

Stress and professional burnout among newly graduated dentists

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Abstract

Background: Dentists encounter numerous professional stressful situations, beginning from education to day-to-day practice. The resulting stress tends to have a negative impact on their personal as well as professional lives. **Objectives:** To measure daily burnout, and to investigate the extent of expectations from dental career and the feeling of being unqualified new dental practitioner. **Materials and Methods:** A close-ended questionnaire, i.e., “the Copenhagen Burnout Inventory,” was utilized for evaluation. A total of 121 dentists with an experience ranging between 6 months and 5 years were included. The period was considered initiating from graduation to dental practicing in urban or rural areas. Ninety-seven dentists replied with filled questionnaires (80.16%). The multivariate analysis was done using SPSS 11.0 ver. (Chicago, USA). **Results:** Using measures analysis, the mean scores for dentists on the basis of age and sex ($n = 97$) were calculated. The factors most commonly considered responsible for professional burnout were emotional exhaustion (39.27%), frustrations (47.83%), feeling worn out at the end of the day (35.05%), feeling worn out at the end of the working day (46.80%), exhaustion in the morning at the thought of another day at work (35.05%), feeling that every working hour is tiring (46.80%), less energy and less time for family and friends (47.83%). The most common cause for stress was professional burnout that was recorded commonly in females in the age range of 26–28 years. **Conclusions:** Dentists are more prone for professional burnout, anxiety, and depression. The main reason for this is the nature of their practice and their personality traits, especially while pursuing dentistry as a carrier. Stress may lead to negative impact on dentists’ personal as well as professional lives.

Key words: Burnout, practice management, psychology

INTRODUCTION

Prolonged physical and psychological exhaustion perceived by an individual may lead to work burnout.

There seems to be a drastic decline in the efficiency of dental students due to stress. Stress is the key factor in diminishing one’s efficiency at different age intervals.

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The very first induction of stress may be at school level, such as due to bureaucratic administration system. The need for passing the exams or factors like personality development may even play a role in stress induction.

Burnout of a person results from a combination of multiple dimensions which unite to deteriorate the efficiency of the person. Feeling of being depleted of one's emotional resources is referred to as emotional exhaustion. Depersonalizing refers to a negative, callous, or excessively detached response to the recipients of one's service or care. Reduced personal accomplishment refers to a decline one's feeling of competence. For successful achievement in one's work, emotional exhaustion is the key dimension that shows robust relationship with various job stressors, such as work overload, role problems, or lack of social support.^[3-8]

The expectations of newly formed professionals are not "down to earth," as they tend to expect more or less like fairy tales. This is called "reality shock," which may end up in frustration, consequently leading to discomfort and emotional diversion from the job, one that was inspiring.^[9,10]

Burnout level increases with deficient career opportunities and limited work. Stress and difficulty to get sufficient patient in the clinic have relatively high burnout risk. Monitoring recently graduated dental students can provide valuable information to explore "reality shock." The main objective of this study was to monitor burnouts in early dental career. Furthermore, it was also aimed to investigate the dentists' expectation with regard to work and the factors that may contribute to negligence of dental practice.

In recent practice, knowingly or unknowingly, a competition has developed among dentists for achieving peak of success. This, in turn, may cultivate the first seed of burnout among dentists that further leads to never ending exhaustion and frustration. Thus, it can be the main source of stress in reality for undergraduate dentists.^[11,12] The source of stress may be the working environment, i.e. workplace, financial and practice management issues, and the type of personality of the individual. Developed stress may elicit various physiological and psychological effects in a person. The professional burnout eventually leads to emotional as well as mental exhaustion, which may further end up in a negative, indifferent, or cynical attitude of an individual toward patients, clients, or co-workers. Onset of stress not only affects the body, mood, and thoughts of individuals, but also involves a combination of hereditary, psychological, and environmental factors.

However, episodes of depression may be precipitated by multiple mild stresses.

