Sources and Levels of Stress in Dental Students

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ABSTRACT
Many studies have reported that dental education induces considerable stress on students. These findings are almost universal phenomena in different countries with different education systems and curricula. It is difficult to eliminate all the stressful problems in a dental education programme. The present study was conducted to understand better the factors influencing student perception. We chose 60 dental students for this study, they were asked to self-rate the tailored Medical Student Stress Questionnaire. After statistical analysis it was found that, academic related stress level was high (2.17) among the students. And the intrapersonal and interpersonal related stressors (IRS), teaching and learning-related stressors (TLRS), social related stressors (SRS), drive and desire related stressors (DRS), and group activities related stressors (GARS) scored 1.74, 1.84, 1.59, 1.02, 1.46 respectively. i.e. stress level was mild all these categories.

Keywords: Stress, interpersonal related stressors, social related stressors.

INTRODUCTION
Stress is defined as the body's nonspecific response or reaction to demands made on it, or to disturbing events in the environment [1,2]. It is not just a stimulus or a response but it is a process by which we perceive and cope with environmental threats and challenges [3]. Personal and environmental events that cause stress are known as stressors [4, 5]. In short, stress is emotional disturbances or changes caused by stressors.
Medical courses in India are very demanding for students which involves emotional aspect as well, sometimes making career in medical education very stressful [6]. Studies have proved that compared to general population medical students are more stressed of the students [7] and has led to suicide and suicidal attempts by them [8]. The stress stems from fear of failure, academic pressure, perfectionist standards, enormous content that has to be mastered in small time frame, higher expectation from parents & peers, and exhaustive work schedules in addition to the frequent assessment and examination [9] & compulsion for educational program that may not be their first choice [10].

Studies from developing countries like Nepal, Pakistan, Thailand, Malaysia and India have reported stress among medical students and have underscored role of academics as a potential stressor [11, 12, 13, 14, 4], but did not addressed them across males and females students. Since the perception of stress is frequently influenced by socio-cultural factors, gender and ethnicity and educational systems [15], the results of studies in one region cannot necessarily be generalized to the others. In view of these the study was taken to determine the prevalence and sources of stress in first year dental students of SJM dental college and hospital, Chitradurga ,Karnataka.

MATERIALS & METHODS
The study was conducted at department of Physiology . After getting clearance from ethics committee of the college, first year BDS students (n=60) were invited to participate in the study. Following informed and written consent the volunteers were asked to self-rate the tailored Medical Student Stress Questionnaire. Data collection was done in February in middle of academic term.

To investigate the sources of stress the questionnaire was tailored from the Medical student stress Questionnaire (MSSQ) [13] which consisted of a set of 40 questions on several domains of stress perceived by them. All the 40 questions had 5 responses on Liker scale and the sum of responses of domain were normalized and scaled as mild (0-1), moderate (1.01-2); high (2.01-3) & severe (3.01-4). The questions were addressed to six domains of stress which included, Academic related: involving examination, learning context, competition, falling behind in schedule etc; Intrapersonal & interpersonal: verbal/physical abuse, conflicts with peers and teachers, health problems etc; teaching related: inadequate study material, lack of guidance, teaching skills, feedback from teachers etc; Social related: interruption by peers, lack of time for friends and families; Drive related: parental wish, unwillingness; Group
activities related: peer pressure, performance and discussion. Demographic information (age, genderetic) was obtained within the same questionnaire. Identities of the volunteers were kept hidden by randomly allocating IDs to recruiting volunteers. They were allowed to fill the questionnaire, seal the envelops and drop it in a drop box.

**OBSERVATION AND RESULTS**

Statistical analysis was done by descriptive stastistic methods. Following observations were made.

Mean age for this study was 18 years. Out of 60 students 34 were females, 26 were Males.

**Table No.1**

<table>
<thead>
<tr>
<th>SOURCES</th>
<th>SCORES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARS</td>
<td>2.17</td>
</tr>
<tr>
<td>IRS</td>
<td>1.74</td>
</tr>
<tr>
<td>TLRS</td>
<td>1.84</td>
</tr>
<tr>
<td>SRS</td>
<td>1.59</td>
</tr>
<tr>
<td>DRS</td>
<td>1.02</td>
</tr>
<tr>
<td>GARS</td>
<td>1.46</td>
</tr>
</tbody>
</table>

When we analyzed the overall students, academic related stress level was high (2.17) among the students. And the intrapersonal and interpersonal related stressors (IRS), teaching and learning-related stressors (TLRS), social related stressors (SRS), drive and desire related stressors (DRS), and group activities related stressors (GARS) scored 1.74, 1.84, 1.59, 1.02, 1.46 respectively. i.e. stress level was mild all these categories.

