

ORIGINAL ARTICLE

Prevalence of Burnout among Dentists in CMH Lahore Medical College & Institute of Dentistry, Pakistan

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ABSTRACT

The current study was conducted to measure the level of burnout, among dentists working at the CMH Lahore Medical College & Institute of Dentistry, Pakistan and to find the difference in the level of burnout among them. A cross-sectional survey of dentists was done utilizing a validated and reliable questionnaire which incorporated the Copenhagen Burn Out Inventory as well as questions about demographic factors, age, gender, marital status, working experience, income and qualification. Inventory scores were investigated using 5-point Likert scale in the three dimensions of personal burnout, work related burn out and patient related burnout. Survey was anonymous. SPSS package 20 was used for statistical analysis. Questionnaire was filled by 157 dentists; dental faculty and postgraduate residents, yielding a response rate of 96% and 93% respectively. Majority participants were female (65.6%) and there was dental faculty predominance (73.2%). The mean scores of Personal related burnout and work related burnout scored high 3.0 & 2.9 respectively but did not show any significant differences between two groups of dentists. Patient related burnout showed a lowest average score of 2.67 and postgraduate residents affected more than the faculty members with (p-value=0.029). CMHLMC & IOD dental faculty and dental postgraduate residents deal with moderate burnout. Results showed that dental postgraduate residents were affected more as compared to dental faculty. Only in three out of nineteen items in inventory, dental faculty had high score of burnout than postgraduate residents.

**KEYWORDS:** Burnout, Copenhagen Burnout Inventory, Dental faculty, Dental postgraduate residents.

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INTRODUCTION

Burnout (BO) is a major problem among personnel dealing in public jobs like educators and health care professionals [1]. Researchers have shown the high level of BO among health providers especially in dentists, surgeons, gynecologists and pediatricians [2]. BO is a condition of chronic stress producing different stages of physical and mental exhaustion experienced by the individual [3]. BO is defined as a three-dimensional syndrome of emotional exhaustion, depersonalization and lack of personal accomplishment [4].

Persistent stress among workers is the root cause of mental discomfort and results in minimizing their efforts, lack of interest for job, feeling imprisonment and frustration. Depersonalization hits when health providers create an undesirable environment and attitude for their patients or colleagues, subsequently worsening the working environment. Inefficiency and lack of personal accomplishment is represented by the lack of ability of workers to perform their professional activities, thus developing disinterest and early retirement [5].

Numerous researches reported an elevated level of BO among dentists [6]. Extended working hours, tough jobs, problematic job atmospheres and greater competition among fellows can lead to physical and

emotional distress. Moreover, BO amongst dentists can influence the provision of health care and satisfaction of stake holders' emotional well-being [7-9]. Various tools have been created to determine BO namely: the Copenhagen Burnout Inventory [3], Maslach Burnout Inventory<sup>5</sup> and the Oldenburg Burnout Inventory [10].

Multiple researches have been conducted regarding burnout among doctors and nursing staff but there is a little literature published regarding the burnout among dentists globally and very little in Pakistan. Therefore, the current study has been planned to measure the level of BO among dentists in the private dental college of Pakistan, and also to measure the causative components of high BO. The study helps us to find and take necessary actions to settle the problems about BO and provide good quality of life to dentists. This was considered crucial because dysfunctional coping in the long run have severe harmful consequences for the patients as well as for the wellbeing of health providers also.

## MATERIAL AND METHODS

This cross-sectional study was conducted at CMH Lahore Medical College & Institute of Dentistry (CMHLMC & IOD), Lahore Pakistan from May to November 2019. Approval was taken from ethical committee of CMHLMC & IOD. Census sampling was used for the study. All dentists working at the CMH Institute of Dentistry (IOD), who had a working experience of at least six months prior to the present study, were included in the study. Questionnaires were distributed to 165 dentists, among them 120 were dental faculty and 45 were dental PGRs at CMH, LMC & IOD. Verbal consent was taken from the participants before the survey. The survey was anonymous; burnout was measured by a series of demographic questions regarding age, gender, marital status, working experience, income /month and qualification.

