ASSESSMENT OF DENTAL ANXIETY IN PRE AND POST DENTAL TREATMENT

Shafaq Noori, Sundas Aasim, Abdur Rehman, Amaan Ullah Siddiqui
Muhammad Bin Qasim Medical and Dental College, Karachi, Pakistan.

ABSTRACT

Background: Dental anxiety is an affecting condition that aid normal persons to protect themselves in opposition to multiplicity of threats and pressure. The study aimed to assess the prevalence of dental anxiety in pre and post dental treatment.

Methods: A total of 210 patients were selected who are first and/ or second visited for any dental complain. The selected patients were divided into two groups. Group I: pre-treatment Group II: post-treatment. In pretreatment 42.8 % male and 3.2% female was selected for the study. While 20.9 % male and 23.8 % female were selected for study in post-treatment. Corah's Dental Anxiety Scale (DAS) is used to assess the anxiety among the study population. Anxiety level is categorized into moderate, high and severe anxiety score.

Results: The research found significant results in moderate, high and severe anxiety score in pre treatment group while severe anxiety score was observed in post-treatment group. Significant mean differences were observed in pre and post treatment anxiety group when compared with control while no changes were observed between pre and post treatment. A strong but negative correlation was observed in 15-20 years (male) with anxiety score in pretreatment group while negative strong correlation was observed in (female) 20-30 years anxiety post treatment group. A strong negative correlation was observed in unmarried / married male and female in pretreatment group. While positive strong correlation was observed in married female in post-treatment group.

Conclusion: The results of this study are not representative of dental anxiety subjects during pre and post treatment. The prevalence of dental anxiety is obvious in married female however; it may be controlled by the positive attitude and behavior of dentists.

Keywords: Dental Anxiety; Pre Treatment; Post Treatment; Anxiety Score

Corresponding Author:
Dr. Shafaq Noori
Department of Biochemistry,
Muhammad Bin Qasim Medical and Dental College,
Karachi, Pakistan.
Email: shafaqnoori@hotmail.com

INTRODUCTION

Dental anxiety is an emotional state that helps normal individuals defends themselves against a variety of threats[1]. It is multidimensional complex phenomenon. Personality characteristics, fear of pain, past traumatic dental experiences, dental anxious family members, blood injury fear are contributing factors as reported previously. Female are more prone to dental anxiety[2]. The dental anxiety prevalence rate is 5-20% in most of the populated areas while this rate was seen in children and in 18 years or younger was approximately 9 %[3] and this prevalence may be decreases as age progress[4]. It is reported previously that dental anxiety is associated with poor oral health outcomes and expensive specialist care. It prevents people from optimizing and maintaining their dental health[5]. Dental fear/anxiety is usually correlated with injections or drills whereas dental anxiety is related to an unknown risk that is not directly there[6]. Dental procedure is fifth most common cause of anxiety[7]. Dental anxiety is associated with avoidance of dental care. 9-15 % of Americans avoided much needed care due to dental anxiety and fear surrounding dental experience[8]. Approximate 30 million people so afraid of dental treatment and they avoid it altogether[9]. This may lead rapid deterioration of oral health and preventable oral disease, progresses to critical

conditions and procedures[10]. Data on dental anxiety is scarce in Pakistan. Thus, the study investigated the ratings of dental anxiety levels among the patients of pre and post dental treatment. We also correlated the anxiety score with age groups and marital status of subjects.

METHODS

The simplified version of Norman Corah's Dental Anxiety Scale was used to assess the rating of anxiety among patients pre and post dental treatment. A basic 4 – point scale answering method was devised including from No, moderate, high and severe anxiety (phobia). Following are the multiple choice items; no anxiety, moderate anxiety, high anxiety and severe anxiety (phobia).

The score of each item was added and an expected value of anxiety was obtained. The study was carried out among the patients of Madina medical center a teaching hospital of Karachi.