**Table No.2**

<table>
<thead>
<tr>
<th>SOURCES</th>
<th>SCORE IN MALES</th>
<th>SCORE IN FEMALES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARS</td>
<td>2.08</td>
<td>2.23</td>
</tr>
<tr>
<td>IRS</td>
<td>1.43</td>
<td>1.93</td>
</tr>
<tr>
<td>TLRS</td>
<td>1.65</td>
<td>1.96</td>
</tr>
<tr>
<td>SRS</td>
<td>1.52</td>
<td>1.63</td>
</tr>
<tr>
<td>DRS</td>
<td>0.96</td>
<td>1.06</td>
</tr>
<tr>
<td>GARS</td>
<td>1.52</td>
<td>1.47</td>
</tr>
</tbody>
</table>
When we compared males and females stress levels of ARS IRS, TLRS, SRS, DRS score was more in females as compared to males. But GARS scores were more in males.

**DISCUSSION**

Stress has been described as a double-edged sword that can either stimulate and motivate the students to peak performance or reduce the students to ineffectiveness.\(^{[25]}\) Previous studies have reported that dental education induces considerable stress on students.\(^{[19–23]}\) These findings are almost universal phenomena in different countries with different education systems and curricula. It is difficult to eliminate all the stressful problems in a dental education programme. To become a responsible dental professional, students have to reach high levels of knowledge and professional skill, as well as developing good attitudes towards patient care; all within a short period of time.\(^{[25]}\) The present study was conducted to understand better the factors influencing student perception.

Results of the present study showed that overall females perceived more stress than male students, which was in non agreement with Acharya\(^{[21]}\) and Kumar et al\(^{[24]}\).

When comparisons were made for career decision, it was seen that those students who joined dentistry due to parental pressure showed higher stress due to behaviour of the faculty, academic load, fear of unemployment after graduation, and a general lack of confidence, availability of lab technicians. It is possible that students saw the faculty as a mirror image of their overbearing parents and hence the higher dissatisfaction with the faculty would lead to elevated levels of stress. It was noted that stress due to financial concerns was high in this
study. This can be explained by the fact that the admission in dental college needs a immense tuition fee, and many parents finance their children's education though bank loans for which they have to pay a sturdy interest, and the instruments books used during the academic tenure also costs very high which gives the student an anxiety about financial resources, which is in contrast with the study done by Acharya.  

Another major issue affecting dental education in India is unemployment after graduation. Although other alternatives after graduation including career option abroad and post-graduate studies as the mushrooming of dental colleges has created a demand for post graduate teaching staff. Heavy competition still exists to gain a job abroad or to achieve admission for postgraduate studies. An appreciation of this data should help dental educators better understand the specific concerns and pressures of the dental student.

It was observed that the “corporal” mindset of the faculty, a legacy of British rule, continues to exist in India. A congenial environment needs to be created by the dental faculty so that students can pursue their studies with less anxiety or fear. This can be achieved by periodic interaction of the dental faculty with trained educational psychologists who can train the faculty in the latest educational methodologies to maximize student performance and minimize stress. Also, parents should be counselled during their children's pre-university period about the ill effects of pressuring them to join an educational program against their wishes. This can be done by seeking the help of the high school authorities in conducting workshops involving parents and teachers on a regular basis. Career fairs can also be used as a forum for parent counselling. If these improvements are introduced, hopefully stress on dental students will be reduced, helping them to be more successful as students and, eventually, as dentists.

Some stress is inherent in studying dentistry. Nevertheless, stress prevention and interventional measures, eg, deep breathing and progressive muscle relaxation, can reduce or eliminate many sources of stress, and appropriate support services should be available for dental students.

**CONCLUSIONS**

1. Academic related stress was high among the students.
2. Males have comparatively less stress levels than the females.
Limitations
This cross-sectional study was based on self-reported information provided by students. Therefore, there is some potential for reporting bias which may have occurred because of the respondents' interpretation of the questions or desire to report their emotions in a certain way or simply because of inaccuracies of responses. Another longitudinal study could be carried out with a cohort of students to investigate the levels of stress among students in all the five years of undergraduate dental years and the associated factors.

REFERENCES