

THE PREVALENCE OF STRESS AND ASSOCIATED FACTORS IN DENTISTS WORKING AT ISLAMIC INTERNATIONAL DENTAL COLLEGE HOSPITAL, ISLAMABAD

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ABSTRACT

While a number of studies have been conducted to investigate and understand stress in different professions, there are only a few studies which address stress in the dental profession. Such studies are even rarer in Pakistan. This study was conducted to investigate the extent of the stress and its causative factors among the dentists working at Islamic International Dental College Hospital, Islamabad.

A cross-sectional survey of a representative sample of 85 dentists using a self administered questionnaire was carried out. With a 58.82% response rate, the study showed that 76% dentists were not stressed, while 12% experienced mild, 10 % moderate and 2 % extremely severe stress, with the main factors being work related or time-management issues.

Key words: stress, dentists, stress factors

INTRODUCTION

Stress is a physical or mental tension or strain that affects almost everyone at one time or the other. It is characterized by panic induced in a person accompanied by the rapid secretion of adrenaline and draining of energy so the person feels weary and irritated and is not entirely capable of attending to his/her actions. This is further complimented by headache, elevated heart rate and other physiological actions.¹ Irrespective of one's knowledge and skills, stress contributes a lot to the efficiency within a workplace.

Workplace stress is a common happening and is well documented in all the professions. Health care workers are particularly prone to stress because of frequent interaction with sick people. Dental workers are more vulnerable to stress because they have to work in a closed space, stand in awkward positions for a long time and have little control over their time. This is compounded by the general fear in public about dentists which is frequently reflected in the clinic. Various issues related to work or family, alone or together bring about stress, which if in excess, can cause many illnesses.² Stress has been directly associated to deterioration of muscles and bones and has

adverse affects on the cardiovascular system in addition to causing stroke. Researchers have also concluded that people performing high stress jobs have a higher prevalence of stress related illnesses.³

Stress occurs as a result of numerous factors, the highest rated of which is the interaction between the worker and the job conditions.⁴ Clinicians are often caught off guard with endless work related, money oriented or social matters, which if not counteracted instantly, has disturbing consequences.⁵

Numerous studies have shown high prevalence of physical and psychological disorders in dentistry.⁶⁻¹⁰ Moreover it is said to be a profession with a wide range of possible drawbacks where dentists are subjected to a wide variety of occupational factors that greatly affect their well being.¹¹⁻¹⁶

Islamic International Dental College has a large teaching unit where patients from all sorts of dental illnesses and from all walks of life come daily. The working environment, closed space, failure or non availability of equipment and long hours of work all contribute towards the stress.

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METHODOLOGY

It was a cross-sectional study carried out at Islamic International Dental College and Hospital, Islamabad in May 2010. The sample size was 85, with a confidence interval set at 95%, the prevalence 33.3%¹⁷ and the precision at 10%, using the single proportion formula.

After seeking permission from the Ethics Committee of IIDCH, all the 85 subjects were given two questionnaires, one based on DASS (Depression, Anxiety, and Stress Scale) and the other to identify the factors that might contribute to the stressed state, if present. The questionnaires were anonymous, only the gender and age was asked and the subjects were assured of confidentiality.

The internationally validated DASS Stress Scale and questionnaire were downloaded to determine the prevalence of stress amongst dentals at IIDCH. DASS is a 42 item self report designed to assess and measure the negative emotional states of depression, anxiety and stress (Lovibond & Lovibond, 1995). Each of these consists of 14 items divided into subscales of 2-5 with similar content. The stress scale is sensitive to the levels of chronic non-specific arousal and assesses difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive and impatient.¹⁸ The items were rated on a four point linkert scale of severity/frequency from 0 to 3.

The rating scale was as follows:

- 0- Did not apply to me at all
- 1- Applied to me to some degree, or some of the time
- 2- Applied to me to a considerable degree, or a good part of time
- 3- Applied to me very much, or most of the time

A Cross-sectional, co relational and confirmatory factor analysis (CFA) study carried out on a non clinical sample in the UK reported DASS to possess impressive psychometric properties and construct validity.¹⁹ The sum of the scores of the relevant item (i.e. stress) were calculated and interpreted as per the cut off values of severity rating index, ranging from normal to extremely severe. The cut off values for the raw scores of the stress scale were as follows: Normal (0-14), Mild

(15-18), Moderate (19-25), Severe (26-33), extremely severe (34+)

To evaluate the level of stress caused by specific potential stressors, a questionnaire consisting of 20 stress causing factors was designed which described the prevalence of stress caused by certain selected stressors. These 20 factors were selected out of the 33 reported and encountered most often or all the time among general practitioners as reported by K. M. S. Ayers et al in 'Job stressors of New Zealand dentists and their coping strategies'²⁰ Respondents were asked to rate the extent of their stress for the respective factor over a period of a month.

