(16.0%) students father had >20000 income. The mean PSS score of the student was 30.88±13.2 with a median of 29.0 (IQR 22-39) showing the student's response frequencies on,14-question survey instruments. Table 1

The respondent's academic sources of stress described as frequent/constant were frequency of examinations 80(64.0%), performance in examinations 55(44.0%), performance in practical's 59(47.2%), becoming a doctor 60(48.0%) and competition with peers 49(39.2%). The respondent's psychosocial stressors were described as difficulty in reading textbooks 35(28.0%), difficulty in the journey back home 71(56.8%), lack of personal interest in medicine 52(41.6%) and the respondent's health-related stressors described as sleeping difficulties 49(39.2%), physical disability 50(40.0%). Examination frequency, practical performance, dissatisfaction with class lectures, the duration of the academic curriculum & syllabus, future concerns or periodic examination performance were all rated as severe. Table: 2

Table: 1 Student responds to Perceived Stress scale

	Never (N%)	Almost never (N%)	Sometimes (N%)	Often (N%)	Very Often (N%)
In the last month, how often have you been upset because of something that happened unexpectedly?	4(3.2%)	15(12.0%)	45(36.0%)	33(26.4%)	28(22.4%)
In the last month, how often have you felt that you were unable to control the important things in your life?	11(8.8%)	20(16.0%)	43(33.6%)	30(24.0%)	22(17.6%)
In the last month, how often have you felt nervous and "stressed"?	3(2.4%)	4(3.2%)	34(27.2%)	45(36.0%)	39(31.2%)
In the last month, how often have you dealt successfully with day to day problems and annoyances?	20(16.0%)	38(30.4%)	47(37.6%)	17(13.6%)	3(2.4%)
In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?	21(16.8%)	37(29.6%)	42(33.6%)	20(16.0%)	5(4.0%)
In the last month, how often have you felt confident about your ability to handle your personal problems?	29(23.2%)	35(28.0%)	42(33.6%)	14(11.2%)	5(4.0%)
In the last month, how often have you felt that things were going your way?	10(8.0%)	29(23.2%)	58(46.4%)	19(15.2%)	9(7.2%)
In the last month, how often have you found that you could not cope with all the things that you had to do?	7(5.6$)	11(8.8%)	56(44.8%)	34(27.2%)	17(13.6%)
In the last month, how often have you been able to control irritations in your life?	3(2.4%)	16(12.8%)	60(48.0%)	28(22.4%)	18(14.4%)
In the last month, how often have you felt that you were on top of things?	6(4.8%)	18(14.4%)	42(33.6%)	48(38.4%)	11(8.8%)
In the last month, how often have you been angered because of things that happened that were outside of your control?	7(5.6%)	12(9.6%)	40(32.0%)	35(28.0%)	31(24.8%)
In the last month, how often have you found yourself thinking about things that you have to accomplish?	1(0.8%)	6(4.8%)	17(13.6%)	27(21.6%)	74(59.2%)
In the last month, how often have you been able to control the way you spend your time?	26(20.8%)	29(23.2%)	40(32.0%)	23(18.4%)	7(5.6%)
In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	12(9.6%)	25(20.0%)	45(36.0%)	22(17.6%)	21(16.8%)

The Mean PSS score for female students was 31.3±9.49 while the male students 30.3±16.34. The mean PSS score for a pre-clinical and clinical student was 28.3±12.07, 34.1±14.04. There was insignificant relationship between PSS score and gender (P<0.05). The mean PSS score of less than 80% of the last exam marks for students was 32.9±10.9 and >80% exam marks was 27.8±15.6. Using univariate analysis, only the year of study, and last exam marks for students and siblings were significant with PSS score (p < 0.05); As compared to their male students, the females reported high levels of perceived stress and only clinical and preclinical and siblings were significant relationship with PSS score (P<0.05). Table: 3

Table: 2 Students response to several sources of stress and perceived severity (rated in a Likert scale of 1–10) as reported by the students)

