

DENTAL ANXIETY LEVEL OF PATIENTS PRESENTING TO OPERATIVE DENTISTRY DEPARTMENT

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ABSTRACT

Dental anxiety is a fear of visiting a dental health care provider for preventive or therapeutic care that leads to deterioration in oral health.

The aim of this study was to measure the dental anxiety levels of patients presenting to the Operative dentistry department of Dental Section Dow International Medical College. It was a cross sectional study conducted between December 2014 and February 2015. Norman Corah's dental anxiety scale was used to measure the anxiety levels of patients.¹

A questionnaire was developed based on this scale and a valid record of 383 forms was obtained. Amongst 383 patients, 125 were male patients (32%) while 258(67%) were female.

Descriptive analysis was performed. Frequencies and cross tab calculations were carried out using SPSS version 20.

Among other stressors, dental handpiece stood out as the most frightening. 12% of the respondents replied that they would get extremely anxious, making them feel physically sick while anticipating the use of a dental drill.

Result showed that most of the patients (49%) had moderate dental anxiety that could be managed by simple non pharmacological means and counselling. While only 5% and 8% of the patients had high and severe (phobia) dental anxiety respectively. The mean dental anxiety level was 9.35 with Standard Deviation of ± 3.06 . More females had severe dental anxiety as compared to males (9% as compared to 5%).

Key Words: *Dental anxiety, Norman Corah's dental anxiety scale (DAS), dental handpiece, dental phobia.*

INTRODUCTION

Dental anxiety is one of the major deterrent for patients who seek dental treatment. It is a perception of fear arising from anticipated pain or discomfort. Terms such as fear and phobia are often used synonymously

with anxiety. It may arise due to a person's own past treatment experiences or due to perceptions framed by opinions of other people.¹ An anxious patient is difficult to treat and manage in the dental office. Such a patient also avoids scheduled dental appointments and thus may contribute to deterioration of overall oral health status of the patient.^{1,2}

Anxious patients are difficult to treat by conventional treatment strategies. Use of sedation techniques in combination with psycho-behavioral management are key to effective and timely management of anxious patients. General anesthesia may be reserved for phobic patients who still cannot be managed by simple strategies; due to issues of cost and associated risks. Dental phobia is an irrational severe fear that leads to avoidance of the feared situation. The onset of dental anxiety is believed to originate in childhood³, peak in early adulthood⁴, and decline with age.⁵

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The origin of anxiety may be exogenous or endogenous. In the former the anxiety arises from a patient's past experiences while in the latter an individual is inherently vulnerable to various disorders.⁶

Anxious patients present with more damaged and missing teeth⁷ and thus a high DMFT score. This further leads to deterioration in their oral health and a vicious cycle of decline in oral hygiene and professional care leads to tooth loss and compromised function and esthetics. Such patients are also a challenge to rehabilitate and lead to increased health care costs.

The aim of present study is to assess the anxiety levels of adult patients presenting to this institute and understanding the possible causes of dental anxiety. The rationale of the study is to devise ways to avoid the factors that aggravate anxiety. Thus it will lead to enhanced patient co-operation and ensure scheduled dental appointments.

Corah's dental anxiety scale is the most widely used scale for measuring dental anxiety.¹ It is a valid and reliable tool for measuring dental anxiety.^{8,9} It consists of a questionnaire consisting four questions, each having five options. Patient's responses are scored according to the relevant option and the total score is compared to a standard criteria. The patient may thus fall into a certain category; no anxiety, moderate anxiety, high anxiety, or severe anxiety (phobia).

METHODOLOGY

A cross sectional study was undertaken at the Dental section of Dow International Medical College, Karachi for a period of 3 months from December 2014 till February 2015. Sample size was calculated using open EPI cross sectional formula with 95% confidence interval, 5% margin of error, 52.6% prevalence of dental anxiety (among moderate and high). The sample size thus calculated was 383.

Present study included healthy adult participants, both male and female, aged 18-60 years, who gave informed written and verbal consent (Annexure I) and had a dental treatment history. The exclusion criteria

included patients less than 18 years or more than 60 years of age, those who had psychiatric illnesses or were using anxiolytics/ antidepressants and who had no history of previous dental treatment.

Data were collected using Corah's Dental Anxiety Scale for assessing the dental anxiety levels of patients.¹ Corah's Dental Anxiety scale is the most popular scale in this regard.^{10,11} The standard questionnaire consisted of four questions each having five options. Option "a" corresponding to least anxious response and holds a score of 1 and option "e" being highly anxious or phobic that carries a score of 5.

