Perceived stress amongst medical and dental students
Harihar Chilukuri, Sowjanya Bachali, Nagaiah Jupalle Naidu, Ahmed Shaik Basha, Samuvel Verrapam Selvam
Professor of Psychiatry, Narayana Medical College, Nellore, India

ABSTRACT
Background: Reports in the last decade have shown that healthcare students face a high degree of stress. Cumulative stress leads to depression and suicidal behaviour in some of them.

Aims: This study was designed to identify levels of perceived stress amongst medical and dental students in a private institution of South India.

Methods: A cross-sectional, questionnaire-based survey carried out on the first year undergraduate medical and dental students. Perceived stress was assessed using the Perceived Stress Scale. The students were given a questionnaire to be completed by them individually during January-February 2011.

Results: A total of 234 students (144 medical and 90 dental students) were studied. The mean PSS score was 16.74(SD 5.99) for medical students and 18.23(SD 5.52) for dental students. While girls perceived greater stress amongst medical students, boys perceived greater stress amongst dental students though the difference did not reach statistical significance. Univariate analysis as well as Pearson's correlations identified interpersonal problems with their friends as well as their course load as the most significant stressors amongst the students.

Conclusion: Levels of perceived stress are high in medical students and even higher in dental students. The most common sources of stress were related to academic and psychosocial concerns. Such students blamed reasons such as their course overload, pressure from teachers as well as parents, and problems related to their interpersonal issues.

Key Messages: Perceived stress levels were found to be significantly higher amongst dental students than amongst medical students comparable to reports from other parts of the world. If monitored periodically during their student life, they can be helped to tackle their stress levels effectively and be saved from slipping into depressions.

Key-words: Perceived stress, medical students, dental students

INTRODUCTION:
It is being widely reported that medical students undergo substantial stress. Causes for the same are varied, from their interpersonal problems to their course overload to uncertainties of future career prospects. Stress in some of them leads to faulty coping techniques which in turn carry a higher suicidal risk. Efforts are therefore directed towards identifying the specific causes of stress in this specialized population so that effective preventive measures can be instituted both at individual as well as at the institutional level. There is a paucity of studies undertaken in India on this subject. Hence the current study was planned to assess perceived stress levels amongst the health care students in a medical institution in South India and to find out the causes/determinants thereof.

MATERIALS AND METHODS:
This study was approved by the institutional ethics committee. The participants were 144 medical students of Bachelor of Medicine and Bachelor of Surgery (MBBS) I year and 90 dental students of Bachelor of Dental Surgery (BDS) I year of a private medical college in South India. While the male - female sex ratio in MBBS students was 59 boys to 85 girls, that in the BDS students was 20 boys to 70 girls. Their mean age was 18 years. The students were addressed by the authors in small batches of 15 to 20 students at a time during Dec-Jan i.e. about four months after entering their professional course. They were given a questionnaire to be filled up by themselves individually. The students were explained as to the aim of this study and their cooperation sought in giving honest answers.

The questionnaire consisted of three parts:
Profile of the student including information such as age, sex, religion, mother tongue, birth order, number of siblings, parents' occupations, residence in the college hostel or outside in the town.

How to cite this article: Chilukuri H, Bachali S, Naidu JN, Basha SA, Selvam VS. Perceived stress amongst medical and dental students. AP J Psychol Med 2012; 13(2): 104-7.
Perceived Stress Scale (PSS): PSS is a ten item Likert type self-rated questionnaire. As per the norms table for the PSS published by Cohen (1994), a score of 14.2 with a SD 6.2 was reported as the norm for 18-29 year age group. For this study therefore, a cut off score of 14 on PSS was chosen below which students were considered to be not under stress.

The results were then subjected to statistical analysis using SPSS 20.0, which included descriptive statistics, Mann-Whitney test, Kruskal-Wallis Test, Univariate statistics and Pearson's correlations.

RESULTS:
In all, 144 medical students and 90 dental students participated in this study. On PSS 70.83% of the MBBS students and 80% of the BDS students had scored >= 14 (Figure 1).

A Mann-Whitney U test was conducted to evaluate the hypothesis that MBBS students would score lower, on the average, than BDS students on the PSS. The test statistics for the Mann-Whitney U test were: z = -2.28 (p =0.02) showing that the Perceived Stress levels in the BDS students are significantly higher than in the MBBS students. (Table 1)

<table>
<thead>
<tr>
<th>PSS Score</th>
<th>MBBS 144</th>
<th>Mean Rank 109.54</th>
<th>Sum of Ranks 15773.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>BDS 90</td>
<td></td>
<td>130.24</td>
<td>11721.50</td>
</tr>
<tr>
<td>Total 234</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 Comparison of Perceived Stress Scale scores in MBBS and BDS students

While boy dental students scored higher than girls on PSS (19.7 vs. 17.81), girl medical students scored higher than boys (17.27 vs. 15.98). Differences in both however did not reach statistical significance.

The MBBS students blamed their interpersonal problems with their friends as well as their course load as the most significant stressors.

When Pearson’s correlation test of significance (2-tailed) was applied to the PSS scores and the various stress factors, it was found that amongst the MBBS and BDS students put together, scores on PSS were significantly correlated to problems related to their nutrition, health, sleep problems, interpersonal problems with their friends, pressure from their teachers and their course load. On the other hand, when they were studied on MBBS and BDS students separately, following were the observations:

In the MBBS students, PSS scores correlated with their sleep problems, their problems with friends, and their course load.

