The Evaluation of Perceived Stress and Depression in Dental Undergraduates

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Abstract

OBJECTIVE: Evaluation of stress and depression among dental under graduates
DESIGN: Qualitative questionnaires for a cross sectional study of stress and depression
SETTING: A dental college in Chennai, India, 2011
SUBJECTS AND METHODS: A cross sectional study was conducted at the S R M Dental College and Hospital, S R M University, Chennai, Tamil Nadu, India. A questionnaire study was carried out among the Dental under Graduate students of the university.
RESULTS: Out of the 200 dental undergraduates stress levels increased proportional to increase in depression and the females were more stressed than the males.

CONCLUSION: Further research needs to be done to find out the factors that cause and elevate stress and depression in order to find a solution to keep it under control.

KEY WORDS: stress, depression, undergraduates.

Introduction

The world we live in exposes each and every one of us to many pressures. Life is a rat-race. These pressures cause stress and constant stress uncared for or unrecognized and left uncured, leads to depression. The reasons for stress and depression vary with age, gender, social outlook, exposure, parental caring, self esteem and frustration. As students knowingly or unknowingly we may be undergoing stress or feeling depressed. We may not exhibit any signs to the outside world. It is best to identify the condition before it becomes magnified. The Questionnaires are chosen to help students to recognize and cope with the findings so they may feel happier and do their best always. Students whose first choice of admission was dentistry experienced less stress than students whose first choice was another field. The students who joined dentistry due to parental pressure showed greater stress than those who joined on their own accordance. Most important source of stress among dental students was the academic component of the course, especially in regard to examinations, grading and workload. Also working on patients with dirty mouths was considered a stress factor.

Perceived Stress Scale was developed to measure the degree to which situations in one’s life are appraised as stressful. Psychological stress has been defined as the extent to which persons perceive (appraise) that their demands exceed their ability to cope. The PSS was published in 1983, and has become one of the most widely used psychological instruments for measuring nonspecific perceived stress. It has been
used in studies assessing the stressfulness of situations, the effectiveness of stress-reducing interventions, and the extent to which there are associations between psychological stress and psychiatric and physical disorders.\(^{(2)}\) The PSS predicts both objective biological markers of stress and increased risk for disease among persons with higher perceived stress levels. For example, those with higher scores (suggestive of chronic stress) on the PSS tend worse on biological markers of aging, cortisol levels, immune markers, depression, infectious disease, wound healing and prostate-specific antigen levels in men. The Perceived Stress scale was developed by Sheldon Cohen and his colleagues.

The Beck Depression Inventory (BDI; Beck, Ward, Endelson, Mock, & Erbaugh, 1961), developed by Beck and his colleagues, is one of the most widely used self-report instruments for detecting and measuring the severity of depression in college students and normal populations\(^{(3)}\). Recommendations for altering the BDI to make it more compatible with Diagnostic and Statistical Manual of Mental Disorders (4th ed., American Psychiatric Association, 1994) diagnostic criteria for depressive disorders was one impetus for the development of its second edition.\(^{(4)}\) The Beck Depression Inventory (BDI, BDI-II), created by Dr. Aaron T. Beck, is a 21-question multiple-choice self-report inventory, one of the most widely used instruments for measuring the severity of depression in college students and normal populations\(^{(5)}\). Recomendations for altering the BDI to make it more compatible with Diagnostic and Statistical Manual of Mental Disorders (4th ed., American Psychiatric Association, 1994) diagnostic criteria for depressive disorders was one impetus for the development of its second edition.\(^{(6)}\)

Methodology

Inclusion/Exclusion Criteria: The students who took part in the study were all preparing for their terminal exams which were just a week away and were prime candidates undergoing stress and maybe depression, though they were not undergoing treatment for stress and depression and counseling of any kind. They were lucid and found to be of sound mind.

A cross sectional study was conducted at the S R M Dental College and Hospital, S R M University, Chennai, Tamil Nadu, India. A questionnaire study was carried out among the Dental under Graduate students of the university. The total number of students who were above the age of 18 and belonged to the first, second and third years totaled 490. Of these 200 who fit the criteria and accepted to be a part of the study were chosen for the study. These students answered the questionnaire during the month of January / February 2012. The Head of the institution and the various department heads were informed about the intent and purpose of the study. The time for distribution of the questionnaire was carefully chosen without disturbing the regular lecture classes and practical hours. The participants were given the questionnaire during their free time and lunch hours. A researcher approached the students and explained them the study purpose before handing over to them the questionnaire and assured them complete confidentiality.

