



ORIGINAL RESEARCH PAPER

Dental Science

ANXIETY TOWARDS DENTAL TREATMENTS IN MUMBAI: A PSYCHOMETRIC STUDY

KEY WORDS: Dental anxiety, MDAS , Survey

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ABSTRACT

BACKGROUND: Dental treatments are usually associated with anxiety, fear and apprehension in the minds of the patients. Many patients tend to avoid or delay their dental visits because of these reasons, leading to aggravation of their dental problems. It is important to identify and analyze the patients' dental anxiety, which will improve the work quality and efficiency of the clinicians. **AIM:** The current study was conducted to assess and measure the anxiety generated across age and gender prior to general dental treatment and specifically, before endodontic treatment in Navi Mumbai, India. **METHOD:** Modified Dental anxiety Scale (MDAS) Questionnaire was given to OPD patients. Study sample of 230 adults was included. An additional question assessing patients' anxiety to endodontic treatment was included. Statistical analysis was done using Chi Square, ANOVA Test and independent t-test. **RESULT:** A total number of 125 males and 105 females took part in the survey. Mean value of anxiety according to score comparison was 8.65 in males and 7.97 in females which was not significant. There was no difference in anxiety levels in different age groups. Females showed slightly higher anxiety than males for endodontic treatment. However, there was no significant association between age and endodontic anxiety. **CONCLUSION:** All patients showed low level of anxiety to dental procedures. Slightly higher anxiety levels were observed prior to endodontic treatment. Gender and age did not affect anxiety levels. This issue of dental phobia needs to be addressed to make dental procedures comfortable for both patient and clinician.

INTRODUCTION

Dental treatments are dreaded by individuals. Dental anxiety remains a barrier to dental care for a consistent proportion of the population. Many measures have been taken up in order to assess the dental anxiety levels. The majority of these are self report questionnaires to be filled before initiating dental treatment. The direct approach of inviting individuals to state their own rating has merit. Some of these are Corah's dental anxiety scale (CDAS), Modified dental anxiety scale(MDAS), State trait anxiety scale(STAI), General gear fear scale, Getz dental belief survey, Dental fear survey. The most popular are CDAS, MDAS and Kleinknecht's DFS.

MDAS is a self-complete questionnaire consisting of five questions. The scale invites the respondent to indicate their anxiety to five dental situations which are as stated: sitting at the waiting room; having a scale and polish; a tooth drilled and a local anaesthesia injection.

The present study was conducted to analyse the anxiety generated across age and gender prior to routine dental treatment. Anxiety before endodontic treatment has never been assessed in any study till date. Hence, we decided to add an additional question pertaining to endodontic anxiety to the questionnaire.

METHOD

Two hundred and thirty adult patients (above 18 years of age) were given the MDAS questionnaire at OPD. Only patients who gave informed consent were included.

Inclusion criteria: Patients who visited the clinic seeking dental treatment.

Exclusion criteria: This included patients suffering from anxiety disorders or undergoing psychiatric treatment. The questionnaire was handed over to the patients for completion prior to being treated. Questions were explained to some of the patients in their regional languages for their understanding. (Table 1)

Modified Dental Anxiety Scale consists of five questions .the patient answered the question where they indicated whether

they were not anxious, slightly anxious, fairly anxious, very anxious or extremely anxious. Simple scoring pattern (1-2-3-4-5) was assigned to these categories, with a high score denoting a high anxiety response. Items were summed to derive the total score. Total scores ranged from 5-25. A score above 19 indicated a highly dentally anxious, possibly a phobic patient.

Since the MDAS Questionnaire does not include anxiety to endodontic treatment, a separate question was added to the survey form.

STATISTICAL ANALYSIS

The association between response and different questions was tested using chi-square test. The Independent t-test and one way Analysis of variance (ANOVA) were used to study the difference in the group based on their mean total score. P-value of 0.05 was considered statistically significant. All the statistical analysis was done on the SPSS*(version 16) statistical software package.