Sources of stress	Never/Rarely	Sometime	Often/Always	Median
Academic Sources				
Frequency of examination	22	23	80	5
Performance in examination	40	30	55	5
Academic curriculum	33	22	70	5
Dissatisfaction with class lectures	22	39	64	4
Non availability of adequate learning materials	46	32	47	4
Becoming a Doctor	44	21	60	3
Lack of time for recreation	52	30	43	2
Competition with peers	36	40	49	3
Performance in practicals	32	34	59	2
Lack of special guidance from faculty	60	24	41	4
Psychosocial stressors				
High parental expectations	50	29	46	4
Loneliness	44	34	47	3
Family problems	59	28	38	2
Accommodation away from home	56	37	32	1
Political situation in the country	42	32	51	5
Worrying about the future	40	24	61	2
Relations with the opposite sex	62	32	31	3
Difficulty in reading text books	44	46	35	2
Lack of entertainment in the institution and the city	43	40	42	2
Difficulty in the journey back home	12	42	71	2
Financila strain	65	28	32	3
Inability to socialize with peers	33	42	50	2
Living conditioned in the hostel	114	4	7	2
Member of fraternity or sorority	45	47	33	3
Lack of personal interest in medicine	53	20	52	2
Adjustment with roommate/s	103	7	15	3
Health Related stressors				
Sleeping difficulties	55	21	49	4
Class attendance	51	44	30	2
Nutrition	34	36	55	3
Exercise	53	35	37	2
Quality of food in mess	91	9	25	1
Physical disability	61	14	50	1
Alcohol/Drug abuses/Smoking	43	41	41	1

Table: 3 Comparison of PSS among different factors

Determinants	Frequency (%)	Mean	SD	P value
Gender				
Male	61(48.8%)	30.37	16.34	0.68
Female	64(51.2%)	31.3	9.49	
Year of study				
Preclinical	70(56.0%)	28.3	12.07	0.015
Clinical	55(44.0%)	34.1	14.04	
Living in				
Day Scholar	104(83.2%)	31.2	11.4	0.54
Hostellite	21(16.8%)	29.2	20.2	
Residence				
Urban	107(85.6%)	31.3	11.23	0.32
Rural	18(14.4%)	28	21.9	
Father income				
>20,000	63(50.4%)	32.6	12.6	0.21
10,000 to 20,000	42(33.6%)	29.9	14.06	
>20,000	20(16.0%)	27.05	12.9	
Last exam marks				
<80%	75(60.0%)	32.9	10.9	0.036
>80%	50(40%)	27.8	15.6	
Sibling				
<5	88(70.4%)	29.2	13	0.042
>5	37(29.6%)	34.7	13.1	

4. Discussion

There have been several studies around the world that focused on stress in medical students and results reported higher levels of stress (>50%) among medical students.[12-14] However, a stress level greater than 51.2% of students reported in this study was significantly larger than reported by other studies. High mean PSS scores have also been seen in studies of students at several medical colleges, similar to the high mean PSS score shown in the current study.[15,16]

When compared to students with siblings under 5 years, the mean score for students with siblings over 5 was significantly greater. Furthermore, compared to students who had less stress and received higher scores (80%), day scholar students experienced more stress than hostile students and those who performed poorly on the most recent exam. However, this study could not find significant differences in mean1PSS scores between gender, living in day scholar and hostilities, residence and significant differences with preclinical and clinical students, last exam marks and siblings.

There was no difference in the frequency of stress between clinical & preclinical students, according to a Malaysian study.[17] According to a 2018 study, test-failure students reported greater stress levels.[6] Our findings are similar to one study that reported no

significant difference in the frequency of stress between preclinical & clinical classes, urban or rural groups and family income.[18]

This study shows the sample proportion, 51.2% of the female, which was higher than the male 48.8 counterparts. The Mean PSS scores indicated significantly higher scores in female students than that of male students. Pakistani society is conservative by nature, and females are restricted from participating in extracurricular activities by society, which may be an appropriate explanation. However, according to Cohen, there was an insignificant difference in PSS-measured stress levels between males & females. Additionally, there may be a clash between personal and professional life, which could be stressful. In our study, the average stress score was significantly greater (p < 0.05) as compared to one study done in 2020.[19]

Academic stressors were more common among our participants in the current study. These findings agree with a few other studies.[6,20,21] Contrary to our findings, a study found that students' psychological distress was mostly caused by social and physical variables in addition to academic expectations.[22] A study found that the cohort's psychological and academic problems were both common.[23]

In a survey conducted in Saudi Arabia, the students believed that their heavy workload, stressful schedule, and examinations were found to be the principal sources of problems like depression, anxiety & stress.[24] According to a study conducted in India, the main causes of stress were determined to be physical and academic issues.[6] Frequency of exams, performance on practicals, dissatisfaction with class lectures, a lack of personal interest in medicine, an extensive academic curriculum or syllabus, concern about the future & periodic examination performance were all rated as prevalent stressors by the study participants. Our findings are generally consistent with those of several previous inquiries.

It is advisable to employ inventories that assess depression, anxiety, and stress upon admission to medical school. Subsequently, these inventories should be utilized over an extended period to measure the levels of depression, anxiety, and stress. If their levels of stress, anxiety, and depression are high, prompt help should be given.

5. Conclusion

The study concluded that students reported higher levels of stress. Demographic factors play an essential role in medical students' stress. PSS stress scale was highly associated with demographic factors like Age, gender low exam marks and siblings can cause high stress levels among students.

CONFLICTS OF INTEREST- None

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