Patients who scored a total of 4-8 were categorized as non-anxious. Those who scored 9-12 were categorized as having moderate anxiety. Score 13-14 placed patients in high anxiety group and those who scored 15-20 were considered as having severe anxiety or phobia. Frequency measurements and cross tabs calculations were carried out. Results were analyzed using SPSS Version 20. Corah's anxiety scale with grading system attached in Annexure II.

RESULTS

A total of 383 participants were part of the study that included 125 male patients and 258 female patients. The first question was related to patient's dental anxiety levels when he/ she has a scheduled dental appointment the next day. Majority of the participants (43%) responded that they would look forward to it as a reasonably enjoyable experience. The second question pertained to how a patient would feel while he/she is waiting for his/her turn in the dental office. Majority

TABLE 1: ANXIETY LEVEL AMONG PATIENTS (N = 383)

	n	%
Relaxed	146	38.1
Moderate	188	49.1
High	19	5.0
Severe	30	7.8

TABLE 2: BASELINE CHARACTERISTICS OF THE PATIENTS BASED ON ANXIETY LEVEL (N= 383)

Characteristics	Total	Anxiety Level			
		Relaxed	Moderate	High	Severe
		n (%)	n (%)	n (%)	n (%)
Gender					
Male	125	58(46.4)	61(48.8)	0	6(4.8)
Female	258	88(34.1)	127(49.2)	9(7.4)	24(9.3)
Material status					
Single	138	46(33.3)	76(55.1)	6(4.3)	10(7.2)
Married	245	100(40.8)	112(45.7)	13(5.3)	20(8.2)

of the respondents (44%) replied that they will feel a little uneasy as to how would the experience of dental treatment be.

The third question was related to patient's anxiety level regarding the use of dental hand piece. Although the majority of the patients (28%) replied that they will feel a little uneasy about the dental drill, still there was a significant proportion of patients (25%) who responded that they will feel 'tense'. The last question asked the respondent to imagine him/herself in the dental chair while the dentist/hygienist gets the instruments ready to clean the teeth. The majority of patients (32%) responded that they will feel a little uneasy in that scenario.

The study revealed that majority of the patients (49%) presenting to this institute had moderate dental anxiety that may be managed by simple non pharmacological interventions and counselling. The mean dental anxiety level was 9.35 with SD of ± 3.06 . The results are shown in Table 1. A higher number of females had high and severe dental anxiety as compared to only a few males being placed in these categories (Table 2).

DISCUSSION

Present study revealed that patients do have apprehensions about dental treatment and there are specific stressors that need to be addressed to ensure more frequent dental appointments. The present study showed mean DAS to be 9.3 in local population sample of Karachi. This reading is less than the one obtained in another study carried out in a tertiary care hospital of Karachi during 2011-2012 that yielded mean DAS to be 12.4.12 The reduced anxiety levels in present study may be attributed to change in environmental dynamics over time and the age group of the study population (18-60 years in present study compared to 18-35 years in the earlier study).

Olszewska et al calculated mean Dental Anxiety Score (DAS) to be around 10.5 in their study on Krakow's residents.¹ A study conducted in India revealed that around 70% of the patients had some degree of dental anxiety.¹³ The present study showed that 7.8% of the patients had severe dental anxiety which is still less than Western countries like UK (11%)¹⁴, Northern Ireland (19.5%)¹⁵ and Turkey (23.5%).¹⁶ This trend is attributed to socio-geographic differences, the type of

ANNEXURE 1

CONSENT FORM FOR RESEARCH

Introduction

This research is being conducted by Dr Umair Wahid at Dental Section Dow International Medical College, Karachi to assess **"The dental anxiety levels of patients presenting to the Operative Dentistry department."**

Procedures

You will be asked to complete a questionnaire. The questionnaire consists of 04 questions and will take approximately 10 minutes. Questions asked, are regarding dental anxiety levels of the patient.

Risks/Discomforts

There are no risks for participation in this study.

Benefits

There are no direct benefits to subjects. Although your participation will help us in assessing the prevailing dental anxiety levels of the patients in the nearby locality & will help us find ways to reduce the same.

Confidentiality

All information provided will remain confidential and will only be reported as group data with no identifying information.

Participation

Participation in this research study is voluntary. You have the right to refuse to participate entirely.

I have read and understood the above consent form and agree to participate in this research upon desire of my own free will.

