



BURNOUT AMONG JUNIOR DENTAL PROFESSIONALS AT A TERTIARY DENTAL TEACHING HOSPITAL IN EASTERN INDIA: A CROSS-SECTIONAL STUDY

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ABSTRACT

Objective: To determine prevalence of burnout among junior dental professionals and the factors contributing to it in a Dental teaching hospital in Eastern India. **Material and Methods:** A structured self-administered questionnaire was used to conduct a cross-sectional study among 80 dental interns and house staffs. Maslach Burnout Inventory (MBI) scale was used to assess the degree of burnout present. Data collected was analyzed using Chi-square test. **Results:** Among 80 participants, 17.5% reported of burnout, with no significant association with gender or professional designation. Burnout prevalence was highest among participants ≥ 25 years of age (28.1%). High emotional exhaustion and depersonalization were reported by 15 and 13 participants, respectively, while 11 demonstrated low personal accomplishment. Time pressure for completion of clinical procedures (35%) emerged as the most commonly reported contributing factor, followed by clinical work load and physical fatigue. 65.3 % participants reported contemplating discontinuation of their training program due to this increased stress. **Conclusions:** Burnout is a serious concern among junior dental professionals. Institutional measures such as enhanced supervision, workload optimization, psychological counseling may help in professional well-being among all.

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INTRODUCTION

Dental education is one of the most demanding professional training programs. It requires students to have a strong academic background as well as good clinical competence. In addition to technical skills, effective patient management, good communication skills, and adherence to professional ethics are essential components of dental practice. Throughout their undergraduate training, students are expected to progressively acquire these competencies and adapt to the increasing academic and clinical responsibilities.

For the first four years of their college life, undergraduate students devote most of their time fulfilling the academic and clinical requirements of their curriculum. It is only during their internship and house-staff ship period, that they begin to function as independent clinicians, with greater clinical

responsibilities and patient management. At this stage, they are required to complete clinical quotas, participate in academic activities, prepare for postgraduate entrance examinations, and meet patient and institutional expectations. The increasing demands of clinical practice and academic preparation make this transitional phase challenging and often contribute to increased psychological stress and emotional exhaustion.^[1]

Although occupational stress is common for healthcare professions, prolonged exposure to excessive and unmanaged stress may result in burnout. Burnout is characterized by emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment.^[2] It has emerged as a major occupational health concern among healthcare professionals because of its adverse effects on both individual wellbeing as well as professional performance. Studies have consistently demonstrated its relation to poor clinical performance, reduced academic productivity, decreased empathy toward patients, lower job satisfaction, and diminished quality of life.³ These consequences not only affect healthcare providers themselves but may also compromise the quality of patient care and the efficiency of healthcare delivery.

In recent years, burnout among dental trainees has gained

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increasing attention due to the increased academic and clinical pressures associated with dental education. While several studies have investigated burnout among undergraduate dental students and practicing dentists, comparatively fewer have focused on junior dental professionals during the early stages of their careers. Furthermore, evidence from developing countries remains limited.

Therefore, the present study was undertaken among interns and house staff at North Bengal Dental College & Hospital to determine the prevalence of burnout and identify the socio-demographic and occupational factors associated with it. A better understanding of these factors may help develop targeted interventions aimed at improving psychological well-being and professional performance of future dental professionals.

MATERIAL AND METHODS

A cross-sectional study was conducted at a tertiary Dental teaching hospital in Eastern part of India. The study population consisted of 80 junior Dental professionals (interns and house staffs), who were actively involved in clinical work during the study period and consented to willingly participate in the study. Participants suffering from any mental illness were not included.

Study Design

An online questionnaire was developed using Google Forms based on validated stress and burnout assessment tools used among dental professionals. The questionnaire was organized into four sections covering socio-demographic characteristics, academic and clinical stressors, burnout assessment parameters and coping strategies and support systems.

Maslach Burnout Inventory (MBI) scale was used to design questions on burnout assessment. Burnout was assessed across three dimensions: emotional exhaustion (EE), depersonalization (DP) and personal accomplishment (PA).^[2] The responses available ranged from 0 ("never") to 6 ("every day") and were categorized as low, moderate, or high for each burnout dimension. According to established MBI criteria, overall burnout was represented by high EE and/or high DP, with or without reduced PA.

Statistics

Data collected was analyzed using the latest version of SPSS 27.0. Data were presented as frequencies, percentages, means, and standard deviations. Burnout status was categorized based on established Maslach Burnout Inventory (MBI) cut-off scores. Chi-square test was used to evaluate associations between categorical variables (gender, age group, and professional designation) and the burnout status. A p-value of less than 0.05 was considered statistically significant.