The aim of the present study was to determine the development of burnout risk in newly qualified dentists and to investigate the extent of expectations in young dentists with regard to work.

MATERIALS AND METHODS

Demographic status

Udaipur, being one of the major healthcare centers in Rajasthan, is spread over a total area of 37 km² and 625 m with an approximate population of 4 lacs. There are two medical and two dental colleges under the healthcare sector in Udaipur. There are more than 150 dentists practicing in their own private clinic or hospitals, on an average.

Sampling methods

Ethical approval for the study was obtained from the Institutional Ethical committee for Research, Darshan Dental College, Udaipur. The Copenhagen Burnout Inventory in English, based on a 5-point Likert scale and introduced by Kristensen *et al.*,^[13] which is a widely accepted questionnaire^[14-16] was used in the present study.

The close-ended questionnaire was distributed among newly qualified dentists for evaluation. A total of 121 dentists with experience ranging between 6 months and 5 years since graduation and practicing in urban or rural areas of Udaipur district were mailed the questionnaire. Their names were linked with a personal code to prevent bias. The survey was done by distributing questionnaires with postage return envelopes. A personal letter explaining the purpose of survey in neutral terms with confidential research protocol were Explained, with avoidance of any indication regarding burnout survey was taken care off.

Inclusion criterion was graduated dental surgeons, while the exclusion criteria included all incompletely filled questionnaire or dentists who did not respond to the mailed questionnaire.

RESULTS

Out of total 121 questionnaires, 97 were included in the final study (80.16%). There were 43.3% male and 56.7% female participants. Mean age of participants was 25.2 years (SD = 2.4). The multivariate analysis was done using SPSS 11.0 (SPSS, Inc., Chicago, IL USA).

Among the participants in the age group of 26–28 years, 39.27% were affected by emotional exhaustion and 47.83% individuals felt a high degree of burnout due to work. A total of 46.80% individuals felt worn out at the end of the day, while 47.83% individuals had time for their friends and family. The participants in the age group between 23 and 25 years were never tired during their working hours (46.80%), while 35.05% individuals of age group between 29 and 31 years were somewhat frustrated by their work [Table 1].

The female participants were predominantly affected by emotional exhaustion (78.13%). The other outcomes of stress included increased burnout due to work (81.83%), frustration due to work (59.96%),

feeling worn out at the end of the working day (80.07%), feeling exhausted in the morning at the thought of another day at work (59.96%), feeling tired during working hours (80.07%), and not having enough time for friends and family (81.83%) [Table 2].

The questions analyzing the main stress-producing factors, i.e. “Do you feel worn out at the end of the working day?,” “Are you exhausted in the morning at the thought of another day at work?,” and “Do you feel that every working hour is tiring for you?,” had higher mean scores of 3.1, 3.5, and 4.25, respectively [Table 3].

Stepwise logistic regression analysis showed a significant relationship ($P < 0.05$) with the model for questions

