Original Article

Risk of development of stress in university students

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Objective: To explore the risk of development of stress in university students.
Methodology: It is a cross-sectional study carried out at Riphah International University Rawalpindi between September 2011 and April 2012 using self-administered questionnaire. A total of 120 under-graduates, 30 students from each profession were selected by purposive sampling. Data was analyzed through SPSS 21.
Results: There was severe risk of stress was present in the students of Engineering, DPT, Media sciences and then MBBS.
Conclusion: Medical students have least risk of stress as compared to other disciplines. (Rawal Med J 201;41:483-486)
Key words: Stress, undergraduates, students.

INTRODUCTION

College environment becomes stressful for a number of students as they have to face the challenges of adjusting to the new educational and social environment.[1] As the stress builds up, the coping strategies of the individual also decrease which ultimately start to affect the physical and psychological wellbeing of the individual.[2] The stress faced by the students comes in various forms. Some students have academic stress, which is due to too much course work, fear of low grades and constant competition and inability to get along with the fellow students. Besides academic stress, financial status and family cooperation of the students is also a contributing factor.[3-5]

Like all students, medical college students also face the same challenges.[6,7] It is observed that these students present with mood swings, loss of self-esteem, sleep disorders and depressive illnesses.[8] Previous work on detecting stress levels in medical students has been done but, stress levels in students in other fields like engineering, doctor of physical therapy (DPT), and media sciences has not been explored. The present study was conducted to explore the risk of development of stress in students of our University.

METHODOLOGY

The cross-sectional study was undertaken at Riphah International University, Rawalpindi, Pakistan from September 2011 and April 2012. The first year undergraduate students of four professions (MBBS, DPT, Media sciences and Engineering) were selected to assess the stress level. A total of 120 under-graduates, 30 students from each profession were randomly selected. In this sample half the students were male and half were females. The ages of participants were between 18 and 24 years. Students with a diagnosed psychiatric illness, any known medical problems like asthma, any diagnosed hormonal diseases, those facing any kind of recent stress inducing factors like forthcoming professional examination, family stress or death of a closed relative were excluded from the study.

A self-administered questionnaire was used. Efforts were made to fulfill the ethical considerations in accordance with the 'Ethical principles for medical research involving human subjects' of Helsinki Declaration and a written informed consent was taken from the participants. Before administration of the questionnaire, the participants were addressed regarding purpose of research and importance of their participation. They were given 20 minutes to complete the questionnaire. This time was found to be appropriate for the given questionnaire. The stress questionnaire was taken from International stress management association UK and contained 25 items (Table 1).

Table 1. Questionnaire.

	Questions	Yes	No
1.	I frequently bring work home at night		
2.	Not enough hours in the day to do all the things that I must do		
3.	I deny or ignore problems in the hope that they will go away		
4.	I do the jobs myself to ensure they are done properly		
5.	I underestimate how long it takes to do things		
6.	I feel that there are too many deadlines in my work / life that are difficult to meet		
7.	My self-confidence / self-esteem is lower than I would like it to be		
8.	I frequently have guilty feelings if I relax and do nothing		
9.	I find myself thinking about problems even when I am supposed to be Relaxing		
10.	I feel fatigued or tired even when I wake after an adequate sleep		
11.	I often nod or finish other people's sentences for them when they speak slowly		
12.	I have a tendency to eat, talk, walk and drive quickly		
13.	My appetite has changed, have either a desire to binge or have a loss of appetite / may skip meals		
14.	I feel irritated or angry if the car or traffic in front seems to be going too slowly/I become very frustrated at having to wait in a queue		
15	If something or someone really annoys me I will bottle up my feelings		
16.	When I play sport or games, I really try to win whoever I play		
17.	I experience mood swings, difficulty making decisions, concentration and memory is impaired		
18.	I find fault and criticize others rather than praising, even if it is deserved		
19.	I seem to be listening even though I am preoccupied with my own thoughts		
20.	My sex drive is lower, can experience changes to menstrual cycle		
21.	I find myself grinding my teeth		
22.	Increase in muscular aches and pains especially in the neck, head, lower back, shoulders		
23.	I am unable to perform tasks as well as I used to, my judgment is clouded or not as good as it was		
24.	I find I have a greater dependency on alcohol, caffeine, nicotine or drugs		
25.	I find that I don't have time for many interests / hobbies outside of work		

Each item carried one score. The score of each subject was added up and result was interpreted (Table 2).

