

Assessment of Depression, Anxiety, and Stress in Dental Postgraduate Students in Indira Gandhi Institute of Dental Sciences, Pondicherry: A Cross-sectional Questionnaire Study

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ABSTRACT

Introduction: Students who pursue a career in dentistry face a demanding academic and clinical curriculum that can result in depression and anxiety. Students are subjected to different kinds of stressors, some being the pressure from academics with an obligation to succeed while studies usually report sources of stress for dentistry students; there is less information on the levels of stress.

Aim: The aim is to assess the depression, anxiety, and stress in dental postgraduate students in Indira Gandhi Institute of Dental Sciences, Pondicherry.

Materials and methods: A cross-sectional questionnaire study was done, and the study samples included all the postgraduates of all nine specialties.

Results: Stress was rather general among all the groups of the study participants; certain factors or stressors, such as the amount of assigned work, competition with peers, examination, and grades, lack of confidence to be a thriving student, and fear of facing parents after failure, impede the academic life of these students and had more significance among the groups when compared to others.

Conclusion: Dental students have higher levels of depression, anxiety, or stress than the general population, indicating they may be at risk for greater psychological distress. The academic life of the students seemed to be hampered due to various potential stress factors, such as the amount of assigned work, competition with peers, examination, and grades, lack of confidence to be a thriving student, and fear of facing parents after failure. The information from this study should address such issues that arise in the educational setting and help in creating the learning environment design, as well as interventions to support students through this challenging degree.

Keywords: Anxiety and depression, Cross-sectional study, Dental education, Dentistry, Postgraduate education, Stress.

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INTRODUCTION

Mental health is a vital component of health. According to the World Health Organization, mental health is a condition of well-being in which every human being understands his/her own potential, can muddle through with the normal stresses of life, can work productively and fruitfully, and can contribute to the society.¹ An individual experiences stress when he interacts with an environment that is perceived as threatening to that individual.² Usually, it directly upsets the individual both mentally and physically and is a kind of external constraint. Many studies have found facts to prove that the stress among dental students is greater than that of the general population, and dental education plays a major role in it. Master's training in the field of dental education is a tedious experience. Some reasons for the dentist and dental students to have stress include time management and appointment scheduling issues, managing uncooperative patients, financial issues, and the highly technological and exhaustive nature of the work. Apart from this, long working hours, additional strain of financial issues, family obligations, and future employment uncertainty add to substantial stress circumstances.³ The most commonly used quantitative means to measure the levels of stress is the depression, anxiety, and stress scale (DASS).^{4,5} The fundamental DASS study comprised a set of 42 negative emotional symptoms, and the subjects were asked to express their experience of the emotion over the past week.⁵ The number of questions in each domain (depression, anxiety, and

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stress) was seven, thereby shortening the present DASS study to 21 questions.^{4,6}

Much attention is being paid to the detrimental effects of stress encountered by dental students in recent years. Stress has been shown to be observable as fatigue, tension, dizziness, insomnia, tachycardia, gastrointestinal symptoms, irritability, anxiety, and cynicism. There are also studies that show a negative relationship between stress and the academic performance of dental students.⁷ This study was designed to assess the mental health of the students pursuing their master's degree in the Indira Gandhi Institute of Dental Sciences, in particular with respect to depression, anxiety,

and stress. This adds to the database from the findings from similar studies.

AIM AND OBJECTIVE

To assess the depression, anxiety, and stress levels experienced by students pursuing their master's degree in Dental Specialities in Indira Gandhi Institute of Dental Sciences, Pondicherry. To know the level of depression, anxiety, and stress in students and what measures can be implemented to counteract them.

METHODOLOGY

The study participants consisted of dental postgraduates studying in Indira Gandhi Institute of Dental Sciences, Pondicherry, India. The University Human Research Ethics Committee analyzed and approved the study. Prior to the commencement of the survey, participants provided their consent to take part in the study.

Based on random sampling, students who gave their verbal and informed consent during the study period were included in this study. They were allowed to decline or withdraw from participation at any time without any negative consequences. The data regarding the levels of depression, anxiety, and stress among the subjects were analyzed using a pretested questionnaire. The procedure was terminated after the intervention is completed.

RESULTS

A total of 70 students pursuing their master's degree participated in this study with female participants of 65% (Fig. 1). The mean values of depression, anxiety, and stress were demonstrated (Figs. 2–4). For the question "It was difficult for me to wind down," the mean response was 2 (mean = 1.7571, SD = 0.7). The significance was found between the first and third years ($p = 0.03$) with the Department of Pedodontics towering maximum response (mean = 2.0000, SD = 0.71). The question "I could not work up the initiative to do things" had a mean response of 1 (mean = 1.3143, SD = 0.46). Between the second and first years, the significance was $p = 0.023$. For the question "I tended to overreact to the situation," the mean response was 1 (mean = 1.2571, SD = 0.65). For "I found it difficult to relax," the mean response was 2 (mean = 1.5571, SD = 0.52). For the

