

Comparison of stress levels among medical and dental students in the clinical years of training and their coping strategies

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Abstract

Objective: To compare the stress levels among medical and dental students and to evaluate their coping strategies.

Methods: The cross-sectional comparative study was conducted at the Liaquat College of Medicine and Dentistry, Karachi, from January to February 2018, and comprised medical students from 3rd, 4th and 5th years, and dental students of 3rd and 4th year. Cohen Perceived Stress Scale was used to collect data which was then analysed using SPSS 21.

Results: Of the 400 students approached, 281(70.25%) responded. There were 159(56.5%) medical and 122(43.4%) dental students. Also, 78(27.7%) students were males and 203(72.2%) were females. The stress level was moderate or high in 267(95%) students; 118(96.7%) dental, 149(93.7%) medical. Stress management strategies included meditation/praying 181(64.4%), spending some time to relax 180(64.1%) and sleeping 177(63%).

Conclusion: Dental students had slightly higher stress level than medical students. The most common stress management strategy was meditation/praying.

Keywords: Medical students, Dental students, Stress level, Coping strategies. (JPMA 70: 1006; 2020)

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Introduction

Stress is a leading factor that drives one to do something. It has a great impact on daily lives. It is both positive and negative. Positive stress is one of the motivating factors that help people in achieving goals. But the transition from positive stress to negative stress occurs when the pressure exceeds the capability of an individual which leads to fear, anger, incompetence and guilt, and it is associated with both psychological and physical disorders.^{1,2}

Training in medical education is considered stressful. Literature has reported that stress levels in medical students ranges 25-90%. Many studies have revealed that stress among medical and dental students leads to anxiety, depression and psychological symptoms, having negative effect on their academic performances and professionalism.²⁻⁴

Several studies have been conducted on identifying the factors associated with stress.^{5,6} It is highlighted that academic pressures is one of the most potential causes of stress.⁷ There is a strong belief in Pakistan that the Bachelor of Medicine, Bachelor of Surgery (MBBS) degree is preferable over Bachelor of Dental Surgery (BDS), and the general perception is academics are more stressful for medical

students compared to dental students.⁸⁻¹⁰ It is reported that pre-clinical studies of MBBS are more tough and stressful than BDS and it is due to content, lectures and practical overload. But further investigation needs to be done on identifying and comparing the stress levels of medical and dental students in their clinical years of undergraduate training.¹¹ There are few studies conducted to identify and compare the stress levels of medical and dental students in their clinical years of training. The current study was planned to compare the stress levels among medical and dental students in their clinical years and to evaluate their coping strategies.

Subjects and Methods

The cross-sectional comparative study was conducted in January and February 2018 at the Liaquat College of Medicine and Dentistry, Karachi, and comprised MBBS students of 3rd, 4th and 5th years and BDS students of 3rd and 4th years regardless of age and gender. Approval was obtained from the institutional ethics review committee, and permission was also taken via email from the authors of a study done in Kathmandu Medical College, Nepal¹² to use their study model in our context.

The sample size was estimated using Open-Epi calculator taking statistics of severe stress among dental students 12.1%, margin of error 3.2% and at 95% confidence level.^{13,14} The sample was raised using non-probability simple random sampling technique. After written informed consent was taken from all the participants, they were asked to complete Cohen Perceived Stress Scale (CPSS) questionnaire which assessed the stress level

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and had a separate set of 15 yes-no questions for identifying the coping strategies of the students.¹⁴ The reliability of the questionnaire was checked by calculating Cronbach's alpha which was 0.774.

The CPSS, which is the most widely used questionnaire for measuring the perception of stress, has 14 items including positively and negatively stated statements. The response set ranges from 0 (never) to 4 (very often) and positively-stated items are reverse-coded before the items are summed up, with higher scores indicating more perceived stress; 0-13 low stress, 14-26 moderate stress, and >26 high stress.

Data collected was entered by double-entry method for removing missing values and checking the error rate which was <0.02%. The cleaning and coding of the data was done prior to analysis which was done using SPSS 21. Descriptive statistics were presented as either mean and standard deviation (SD) or frequencies and percentages.