RESULTS

Study included 80 junior Dental professionals, with 57.5% male and 42.5% female. Among which 43 participants were interns (53.8 %), while the 37 remaining were house staffs (46.2 %). Majority belonged to the age group of 23- 25 years ($n = 41$, 51.2%), 32 were aged 25 years or older (40.0%), and only 7 were less than 23 years (8.8%).

Among the 80 junior dental professionals, overall burnout was

present in 14 participants (17.5%) and absent in 66 participants (82.5%). 39.1 % of males and 32.4% of females reported burnout, which was not statistically significant ($\chi^2 = 0.388$, $p = 0.533$). With respect to age, burnout appeared more frequent among participants of more than 25 years of age (28.1%), the association however did not reach statistical significance ($\chi^2 = 5.739$, $p = 0.056$). Regarding professional designation, house staffs accounted for 24.3% burnout compared to interns (11.6%), which was again not statistically significant ($\chi^2 = 2.221$, $p = 0.136$). (Table 1).

Table 1: Demographic and Professional Characteristics in Relation to Overall Burnout in junior Dental professionals ($n = 80$)

Demo-graphic and Professional Characteristics	Overall Burnout Present n (%)	Overall Burnout Absent n (%)	Total n (%)	Statistical Test of Significance
Gender				$\chi^2 = 0.388$ $p = 0.533$
Male	18 (39.1%)	28 (60.9%)	46 (57.5%)	
Female	11 (32.4%)	23 (67.6%)	34 (42.5%)	
Age Group				$\chi^2 = 5.739$ $p = 0.056$
<23 years	1 (14.3%)	6 (85.7%)	7 (8.8%)	
23–25 years	3(7.3%)	38 (92.7%)	41 (51.2%)	
≥25 years	9 (28.1%)	23 (71.9%)	32 (40.0%)	
Present Designation				$\chi^2 = 2.221$ $p = 0.136$
Interns	5 (11.6%)	38 (88.4%)	43 (53.8%)	
House Staffs	9 (24.3%)	28 (75.7%)	37 (46.2%)	
Total	14 (17.5%)	66 (82.5%)	80 (100%)	

On comparing emotional exhaustion (EE), high levels were exhibited by 15 participants ,while 22 demonstrated moderate and 43 with low levels of EE. In case of depersonalization (DP), 13 participants were categorized with high levels, 21 with moderate and 46 with low levels. 47 participants had high sense personal accomplishment (PA), while 22 and 11 participants reported relatively moderate and low levels PA. (Table 2)

Table 2. Distribution of Burnout Dimensions Among Participants ($n = 80$)

Burnout Dimensions	Level	Frequency	Percentage
Emotional exhaustion	High	15	18.75
	Moderate	22	27.5

	Low	43	53.75
Depersonalization	High	13	16.25
	Moderate	21	26.25
	Low	46	57.5
Personal Accomplishment	High	47	58.57
	Moderate	22	27.50
	Low	11	13.75

Among the reported causes of burnout, stress related to completion of clinical quotas (34.7 %), patient workload (22.5 %) and physical fatigue (18.75%) showed higher mean scores, while lack of guidance or supervision (13.75%) and burden of documentation (10.0%) were reported less frequently. (Table 3)

Table 3. Perceived Causes of Burnout (n = 80)

Cause of Burnout	Frequency (n)	Percentage (%)
Time pressure to complete procedures	28	35.0
Clinical workload & patient volume	18	22.5
Physical fatigue	15	18.75
Lack of guidance/supervision	11	13.75
Administrative/documentation burden	8	10.0

Among the study participants, 66.25% reported that they would feel comfortable seeking professional assistance if they experienced symptoms of burnout. However, only 26.25% indicated that mental health counseling services were readily available. 21.25 % were satisfied balancing their work and day to day life. Notably, 61.25% acknowledged that they had considered discontinuing their training due to stress. These highlights that although a majority of participants are in favour of seeking support, the limited availability of mental health resources and poor work life balance makes it difficult for them. (Table 4).

Table 4. Coping Mechanisms and Perceptions Related to Burnout (n = 80)

Variable	Frequency (n)	Percentage (%)
Comfortable seeking help	53	66.25
Access to mental health counseling	21	26.25
Good work-life balance	17	21.25
Contemplated abandoning training	49	61.25

Among the various suggested measures for reducing burnout, better scheduling of clinical sessions (51.25 %), followed by reduced clinical workload and regular wellness programmes are most preferred.