All the participants who are agreed to participate are consented. A total of 210 patients including male and female of 15-60 years old were selected for the study based on following inclusion and exclusion criteria. The inclusion criteria involved the patients who visited first and /or second time for dental complain and agreed to participate in the study. However, an exclusion criterion was about the history of mental illness and patients who did not willing to participate in the study. Regarding the statistics, Chi square test was used to examine the association between the variables. Student's t-test was used to compare the differences between groups. Pearson's correlation was used to correlate the dental anxiety with age groups and marital status of patients. SPSS version 16 was used to compute the data.

RESULTS

The socio-demographic data of the patients is shown in Table 1. 13% male and 11 % female were claimed to have any level of anxiety in pretreatment group. While 26 % male and 51% female suffered from any level of anxiety in post-treatment group. The mean age of participants was 31 ±2.88 (95% CI: 8.41).

Table 1: Demographic data of the study.

Parameters	Pre treatment group		Post treatment group	
	Male%	Female%	Male%	Female%
Mean gender	42.8	3.2	20.9	23.8
No anxiety	67	12	21	2
Moderate	7	2	13	13
High	2	2.2	9	19
Phobia (severe)	4	7	4	19
Mean anxiety level	13	11	26	51

Table 2: Statistical analysis.

Parameters	Pre treatment x^2	Post treatment x^2
Moderate	0.03	0.70
High	0.002	0.20
Phobia	0.0006	0.004

Statistical analysis of dental anxiety score is shown in Table 2. Pre-treatment group showed significant dental anxiety score in moderate, high and severe level while post treatment group showed significant dental anxiety score in severe level only.

In Table 3, the researchers observed a strong and positive correlation in male anxiety score of 15-20 years age in pre treatment group while negative and strong correlation was observed in 20-30 years age group in post treatment anxiety level.

Table 3: Correlation between age group and anxiety level.

Gender	Age 15 -20 years	Age 20 -30 years	Age 30 -onwards
Pre-treatment correlation			
Male	0.60	-0.27	0.27
Female	0.24	0.00	00
Post-treatment correlation			
Male	-0.24	0	0
Female	0	-0.5	0

Winton the context of Table 4, in pre treatment group unmarried and married male and unmarried female showed negative strong correlation with anxiety score. In post-treatment group only married female showed positive strong correlation with anxiety scores.

Table 4: Correlation between married and unmarried subjects with anxiety level.

Gender	Unmarried	Married
Pre-treatment correlation		
Male	-0.80	-0.99
Female	-0.97	0.24
Post-treatment correlation		
Male	00	0.18
Female	-0.39	0.95

While, Figure 1 showed the significant differences of anxiety score in control and test in pre (3.16±0.13) and post treatment (3.0±0.16) group while no signif-icant differences were observed when compared with dental anxiety score of pre and post treatment groups.
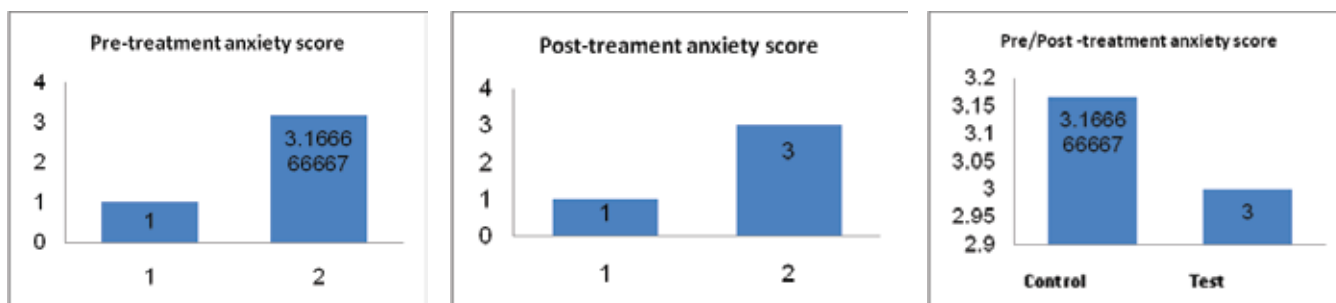

Figure 1: Difference between pre–treatment, post treatment and pre–post treatment anxiety level between control and test group.