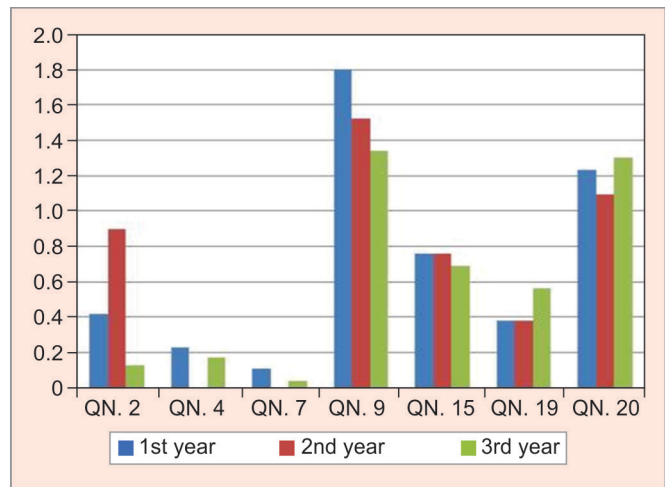


Fig. 2: Anxiety mean value

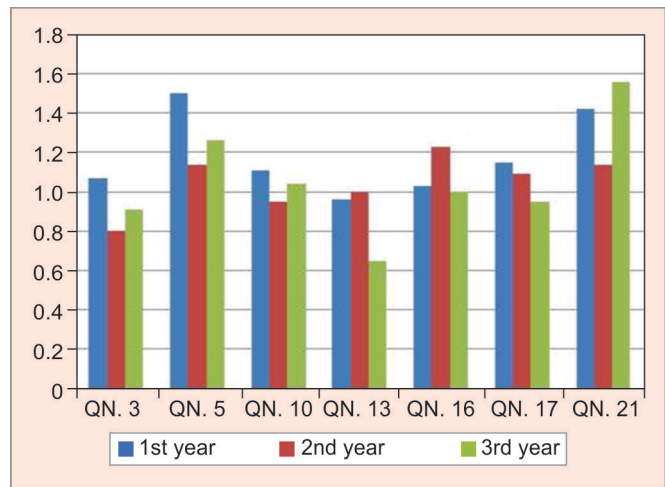


Fig. 3: Depression mean value

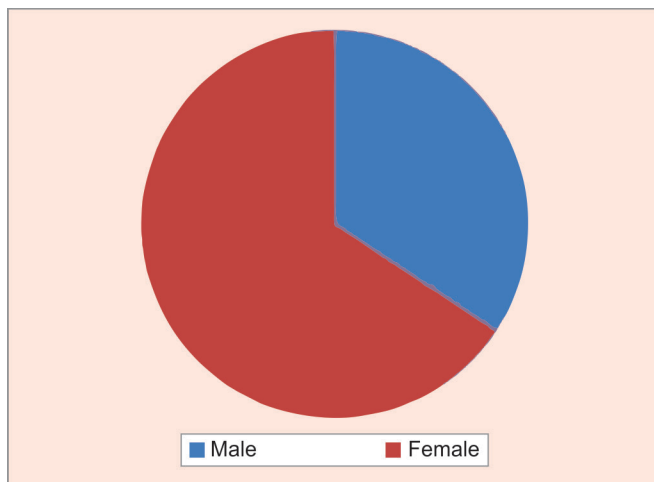


Fig. 1: Gender distribution

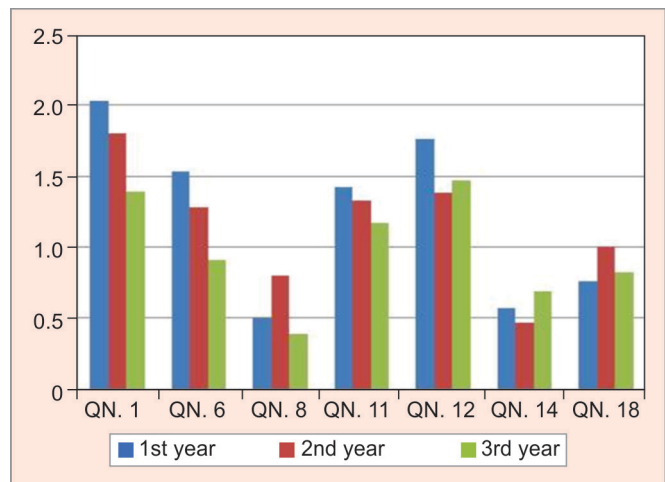


Fig. 4: Stress mean value

above three questions, the maximum response was obtained from the Department of Oral and Maxillofacial Surgery with a mean = 1.5556, SD = 0.52, mean = 1.4444, SD = 0.88, and mean = 1.8889, SD = 0.33, respectively. For "I was anxious about conditions in which I might freak out and make a fool of myself," the mean response was 2 (mean = 1.5714, SD = 0.60). Significance between the third and first years was $p = 0.019$. The Department of Prosthodontics gave maximum response (mean = 1.7778, SD = 0.66). For "I found life was meaningless," the mean response was 1 (mean = 1.3857, SD = 0.57). The highest response was from the third year (mean = 1.5652, SD = 0.56). The " p " value was 0.544, and the significance was found between the third and second years ($p = 0.037$) with a maximum response from the Department of Oral Pathology and Microbiology (mean = 1.7143, SD = 0.48) (Fig. 5).