Dentists have been known to suffer from occupational stress for many years and this may be linked to the increased risk of suicide in this profession. Dentists are prone to professional burnout, anxiety disorders and clinical depression, owing to the nature of clinical practice and the personality traits common among those who decide to pursue careers in dentistry. Treatment modalities and prevention strategies can help dentists conquer and avoid these disorders.
The questionnaire was divided into 3 parts
a) Demographic part, b) Perceived stress scale c) Beck’s Depression Inventory.

Demographic part included age, gender and the year. The perceived stress was collected using Perceived stress scale developed by Cohen et al (PSS – 10). The internal validity was already proved in various studies conducted earlier. This scale is a standard accepted scale for perceived stress hence it was considered for the study. The PSS -10 was designed to measure the severity of perceived stress among the dental undergraduate students.

The subject of the study was explained to the students. The students were requested to be spontaneous and truthful with the choices they chose on the Questionnaires. It was of utmost importance that study was based on truth in order to arrive at a proper conclusion and help the students.

The Perceived Stress Scale Questionnaire which contains 16 Questions with 4 options to choose from is very simple and helps to evaluate how one copes with life and thus makes it easy to study stress levels in the subject. Those with higher scores, suggestive of chronic stress, are under stress and fend worse on biological markers of aging, cortisol levels, immune markers, depression, infectious disease, wound healing.

The students were eager to know how much stress and depression affected them as a whole. Armed with the valuable inputs from the students an analysis of the Questionnaires was conducted to study the information collected.

Results

Table 1 - Of the 200 students surveyed 58(29%) were from First year, 77(38.5%) were from Second year, 65(32.5%) were from Third year

<table>
<thead>
<tr>
<th>Year of study</th>
<th>Number of students present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ist year</td>
<td>58</td>
</tr>
<tr>
<td>IInd year</td>
<td>77</td>
</tr>
<tr>
<td>IIIrd year</td>
<td>65</td>
</tr>
</tbody>
</table>

The mean stress levels were 33.12 and the mean depression level is 19.91

Table 2 - The Mean levels of Stress and Depression

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERCEIVED STRESS SCALE</td>
<td>33.12</td>
<td>6.131</td>
<td>200</td>
</tr>
<tr>
<td>BECK DEPRESSION INDEX</td>
<td>19.91</td>
<td>11.121</td>
<td>200</td>
</tr>
</tbody>
</table>

Table 3 - Level of Perceived Stress among first year second year third year

<table>
<thead>
<tr>
<th>LEVEL OF PERCEIVED STRESS SCALE</th>
<th>STUDENTS</th>
<th>FIRST YEAR</th>
<th>Count</th>
<th>% of Total</th>
<th>MILD</th>
<th>MODERATE</th>
<th>SEVERE</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.5%</td>
<td>20.6%</td>
<td>5%</td>
<td>20.0%</td>
</tr>
<tr>
<td>SECOND YEARS</td>
<td></td>
<td></td>
<td>44</td>
<td>22.0%</td>
<td></td>
<td></td>
<td>9%</td>
<td>38.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>37</td>
<td>11.5%</td>
<td>14.9%</td>
<td>9%</td>
<td>0</td>
<td>25.0%</td>
</tr>
<tr>
<td>THIRD YEARS</td>
<td>99</td>
<td>31</td>
<td>100</td>
<td>50.5%</td>
<td>5%</td>
<td>100.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>290</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chi Square test: 0.19

