FREQUENCY AND FACTORS ASSOCIATED WITH STRESS AMONG STUDENTS OF DIFFERENT PROFESSIONAL COLLEGES OF PESHAWAR

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Abstract

Objective: To study the frequency and different stressors among students of different professional colleges in Peshawar.

Materials and Methods: It was a cross-sectional study conducted on 400 students of medical and engineering colleges of Peshawar. The duration of the study was six months from September 2016 – February 2017. A semi-structured questionnaire was designed to collect data from students. Perceived Stress Scale was used as an added tool to assess the stress level of a student. After taking informed consent, the necessary information was obtained by having face to face interviews with students. Data was entered and analyzed in SPSS version 22.

Results: The mean age of the students was 20.61 (SD 1.67), with a range of 17-27 years. Male students were 283 (70.75%) and 117 (29.25%) were females. Majority students 73.67% belonged to urban areas. The frequency of moderate to severe stress was 91.5% (n=183) and 89.4% (n=178) in Engineering and Medical students, respectively. The mean PSS score in the study population was 18.71 (SD = 5.86), with a median of 19. Using univariate analysis, different factors were found, having a significant association with PSS. The students of engineering college were found having stress more than the students of the medical college (x² 10.294, P<0.05). The subjective feeling of stress was found to be 96.7% among PSS stressed subjects (χ² 39.692, P<0.05). A significant statistical correlation was found between PSS moderate to severely stressed subjects and different stressors, including a High load of studies (χ² 15.260, P<0.05) and overburden with tests (χ² 15.233, P<0.05). The effect of stress on social behavior was found statistically significant (χ² 12.491, P<0.05). Gender, parent’s literacy, and household income did not show any statistical significance with PSS.

Conclusion: Study results showed that the frequency of stress is high in students of both medical and engineering colleges mainly due to a high load of studies and tight curricular schedule with frequent internal assessments in the professional colleges, hostel problems, financial problems and restrictions from parents.

Keywords: stressors, professional colleges, perceived stress scale

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INTRODUCTION

Stress can be defined as ‘any challenge to homeostasis’, or to the body’s internal sense of balance.1 Stress is the most important leading cause of morbidity and mortality all over the world. Millions of Americans suffer from stress each year; in fact, 3 out of 4 people say they experience stress at least twice a month. Over half of those people say they suffer from high levels of stress at least twice a month. Stress can contribute to heart disease, high blood pressure, and strokes and make you more likely to catch less serious illness like colds. It can also contribute to alcoholism, obesity, drug addiction, smoking, depression and other harmful behavior, which play a vicious role in one’s health.2

In the last 20 years, the number of people reporting that stress affects their work has gone up more than four times, whereas several people reporting that other illnesses affect their work have gone down. One-fourth of all drugs prescribed in the United States go to the treatment of stress.3

There are multiple causes of stress from physical to emotional causes. Many other causes include survival stress, internal stress, environmental stress, fatigue, and overwork. Recently stress during the training in any professional institution has increased, as evidenced by published literature.45 Previous studies have shown fairly high levels of distress, such as symptoms of depression and even suicidal thoughts among medical undergraduates. The potential negative effects of emotional distress on medical students include impairment of functioning in classroom performance and clinical practice, stress-induced disorders and deteriorating performance.67

Another study done among medical students at Seth GS medical college, it was observed that medical students undergo tremendous stress during various stages of their academic and training course. It was also found that there was also a high rate of suicide among them. Perceived stress was found to be 73% among the medical students. It was also seen in this study that stress was found to be more in second and third-year medical students as compared to first-year medical students.89

Similarly, previous surveys of students in Cornell’s college of engineering suggest that students perceived the workload required in the college, the competition among students, the difficulty to the curriculum, and the prevalence of curved grading systems as stressful to the point of detracting from the quality of their educational experience.10

Sax reported a disturbing trend of stress among college students nationwide in 1997. Stressors affecting students can be categorized as academic, financial, time, or health-related and self-imposed.11

MATERIALS AND METHODS

It was a cross-sectional analytical study conducted on students of different professional colleges of Peshawar. Professional colleges chosen were Kabir Medical College, Gandhara University, and Engineering college, Peshawar university. A total of 400 students were selected (200 from KMC and 200 from engineering college).

