



## Emotional Fatigue, Depersonalization, and Professional Fulfillment among Students of a Private Dental College in Chennai, India

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**Citation:** Kesavan R, Vinita Mary A. Emotional Fatigue, Depersonalization, and Professional Fulfillment among Students of a Private Dental College in Chennai, India. J Occup Health Epidemiol 2022; 11(1):76-82.

### Article Info

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### Article history

**Received:** Jan 2022

**Accepted:** May 2022

10.52547/johe.11.1.76

**Print ISSN:** 2251-8096

**Online ISSN:** 2252-0902

Peer review under responsibility of Journal of Occupational Health and Epidemiology

### Abstract

**Background:** Stress is unavoidable in life, a common physiological reaction of the body to an adverse stimulus. Burnout is a physiological response to the failure to control stress efficiently. Dentistry students appear to be more prone to anxiety, depression, and burnout due to the variety of stressful situations in their careers.

**Materials and Methods:** The current study had a descriptive cross-sectional design, carried out among 311 clinical and postgraduate scholars of a private dental college in Chennai in 2021. Data was collected through a convenient sampling method using a validated questionnaire obtained from the Maslach Burnout Inventory. The data was analyzed using SPSS 26 software and parametric tests were applied.

**Results:** The results showed that about 41.5% of the participants felt emotionally drained after every day's clinical work. About 52% reported that they never treated the patients as impersonal objects, and 37.3% stated they never became less sensitive towards people after taking up the dental profession. Females had significantly higher emotional fatigue scores than males, and depersonalization scores were highest among interns compared to other groups ( $p < 0.05$ ).

**Conclusion:** Students experience a considerable emotional burnout; however, it does not hinder the students' attitudes and practices towards patients' care and professional accomplishment. Necessary steps should be taken to reduce emotional fatigue, possibly further improving the students' professional ability.

**Keywords:** Stress, Burnout, Dental Students

### Introduction

Stress is a silent epidemic of the 21st century; it is the most common physiological reaction of the body to an adverse stimulus that can be either internal or external [1]. Stress can lead to several disorders if the compensating mechanisms are inadequate and inappropriate. Sometimes, it may also inspire people to make a great effort, resulting in personal and professional improvement. Stress is an unavoidable element of life that cannot be

avoided entirely. The stress factors that stimulate positive responses can also be harmful if they are not managed appropriately [2]. Burnout is a physiological response to a failure to control stress efficiently, with serious health consequences [3]. Continuous exposure to stress in the work environment is a significant risk factor for developing burnout syndrome [2].

The most broadly recognized definition of burnout was framed by Maslach, who described it as "A

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psychological syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment that develops in people who have a professional relationship with other persons” [4]. Occupational burnout is a response to long-lasting stress factors of an interactive nature with adverse consequences at individual and institutional levels [5]. It mostly involves experts who provide amenities in proximate contact with the beneficiary of their care, such as health care personnel. Its source is professional; however, the cause is multifactorial, depending upon personal, communal, and administrative aspects [6].

Dentistry students appear to be more vulnerable to anxiety, depression, and burnout due to various stressful situations in their professional careers [7]. Stress factors related to dentistry are discrete from those experienced in the medical and paramedical fields; they also vary according to the professional stage. Previous studies have demonstrated that exhaustion and depersonalization experienced by dental students are more frequent than those experienced by medical students [8]. Burnout can produce objectionable consequences at the personal, occupational, communal, and family levels, directly impacting the learning procedure. Therefore, its early screening is essential to prevent or minimize its effects, such as fatigue, skepticism, and a sense of minimal professional efficacy [9]. Sources and consequences of these factors have become popular topics of study in dental education, thus the focus of several recent studies [10]. Although some stressful situations are characteristics of dental education with a beneficial effect as a learning stimulus, prolonged exposure to high levels of stress may precipitate anxiety and burnout. Even though burnout among dental practitioners is considered a ‘professional syndrome,’ recent studies have reported that its indicators may be predominant and identified among both undergraduate and postgraduate dental students [11].

Burnout measurement among dental students is significant since their well-being has implications for stability in the oral health care workforce and the quality of care they provide. Burnout resulting from occupational stress may lead to changes in work contribution or leaving the professional course [12]. Several researchers have studied stress and burnout among dental students worldwide, but only a few studied its effect on their personal accomplishment and performance [2,5,8,10]. Therefore, the current study is conducted to understand the patterns of stress and burnout among dental students to evaluate emotional fatigue, depersonalization, and

professional fulfillment, emphasizing gender and year of study.

