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Study of stress among first and second year medical and dental students

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ABSTRACT

Stress levels among medical students have always been a major issue and effect students. Aim: - To undertake the study on the prevalence of stress and the sources associated with it in medical and dental students. Methodology: A cross sectional study was conducted among the first and the second year medical and dental students by using a questionnaire with three parts. Part A for socio-demographic information. Part B includes General Health questionnaire used to screen symptoms of psychological stress among students. Part C includes questionnaire for academic and non-academic sources of stress among the students. Results and Conclusion: The prevalence of psychological stress was higher in medicine students (34.5%), females (32.4%) the and Year 2 students (37.3%) .The academic stressor were recalling the past semester content (83.7%) , academic work (63.3%), weekly assessment (61.2%) and managing time during examination (65.3%) . Among non-academic stressors were finding healthy food (63.3%) and not getting enough sleep (63.3%), getting involved in outdoor activities (51.0%) and expressing emotions (51.0%). The prevalence of stress among medical and dental students in this study was moderate. This study provided scope for adopting ideas intended to reduce student stress.

Keywords: Stress, medical and dental students

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INTRODUCTION

Stress and its psychological manifestations are inherent in human life and are a major source of concern in the modern day society. Stress in individuals is defined as anything that disrupts the normal person's physical or mental wellbeing [1].

Medical education poses many new, challenging and potentially threatening situational demands on the incoming student throughout the world. Medical school has long been recognized as a setting that has numerous stressors that can affect the wellbeing of students. In addition to coping with stressors of everyday life, medical students must deal with stressors specific to medical school such as the new information flow and input overload, examinations, chances of failure, lack of leisure time, workload, relationships with peers and career choices [2].

Stress, health and emotional problems increase during the period of undergraduate medical education which can lead to mental distress and has a negative impact on cognitive functioning and learning [3].

Previous studies showed that the prevalence of stress was 41.9% and 61.4% in a Malaysian and Thai medical school respectively [4, 5].

Sources of stress among medical students generally points to three main areas: academic pressures, social issues and financial problems. These sources vary with the time spent in medical training, concern about workload, performance and perceived personal competence seems particularly pronounced in the first year [6].

Taking into consideration the importance of stress on medical students, it was thought worthwhile to undertake the study on the prevalence of stress and the sources associated with it in medical and dental students of faculty of health science.

MATERIAL AND METHODS

A cross sectional study was conducted in the entire medical (n=87) and dental (n=69) students in faculty of health science. A questionnaire was distributed to all the medical and dental students. The questionnaire consisted of three parts.

Part A consisted of socio-demographic information including gender, year of study, religion, and ethnic, staying with whom, parent's status, financial support and involvement with the co-curriculum activities.

Part B includes General Health Questionnaire 12 (GHQ-12) that was used to screen symptoms of psychological stress among students. The GHQ-12 questionnaire has well-established validity in young population and student samples in Malaysia [7, 8]. Each of the 12 questions had 4 responses and the responses were scored 0-0-1-1 for each item. Scores of 4 and above was being considered to be positive for emotional disorders.

Part C with five point like rt scale, was used for academic and non-academic problems to identify the sources of stress among the students:

Data was analysed using Statistical Package for Social Science (SPSS) version 21. All data were entered into SPSS, version 21 for Windows (double entry of data was used in order to check for data entry accuracy). Descriptive statistics was used for the analysis of the demographic data, the students' stress prevalence based on the GHQ-12 score and the factors of stress. The level of statistical significance was set at $p < 0.05$. To overcome bias in our result, the exclusion factor is the four medical students conducting this study. Those who scored less than 4 in the GHQ-12 questionnaire were excluded from determining sources of stress. Data analysis was performed by Pearson chi-square test. If $P\text{-value} < \alpha (0.05)$ was considered statistically significant.

RESULTS AND DISCUSSION

A total of 156 students from medical and dental faculty responded to questionnaire Table1, 2, 3 and 4 shows the prevalence of psychological stress by faculty, gender, ethnic and year of study in medical and dental school respectively.