The stress levels were studied and the results were: First year: 17(8.5%) had Mild stress , 40(20.0%) had Moderate stress and 1(0.5%) had Severe stress; Second year: 44(22.0%) had Mild stress , 33(16.5%) had Moderate stress; Third year: 37(18.5%) had Mild stress , 28(14.0%) had Moderate stress; the results showed 98(49.0%) had Mild stress of which 17(8.5%) were males and 81(40.5%) were females ;101(50.5%) had Moderate stress of which 22(11.0%) were males and 79(39.5%) were females ; 1(0.5%) female had Severe stress
Chi Square tests-0.648
The stress levels were studied and the results were
Males - 17(8.5%) had Mild stress, 22(11.0%) had Moderate stress and 0(0.0%) had Severe stress; females- 81(40.5%) had Mild stress, 79(39.5%) had Moderate stress and 11(0.5%) had Severe stress

Table 5 - Level of Beck Depression Index among first year, second year and third year

Chi Square Test-0.243
The Depression levels were studied and the results were, First year- 53(26.5%) had Mild depression, 52(26.5%) had Moderate Depression; Second year- 62(31.5%) had Mild depression, 15(7.5%) had Moderate Depression; Third year- 52(26.0%) had Mild Depression, 11(5.5%) had Moderate Depression, 2(1%) had severe depression; the results showed 167(83.5%) had Mild depression of which 26(13.0%) were males and 141(70.5%) were females; 31(15.5) had Moderate stress of which 13(6.5%) were males and 18(9.0%) were females; 2(1.0%) female had Severe depression.

Table 6 - Level of Beck Depression Index among males and females

Chi Square Test-0.002
The Depression levels were studied and the results were, males-26(13.0%) had Mild stress, 13(6.5%) had Moderate stress and 0(0.0%) had Severe stress; females- 141(70.5%) had Mild stress, 18(9.0%) had Moderate stress and 11(0.5%) had Severe stress.

Discussion
The study conducted at SRM Dental College was to explore how stress and depression affects the behaviour, thinking and outlook of students. Students’ progress may be affected if they are unable to cope with their stress or manage the emotions evoked by their stressful experiences. There is a need to monitor students’ emotional health and provide training and support to ensure that they are able to cope with their stress. A range of stress-coping strategies was identified in the present study. These were categorized into reflection and appraisal, social and interpersonal, lifestyle or behavioral adjustment, and organization and time-management skills. The coping strategies identified were generally consistent with recommendations that are found in the literature. Reflection and appraisal may be considered as an emotion-focused coping style in which emotions evoked by stressful events are reflected upon and appraised to effect a positive reinterpretation of the event. Individuals who use this coping style tend to be less depressed and more satisfied with their lives.

Interpersonal skills are recommended as ideal skills in a good dentist and discussing problems with other persons involved has been cited as a coping strategy for stress in practicing dentists. Communication skills courses in the dental curriculum need to focus on developing interpersonal skills to enable students to cope better with their stress. Health-damaging behaviors such as tobacco and alcohol consumption, use of drugs and medication are commonly reported in the literature as responses to stress in dental students and practicing dentists. Apart from causing harm to themselves, such habits may have implications on the students’ perception of their role in health education on tobacco and alcohol consumption.
Interestingly, Naidu et al. reported that psychological disturbance was significantly associated with stress levels for male but not for female dental students. Various studies have reported higher stress levels for female than for male dental students. For female students, some of the factors of stress have been reported to be clinical factors, lack of confidence, and postponement of marriage. Female students also find it more difficult to deal with patient aggression, and this may contribute to more reported stress. Subjective measures used to assess stress levels necessarily rely on how willing respondents are to disclose their experiences of stress. The explanation for higher reported stress in female students may be that female students find it easier to express their experiences of stress than do male students.

The study could have the questionnaires more exhaustive so as to identify and pinpoint the cause of stress instead of just acknowledging the symptoms of stress. This approach would help to tackle the stress and depression in undergraduates in a more scientific and swift manner.

**Conclusion**

The study has helped to take heed of the stress levels in undergraduate students. A group of counselors can monitor from time to time the symptoms and ramifications of stress and keep it in check by conducting group therapy and by acknowledging the importance of exercise or playing of a sport. The valuable data collected at SRM Dental college was analyzed and the inference arrived at was that there was a corresponding increase in cases of depression with every increase in cases of stress among the students.

**References**

(3) Nu’man M. Al -Psychometric Properties of the Beck Depression Inventory -II with University Students in Bahrain. Bahrain Journal of Personality Assessment 2001:77:3