## Materials and Methods

The current study had a descriptive cross-sectional design, conducted among students of a private dental college in Chennai. The study was conducted between August and September 2021 based on the guidelines of Helsinki’s Declaration (revised in 2013). A detailed protocol of the study design was presented to the Institutional Review Board before starting the research, and its approval was procured (Dr. MGRERI/TMDCH/EC/2021022/1307072)

The study’s target population included all the dental students from the third year, final year, internship, and postgraduates. From a total of 395 students enrolled in the institution, 311 were chosen following certain inclusion criteria. The participants were clinical dental students, including the third year, final year, interns, and postgraduates willing to contribute to the study by providing informed consent. Non-clinical dental students, chronically absent students, and those not interested in providing consent for the study were not included. The sampling method was a non-probabilistic convenient sampling, in which all the participants who met the inclusion criteria were involved.

The questionnaire was specifically formulated for the study in two sections. The first section was used to record the students’ demographic details, and the second contained questions associated with emotional fatigue, depersonalization, and professional fulfillment obtained from the most frequently used tool for burnout evaluation, “The Maslach Burnout Inventory” (MBI) [8]. Its subscales were not recognized theoretically by clinical research but were deduced from investigative studies conducted to authorize the factorial validity of the instrument. The Maslach Burnout Inventory-Human Services Survey (MBIHSS) consists of three subscales. The first subscale measures emotional exhaustion and consists of 9 items (questions). The second one measures personal accomplishment using 8 items, and the third subscale measures depersonalization using 5 items. The tool was included in its entirety, and the subscales were scored as directed by the Maslach Burnout Inventory Manual, third edition [4]. According to the manual, the emotional exhaustion subscale measures “feelings of being emotionally overextended and exhausted by one’s work.” Depersonalization measures “an unfeeling and impersonal response toward recipients of one’s service, care, treatment, or instruction,” and

the personal accomplishment subscale measures “feelings of competence and successful achievement in one’s work with people.” The responses were recorded on a five-point Likert scale, ranging from never to every day. The questionnaire was validated by a pilot study among 30 students selected from the target group. The Kappa statistic (0.85) and test-retest were used to assess the reliability of the instrument.

An expert panel evaluated the content validity of the tool, and they weighed whether the included items were satisfactorily measuring the construct intended and were appropriate to measure the area of interest. The content validity index score was 0.78. The internal consistency of the subscales measured by Cronbach’s alpha was 0.85 for emotional exhaustion, 0.82 for depersonalization, and 0.52 for personal accomplishment [4].

The required permission was obtained from the head of the institution, and the data was collected so that it did not interfere with their academic work. After procuring the informed consent, the participants were involved in a one-to-one interview with the researcher who had previously trained. The research work aim was described to the participants, and all the questions were read

out and clearly described by the interviewer to avoid any uncertainty. The study participants were asked to provide suitable responses, being guaranteed anonymity and privacy.

The collected data were coded and analyzed using IBM.SPSS Version 26 software package. Descriptive statistics were calculated for demographic variables and the responses provided by the participants, including frequency, percentage, mean and standard deviation. Normality of the data was assessed using the Kolmogorov-Smirnov test, indicating that the values followed a normal distribution; further analyses were done using parametric tests. Statistical significance of emotional fatigue, depersonalization, and personal accomplishment scores with that of gender and education were assessed using unpaired t-test and one-way ANOVA. The level of significance was  $p < 0.05$ .

### Results

Responses were obtained from a total of 311 participants with a rate of 81%. The participants' age ranged from 19 to 40, with a mean age of  $22.8 \pm 2.9$ . About 67.2% of the respondents were females, almost equally distributed among different years of education (Table 1).

**Table 1.** Distribution of subjects based on demographic details

		Mean	SD
Age group	19 to 40	22.8	2.9
		Frequency	Percentage (%)
Gender	Male	102	32.8
	Female	209	67.2
Year of study	Third year	70	22.5
	Final year	89	28.6
	Intern	78	25.1
	Postgraduate	74	23.8
<b>Total</b>		311	100

Table 2 describes the emotional fatigue of the participants. Approximately 41.5% felt emotionally drained after every day’s clinical work. About 39.5% reported that they felt used up at the end of a work day. Nearly half of the participants (48.6) felt fatigued while getting up to face another day in college in the morning. About one-third of the subjects felt burned out and frustrated by daily clinical work.