Score	Interpretation
0 to 4	Least risk of stress
5 to 13	Mild risk of stress
14 and above	Sever risk of stress

Data were analyzed using SPSS v. 21. Comparison of four groups was done by one way ANOVA (Analysis of variance). p value of equal to or less than 0.05 was taken as statistically significant.

RESULTS

The study showed that 80.9% students were more likely to develop stress. A total of 51.7% students were more prone to develop severe stress.

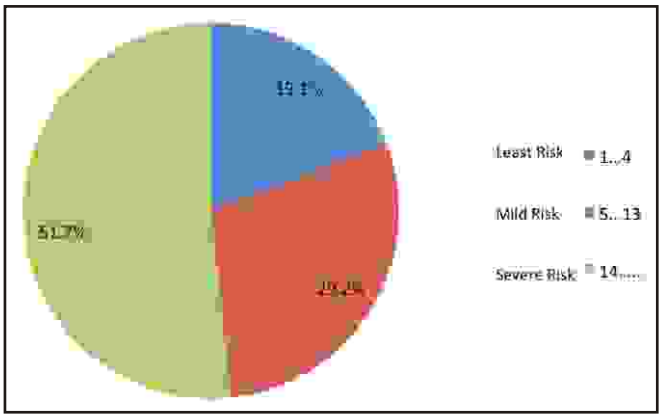

Figure 2: Percentage of Risk of Stress in students of four discplines

Among engineering students, majority (86.7%) had severe risk of stress development which is the highest number than in any other group of students. Majority of MBBS students (63.3%) had least risk of stress development (Tables 3 and 4).

Table 3. Stress score of the students in of four Discipline (n=120)

Discipline: 30 students each group	Stress Score (%)		
	Least Risk Of Stress (Score 1-4)	Mild Risk of Stress (Score 5-13)	Sever Risk of stress (Score 14 and above)
MBBS	63.3%	23.3%	13.3%
DPT	0%	40%	60%
Media Sciences	13.3%	46.7%	40%
Engineering	0%	13.3%	86.7%

Table 4. One way ANOVA analysis of risk of stress in students of different professions

	N	Mean stress	95% Confidence Interval for Mean	
			Lower Bound	Upper Bound
MBBS	30	1.50±0.731	1.23	1.77
DPT	30	2.60±0.4797	2.49	2.85
Media sciences	30	2.27±0.691	2.01	2.52
Engineering	30	2.87±0.346	2.74	3.00
Total	120	2.33±0.780	2.18	2.47

Tables 4 and 5 show that statistically there was a highly significant difference between groups, as determined by one-way ANOVA (F=32.132, p=0.000). A Tukey post-hoc test revealed that the risk of stress in engineering students was significantly high as compared to other groups (Mean stress score 2.87±0.346).

DISCUSSION

It is well established that students experience considerable stress levels during their academic and professional training, and this can strongly influence their emotional, physical, social, and future professional well-being.[9-12] During the last three decades, many studies have been done on medical and dental students showing that workload, clinical training, assessments, and the academic environment are the main factors causing stress during their university life.[13] The overall prevalence of severe risk of stress in the medical students of our study was 13.3%, which is less than the study by Saipanish in Thailand (61.4%),[14] El-Gilany et al in Egypt (43.7%),[15] Sherina et al in Malaysia (41.9%)[16] and Firth in Britain (31.2%).[17]

The medical education is always perceived as one of the stressful disciplines.[14,15] In our study, the prevalence of severe risk of stress was found to be in 60% of the DPT students and 40% of the students in media sciences, which is greater than that found in the medical students. This is in contrast to the results of study from Faisalabad University showing that severity of stress was twice in the medical students as compared to DPT students.[18]

The severe risk of stress was found in 86.7% students of engineering. This was the highest percentage found in the results of our study. This is in contrast to the results of the study carried out on the students of different disciplines in India.[19] This difference could be due to different assessment tool and differences in the educational system and curriculum.

Stress related to academics is one of the most important stressors. The introduction of stress management education into the curriculum can prove to be useful in combatting this problem. This cross-sectional study was based on self-reported information provided by students. Therefore, there is some potential for reporting bias because of the respondents' interpretation of the questions or desire

to report their emotions in a certain way. It is important to continue to examine the causes and consequences of stress and how changes in education, affect the stress levels of our students. It is also important that we openly discuss these results with students and explore ways in which we can work in collaboration to limit the factors that cause stress, decrease the negative effects that result from that stress, and provide appropriate support and treatment.

CONCLUSION

Risk of stress in different professional students is different with students of engineering having high score and students of MBBS the least score.

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