Two-stage cluster sampling, one each from medical and engineering college followed by cluster from each academic year class, was taken. Non-probability convenient sampling technique was used for individual respondents. Students were recruited after taking well informed written consent. Those students who were already diagnosed to have depression or anxiety or stress were excluded from the study.

The duration of the study was six months from September 2017 till February 2018. A pilot study was done on a 10% sample size to check the feasibility and applicability of the questionnaire.

The data collection tool was a semi-structured questionnaire having both open and close-ended questions and the Perceived Stress Scale (PSS). Data was collected from students by face to face interviews. After editing, data was entered in excel sheets and then imported for analysis in SPSS version 21. Results were presented in the form of graphs and tables.

Perceived stress scale scoring:

Perceived stress was measured using the perceived stress scale (PSS-10), which comprised ten questions with responses varying from 0 to 4 for each item and ranging from never, almost never, sometimes, fairly often and very often, respectively, based on their occurrence during one month before the survey. Perceived Stress Scale scores were obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items
RESULTS

The mean age of the students was 20.61 (SD = 1.67), with a range of 17-27 years. Two hundred and eighty-three (70.75%) students were male, and 117 (29.25%) were females.

Among the students, 73.67% (n=291) belonged to urban areas while 26.33% (n=104) were from rural areas. Two hundred and twenty (55%) students were day Scholars, while 180 (45%) were residing in the hostels. Among 400 students, which include 200 medical and 200 engineering students, the frequency of moderate to severe stress was 91.5% (n=183) and 89.4% (n=178) in Engineering and Medical students, respectively.

In our study, 4% (n=16) fathers of the students were illiterate, 4.3% (n=17) were primary, 12.3% (n=49) were matriculate and 79% (n=316) had done graduation or higher degrees. The frequencies of maternal literacy was 18% (n=72) illiterate, 11.3% (n=45) were primary, 24.5% (n=98) were matriculate and 45% (n=180) had done graduation or higher degrees. The occupation of medical student’s fathers was a doctor (22%), engineers (10%), government officers (29%), business man (19.5%) and others (19%). The occupation of engineering students’ fathers was a doctor (4%), engineer (20%), Government officer (26%), and businessman (22%). Thirty-three percent (n=133) had a household income less than PKR 50,000/- while 67% (n=267) had household income more than PKR 50,000/-. 

Perceived stressors:

Based on their perception, frequencies of different risk factors were assessed in students who are shown in table-1.

The frequencies of different coping mechanisms for management of stress among students were; physical activities 29% (n=116), listening music, watching movies etc were 29.75% (n=119), sleeping 28.25% (n=113), reading 22.25% (n=89) and isolation 13.25% (n=53). The effectiveness of different coping mechanisms exercised by students was perceived as effective completely by 26.25% (n=105), effective up to certain extent by 63.75% (n=255) and effective not at all by 10% (n=40).

Perceived stress:

The mean PSS score in the study population was 18.71 (SD = 5.86), with a median of 19. Mean PSS score for female students (n = 117) was 19.67 (SD 6.61) while the same for male students (n = 283) was 18.32 (SD 5.49).

The correlation between Perceived Stress Scale grading and different risk factors was assessed. Using univariate analysis, different factors were found, having a significant association with PSS (Table-2). The students of engineering college were found having stress more than the students of the medical college (x2 10.294, P<0.05). The subjective feeling of stress was found to be 96.7% among PSS stressed subjects (x2 39.692, P<0.05). A significant statistical correlation was found between PSS moderate to severely stressed subjects and different stressors, including a High load of studies (x2 15.260, P<0.05) and overburden with tests (x2 15.233, P<0.05). Problems in hostel (x2 2.453, P-value 0.09), residing in urban area (x2 2.396, P-value 0.09), restrictions by parents (x2 1.178, P-value 0.278) and more than 3 students residing per room (x2 1.484, P-value 0.223) were also found associated with stress but statistically found not significant. The effect of stress on social behavior was found statistically significant (x2 12.491, P<0.05). Gender, parent’s literacy, and household income did not show any statistical significance with PSS (Table-2).