Depersonalization of the participants is presented

in Table 3. About 52% reported that they never treated the patients as impersonal objects, and 37.3% stated that they never became less sensitive towards people after taking up the dental profession. Only 9.6% of the participants reported that they really did not care what happened to the patients, and most of the respondents never had such thoughts. About 14% reported that patients blamed them every day for some of their problems.

**Table 2.** Emotional fatigue among the participants

S.No	Questions	Never		A few times a year		A few times a month		A few times a week		Everyday	
		N	%	N	%	N	%	N	%	N	%
1	"I feel emotionally drained from my clinical work."	24	7.7	17	5.5	42	13.5	99	31.8	129	41.5
2	"I feel used up at the end of the workday."	31	10	20	6.4	37	11.9	100	32.2	123	39.5
3	"I feel fatigued when I get up in the morning and have to face another day at the college."	20	6.4	13	4.2	47	15.1	80	25.7	151	48.6
4	"I feel that I am at the end of my rope."	43	13.8	32	10.3	61	19.6	89	28.6	86	27.7
5	"I feel burned out from my clinical work."	37	11.9	27	8.7	64	20.6	82	26.4	101	32.5
6	"I feel frustrated by my clinical work"	32	10.3	28	9.0	73	23.5	89	28.6	89	28.6
7	"I feel that I am working too hard on my clinical work."	45	14.5	30	9.6	71	22.8	73	23.5	92	29.6
8	"Working with people directly puts too much stress on me."	69	22.2	36	11.6	64	20.6	67	21.5	75	24.1
9	"Working with people all day is really a strain for me."	88	28.3	34	10.9	59	19.0	66	21.2	64	20.6

Nearly half of the participants stated that they could effortlessly understand how patients felt, and most of them dealt effectively in treating their problems. About 40% reported that they could easily create a relaxed environment for their

patients. About a third of the subjects reported that they had accomplished worthwhile things professionally and dealt with emotional problems serenely (Table 4).

**Table 3.** Depersonalization among the participants

S.No	Questions	Never		A few times a year		A few times a month		A few times a week		Everyday	
		N	%	N	%	N	%	N	%	N	%
1	"I feel that I treat some patients as if they were impersonal objects."	162	52.1	19	6.1	31	10	57	18.3	42	13.5
2	"I've become less sensitive towards people since I took this profession."	116	37.3	44	14.1	41	13.2	67	21.5	43	13.8
3	"I worry that dentistry is hardening me emotionally."	84	27	43	13.8	64	20.6	51	16.4	69	22.2
4	"I don't really care what happens to some patients."	201	64.6	27	8.7	23	7.4	30	9.6	30	9.6
5	"I feel patients blame me for some of their problems."	126	40.5	51	16.4	52	16.7	38	12.2	44	14.1

**Table 4.** Personal accomplishments among the participants

S.No	Questions	Never		A few times a year		A few times a month		A few times a week		Everyday	
		N	%	N	%	N	%	N	%	N	%
1	"I can easily understand how my patients feel about things."	26	8.4	8	2.6	47	15.1	78	25.1	152	48.9
2	"I deal very effectively with the problems of my patients."	17	5.5	9	2.9	37	11.9	122	39.2	126	40.5
3	"I feel that I am positively influencing other people's lives through my work."	38	12.2	12	3.9	54	17.4	89	28.6	118	37.9
4	"I feel very energetic."	41	13.2	25	8	43	13.8	101	32.5	101	32.5
5	"I can easily create a relaxed atmosphere with my patients."	22	7.1	12	3.9	59	19	94	30.2	124	39.9
6	"I feel exhilarated after working closely with my patients."	17	5.5	18	5.8	47	15.1	96	30.9	133	42.8
7	"I have accomplished many worthwhile things in this profession."	28	9	35	11.3	69	22.2	83	26.7	96	30.9
8	"In my work, I deal with emotional problems very calmly."	53	17	19	6.1	55	17.7	85	27.3	99	31.8

The responses of the participants for all the three domains were given scores to calculate the mean and standard deviation. It was found that females had significantly higher emotional fatigue scores than males. According to the mean emotional

fatigue score comparison between participants of different academic years, the third and final year students had significantly higher scores, and postgraduates had the lowest scores (Table 5).