DISCUSSION

Burnout is major occupational health concern among healthcare professionals, particularly among trainees who are required to balance academic responsibilities, clinical obligations, and professional development.^[3] The present study evaluated burnout among dental interns and housestaffs using the MBI scale and identified various factors associated with it.

In the present study burnout was observed in 17.5% of participants. Although this prevalence appears lower than that reported in several international studies, a substantial proportion of participants demonstrated moderate levels of emotional exhaustion and depersonalization, suggesting vulnerability to progression toward more severe burnout. Burnout among dental trainees is increasingly reported worldwide owing to the demanding nature of dental education and clinical training.^[1,5,6]

18.75% of participants exhibited high emotional exhaustion (EE). Similar findings have been reported among dental students and young dental professionals in Europe, where clinical training was associated with increased psychological distress, fatigue, and burnout symptoms.¹ A recent systematic review and meta-analysis reported that emotional exhaustion remains the most prevalent burnout dimension among dental students globally.^[6]

16.25% showed high levels of depersonalization (DP), indicating that a subset of junior doctors experienced emotional detachment and cynical attitude from their patients and their clinical responsibilities. Similar findings have been reported among dental students where increased clinical demands and prolonged professional stress were major contributors to depolarization.^[2]

An encouraging finding in the present study was that 58.57% of participants reported high personal accomplishment (PA). Previous studies have suggested that a strong sense of professional achievement may serve as a protective factor against severe burnout.^[7] Similar observations have been reported among healthcare trainees, where high personal accomplishment was associated with greater job satisfaction and lower intentions to leave the profession.^[8]

With respect to age, burnout was more frequent among participants more than 25 years of age (28.1%), the association was not statistically significant. This finding may be attributed to increased academic stress along with clinical responsibilities, concerns regarding postgraduate education, and uncertainty about future career opportunities. Comparable findings have been reported among healthcare trainees experiencing increasing burnout rates with advancing stages of professional training.^[9]

In this study although male participants exhibited a higher burnout rate than females, the difference was not statistically significant. Similar observations have been reported in other studies, suggesting that workplace-related stressors may exert a equal influence on burnout development than demographic variables alone.^[9] However, other investigations have demonstrated higher emotional exhaustion among female healthcare professionals.^[10]

Burnout was also more prevalent among house staffs than interns, though it was not statistically significant. This may

reflect the increased clinical responsibilities assumed during house staff training. Similar trends have been reported among postgraduate dental trainees and junior healthcare professionals.^[4]

Among the perceived causes of burnout, time pressure for completion of clinical procedures emerged as the most frequently reported factor (34.7%), followed by clinical workload and patient volume (20.0%) and physical fatigue (20.0%). These findings are consistent with previous investigations identifying workload burden, clinical quotas, patient management responsibilities, and time constraints as major stressors among dental students and young dentists.^[1,11]

One of the most concerning findings of the present study was that 65.3% of participants wanted to discontinue their training because of burnout. Similar concerns have been raised internationally, where burnout has been associated with reduced professional satisfaction, impaired clinical performance, increased absenteeism, and attrition from healthcare professions.^[12]

Only 22.7% of participants reported having access to mental health counseling services. The World Health Organization has emphasized on the importance of accessible mental health support systems available for healthcare workers.^[13] Structured counseling services, mentorship programmes and support groups have been shown to significantly reduce burnout and improve psychological well-being among healthcare professionals.^[14]

More than half of the participants (52.0%) identified improved staffing and supervision as the most effective intervention for reducing burnout. This finding supports the growing consensus that burnout should be addressed at an organizational rather than purely individual level. Evidence suggests that institutional interventions, including workload redistribution, adequate staffing, flexible scheduling, and supportive leadership, are more effective in reducing burnout than individual-focused interventions alone.^[15,16]

CONCLUSION

The present study demonstrated that burnout is a significant occupational concern among dental interns and house surgeons. Although severe burnout was identified in 17.3% of participants, a considerably larger proportion exhibited moderate levels of emotional exhaustion, indicating vulnerability to future psychological distress. Age was significantly associated with burnout, whereas gender and professional designation did not demonstrate statistically significant associations.

Time pressure for completing clinical procedures, excessive workload, and physical fatigue were identified as the principal contributors to burnout. Despite these challenges, most participants reported high levels of personal accomplishment, suggesting the presence of protective psychological factors. The limited availability of mental health support services and the high proportion of participants who had contemplated discontinuing training highlight the urgent need for institutional intervention.

Implementation of structured mentorship programmes, improved staffing and supervision, workload optimization, wellness initiatives, and accessible psychological counseling

services may substantially reduce burnout and enhance both professional development and quality of patient care.

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