DISCUSSION

The prevalence of dental anxiety was varies from 3% to 30 % has been reported[11]. We found the significant dental anxiety scores during pre and post dental treatment. During pre- treatment 7% male and 2 % female for moderate anxiety, 2 % male and female for high anxiety while 4% male and 7% female for severe anxiety or phobia was observed. A total 13% male and 11% female was suffering from any level of anxiety. This prevalence is low when compared to other studies reported in Australia[12] 15% and Norway and Ireland 17%[13].

While post-treatment 26% males and 51% females suffer from any one level of anxiety suggested female are more prone to dental anxiety[14]. This may be due to better oral health care seeking behavior exhibited by women[15]. Medical and psychological research on human responses to pain stimuli has generally found that women report higher levels of anxiety and exhibit less tolerance for pain at given stimulus intensities than men[16].

Aartman and Humphris suggested that unawareness of dental health education might result in patient's fear and anxiety which in turn might end with poor patient performance and attitudes, leads difficult to control the patients thus increase the level of dental profession related stress[17,18]. Pretreatment observed significant moderate, high and severe anxiety score, while significant severe anxiety score was observed in post-treatment when compared with control as shown in Table 2. No significant differences were observed between pre-post dental treatment anxiety levels.

The dental anxiety prevalence among the patients during pre treatment may be due to their first and/or second visit. Sitting in the visiting area and chair before having dental treatment demonstrate the any level of anxiety[19]. Post treatment dental anxiety may corroborate to the dental x-rays, dental procedures, invasive treatments, pain threshold etc[20].

The researchers found a strong and positive correlation of male DAS level with age group of 15-20 years old in pre dental treatment. While negative strong correlation was also observed in post-dental treatment of age group 20-30 years. Previously it is reported that CDAS score is decreased with age. Liddell and Lockers[21] suggested that aging process characterized by general decline in anxiety level.

The study further found a strong negative correlation of unmarried male/female and married male with dental anxiety in pre-treatment group while strong positive correlation was also found in married female in post-treatment group. This could be due to more responsibilities in married female[22]. It is found that marriage and having children arouse the dental fear and anxiety. The dental fear among married female could depend on work load and responsibilities[23].

The researchers found significant dental anxiety level (moderate, high, severe) in pre treatment group while severe in post treatment group. Significant mean differences were also observed between control and test group of both pre and post treatment group. A positive correlation is found between male age group 15-20 years with pre-treatment group. A negative correlation is observed between female age group 20-30 years with post treatment group. Unmarried and married male and married female showed negative correlation with pre treatment group, while married female showed positive correlation.

CONCLUSION

It has been concluded that the results of this study are not representative of dental anxiety subjects during pre and post treatment. The prevalence of dental anxiety is obvious in married female however; it may be controlled by the positive attitude and behavior of dentists. First/second visit to the dentists showed the irregularity of dental check up and anxiety. However, a dentist should make strategy to alleviate the patients fear and anxiety and thus can improve the oral health.

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CONFLICT OF INTEREST

There was no conflict of interest among the authors.

ETHICS APPROVAL

The study approval was sort from the Madina Medical center Ethics Review Committee (ref. code 051813Biochem).

PATIENTS CONSENT

Verbal and written informed consent was obtained from all patients.

AUTHORS CONTRIBUTIONS

AR conceived the idea, did bench work, SA helped in sampling and bench work, AU helped in sampling and bench work, AR helped in designing of the project, SN facilitated in and data collection, overall supervised the project and finalized the manuscript.

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