

# Assessment of Perceived Stress Among Dental Graduates: A Cross-Sectional Study

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## ABSTRACT

**Introduction:** Stress is a significant threat that can result in physical and mental illness and may have a significant negative effect on 'students' performance and professional practice of dentistry. Elevated stress levels due to prolonged workload may precipitate fatigue, a term that describes the experience of long-term work-related exhaustion and lessens the interest. This study aims to determine if the perceived source of stress changes along the years among dental graduates.

**Objective:** To determine if perceived sources of stress have changed over the years.

**Methods:** A cross-sectional study was conducted among dental graduates from the first year to an internship at NIMS dental college. Dental Environment Stress (DES) questionnaire consisting of 20 questions was used for data collection. A total of 200 students filled the questionnaire. Data were analyzed using descriptive statistics.

Statistical analysis used- Statistics analysis was done using SPSS version USA. ANOVA test was used followed by Tukey post hoc was carried out.

**Results:** It was observed that the most common sources of stress were academic examinations and working on clinical years. Moreover, in the five years of the traditional curriculum, the clinical years reported the highest stress level among dental graduates.

**Conclusion:** Findings like academic and clinical performance, low grading, unemployment, limitation in leisure time, family problems were the utmost stress-inducing factors among undergraduate of dentistry., clinical quota, family problems, staff-student relationship found less stressful. Hence students need to be addressed for the stress-coping.

*Key Words:* Cross-sectional study, Dental environment stress questionnaire, Dental graduates, Stress.

## Introduction

Stress has been defined as the strain that accompanies a demand perceived to be either challenging (positive) or threatening (negative) depending on its appraisal, it may be either adaptive or debilitating. Stress is a significant threat that can result in physical and mental illness and may have a significant negative effect on students performance and professional practice of dentistry [1].

The dental profession is one of the most stressful health professions [2]. It involves the acquisition of required academic, clinical, and interpersonal skills during learning. Dentistry has been frequently rated as an exceptionally stressful profession, starting as a student and progressing into clinical practice after graduation [3].

Some familiar sources of stress include completing graduation requirements, achieving good examination grades, fear of failing the course, the staff approachability, 'patients being late or not showing up for their appointments, and fear of facing parents after failure [4]. Other causes include changes in sleeping habits, holidays/breaks, change in eating habits, and increased workload and new responsibilities [5].

Elevated stress levels due to prolonged workload may precipitate fatigue, a term that describes the experience of long-term work-related exhaustion and lessens the interest. Many published systematic reviews concluded that dental students experience significant amounts of stress, and they have shown stress encountered during dental education is more vocalized

than during medical education [6].

It is vital to have a better understanding of students' perceived stress factors, which would turn a better understanding of students, perceived stress factors, which would contribute to building a positive and effectual learning environment. Accordingly, it is important to identify the potential sources of stress for each undergraduate year in the dental institution and enhance students' stress-bearing skills [7]. Hence, this study aims to determine if the perceived source of stress changes along the years among dental graduates.

## Materials and Methods

A cross-sectional study was conducted among 200 dental graduates of NIMS Dental College to determine if the perceived source of stress changes over the years. Scientific and ethical approval were obtained from the scientific committee at Dental College in the year 2018.

A sample size of 200 was calculated from previous literature, and dental students from the first to the fifth year (intern) due to differences in the semester and view of difficulties faced by each year students separately were included in the study. The Dental Environment Questionnaire (DES) was distributed during lectures and clinical hours precisely. As the students would be attending lectures and clinical posting, it was identified as an appropriate time for collecting data.

A close-ended questionnaire consisting of 20 questions regarding the professional choices, problems face in preclinical and clinical years, staff-student approachability, academic

grades, and miscellaneous were asked. The students took approximately 10-15 minutes to complete the questionnaire. In both lectures and clinical postings, a researcher explained the need for the survey and its importance to the students. The questionnaire was distributed and submitted anonymously from serial number 1-200 for assuring confidentiality to the students.

## Results

A total of 200 dental graduates in were included in the study, among whom maximum 48 (24%) were of 4<sup>th</sup> BDS, while least 31 (15.5%) were of 1<sup>st</sup> BDS. Remaining were 38 (19%) were of 2<sup>nd</sup> BDS, 46 (23%) were of 3<sup>rd</sup> BDS and 37 (18%) were interns (Table 1).

**Table 1:** Distribution of the students based on course.

Course	N (%)
1 <sup>st</sup> BDS	31 (15.5)
2 <sup>nd</sup> BDS	38 (19)
3 <sup>rd</sup> BDS	46 (23)
4 <sup>th</sup> BDS	48 (24)
Interns	37 (18.5)
Total	200 (100)
N=Number of study subjects.	

