



**ORIGINAL RESEARCH PAPER**

**Prosthodontics**

**DISTRIBUTION OF STRESS AND BURNOUT AMONG DENTAL POSTGRADUATE STUDENTS- AN EXPERIMENTAL SURVEY.**

**KEY WORDS:** stress and burnout, stress, burnout, dental postgraduate students

<b>Dr. Ganesh B.Bajaj</b>	Reader and PG Guide, Department of Prosthodontics, Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur.
<b>Dr.Mangesh S.Ulemale*</b>	PG student MDS-second year, Department of Prosthodontics, Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur. *Corresponding Author
<b>Dr.Jaykumar R.Gade</b>	Professor and Head-of-Department, Department of Prosthodontics, , Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur.
<b>Dr. Grishmi Niswade</b>	Lecturer, Department of Periodontology, Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur.
<b>Dr. Yogesh Y. Mahale</b>	PG student MDS-third year, Department of Prosthodontics, Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur.
<b>Dr. Sneha M. Raul</b>	PG student MDS-first year, Department of Prosthodontics, Swargiya Dadasaheb Kalmegh Smruti Dental College and Hospital, Nagpur.

**ABSTRACT**

**Introduction-** Dentistry is such a profession that demands physical and mental effort and dealing with people, which can result in a condition named as 'Burnout'. Workload, stress, depression and burnout are increasing day by day in the dental profession, mostly in clinical and non-clinical post graduate students of all branches of dentistry. This study aimed to evaluate the amount of stress and burnout among clinical and non-clinical post graduate students of dentistry.

**Materials and methods-**Total number of eighty two post graduate students from three different dental colleges of Nagpur city participated in this survey study. Stress was evaluated by nine- items questionnaire, derived from graduate dental environment stress questionnaire. Burnout was measured using twenty two-questions Maslach-burnout inventory- Human Services Survey.

**Results-**The stress was found equal in both clinical and non-clinical residents. Aspects such as "choice of specialization for post-graduation" and "selection of dentistry as a career" showed more stress in non-clinical residents. "lack of time for leisure activities" was the common element for residents of both domain. Burnout was also high among non-clinical residents. Emotional exhaustion and reduced personal accomplishment was high in non-clinical residents. Depersonalization was equal in both faculty residents.

**Conclusions-** Non-clinical residents suffer more stress as compared to clinical residents. Also, non-clinical residents found difficulty in communication with patients. Clinical residents fears were mostly for professional future and financial requirements.

**INTRODUCTION-**

Dentistry is considered as an extremely stressful career, for established dentists, young dentists, post graduate students as well as undergraduate students. Compared with other health professions, dentists face high degrees of stress. Daily interactions with patients, their demands, staff, colleagues, defective equipment, or problems in treatment are the possible stress building elements for dentists.<sup>(1)</sup>

Stress is a state where the individual's body responds to any kind of demand or threat. As a result of high demands and continuous occupational stress, professional workings with patients are at a high risk of developing "burnout syndrome". Burnout is a syndrome, with reported symptoms including exhaustion, frustration, anger, cynicism, and a feeling of ineffectiveness and/or failure. An important element of the syndrome is a negative impact on job performance. There are three dimensions of burnout syndrome, which can be described as emotional exhaustion (EE), depersonalization (DP) and personal accomplishment (PA). Emotional exhaustion is the depletion of one's emotional resources and reflects the basic stress dimension of burnout. Depersonalization usually develops due to the effect of emotional exhaustion and exhibits features of detachment and, eventually, dehumanization. Reduced personal accomplishment reflects reduced feelings of competence and productivity at work, which are linked to depression.<sup>(2)</sup>

In dentistry, career options are increasing and are becoming popular and available in all areas of world. Graduate level dental programmes are typically divided into the areas of specialty training, master's degrees, PhDs or a combination of all. Dental post graduate students are required to participate in a wide and

variable spectrum of assignments such as patients work/care, teaching and research and are associated with rigorous and strenuous activities. Also, dental post graduates face additional pressure of family, increasing age, financial issues and possibly running an independent practice simultaneously.<sup>(3)</sup>

The aim of the current study was to evaluate the prevalence of stress and burnout among dental postgraduate students in central India region.

**MATERIALS AND METHODS-**

The study was carried out in Swargiya Dadasaheb Kalmegh Smruti Dental College & Hospital, VSPM Dental College & Hospital, Government Dental College & Hospital, Nagpur. Sample size for this study was eighty two. PG students of eight different branches participated in this survey, including six clinical branches (i.e. Prosthodontics, oral and maxillofacial surgery, endodontics, paediatric dentistry, periodontology and orthodontics) and two non-clinical branches ( i.e. Oral medicine and radiology and oral pathology) on the respective colleges. Survey questionnaire was given to each pg-student. Response rate was 100%.