Of all these statistically significant questions, most of them are stress-related questions with first-year Master of Dental Surgery (MDS) students with their mean value for the above-asked questions: Mean = 2.0385, SD = 0.7, and " p " value = 0.005; mean = 1.5000, SD = 0.50, and " p " value = 0.025; mean = 1.5385, SD = 0.70, and " p " value = 0.003; mean = 1.7692, SD = 0.51; and mean = 1.8077, SD = 0.56, and " p " value = 0.027, respectively. Only one depression-related question had a towering response from the third-year MDS, which indicated their fear of the future.

DISCUSSION

Storman et al. concluded that higher levels of depression, anxiety, or stress are seen in dental students than in the general population, indicating risk for greater psychological distress.⁸ Naz et al. in a study showed that when compared to that of the second-year dental or medical students, first-year dental or medical students constitute a vulnerable group that has a high prevalence of psychiatric morbidity comprising of depression, stress, and anxiety; similarly, females tend to be more susceptible to depression, stress, and anxiety when compared to that of males.⁹ Basadan et al. in a cross-sectional questionnaire study highlighted that to help students, particularly those who are vulnerable to higher levels of these psychological conditions, support programs should be organized.¹⁰

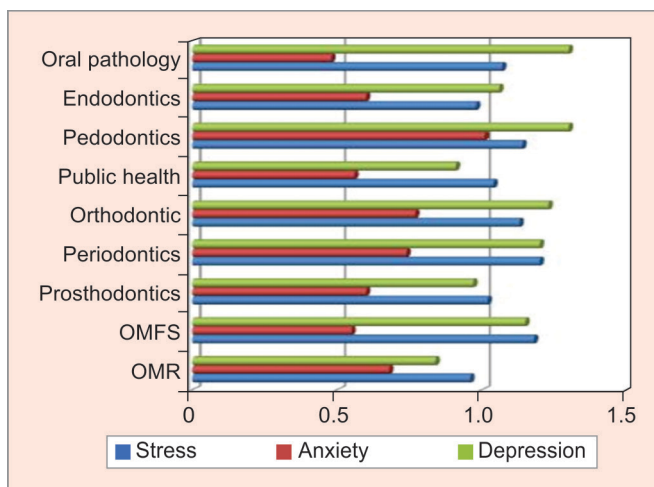


Fig. 5: Mean value of depression, anxiety, and stress

Sudeep et al. in a cross-sectional questionnaire study concluded stating that due to various potential stressors, such as the amount of assigned jobs, competition with peers, assessments, lack of confidence to be a thriving student, and the nightmare of facing parents after failure, the scholastic life of the students seemed to be weighed down.¹¹ The University of Bucharest, Romania, states that professional stress in relation to anxiety, depression, and irrational beliefs within dental and psychotherapy students might be associated with symptoms of anxiety, depression, and general tension and brings to attention the necessity of conducting more studies regarding the mechanisms that might maintain and/or amplify professional stress in relation to mental health and well-being from which a conclusion has been made that there is a need to come up with a useful idea to bring change in the postgraduate curriculum to deal with the stress and burnout as moderate to high levels of stress and burnout were detected among the study sample.^{12,13} Rather than improving the problem-solving strategies, this study indicates that intense stress may cause students to engage in dysfunctional coping processes, and in order to reduce the academic stress, the reason for the stress should be identified.¹⁴⁻¹⁶ The health, academic performance, and short- and long-term functioning are improved using the well-organized strategies that include time for relaxation, positive appraisal, active coping, and planning.

Scriven and Paul described critical thinking as a disciplined process of proficiently and vigorously conceptualizing, applying, processing, synthesizing, and/or evaluating data intellectually, which is gathered from or created by observing, deliberating, and experiencing a communication or logical analysis as a steer to principle and action. Eventually over time, the problems related to coping will reduce in students over their time in college.¹⁷ Under the support of the reformed International Federation of Dental Educators and Association, student representations and interests will be improved in a global network in dental education. In this framework, a new stage for international teamwork and increased opportunities for communication will be possible.

CONCLUSION

DASS 21 was used in this cross-sectional study to evaluate the amount of depression, anxiety, and stress experienced in students pursuing their master's degree in dental education. In our study, the DASS 21 proved to be a valuable tool for exploring the levels of stress, anxiety, and depression as compared to other means, which helps us to assess and understand the source of stress in a dental environment. Of all these statistically significant questions, most of them are stress-related questions with first-year MDS students being the most affected since they find it hard to align with their new level of educational stress when it comes to multitasking, which is understandable. The third-year students have the fear of the future was also recognized.

From the above findings, it is found that the need for a person-to-person approach and constant care in monitoring and supporting the well-being of the students is mandatory. The multifaceted issue of how student's personality and educational setting influences experiences of anxiety, depression, and stress and also the well-being of the student should be explored in future studies to have a better understanding of the process of selection of students, syllabus intend, and the interventions made to make certain students are supported through this demanding degree.

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