Table 1: Association of psychological stress between faculties among the respondents

			Faculty		Total	P-value
			MBBS	BDS		
Stress	not stress	Count	57	50	107	P=0.353(P>0.05)
		% within Faculty	65.5%	72.5%	68.6%	
	stress	Count	30	19	49	
		% within Faculty	34.5%	27.5%	31.4%	
Total		Count	87	69	156	

Table1 shows that out of the total 156 respondents, MBBS students were 87 (55.8%) and BDS students were 69 (44.2%). The prevalence of psychological stress was higher in MBBS students (34.5%) compared to BDS students (27.5%)

Table 2: Association of psychological stress with gender among the respondents

			Gender		Total	P value
			Male	Female		
Stress	not stress	Count	36	71	107	P=0.168 (P>0.05)
		% within Gender	70.6%	67.6%	68.6%	
	stress	Count	15	34	49	
		% within Gender	29.4%	32.4%	31.4%	
Total		Count	51	105	156	

Table 2 shows from both faculties out of the total 156 respondents, the number of male students were 51 (32.7%) and female students were 105 (67.3%). The prevalence of psychological stress was very high among the females (32.4%) compared to males (29.4%).

Table 3: Association of psychological stress between ethnicity among the respondents

			Ethnic				Total	P value
			Malay	Chinese	Indian	Others		
Stress	not stress	Count	13	64	23	7	107	P=0.708(P>0.05)
		% within ethnic	56.5%	71.1%	69.7%	70.0%	68.6%	
	stress	Count	10	26	10	3	49	
		% within ethnic	43.5%	28.9%	30.3%	30.0%	31.4%	
Total		Count	23	90	33	10	156	

Table3 shows that out of the total 156 respondents, 23 (14.7%) were Malay, 90 (57.7%) were Chinese, 33 (21.2%) were Indian and 10 (6.4%) were reported as others.

Table 4: Association of psychological stress with year of study among respondents

		Year.of.study		Total	P-value
		Year 1	Year 2		
Stress	not stress	Count	65	42	P=0.604(P>0.05)
		% within Year.of.study	73.0%	62.7%	
	stress	Count	24	25	
		% within Year.of.study	27.0%	37.3%	
Total	Count	89	67	156	

Table 4 shows that out of the total 156 respondents, 89 (57.1%) students were from First year and 67 (42.9%) students from Second year. The prevalence of psychological stress was slightly high in Year 2 students (37.3%) compared to Year 1 students (27.0%).

Figure 1: Academic sources of stress among the stressed students

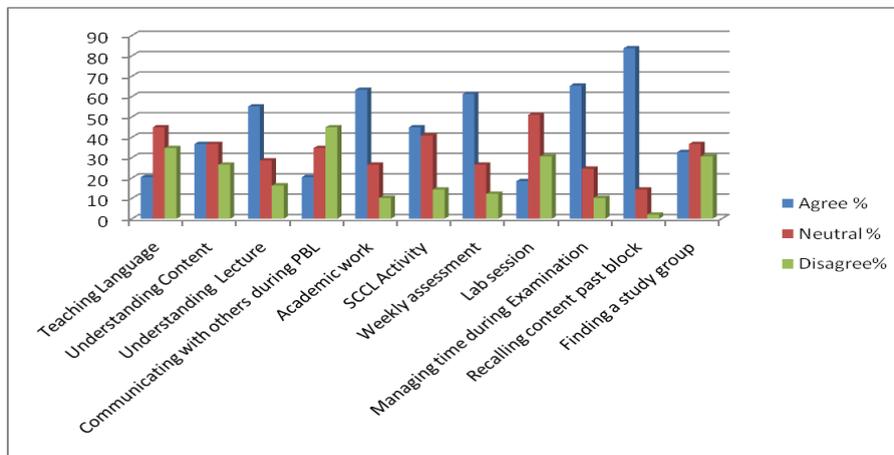


Figure 1 shows that among academic stressors, the highest stressor was recalling the past block content (83.7%). Apart from that, academic work (63.3%), weekly assessment (61.2%) and managing time during EOB (65.3%) also contributed to stress.