Results

Of the 400 students approached, 281(70.25%) responded. There were 159(56.5%) medical and 122(43.4%) dental students. Also, 78(27.7%) students were males and 203(72.2%) were females (Table-1). The overall mean age of the students was 22.9±2.39 years.

The stress level was moderate or high in 267(95%) students; 118(96.7%) dental, 149(93.7%) medical ($p<0.001$) (Table-2).

Stress management strategies included meditation/praying 181(64.4%), spending some time to relax 180(64.1%) and sleeping 177(63%). The least used strategy was to seek professional help which was reported by 74(26.3%) students (Table-3).

Table-1: Demographic characteristics of study participants.

Characteristics	Number	Percentage
Male	78	27.7
Female	203	72.2
Medical	159	56.5
Dental	122	43.4

Table-2: Comparison of frequency and percentage of medical and dental students stress levels by using Cohen Perceived Stress Scale.

	Low Stress (0-13)	Moderate Stress (14-26)	High Stress (27-40)
Medical (159)	10(6.3%)	46(28.9%)	103(64.8%)
Dental (122)	4 (3.3%)	35(28.7%)	83(68%)
Total (281)	14(5%)	81(28.8%)	186(66.2%)

Table-3: Stress management strategies of medical and dental students.

Variables	Frequency (n)	Percentage (%)
Interaction with friends and family members		
Yes	124	44.1
No	257	55.9
Going out for lunch/ dinner		
Yes	124	43.8
No	157	55.9
Take Time To Relax		
Yes	180	64.1
No	101	35.9
Listening to Music		
Yes	160	56.9
No	121	43.1
Internet TV/ Movies		
Yes	150	53.4
No	131	46.6
Meditation/ Praying		
Yes	181	64.4
No	100	35.6
Physical Activity Exercise		
Yes	100	35.6
No	181	64.4
Proper Study Planning		
Yes	100	35.5
No	181	64.4
Shopping (Window)		
Yes	110	39.1
No	171	60.9
Go To Sleep		
Yes	177	63
No	104	37
Read Non Medical Books		
Yes	98	34.9
No	182	64.8
Eat More Than Usual		
Yes	167	59.4
No	114	40.6
Medication		
Yes	89	31.7
No	192	68.3
Skiping Classes Of College		
Yes	126	45
No	154	55
Psychologist Help		
Yes	74	26.3
No	207	73.7

Discussion

The prevalence of stress among MBBS and BDS students of clinical years in the study was 95%, with only 5% students showing low stress. Dental students comparatively had high stress compared to medical students. The most likely coping strategies of stress identified by the students were meditation

and praying.

A similar study in Nepal reported that 61.06% students had low stress level compared to moderate stress 32.8% and high stress 6.13%; and that medical students had slightly higher stress 41% than dental students 34%.¹² Variation in the results between the two studies could be because the evaluation of stress levels was done among pre-clinical students in Nepal and on clinical students in the current study.

A study to compare the stress levels of medical and dental undergraduate students in Kuwait found that dental students were more stressed compared to the medical students and it was because the dental curriculum had more subjects per year compared to the medical curriculum.¹⁵ A comparative study¹⁶ collected data from students of all years of MBBS and BDS studies in a university located in a large city in northeastern United States and reported that dental students had high stress compared to medical students due to inconsistent and unjustified feedback by the faculty on their pre-clinical and clinical exercises. Similarly, one study reported that dental students ranked 3rd in terms of emotional illness, and another study said dental profession was the most stressful among all health profession.¹⁷⁻¹⁹

Stress management is a very important skill and all students should learn to adopt relevant techniques in their learning environment. The most common strategies noted in the current study were meditation/ praying, time to relax and sleeping. A study in Saudi Arabia showed that getting together with family and friends was the most likely strategy for overcoming stress.²⁰ A similar study in India²¹ reported that meditation was the most common strategy which was similar to the present study. The most common method noted in another study was participation in physical activities such as sports, walk etc.¹³

The limitation of the current study is that it was conducted at a single centre which means findings cannot be generalised. Larger and more elaborate studies are needed to evaluate and compare stress levels of medical and dental students.

Conclusion

The overall prevalence of stress was high at 95%. Dental students had more stress than medical students. The most common strategy to cope with stress was meditation/praying.

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