Copenhagen Burnout Inventory (CBI) created by Tage S.Kristensen was used in this study after getting the permission from developer via e-mail. It is a pre tested, validated and reliable instrument<sup>3</sup> to calculate the level of BO among dentists [11, 12]. It comprises of 19 items in 3 domains, namely personal burnout (6 items), patient burnout (6 items) and work burnout (7 items). Twelve items were assessed on a Likert scale of five points (Table 2). Seven items were assessed on the basis of intensity (Table 2). The interpretation of each item scoring was: 50 to 74 considered 'moderate', 75-99 considered as 'high', and 100 was 'severe' burnout. For each of the three domains we calculated a total score that was divided by the number of the relevant items to measure the participants' average perception.

Twelve out of nineteen questions mentioned responses in terms of always, often, sometimes, seldom, never and remaining questions mentioned responses in terms of degree (very high degree to very low degree) Table II Question (10) was a negatively worded question so reverse coding was done for that item.

Participants were asked to fill the questionnaire and collected after they complete it. Dentists from CMH who refused to participate were excluded. The data collected was analyzed by using statistical software SPSS-20. Qualitative variables were showed by calculating frequency and percentages. Mean and SD were calculated for the scores of CBI. These scores were compared amongst the different groups (PGRs and faculty) of dentists. Comparisons of each burnout domain's mean score among both groups were tested by Independent sample t-test, Mann Whitney U test and chi square test were used to calculate the differences. A p value of <0.05 was considered statistically significant.

## RESULTS

Inventories were circulated to 165 dentists, in which 115 out of 120 were dental faculty and 42 out of 45 were dental PGRs at CMH, LMC & IOD yielding a response rate of 96% and 93% respectively. The overall response rate was 95%. Cronbach alpha calculated for the complete questionnaire was excellent; 0.904, (Domains reliability Personal BO=0.85, Work-related BO=0.78, Client-related BO=0.85). Majority of participants were females 103 (65.6%) and there was dental faculty predominance 115 (73.2%). Demographic information of participants are given in Table-I. Burn out mean scores of every participant are depicted in Table-II and given a broad picture of this important issue of BO among dental faculty and dental PGRs.

The scores of the domain regarding BO due to work and personal burnout (Table 3) revealed a significantly higher average score of 3.0 & 2.9 respectively. However, patient related burnout scored less than other two domains but it was more among PGRs as compared to faculty members with p-value 0.029. On the other hand, the mean scores of other two domains i.e. burnout related personal and work did not show any significant differences between two groups of dentists (p-values were 0.453 and 0.906) respectively. Three out of nineteen items in CBI mentioned in table 4 showed significant different pattern of burnout between faculty members and trainees. There was significant difference seen in three items

(Table 4). One item related to work domain “Do you feel that every working hour is tiring for you” p-values 0.045 and two items of patient related BO i.e. regarding the energy of dentist (p-value 0.047) and tiredness of dentists working with patients (p-value 0.05). The results showed high burnout in dental faculty as compared to trainees with p-values 0.045, 0.047 and 0.05 respectively.

## DISCUSSION

Healthcare providers often suffer from varying degree of burnout resulting in many negative outcomes and this may have a detrimental effect on patient safety. One of the leading factors for burnout syndrome is chronic stress in the work environment causing deleterious effect on health of a doctor as well [13, 14]. Dentistry is considered as one of the stressful profession. Due to direct interaction with the patients, dentist often suffer from a great degree of burnout both from work related factors and client related problems [15, 16].

A research by Toon showed four sub dimensions of stress in general dentistry; productivity stress, work related stress, patient-led stress and regulatory stress [16]. We had quite high level of personal burnout as more than 70% of faculty and PGR showed the score between 50-75%. Similar results of high burnout was reported in a study by Ratnakaran in which more than 50% of PGRs reported high level of personal BO [17]. Even much higher level of burnout syndrome (88.5%) as compared to our results was revealed in a study from a hospital in Saudi Arabia [14]. Dentistry is a stressful job due to direct interaction with patients and this may be the cause of elevated level of personal and work-related BO among PGRs and faculty of this profession. A high levels of burnout in all domains among medical professionals was reported by Deepak from India [13].