The scale was as follows:

- 0- Not at all
- 1- A little bit
- 2- Quite a bit
- 3- A lot and
- 4- Do not know/not applicable

Data entry and analysis was done using SPSS version 11. Frequencies and percentages were the calculated categorical variables. P-value was also calculated to see the statistically significant association between male and female for different factors.

RESULTS

Fifty seven dentists responded to the questionnaire out of which seven were excluded due to incomplete or incorrect filling, giving a response rate of 58.82 % (50/85). With the average age of the respondent being 25 yrs.

Table 1 shows the prevalence of stress amongst dentists at IIDCH. The prevalence of stress was 24%. Two respondents reported extremely severe stress (2%) whilst 22% experienced mild to moderate stress.

Table 2 shows the percentage of the degree of stress caused by potential stress factors and their P values in order of decreasing stress. The p values less than or equal to 0.05 imply the presence of a statistically significant difference. Finding time for family and friends being the top stress inducer, with a p-value of 0.005

TABLE 1: PREVALENCE OF STRESS AMONG DENTISTS AT IIDCH

Gender	Normal (%)	Mild (%)	Moderate (%)	Extremely Severe (%)	Total (%)
Female	78	12.5	9.5	—	64
Male	72.2	11.1	11.5	5.6	36
Total	76	12	10	2	100

TABLE 2: PERCENTAGE OF DEGREE OF STRESS BY POTENTIAL STRESSORS AND THEIR P-VALUES

Serial No	Potential Stressors	Not at all (%)	A little bit (%)	Quite a bit (%)	A lot (%)	Do not know/not applicable (%)	P-value
1	Finding time for family and friends	32	24	26	10	8	0.005
2	Quoting fees/Collecting payments	40	30	10	10	10	0.006
3	Cancellations/No shows	36	28	12	10	14	0.022
4	Staff related problems	40	32	22	6	0	0.026
5	Inability to meet own expectations	38	24	22	16	0	0.029
6	Possible viral infection contraction	38	26	22	10	4	0.029
7	Perceived problems with colleagues	36	48	14	2	0	0.031
8	Coping with extremely nervous and difficult patients	10	54	28	4	4	0.035
9	Actually making mistakes	30	40	18	8	4	0.035
10	Seeing more patients for income reasons	50	14	14	4	18	0.037
11	Equipment breakdown/defective materials	22	36	26	12	4	0.063
12	Rising costs	30	34	14	14	8	0.077
13	Constant time pressure	28	32	22	10	8	0.113
14	Possibility of making mistakes	18	56	24	2	0	0.126
15	Conflict between profit and professional ethics	36	26	10	8	20	0.134
16	New requirements for continuing professional development	34	20	22	20	4	0.154
17	Treating difficult patients	24	48	20	4	4	0.261
18	Repetitive nature of work	26	20	28	14	12	0.234
19	Feeling underrated and unappreciated by patients	48	24	18	4	6	0.492
20	Physical strain of work	24	32	26	10	8	0.496

DISCUSSION

In this study DASS stress scale was used. This showed that 24% of the dentists at IIDCH suffer from varying degrees of stress. The DASS stress scale included questions about depression, anxiety and stress individually. Using the template, identifying the questions related to stress only and then with the help of SPSS, version 11, the desired results were obtained.

The results suggested that 76% of the dentists were not stressed, while the remaining 24% of the dentists suffered from varying degree of stress, i.e. 12% mild, 10% moderate and 2% extremely severe.

Overall males suffered more from stress (27%) than females (22%). However, the differences were more pronounced in moderate and severe stress than in mild form of stress (Figure 1). The present study