It was observed that maximum students 107 (53.5%) did not take admission by choice whereas 81(40.5%) took admission to this profession as a choice (Table 2).

**Table 2:** Distribution of the students based on choice of admission.

Choice of Admission	N (%)
Yes	81(40.5)
No	107(53.5)
Don't know	12(6.0)
Total	200 (100)
N=Number of study subjects.	

It was observed that maximum students 96 (48%) found clinical years to be more stressful than pre-clinical years whereas 59 (29.5%) did not find clinical years to be more stressful (Table 3).

**Table 3:** Distribution of the students based on whether they find clinical years more stressful than preclinical years.

Clinical years more stressful than preclinical years	N (%)
Yes	96 (48.0)
No	59 (29.5)
Don't know	45 (22.5)
Total	200 (100)
N=Number of study subjects.	

Out of 200 students, 119 (59.5%) responded as dentistry taken as a career is a predisposing factor to stress, whereas 53 (26.5%) did not find it to be a predisposing factor to stress and 28 (14%) were not sure about it being the reason of stress or not (Table 4).

**Table 4:** Distribution of the students based on whether they think dentistry as a career is a predisposing factor to stress.

Dentistry as a predisposing Factor to stress	N (%)
Yes	119 (59.5)
No	53 (26.5)
Don't know	28 (14.0)
Total	200 (100)
N=Number of study subjects.	

It was observed that maximum students 165 (82.5%) responded as dental academic examinations to be stressful whereas 34 (17.0%) did not find dental academic examinations stressful

(Table 5).

**Table 5:** Distribution of the students based on whether they feel stress while dental academic examination.

Stress while dental academic examination	N (%)
Yes	165 (82.5)
No	34 (17.0)
Don't know	1 (0.5)
Total	200 (100)
N=Number of study subjects.	

## Discussion

Concerning the aim of the study, the DES questionnaire was distributed among the dental students in our sample in Dental College And Hospital located in Jaipur. The study was conducted to gain the perceptions of stress among all five academic years, i.e. academic curriculum, and clinical postings. Stress levels were notably least in students who joined dentistry by their own choice and in students whose first choice of admission was dentistry, as the increased likelihood for the dentistry allows the committed students to work more comfortably and positively accepting challenges and stress [8]. The majority of the students in the study were thought the stress level is more in the final year due to increased workload because addressing to examination pattern they have to appear for seven clinical subjects and corresponding quota, which was similarly reported by (Suha B. et al.) [9]. Similarly, while viewing various aspects of academic and clinical stress, it was also found that final year students expressed the greatest stress in all the clinical related quota [9,10].

Also, many students reported examination to be a stressful factor for stress, according to this study [11]. Studies have shown that students who were under high stress continuously were emotionally exhausted and had been suffering from mental distress, physical manifestations, and eventually, burnout [12]. This report also suggests the similarity between other studies conducted in India as well as abroad. Similarly, based on the present study result, low grades are also one of the leading and potential stressors factors that were similarly reported by (Niloofar S. et al.) [3,13,14]. As far as the stress is considered among dental students, the limitation in leisure time also leads to stressor factors. According to a dental student's student's curriculum; many studies indicated the students get minimal free time in their schedule, which gets inversely affects increasing stress. This may not be an exact potential factor according to a study to increased stress, but somehow indirectly, it causes stress [15,16]. Peter L. Harrison et al. in their study indicated that their physical health had restricted them in the past. Poor physical health may be a sign of dental student stress and is relatively common among working dentists, which was similar concluded in our study [16].

Some stress factors, like family problems, are inherent among students. Nevertheless, interventional measures for such problems, e.g., discussion with family members, friends, and meditating, can reduce or eliminate such sources, which were similarly reported by the present study [17]. Some students in our sample have majorly feared of getting unemployment upon graduation. It seems that these fears of unemployment of students are affecting initial years and strike overall performance [18].

This study has been identified the factors among all the five years students. To reduce students burnout, these factors are needed to address stress coping measures to reduce stress and

bring out a healthy, stress-free professional environment.

### Conclusion

Further research needs to be conducted to enhance dental students' understanding to bring up possible stress factors. The result indicates findings like academic and clinical performance, low grading, unemployment, limitation in leisure time, family problems were the upmost stress-inducing factors among undergraduate of dentistry, clinical quota, family problems, staff-student relationship found less stressful. Hence students need to be addressed for the stress-coping measures immediately after identifying possible stressor factors for providing a healthy professional environment rather than making it a laborious process.

### Conflict of Interest

NIL

### Source (S) of Support

Nil

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