The survey questionnaire consists of general information of participant, stress questions and burnout questions. The stress questions were derived from Graduate Dental Environment Stress Questionnaire (GDES). The answers of stress questionnaire was based on 4 point Likert scale, which was as, 1=not stressful at all, 2= somewhat stressful, 3= quite stressful, 4=very stressful.

Burnout was measured using 3 dimensions of 22-questions Maslach burnout inventory (MBI). These questionnaires were based on emotional exhaustion, depersonalization and personal

accomplishment. Out of 22-questions, 8 were regarded as emotional exhaustion, 5 for depersonalization and 8 for personal accomplishment. Answers of these burnout questions were ranked according to their frequency on seven point Likert scale as, 0=never, 1=a few times a year or less frequently, 2= once a month or less frequently, 3=a few times a month, 4=once a week, 5=a few times a week, 6=every day.

Also, the socio-demographic data was included in survey questionnaire. It include age, gender, marital status, additional qualification, specialty of work, working hours in college, patients attended in college and about any habits of smoking, drinking and any psychoactive medications.

## RESULTS

Total 82 post graduate students participate in this survey. Out of 82 students, 53 students were females and 29 males. The mean age of students was  $27.15 \pm 2.85$  years. 24 (29.27%) students were less than 25 years of age and 58 (70.73%) were more than 25 years. 28 (34.15%) were in first year post graduation, while 29 (35.37%) in second year post graduation and 25 (30.49%) students were pursuing their third year. 42 students were clinical post graduates and rest 40 were non-clinical post graduates. Maximum post graduates were practicing periodontology (21.43%) 9 residents and pediatric dentistry, followed by 8 post graduates (19.05 %) in orthodontics. 40 students were non-clinical postgraduates, among which 24 post graduates (60 %) were admitted in oral medicine and radiology group and 16 (40 %) in oral pathology group, as shown in table no.1.

The vast majority of means were in the range between 1 (not stressful at all) and 2 (somewhat stressful). For clinical post graduates, "lack of time for leisure activities" emerged as the top stressor, with a mean score of 2.38, followed by "Insecurity regarding professional future", Fulfillment of financial requirement in future" and "Fear of failure while treating complex cases". Among non-clinical postgraduates "Choice of specialization for post-graduation" and "lack of time for leisure activities" were the top stressors with mean 2.65 and 2.48 respectively. The median scores in non-clinical students (Median= 2) were statistically higher than the median scores in clinical post graduates (Median = 1) for stress question "Choice of specialization for post-graduation" with  $p < 0.001$ . Similar case was observed for two more stress items i.e. "Communication with patients" and "Selecting dental as a career was a wrong move" with p-values 0.004 and 0.001 ( $p < 0.05$ ). The remaining items of stress question show statistically insignificant median difference between non-clinical and clinical group ( $p > 0.05$ ).

There were 9 items of emotional exhaustion (EE), 5 items of depersonalization (DP) and 8 items of personal accomplishment (PA). In EE items, the median score in non-clinical students (4.00) was statistically higher as compared to clinical post graduates (2.94) with p-value 0.001. Thus, non-clinical students were more likely to suffer from emotional exhaustion as compared to clinical residents. The median score for DP item was higher in clinical (1.60) as compared to non-clinical (1.41), but there was no statistical difference between two groups as  $P > 0.05$  and so we observed that burnout "cases" in the DP dimension were not much prevalent in both groups. The reduced PA was observed slightly more in non-clinical group (4.62) than clinical (4.81), all though they were not different statistically ( $p > 0.05$ ), but the PA scores in clinical post graduates are pretty good as compared to that of non-clinical students.

## DISCUSSION

The present study examined perceived stress and burnout among 82 dental post graduate students. Out of 82 post graduate students, 42 students were in clinical branch and 40 were of non-clinical branch. For clinical branch students, "lack of time for leisure activities" was top stressor element. As, clinical branches mostly deals with patients work as well as laboratory, the clinical post-graduates (C-PG's) gets very less time for their refreshment. Too much work along with studies creates stress on Pg students,

which ultimately results in burnout. When viewed by a social aspect, students of clinical branch seems to be on a better position than the non-clinical post graduates (NC-PG's), but results of our study contradicts this view and shows that C-PG's are under more stress and NC-PG's counterpart when time of leisure activities are considered. For NC-PG's, "lack of time for leisure activities" is the 2<sup>nd</sup> most stress factor. This shows that NC-PG's are able to manage some time for their refreshment as compared with C-PG's.

"Insecurity regarding professional future" is the second most stress factor for C-PG's. Though the pg students are studying in clinical branches, they always worry about the personal future. As C-PG's are investing more money and time for professional accomplishment, they are more insecure than their non-clinical counterparts.

Third Stress element for C-PG's is "Fulfillment of financial requirement in future". C-PG's have to work hard and more for providing best treatment for number of patients in limited time. Also, they always need standard and specialized instruments and machines. Thus, the C-PG's are mostly concerned about future investment for clinical set-up and makes them worry in future financial requirements.