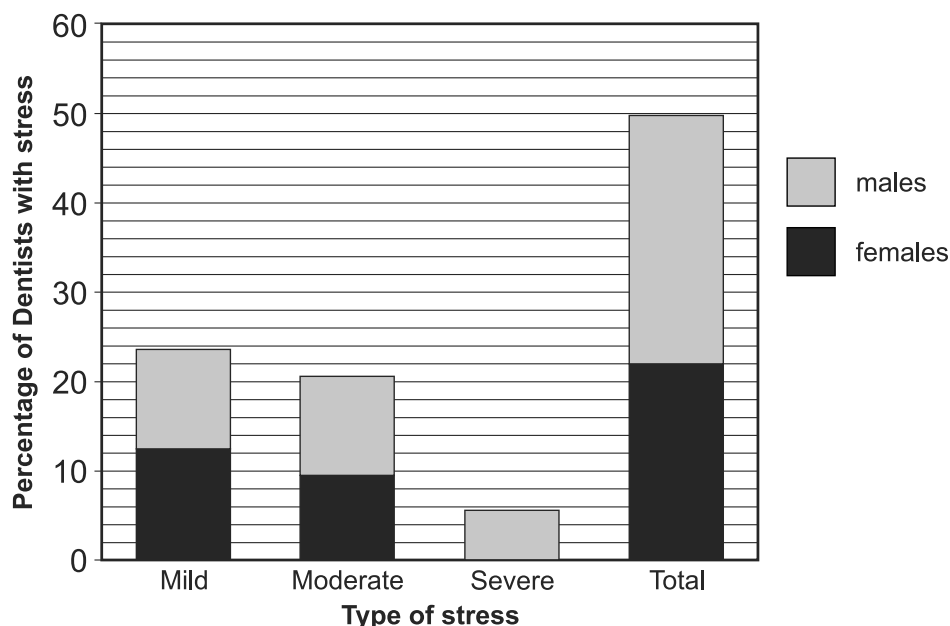


Fig 1: The relative percentages of stress amongst Male and Female Dentists at IIDC

highlighted that the severity of stress was more in males than in females. It contrasts with other studies which indicated more stress in females because of added stress from domestic and family problems. An American study comparing stress in male and female dentists found that stress levels were similar, although women experienced more personal and domestic problems.²¹

When questioned about the main causes and reasons behind this stress, workplace factors were found to contribute the most, but the one most prevalent factor was the lack of time available for family and friends.

Workplace problems included stress from problems with collecting fees and payments, last minute cancellations, staff-aided problems, and problems with colleagues. Personal factors also contributed to this stress, such as inability to meet one's own expectations and possible viral infection contractions. Physical factors such as difficult working positions (leading to physical strain and exhaustion), closed up work environments and fear of cross-infection were also found to play a significant part. Patients also contributed to this stress, either by being difficult and uncooperative or by being extremely stressed and nervous, thereby making it difficult to work smoothly.

Economic factors that necessitate seeing a great number of patients each day take up the daily time of dentists, making it impossible for them to give time to the people they are primarily associated with i.e.

friends and family. In order to provide better facilities for their families, precious family time is likely to be compromised.²² These factors were also the most frequently encountered in the present study.

Workplace problems and physical factors are such that they are found only in this particular branch of work. Bending over patients in awkward positions for hours at stretch causes physical stress like back-pain, shoulder pain, pain in wrist and hands and other such musco-skeletal pain.²³

Many patients irrational fear of the dentist's office makes them behave in stressful and stress-inducing way.²⁴ Dental professionals have to work on their patient to alleviate their fear. Despite this, most patients continue to harbour animosity towards dental professionals and dentist offices, contributing to negative emotions and thereby stress.

There is added fear of cross-infection which leads to stress. According to other studies dentists are at high risk of getting cross-infection while treating patients. The potential for disease transmission becomes evident when it is considered that most human microbial pathogens have been isolated from oral secretions.^{25, 26}

The findings in this study were consistent with previously conducted studies such as reported by K. M. S Ayers et al in 'Job stressors of New Zealand dentists and their coping strategies'.²⁰ According to which the most important stressors were treating difficult children, time related pressure, high levels of mental and physical concentration.

There was however, a great many limitations in this study. It was conducted in a single environment and thus the results are confined only to that place. Also the study was conducted in a teaching hospital and thus only an imitation workplace environment was available. Most of the participants surveyed were house officers, and thus the main age demographic was 22-26 years old. Participants from this age group were not often married or primary breadwinners for their family, so economic pressures and personal factors could not be taken into consideration. However the study still highlights the stress factors among the dentists working at a teaching hospital.

CONCLUSION

From the results of this study, it was concluded that professionals working in the dental field are indeed stressed, while many stressors are more difficult to control, some, such as those arising from physical strain or time management can be easily managed. Therefore all dentists ought to be provided with necessary training in areas of interpersonal skills, stress management and practice management along with technical training to better prepare them to cope with the realities of dental practice.

Awareness should also be created among patients to reduce their apprehensions about dental procedures. Most procedures are now painless with almost negligible after-effects and there is no need for one to fear the dentist's office. This realisation and awareness will create pleasant feelings in people towards dentists which will make the workplace more pleasant and less stressful.

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