In the BDS students, PSS scores correlated with their health problems, sleep problems, shortage of attendance in class, pressure from teachers, parental pressures, and their lack of social activities.
Interestingly, PSS scores did not differentiate between hostellers and non-hostellers based on the Mann-Whitney Test. Also, PSS scores were not related to the order of birth of the students as tested with the Kruskal-Wallis Test.

**DISCUSSION:**

This study has shown that both medical and dental students perceive their college life to be stressful. Dental students have shown higher levels of perceived stress compared to medical students, more so amongst the boy students.

The findings of this study are by and large similar to the studies across the globe. The existing literature confirms that stress, depression and anxiety are common among Arab medical students, as for students elsewhere. [3] A majority of the 1st year medical students at Shri M.P Shah Medical College in Gujarat, India, perceived stress.

In a cross-sectional, questionnaire-based survey carried out among undergraduate medical students of CMH Lahore Medical College, Pakistan during January to March 2009, perceived stress was assessed using the PSS. A higher level of perceived stress was reported by the students. The main stressors were related to academic and psychosocial domains. [5] Dental students reported significantly higher stress than medical students in a medical school in UK. [6] Dental students were found to manifest greater levels of stress than medical students in an urban university campus in a large city located in the north-eastern part of the United States. [7]

However, in a review of the literature on the extent to which health profession students experience counterproductive stress, it was found that the highest incidence of stress occurred in medical students followed by dental and then nursing students. [8] As regards the sex differences in their perceived stress, while the foregoing studies of USA and UK reported no significant differences between males and females, the present study found that perceived stress levels were slightly higher amongst boy dental students and female medical students. The sex differences found in this study however did not reach statistical significance.

However, in a study of dental students across the five years of undergraduate study at a dental school in Trinidad, the Global Severity Index of the Brief Symptom Inventory (BSI) indicated that 54.8 percent of males and 44.2 percent of females were in the clinical range indicating significant psychological disturbance. Psychological disturbance was significantly associated with stress levels for male students, but not generally for female students. [9]

The present study is on the medical and dental students of a private medical college in South India. In the present days, entry into a medical school is a highly competitive and stressful effort as admissions are based on relative merit as assessed in just a three hour multiple choice questionnaire. Those who stand higher in merit get admissions to government colleges where education is free. Those who cannot get admissions to a government college join private colleges such as ours where it is costlier. Besides, in India, those belonging to specified social groups have a quota of seats reserved for them by which they can get admission even with a score much lower than others. That adds to the frustration of others. Moreover, they have to adjust with students of a wide spectrum of financial status and cultural backgrounds. These private colleges have more students from the affluent section of the society who indulge in lavish life style.

Many of them who have left their parental homes for the first time in their life feel it as a kind of liberation. But, this being one of the stricter colleges, some of the students get disenchanted, as their expectations on freedom get a jolt. They are reprimanded when they miss classes, and their parents too are informed very promptly by telephone or messaging system. Thus, their movements and activities in the college are closely monitored and prompt feedback given to their parents. Parents are constantly on their back chiding them. Constant pressure is on them for better performance in academics. Extra classes too are being taken for those who are not performing well. Thus, their leisure time gets cut. They thus find less time for physical exercise or for healthy socializing.

Causes for this higher level of stress amongst dental students have not been identified in the earlier studies of USA and UK. In this part of the world, a medical career is much more sought after than dentistry. Students chose dentistry after failing to get into MBBS. Thus, they start their career in dentistry with the frustration of not getting into a medical college. This factor in addition to those common factors described in the preceding paragraph could account for the higher levels of perceived stress amongst dental students.

While this study's results are coloured by the local cultural factors, they are by and large similar to those reported from other parts of the world. Such an assessment of perceived stress levels amongst these healthcare students can help identify those at risk of a major depressive episode, psychosis or suicide. Intervention can then be offered to those who are distressed as psychiatric services are available within their reach. Such assessments done periodically, once each semester, can go a long way in detecting tendencies to or early psychological breakdowns and saving them from possible disasters in this precious segment of the society.
Clinical implications

This study has shown that perceived stress levels are significantly higher amongst dental students than amongst medical students. The findings in this South Indian institution are comparable to those reported from the other parts of the world. If monitored periodically during their student life, they can be helped tackle their stress levels effectively. They can thus be saved from slipping into depressions or suicide besides improving their academic performance.

Limitations

The perceived stress levels were assessed only once. The results may not be representative as the study was conducted on the healthcare students of a private institution which has a different socio-demographic structure when compared to governmental institutions. There is also scope for a reporting bias as the recorded stress levels depend heavily on the students' honesty.

CONCLUSION

This study has shown that levels of perceived stress are high in both medical and dental students. It has also brought out that dental students perceive stress levels to be higher than the medical students. Those students under greater stress have blamed reasons such as their course overload, pressure from their teachers as well as their parents and problems related to their interpersonal issues. Addressing these issues by the institution using professional help would go a long way in ameliorating their stress levels and in making their learning a pleasant affair.

Acknowledgments: Nil

References:


Source of Support : Nil  Conflict of Interest : Nil