Table 1: Age of participants and degree of burnout among participants

	Age, years	Very high degree	High degree	Somewhat	A low degree	Very low degree	Total	<i>P</i>
Q1. Is your work emotionally exhausting?	20-22	0	4.1	3.1	0	0	7.2	0.404
	23-25	6.2	8.2	14.4	3.1	0	32.0	
	26-28	4.1	14.4	17.5	3.1	0	39.2	
	29-31	0	11.3	9.3	1.0	0	21.6	
	Total	10.3	38.1	14.0	7.2	0	100	
Q2. Do you feel the burnout because of your work?	20-22	0	4.1	1	2.1	0	7.2	0.133
	23-25	5.2	12.4	9.3	5.2	0	32.0	
	26-28	1.0	16.5	17.5	4.1	0	39.2	
	29-31	0	13.4	5.2	3.1	0	21.6	
	Total	6.2	46.4	33.0	14.4	0	100	
Q3. Does your work frustrate you?	20-22	3.1	1	3.3	0	0	7.2	0.739
	23-25	12.4	6.2	10.3	3.1	0	32	
	26-28	12.4	14.4	9.3	3.1	0	39.2	
	29-31	4.1	5.2	11.3	1	0	21.6	
	Total	32	26.8	34	7.2	0	100	
	Age, years	Always	Often	Sometimes	Seldom	Never	Total	<i>P</i>
Q4. Do you feel worn out at the end of working day?	20-22	0	2.1	3.1	2.1	0	26.8	0.606
	23-25	0	9.3	11.3	8.2	3.1	45.4	
	26-28	0	8.2	20.6	8.2	2.1	19.6	
	29-31	0	7.1	10.3	1	3.1	8.2	
	Total	0	26.8	45.4	19.6	8.2	100	
Q5. Are you exhausted in the morning at the thought of another day at work?	20-22	0	0	3.1	2.1	2.1	7.2	0.530
	23-25	3.1	6.2	6.2	6.2	10.3	32.0	
	26-28	2.1	3.1	14.4	12.4	7.2	39.2	
	29-31	1	2.1	7.3	3.1	5.2	21.6	
	Total	6.2	11.3	34.0	23.7	24.7	100	
Q6. Do you feel that every working hour is tiring for you?	20-22	0	0	1	5.2	1	7.2	0.613
	23-25	0	0	6.2	8.2	17.5	32	
	26-28	0	1	7.2	13.4	17.5	39.2	
	29-31	0	0	4.1	8.2	9.3	21.6	
	Total	0	1	18.6	35.1	45.4	100	
Q7. Do you have enough energy for family and friends during leisure time?	20-22	5.2	2.1	0	0	0	7.2	0.244
	23-25	15.5	6.2	7.2	3.1	0	32	
	26-28	19.6	15.5	3.1	1.0	0	39.2	
	29-31	6.2	9.3	4.1	2.1	0	21	
	Total	46.4	33	14.4	6.2	0	100	

Table 2: Sex of the participants and degree of burnout among participants

	Age	Female	Male	Total	P
Q1. Is your work emotionally exhausting?	Very high degree	5.2	5.2	10.3	0.404
	High degree	20.6	17.5	38.1	
	Somewhat	27.8	16.5	44.3	
	A low degree	3.1	4.1	7.2	
	Very low degree	0	0	0	
Q2. Do you feel the burnout because of your work?	Total	56.7	43.3	100	0.259
	Very high degree	2.1	4.1	6.2	
	High degree	29.9	16.5	46.4	
	Somewhat	15.5	17.5	33.0	
	A low degree	9.3	5.2	14.4	
Q3. Does your work frustrate you?	Very low degree	0	0	0	0.489
	Total	56.7	43.3	100	
	Very high degree	15.5	16.5	32.0	
	High degree	17.5	9.3	26.8	
	Somewhat	20.6	13.4	34.0	
Q4. Do you feel worn out at the end of working day?	A low degree	3.1	4.1	7.2	0.739
	Very low degree	0	0	0	
	Total	56.7	43.4	100	
	Always	0	0	0	
	Often	14.4	12.4	28.6	
Q5. Are you exhausted in the morning at the thought of another day at work?	Sometimes	27.8	17.5	45.4	0.275
	Seldom	9.3	10.3	19.6	
	Never	5.2	3.1	8.2	
	Total	56.7	43.3	100	
	Always	2.1	4.1	6.2	
Q6. Do you feel that every working hour is tiring for you?	Often	5.2	6.2	11.3	0.653
	Sometimes	19.6	14.4	34.0	
	Seldom	17.5	6.3	23.7	
	Never	12.4	12.4	24.7	
	Total	56.7	43.3	100	
Q7. Do you have enough energy for family and friends during leisure time?	Always	0	0	0	0.275
	Often	1.0	0	1.0	
	Sometimes	11.3	7.2	18.6	
	Seldom	17.5	17.5	35.1	
	Never	26.8	18.6	45.4	
Q7. Do you have enough energy for family and friends during leisure time?	Total	56.7	43.3	100	0.653
	Always	19.6	26.8	46.4	
	Often	22.7	10.3	33.0	
	Sometimes	10.3	4.1	14.4	
	Seldom	4.1	2.1	6.2	
Q7. Do you have enough energy for family and friends during leisure time?	Never	0	0	0	0.653
	Total	56.7	43.3	100.0	

“Q5 Are you exhausted in the morning at the thought of another day at work?” and “Q6 Do you feel that every working hour is tiring for you?,” keeping the age and sex of the participants constant [Table 4].