Table 1: Frequencies of sources of stress among students based on their perception

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Stressor</th>
<th>Frequency in number and percentage</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>High load of studies</td>
<td>262 (65.5%)</td>
</tr>
<tr>
<td>2.</td>
<td>Overburdened with frequent tests</td>
<td>253 (63.3%)</td>
</tr>
<tr>
<td>3.</td>
<td>Problems in hostel</td>
<td>92 (23%)</td>
</tr>
<tr>
<td>4.</td>
<td>Grudges with roommate</td>
<td>24 (6%)</td>
</tr>
<tr>
<td>5.</td>
<td>Joint family</td>
<td>86 (21.5%)</td>
</tr>
<tr>
<td>6.</td>
<td>Nuclear family</td>
<td>257 (64.3%)</td>
</tr>
<tr>
<td>7.</td>
<td>Parents restrictions</td>
<td>87 (21.8%)</td>
</tr>
<tr>
<td>8.</td>
<td>Financial problems</td>
<td>79 (19.8%)</td>
</tr>
<tr>
<td>9.</td>
<td>Grudges between siblings and cousins</td>
<td>30 (7.5%)</td>
</tr>
<tr>
<td>10.</td>
<td>Misunderstanding between parents</td>
<td>55 (13.8%)</td>
</tr>
</tbody>
</table>
DISCUSSION

In the current study, moderate to severe stress was observed in 81.5% (n=326) of the respondents. Male students had more stress (91.2%) according to the PSS score as compared to female students (88.9%). Considering the field of education, stress was present in 91.5% of engineering students and 89.4% of medical students. Stress is high in engineering students as compared to medical students, which leads to disturbance in the social and academic life of the students, and few may attempt suicide. A study of professional colleges of India in the urban area showed 24.4% of stress among professional students.

More stress was found among dental students (28.7%) than medical students (25.1%), and less stress was found in engineering students (19.7%). Another study done in Pakistan in Islamabad showed that 47.8% of medical students had mild to severe stress. A study from Agha Khan University, Pakistan, has reported that more than 90% of its students experienced stress at one time or the other during their course. A high level of stress is seen in our study; it could be because of the sociodemographic characteristics of the area. We have used the Perceived Stress Scale with ten items. However, different scales were used in other studies like they have used Depression Anxiety and stress scale (DASS), and a study conducted in Pakistan did not use any scale. These different screening methods used to determine stress may have contributed to the differences in the observed prevalence of stress among students of professional colleges.

In our study, different stressors or risk factors were identified, showing statistically positive correlation with the stress. Among academic stressors, ‘high load of studies’ and ‘frequent tests/exams/internal assessments’ were the main sources of stress. Although these academic stressors had negative effect on health and social behaviors, internal assessments are an essential tool for evaluation/assessment during undergraduate medical and engineering training.

Similar findings were seen in the study of professional colleges of India in urban area. This study shows a strong statistical correlation between academic factors and stress. Another study was done in 2009 in Lahore also showed the frequency of examinations as one of the academic stressor. Although examinations, especially the internal assessments, encourage students’ learning and also provide feedback to the students and parents regarding their performance and this helps them to improve their studies and skills.

Apart from academic stressors, hostel problems, nuclear family system, and parents’ restriction all contribute one way or the other in the development of stress or may act as triggering factors for stress development. Similar psychosocial stressors were identified in the study done by Shah et al. in 2010. The study results show that family problems, accommodation issues and lack of entertainment, etc are significant psychosocial stressors. The professional college students, who were stressed, reported that psychosocial and academic-related stressor groups had occurred more repeatedly.

This shows that the students had a global response to a wide range of different stressors rather than being limited to a few specific factors. However, there was a high odds ratio on both univariate and
multivariate analysis, suggesting high collinearity. This suggests that students having academic stressors were more likely to have psychosocial stressors as well or vice versa.

Our study results showed that students during stress try different coping mechanisms in order to stay stress-free life. A study from the USA has recommended that teaching stress management and self-care skills to medical students may prove to be beneficial. There is a need to look at the applicability of such measures, which are feasible in our medical school settings.

CONCLUSION

Study results showed that the frequency of stress is high in students of both medical and engineering colleges mainly due to a high load of studies and tight curricular schedule with frequent tests/inter nal assessments in the professional colleges, hostel problems, financial problems and restrictions from parents.

According to the results of this study, the subjective feeling of stress and stress according to PSS grading are directly proportional to each other. Stress adversely affects the social behavior of students. Study results showed that coping mechanisms adopted by most of the students for the relief are physical activities, listening to music, watching movies, sleeping, reading, and isolation.

REFERENCES