"Fear of failure while treating complex cases" is the Fourth stress factor among C-PG's. Knowledge, hard-work, dedication, accuracy are needed for treating either simple or complex case. For C-PG's, it is quite difficult to cope up with all this requirements. Hence, a fear of failure doing complex cases is seen in C-PG's.

For NC-PG's, "Choice of specialization for post-graduation" is the chief stress factor, as shown in table no.2. This study showed the reason for this is the maximum students' selects non clinical post-graduation branch as they don't have any other choice left for them to pursue post-graduation education. This placed the NC-PG's into stress.

"Communication with patients" is another stress factor for NC-PG's. Pg students of non-clinical branch get less patient exposure for developing the communication skill with patients. Hence, NC-PG's feel stressed while communicating with patients.

Also, "Selecting dentistry as a career" is found as a stress element in NC-PG's. This is drastic and thought provoking result that shows declination of NC-PG's towards their profession even after dedicating huge amount of time and money to dentistry.

In Burnout study, the NC-PG's showed more Emotional exhaustion than C-PG's. The Depersonalization was higher in C-PG's as compared to NC-PG's, but statistical difference was found similar in both groups, as shown in table no.3. Reduced Personal Accomplishment was observed more in NC-PG's than C-PG'

This study showed that "Burnout" was more in NC-PG's compared with C-PG's. NC-PG's suffer more from Emotional exhaustion comparatively than C-PG's. As Non clinical branch was NOT the first choice of many pg students, this makes them emotionally exhausted and drained.

Murtomaa et al in 1989 studied Burnout in Finnish dentists from both community health centers and private practices. The responses for burnout were classified as psychological fatigue, loss of enjoyment from work, or hardening. Factors which increase burnout were dissatisfaction with relationships with patients, problems relating to the physical environment and difficult or uncomfortable posture. Also, age was related with loss of enjoyment of work. Young dentists had not lost their enjoyment of work as older dentists, who had worked longer in the profession.<sup>(4)</sup> Martinez et al (2007) studied 78 dentists and study included dentists from Graduate programmes of oral surgery and implantology, orthodontics and integrated dentistry. He found that 12% dentists from Oral surgery and implantology scored high on Emotional Exhaustion, 7% showed high scores on Depersonalization, but none of dentists scored low on personal

realization. 4% dentists from Orthodontics displayed Emotional Exhaustion and lack of Personal Realization, while Depersonalization score was not high. While, dentists from Integrated Dentistry were not found "BURNED." Individuals which were found "burned" had less than 5 years of work experience, and the majority combined studying with more than 30 hours of clinical practice and dedicating less than 10 hours per week to studying.<sup>(5)</sup>

A Study in 2009 stated that, burnout is less prevalent among students having one or more positive life events. Also he found No relationship between burnout and negative life events. In his article, he also stated that burnout severity was highly associated with suicidal ideation and this association persisted after controlling for depression within the same population.<sup>(6)</sup>

Divaris et al in 2011 showed that some variations noted that Prosthodontics residents exhibit high burnout score, while orthodontic residents show low burnout score. Considering gender differences, burnout 'cases' were 60% more prevalent among women compared to men in the EE domain. Contrary, burnout 'cases' in the DP dimension were more prevalent among men. For non-clinical students, Radiology residents showed the highest EE score, while Dental materials students showed the highest DP and the lowest PA.<sup>(3)</sup>

IsHak et al in 2013 reviewed burnout in medical students. According to his study, students experiencing burnout were less likely to respond to a questionnaire.

Also, students who were single, found more emotionally exhausted than their classmates, who were in relationships.<sup>(7)</sup>

James in 1991 stated solutions on burnout. He described certain strategies to modify work conditions which are establishment of priorities and work goals, preparation of daily agenda without waiting for deadlines, control on behavior, develop habits/skills, recognize mistakes and correct them rather trying to hide it. Other means to prevent "burnout" would be the use of free time for the things we like, as traveling, reading, sports. Take time for rest after work, avoid taking work home, spend sufficient time alone and with the people we love and care, have personal and professional relationships, not to isolate from society and express our feelings to others.<sup>(8)</sup>

**CONCLUSION**

This study showed that clinical and non-clinical post graduates experiences equal amount of stress. Slight statistical difference is seen in clinical and non-clinical branch. Burnout is higher among Non-clinical post graduates. Clinical post graduates fears mostly of professional future and financial requirements. In academics, fear of failure during treatment of complex cases is observed in clinical post graduates. Non-clinical post graduates are more stressed than clinical ones due to choice of specialization for post-graduation. Also, non-clinical post graduates think that dentistry was their wrong decision for their career. Non clinical students lack the skill of communication with patients and find it a stressful one. Lack of time for leisure activities is a common stress element for both clinical and non-clinical post graduates. Burnout is also high in non-clinical post graduates. Emotional exhaustion and Reduced Personal Accomplishment is high in non-clinical post graduates. For clinical and non-clinical post graduates, no statistical difference is seen in Depersonalization.

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