DISCUSSION

The aim of the present study was to determine the burnout risk in newly qualified dentists and to

investigate the extent of expectations among young dentists regarding work.

At a group level, young dentists showed no burnout signs after graduation (less than a year of practice) when compared with the manual norm score. The mean levels of emotion exhaustion, depersonalization, and personal accomplishment appeared favorable at both points of time. On the other hand, individual risk

Table 3: Mean burnout scores (SD) among participants according to age groups and sex

Age, years	Sex	Q1	Q2	Q3	Q4	Q5	Q6	Q7
20-22	M	2.43 (0.53)	2.71 (0.95)	2.00 (1.0)	3.00 (0.82)	3.86 (0.90)	4.00 (0.58)	1.29 (0.49)
	F	0	0	0	0	0	0	0
23-25	M	2.38 (0.92)	2.33 (0.91)	2.05 (1.07)	3.19 (0.98)	3.43 (1.47)	4.29 (0.78)	1.81 (1.08)
	F	2.60 (0.97)	2.70 (1.06)	2.30 (1.06)	3.10 (0.99)	3.50 (1.27)	4.50 (0.85)	2.20 (1.03)
26-28	M	2.67 (0.89)	2.75 (0.62)	2.17 (1.11)	3.00 (0.95)	3.08 (1.31)	4.42 (0.79)	1.25 (0.45)
	F	2.42 (0.76)	2.58 (0.76)	2.04 (0.87)	3.15 (0.73)	3.69 (0.88)	4.12 (0.86)	1.81 (0.80)
29-31	M	2.00 (0.00)	3.00 (0.00)	3.00 (0.00)	3.00 (0.00)	3.00 (0.00)	4.00 (0.00)	2.00 (0.00)
	F	2.58 (0.61)	2.47 (0.77)	2.37 (0.90)	3.00 (1.05)	3.47 (1.17)	4.26 (0.81)	2.11 (0.99)
Total	M	2.45 (0.83)	2.55 (0.83)	2.12 (1.04)	3.10 (0.91)	3.38 (1.31)	4.26 (0.73)	1.57 (0.86)
	F	2.51 (0.74)	2.56 (0.81)	2.20 (0.91)	3.09 (0.89)	3.58 (1.05)	4.24 (0.84)	1.98 (0.91)
Total		2.48 (0.78)	2.56 (0.82)	2.16 (0.96)	3.09 (0.89)	3.49 (1.16)	4.25 (0.79)	1.80 (0.91)