**Table 1: Characteristics of Dentists in CMHLMC & IOD**

Characteristic	Dental Faculty (n=115)	Dental Postgraduate Resident (n=42)
Mean Age	26.4±3.8 25-47 years	27.8±2.6 23 - 40 Years
Gender		
Males	36 (31.3%)	18 (42.9%)
Females	79 (68.7%)	24 (57.1%)
Marital status		
Married	19 (16.5%)	6 (14.3%)
Single	96 (83.5%)	36 (85.7%)
Work-experience in years	2.8±3.4 (6months) 0-25 years	3.2±2.2 1-14 years
Income/month in Pak Rupees	55261±79984 0-600000 Rs	53881±6001 30000-75000 Rs
Qualification		
BDS	109 (94.8%)	42 (100.0%)
Post-graduation	6 (5.2%)	0 (0.0%)

Our results are comparable with a research by Lee showing that visiting dental staff had significantly more stress than post-graduate residents. In their research dental assistants were also included who had the highest burnout scores [18]. Similar results are reported in a Pakistani study in which only 20% were not stressed and almost 40% each were either moderately or highly stressed [15]. Varying rates of burnout are reported among medical specialty, gender and career stage. High work demands in residency and also on the faculty due to their responsible position predispose them to suffer from a great burnout. There are various inventories available for measuring the level of burnout and we used CBI and the reason of this selection over Maslach Burnout Inventory which is considered as the most popular for burnout is because it has similar properties and is available free.

A Pakistani study also used CBI for medical students and almost 40% of participants narrated elevated levels of BO during their study period [11]. A Chinese review article showed high BO reaching up to 87.8% and burnout was much noticeable among health providers who worked for more than forty hours per week in tertiary care hospitals [19]. Conflicting to the results of this study a study conducted in tertiary care hospital reported a low burn out and a lesser percentage of doctors face moderate or high burnout [20].

**Table 2: Items and Mean/SD of Dentists in CMHLMC & IOD points in Questionnaire Scales**

<b>Categorization of Response</b> Possible score range for all scales is 0_/100. a. Response categories for items denoted with a. b. Response categories for items denoted with b	<b>Never almost never or to a very low degree (Score 0%)</b>	<b>Seldom or To a low degree (Score 25%)</b>	<b>Sometimes or somewhat (Score 50%)</b>	<b>Often or To a high degree (Score 75%)</b>	<b>Always or To a very high degree (Score 100%)</b>
<b>Personal burnout</b>	n (%)	n (%)	n (%)	n (%)	n (%)
How often do you feel tired? <sup>a</sup>	1 (0.6)	20 (12.7)	55 (35.0)	53 (33.8)	28 (17.8)
How often are you physically exhausted? <sup>a</sup>	4 (2.5)	32 (20.4)	62 (39.5)	47 (29.9)	12 (7.6)
How often are you emotionally exhausted? <sup>a</sup>	10 (6.4)	41 (26.1)	35 (22.3)	47 (29.9)	24 (15.3)
How often do you think: "I can't take it anymore" <sup>a</sup>	22 (14.0)	49 (31.2)	40 (25.5)	30 (19.1)	16 (10.2)
How often do you feel worn out? <sup>a</sup>	16 (10.2)	52 (33.1)	48 (30.6)	32 (20.4)	9 (5.7)
How often do you feel weak and susceptible to illness? <sup>a</sup>	25 (15.9)	66 (42.0)	39 (24.8)	15 (9.6)	12 (7.6)
<b>Work-related burnout</b>					
Do you feel worn out at the end of the working day? <sup>a</sup>	3 (1.9)	18 (11.5)	35 (22.3)	62 (39.5)	39 (24.8)
Are you exhausted in the morning at the thought of another day at work? <sup>a</sup>	15 (9.6)	35 (22.3)	40 (25.5)	41 (26.1)	26 (16.6)
Do you feel that every working hour is tiring for you? <sup>a</sup>	25 (15.9)	42 (26.8)	52 (33.1)	25 (15.9)	13 (8.3)
Do you have enough energy for family and friends during leisure time? (Reverse coding)	48 (30.6)	38 (24.2)	45 (28.7)	20 (12.7)	6 (3.8)
Is your work emotionally exhausting	18 (11.5)	47 (29.9)	45 (28.7)	30 (19.1)	17 (10.8)
Does your work frustrate you? <sup>b</sup>	20 (12.7)	56 (35.7)	49 (31.2)	20 (12.7)	12 (7.6)
Do you feel burnout because of your work? <sup>b</sup>	21 (13.4)	48 (30.6)	42 (26.8)	31 (19.7)	15 (9.6)
<b>Patient-related burnout</b>					
Do you find it hard to work with patients? <sup>b</sup>	19 (12.1)	66 (42.0)	50 (31.8)	16 (10.2)	6 (3.8)
Does it drain your energy to work with patients? <sup>b</sup>	22 (14.0)	57 (36.3)	51 (32.5)	18 (11.5)	9 (5.7)
Do you find it frustrating to work with patients? <sup>b</sup>	31 (19.7)	61 (38.9)	42 (26.8)	17 (10.8)	6 (3.8)
Do you feel that you give more than you get back when you work with patients? <sup>b</sup>	23 (14.6)	55 (35.0)	50 (31.8)	18 (11.5)	11 (7.0)
Are you tired of working with patients? <sup>a</sup>	50 (31.8)	59 (37.6)	22 (14.0)	19 (12.1)	7 (4.5)
Do you wonder how long you will be able to continue working with patients? <sup>a</sup>	45 (28.7)	50 (31.8)	32 (20.4)	24 (15.3)	6 (3.8)