Participant's Signature: _____ Date: _____

Researcher's Signature: _____ Date: _____

ANNEXURE 2

Name _____ Age _____ Sex _____

Marital status _____ Address _____ Date _____

1. If you had to go to the dentist tomorrow for a check-up, how would you feel about it?
 - a. I would look forward to it as a reasonably enjoyable experience.
 - b. I wouldn't care one way or the other.
 - c. I would be a little uneasy about it.
 - d. I would be afraid that it would be unpleasant and painful.
 - e. I would be very frightened of what the dentist would do.
2. When you are waiting in the dentist's office for your turn in the chair, how do you feel?
 - a. Relaxed.
 - b. A little uneasy.
 - c. Tense.
 - d. Anxious.
 - e. So anxious that I sometimes break out in a sweat or almost feel physically sick.
3. When you are in the dentist's chair waiting while the dentist gets the drill ready to begin working on your teeth, how do you feel?
 - a. Relaxed.
 - b. A little uneasy.
 - c. Tense.
 - d. Anxious.
 - e. So anxious that I sometimes break out in a sweat or almost feel physically sick.
4. Imagine you are in the dentist's chair to have your teeth cleaned. While you are waiting and the dentist or hygienist is getting out the instruments which will be used to scrape your teeth around the gums, how do you feel?
 - a. Relaxed.
 - b. A little uneasy.
 - c. Tense.
 - d. Anxious.
 - e. So anxious that I sometimes break out in a sweat or almost feel physically sick.

Scoring the Dental Anxiety Scale, Revised (DAS-R)

(This information is not printed on the form that patients see)

a = 1, b = 2, c = 3, d = 4, e = 5 Total possible = 20

Anxiety rating:

- 9 - 12 = moderate anxiety but have specific stressors that should be discussed and managed
- 13 - 14 = high anxiety
- 15 - 20 = severe anxiety (or phobia). May be manageable with the Dental

Concerns Assessment but might require the help of a mental health therapist.

scale used to measure anxiety levels and difference in study populations.

It has been proposed that dental anxiety was linked to pain during treatment and the negative attitude of the dentist.^{17,18} Therefore patient should be maintained in a pain free state throughout the treatment. Since dental anxiety often begins in childhood^{19,20}, a huge responsibility lies on the dentist to alleviate the patient's fears and apprehensions and try to make the initial appointment in the dental clinic as friendly and pain free as possible. A child's anxiety is strongly associated with maternal anxiety level²¹ therefore prior counselling of the accompanying parent is also important.

Simple measures like pain control, behavioral management and sedation may help reduce a patient's anxiety.²² Females were found to have greater levels of dental anxiety.²³ Therefore female patients must be considered more for anxiety reduction protocol before embarking upon the treatment. Although majority of the respondents said that they would look forward to an upcoming dental appointment as being a reasonably enjoyable experience, still a patient's anxiety may be reduced by counselling him/her during consultation visit and explaining the planned procedure well.

A significant percentage of patients (nearly 45%) responded that they would feel a little uneasy waiting for their turn in the dental office. This apprehension may be alleviated by placing pamphlets or handouts illustrating different dental procedures in the office. The ambiance of the waiting area may be made relaxing by playing ambient music while the patient awaits his/her turn.

Dental drill was one such tool to which many patients were fearful. Use of electric driven handpiece that produces less sound may be considered. Adequate maintenance of dental handpiece also ensures less sound on function. A significant number of patients (32%) also felt anxious while they were about to get their teeth cleaned. This could be alleviated by explaining the procedure and showing videos of the procedure in the waiting area. Effective counselling helps allay a patients fears to a large extent.

A practitioner should be competent enough to provide pain free treatment to the patient. Dental institutes should teach behavioral management to the students as a subject.^{24,25} A patient must be informed about the treatment that he/she is going to receive. Any event that may cause discomfort or pain must be notified to the patient. Some of the commonly used means to reduce dental anxiety include cognitive-behavioral therapy, benzodiazepine medication, relaxation training, music therapy, hypnotherapy, acupuncture therapy, nitrous oxide sedation and the use of lavender oil scent.²⁶

CONCLUSION

A significant proportion of people who wish to receive dental treatment have some degree of dental anxiety. Female patients are generally more anxious than their male counterparts. All practical means must be utilized to alleviate a patient's fears and minimize anxiety.

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| 3 Ziaullah Choudhry: | Literature Review, Referencing. |
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