**Table 5.** Comparison of burnout scores among the population

Burnout subscale	Comparison group	Mean + SD	P-value
Emotional fatigue	Gender	Male	21.6 ± 9.6
		Female	23.6 ± 8.9
	Year of study	Third year	25.1 ± 8.9
		Final year	25.6 ± 7.6
		Intern	22.8 ± 8.6
		Postgraduate	17.9 ± 9.5
Depersonalization	Gender	Male	7.2 ± 5.2
		Female	7.2 ± 5.6
	Year of study	Third year	7.3 ± 5.2
		Final year	7.7 ± 5.9
		Intern	7.8 ± 5.6
		Postgraduate	5.8 ± 4.7
Personal accomplishment	Gender	Male	23.3 ± 7.6
		Female	22.0 ± 6.5
	Year of study	Third year	22.7 ± 6.4
		Final year	23.4 ± 6.7
		Intern	20.9 ± 7.4
		Postgraduate	22.7 ± 6.7

Independent t-test, One-way ANOVA

\* Significant

\*\* Highly significant

Depersonalization scores were highest among interns compared to other groups, and these variations were found to be statistically significant ( $p=0.03$ ). Both gender and study year did not exhibit any significant differences in personal accomplishment scores.

## Discussion

The present study revealed that about 40% of the study subjects felt emotionally drained and used up after every day's work, in line with Amin et al. [7] and Moore et al. [13], in which around 43% and 60% felt emotionally drained.

The study conducted by Amin et al. [7] also revealed that females tended to experience emotional fatigue significantly ( $p<0.05$ ) more than males, consistent with the present study. This may be since women are more sensitive than men emotionally and more prone to express distinct emotions, such as pleasure, anxiety, repulsion, and desolation [12]. However, some research in the domain of psychology suggests that the emotional variations observed between gender principally originate from socialized gender roles and not the biological structure [13,14]. In contrast, Divaris et al. [10] revealed no gender differences in perceived stress and emotional fatigue.

Students in the third and final years reported higher emotional fatigue than interns and postgraduates. The clinical workload and quota completion would have been the main reason for this finding, consistent with most other studies [6, 7, 10]. Additionally, interns and postgraduates have been exposed to the patient load more than the third and final years students who are relatively new to patient handling. Further, Atalayin C et al. showed that pre-clinical students also experienced considerable stress and burnout [15].

The responses of the participants to questions related to depersonalization were encouraging. Although most students experienced emotional fatigue, they never demonstrated it in patient care. More than half of the respondents never treated patients as impersonal objects, although around 40% believed that patients blame them for some of their personal problems. Postgraduates had significantly low depersonalization scores compared to other groups, consistent with some other studies [6, 10, 16].

Clinical experience gained in treating various types of patients over an extended period can be a reason for this finding. Most respondents had positive personal accomplishment scores even though they experienced emotional exhaustion. This showed that emotional burnout did not inhibit

the students' desire to learn and fulfill their personal accomplishment goals.

The responses of the participants were scored to obtain a total score for each domain. These scores were used to compare the differences among the study population, being considered an important strength of the current study. The present study results with those in the literature should be compared with caution due to the diversity of cut-offs in burnout measurement, the varied criteria in burnout definition, the diverse scales in depression assessment, and the variations among dental colleges regarding clinical work quota and patient load. [17,8] This could be one of the limitations of the present research. Moreover, the findings of this study cannot be generalized since it was performed among students of a single university dental school.

Multicentre research involving various dental schools in different cities is highly recommended to investigate the pattern of emotional exhaustion. Curriculum redesign can be done to minimize the unequal distribution of workload among different clinical years of study. Training programs can be conducted among dental students to cope with mechanisms in situations that can cause emotional burnout. Recreational activities, including sport, yoga, and meditation, can be incorporated into their daily activities to calm and train the mind to deal with stressful circumstances.

## Conclusion

This study indicates that dental students experience a considerable emotional burnout that is significantly higher among females and exam-going clinical students. However, these findings do not hinder the students' attitudes and practices towards patient care and professional accomplishment. It is concluded that necessary steps should be taken to reduce emotional fatigue, possibly further improving students' professional ability and desire to learn more to improve patient care.

## Acknowledgement

The research authors would like to acknowledge all the participants for their active and enthusiastic contributions.

**Conflict of interest:** None declared.

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