<sup>a</sup> Always, often, sometimes, seldom, never/ almost never (scoring: 100%, 75%, 50%, 25%, 0%)

<sup>b</sup> To a very high degree, to a high degree, somewhat, to a low degree, to a very low degree

**Table 3: Mean BO points of Undergraduate Dentistry Students for each domain**

BO Domains	Question #	Dental Faculty in IOD Mean/SD	Dental PGR in IOD Mean/SD	p-value
Personal burnout <sup>s</sup>	1-6	(18.2) 3.04±0.84 (1.5 - 5.0)	(17.58) 2.93±0.79 (1.8 - 4.8)	0.453
Work-related burnout <sup>s</sup>	7-13	(20.37) 2.91±0.78 (1.3 - 5.0)	(20.44) 2.92±0.70 (1.3 - 4.6)	0.906
Client-related burnout*	14-19	(14.16) 2.36±0.80 (1.0 - 5.0)	(16.02) 2.67±0.81 (1.0 - 4.33)	0.029

**Table 4: Items with Significant Difference among different groups in CMHLMC & OD**

Participants and Items	Always or To a very high degree (Score 100%)	Often or To a high degree (Score 75%)	Some-times or somewhat (Score 50%)	Seldom or To a low degree (Score 25%)	Never almost never or to a very low degree (Score 0%)	p- value (Chi-square test)
<b>Work related BO: Do you feel that every working hour is tiring for you?</b>						
Dentists	17	36	34	16	12	0.045
PGR (CMH)	8	6	18	9	1	
<b>Patient related BO: Does it drain your energy to work with patients?</b>						
Dentists	18	41	40	8	8	0.047
PGR (CMH)	4	16	11	10	1	
<b>Patient related BO: Are you tired of working with patients?</b>						
Dentists	43	42	15	10	5	0.05
PGR (CMH)	7	17	7	9	2	

We can better estimate the prevalence of a particular condition in a system by attaining a good response rate. We had a much higher response rate of 96% and 93% among faculty and PGRs as compared to a study by Lee showing the response rate of 79.9%.<sup>18</sup> Similarly a low response rates were shown in studies from Europe [21, 22]. Consistent with our results a longitudinal study by Parr showed a good response rate [23]. One of strength of our study is this higher level of response rate.

### LIMITATIONS

The study was conducted only in one private institute of dentistry. There is a need to replicate the current study in other private and public dental schools for the generalization of results. The current study cannot determine the variation in the level of BO which is a normal process and can happen overtime

### CONCLUSIONS

This study reveals that burnout is present among dentists and this issue needs to be further assessed to get the deep insight of stressors and risk factors that can develop it. Medical and dental institutions should formulate strategies to avoid the augmentation of this problem and for the well-being of dentists and patients.

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