Figure 2: Non-academic sources of stress among the stressed students

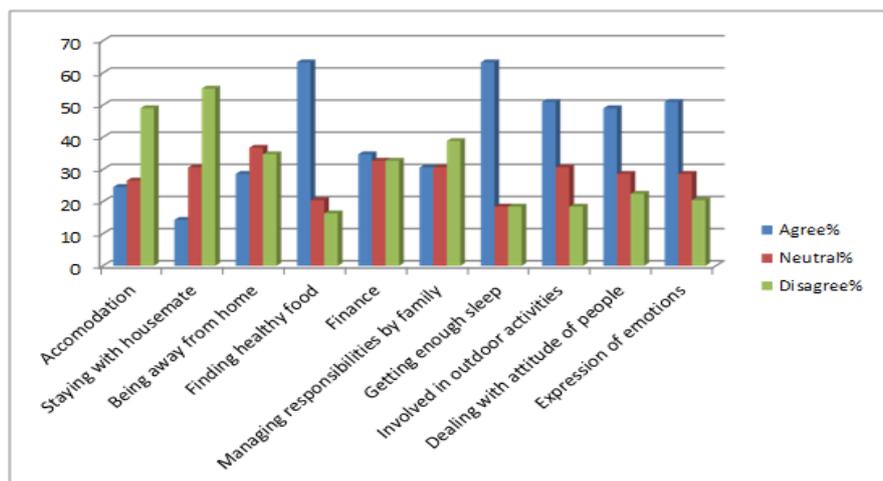


Figure 2 shows that among non-academic stressors, the highest stressor was finding healthy food (63.3%) and not getting enough sleep (63.3%). Apart from that, getting involved in outdoor activities (51.0%) and expressing emotions (51.0%) also contributed to stress.

Preventive interventions for medical and dental students aimed to reduce the negative effect of stress and improve their lifestyle by promoting individual and social resources. In the present study, the prevalence of stress among medical students was found to be 34.5%. This is much lower when compared to studies conducted in Malaysia wherein the prevalence were 41.9% and 57% respectively [9]. One possible reason for the lower prevalence of stress is that, since its inception, the school has incorporated personal and professional development elements into its curriculum where relevant inputs such as ethics, communication skills, professionalism and leadership could be imparted to students at various places. The institution also has mentorship programme wherein a faculty member guides a group of 8-10 students [10]. The faculty provides support and guidance in both the academic and non-academic matters of the students [11]. Report of the Association of American Medical College (AAMC), which recommends enhancing the personal development of students to help them cope with the stress of tertiary education [12].

In this study, low stress prevalence was found in first year students among the medical and dental students in comparison to second year students of the same faculties. However, one possible reason for the low stress prevalence in first year students is that the subjects studied during the first few months are subjects that the students have learned during their pre-university. Moreover the second year students are preparing to sit for their professional exams and may be experiencing the stages of novelty and euphoria [13]. Nevertheless, because this is a cross-sectional study that provides only a snapshot of the stress prevalence, causality could not be definitely confirmed. Other studies have shown different results comparing the prevalence of stress among the first and second year students. [14]

It was also found that there is a higher prevalence of stress in females compared to male students. Studies indicate that female medical student perceive more stress. Symptoms of depression and anxiety, interpersonal sensitivity, somatisation and neuroticism were more in women [5, 15]

Based on our study, it was found that higher prevalence of stress among medical students as compared to dental students. Stress is prevalent among medical professionals as reported by several studies. [16]

In this study, the top stressor among academic problems was having difficulty in recalling content studied in the past block. There is a need to improve the difficulty in recalling the contents studied in the past block since the institution has an integrated programmes with spiral effect in which the different topics are repeated with more details. Among non-academic problems was difficulty in finding healthy food and not getting enough sleep. We found similarities in sources of stress of both academic and non-academic problems with other studies [17].

CONCLUSION

The prevalence of stress among medical and dental students in this was moderate. Based on our study, we found no association between year of study, gender and faculties with student stress. Although our data showed association, it revealed that the main academic stressor was having difficulty in recalling past block contents and non-academic stressor was having difficulty in finding healthy food and not getting enough sleep. This study provided scope for adopting ideas intended to reduce student stress. Steps should be evolved to prevent stress. If required, counselling may be introduced at an appropriate stage. Hence, increased awareness about stress, its effects and management is a key during early stages in medical and dental career.

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