M=Male, F=Female, SD=Standard deviation

Table 4: Stepwise logistic regression of participant burnout scale

	Coefficients		t	P
	B	Std. error		
Model 1				
Predictors: (constant), sex, age, dependent variable: Q1				
(Constant)	1.921	1.531	1.255	0.213
Age	2.272E-02	0.053	0.427	0.671
Sex	-7.269E-03	0.198	-0.037	0.971
Model 2				
Predictors: (constant), sex, age, dependent variable: Q2				
(Constant)	2.677	1.606	1.667	0.099
Age	-3.433E-03	0.056	-0.061	0.951
Sex	-2.349E-02	0.208	-0.113	0.910
Model 3				
Predictors: (constant), sex, age, dependent variable: Q3				
(Constant)	-2.287E-02	1.882	-0.012	0.990
Age	8.119E-02	0.065	1.240	0.218
Sex	9.573E-02	0.244	0.392	0.696
Model 4				
Predictors: (constant), sex, age, dependent variable: Q4 coefficients				
(Constant)	3.490	1.753	1.991	0.049
Age	-1.421E-02	0.061	-0.233	0.816
Sex	-2.660E-02	0.227	-0.117	0.907
Model 5				
Predictors: (constant), sex, age, dependent variable: Q5				
(Constant)	6.360	2.268	2.804	0.006
Age	-9.083E-02	0.079	-1.151	0.253
Sex	-0.399	0.294	-1.355	0.179
Model 6				
Predictors: (constant), sex, age, dependent variable: Q6				
(Constant)	3.150	1.553	2.029	0.045
Age	3.737E-02	0.054	0.692	0.491
Sex				
Model 7				
Predictors: (constant), sex, age, dependent variable: Q7				
(Constant)	2.571	1.743	1.475	0.144
Age	-6.297E-03	0.061	-0.104	0.918
Sex	-0.424	0.226	-1.877	0.064

indication reveals an increasing ratio of young dentists reporting unfavorable levels of burnout. Stressfulness of Work and practice management factors in which reality was experienced to be worse than expected. With regard to burnout, an interesting aspect of the present findings was that although group mean levels were unfavorable, data reveal unfavorable tendency at a more individual level. Apparently, most of the dentists who were newly qualified showed efficiency to bear with stressful work. This is in line with the study in which a representative sample of the full Dutch dental professionals was surveyed,^[17-19] wherein mean level of dentists appeared favorable when compared with normal scores while still working. The same tendency can be seen in the present study; some dentists fall in the range of “high” or even “very high” on emotional exhaustion. It should be noted that the high and very high ranges are based upon clinically validated manual norm scores.^[20]

Apparently, burnout affects a various group of dentists after some years of practice. Hence, dental associations are able to help dentists by offering more objective means of early burnout warning, such as periodic burnout evaluation. An interesting description of burnout feedback system can be found in Te Brake *et al.*^[21-23] After graduation, dentists need to adapt to a huge requirement of practice. As found in the present study shows that practice management issues leads to worry. There are many aspects of professional functioning that have to be dealt with fully in a way that does not allow mistake. It is accepted that the present study has many limitations due to a small number of participating subjects at both times, which influences the outcome. Interpretation of data was performed by cross-sectional research among dentists, in which it was found that majority of dentists suffered from professional burnout after many years of practice management.^[17,19] Burnout risk increases with advancing age, especially among male dentists, while recent information states that younger dentists show the first sign.

Future research on burnout among dental students and newly qualified dentists should focus on longitudinal studies. The advantage of longitudinal studies is that it can highlight early warning signals of future burnout risk. The present study does not fully satisfy in discovering these early warning signals, because of the small sample size. Till date, very few studies relating stress and burnout among dental students could be traced that combined the information from graduated dentists. Among other professions, this kind of burnout research also appears to spear. An exception of this was found in a recent study by McManas *et al.*^[24-26] An

interesting finding of these studies was that emotional burnout, exhaustion, and depersonalization long after graduation could be predicted by certain personal characteristics. The big challenge is to decrease the level of stress to prevent the burnout risk among dental graduates, as more stress is given to dental students during the last decades.^[1,6] It is strongly recommended to use longitudinal studies in the future for evaluating students’ stress. Also, implementing Person-related factors such as copying style, hardiness, and depression vulnerability is valuable, which may be provided for effective burnout prevention among dentists.

CONCLUSION

Stress management should be considered important for dental students and practicing dentists. The dental educational curriculum should uplift and highlight the importance of business management, stress management, and communication skills. Stress should be considered one of the occupational hazards for dental profession. Nowadays, some dental associations offer stress management workshops, professional help, counseling services, and support networks. In addition, dentists must realize about their expectations and attitudes, if they are realistic, achievable, or rational. Hence, dentists should avoid development of such burnout risk factors and even the government should create more professional opportunities for dental graduates.

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