RESULT

The survey sampling was successful in retrieving participants from all adult age group and genders. Among the 230 adults, 125 were males and 105 were females. Statistical analysis showed significant association between anxiousness and the question asked (Table 2.3). In table 2.3 individuals' item frequencies shows that majority of men and females were not anxious. The following readings were noted:

Male:- Maximum males were not anxious for visit tomorrow (68.8%) , at waiting room (52.8%), and for use of drill more men were slightly anxious (41.6%) followed by not anxious (35.2%). For scaling and polishing equal numbers were slightly anxious and not anxious (42.4%). Only 4 men showed extreme anxiety out of which 1 was for use of drill and 3 for injection which amounts to (2.4%)

Female:- Maximum females were not anxious for visit tomorrow (69.52%), waiting room (51.43%) , use of drill (47.62%). Equal numbers of female were not anxious and slightly anxious for scaling and polishing (44.76%). Only 6 females showed extreme anxiety out of which 2 for use of drill

and 4 for injection which amounts to (3.81%).

Mean value according to score comparison was 8.65 in male and 7.97 in female (Table 4). Average anxiety was 8.34 that is less anxious. There was no significant association between age and dental anxiety.

Table 5 indicated anxiety to endodontic treatment across age and gender. Mean scores indicated fair to very anxious patients. Females showed marginally higher endodontic anxiety (mean 2.89) than males (mean 2.83). All age groups showed similar level of endodontic anxiety.

DISCUSSION

This psychometric study assessed the dental anxiety of patients in and around Navi Mumbai across age and gender. 230 adults participated in this survey. The mean anxiety score was 8.34, which is classified as 'less anxious'. This score was lower than similar studies conducted in other Indian states and in some parts of the world. This could be because the study was conducted in an urban milieu, with patients from a higher socio-economic strata. Also, the survey was conducted where all patients were dental patients. Posters and informative charts were displayed thus clearing the patients' doubts. The patients' fears and anxiety may have been alleviated because of these factors.

Our study showed no difference in the anxiety levels between females and males. This is in agreement with studies carried out by Hawamdeh et al, Berggren and Carlsson et-al. The survey participants came from a higher socio-economic strata thus having good oral hygiene. Both males and females were aware of the various dental treatment modalities, thus leading to similar anxiety levels. Other studies showed comparatively higher MDAS values in females than in males. Anxiety level was also similar among different age groups. Similar results have been reported in other studies by Malvania et al and Udoye et al. This could be attributed to high dental awareness in a metropolitan scenario which cuts across all age groups, thus giving similar anxiety levels. Other studies reported higher anxiety levels among younger age group.

The anxiety generated prior to endodontic treatment is not classified. An additional question was added to assess this. The results were similar to the earlier readings viz, there was no significant difference in anxiety level across gender and age for endodontic treatment. With more people preferring conservation of the tooth to extraction, endodontics is definitely becoming the popular option. However, the average anxiety score showed fairly anxious levels for endodontic treatment. Thus there is a need to increase peoples' awareness for endodontic procedures. The main reasons for endodontic anxiety are pain during and after treatment. The armamentarium, like endodontic files, irrigation needles and local anaesthesia are the tools that mainly generate the fear in patients. In India, the term used colloquially for root canal treatment is 'removal of nerve of the tooth' which conjures extreme agony for the patient. Patients need to be reassured that their fears are unwarranted. The advent of new techniques and instruments like rotary files, crown down instrumentation, irrigation devices has greatly enhanced the quality of endodontic treatment. It has also made the procedures quicker and easier. An extensive pre-operative consultation can clear the patient's doubts and fears.

CONCLUSION

The findings of this study indicate that dental anxiety was low and not associated with age and gender. Endodontic anxiety was slightly higher amongst the subjects, though not associated with age or gender. These findings highlight the anxiety to endodontic procedures.

Dental clinicians, assistants and health care workers need to be sensitised to patients' anxieties. Proper pre-operative patient counselling, along with confident and sympathetic handling will go a long way in making a patient comfortable and reassured in a dental setting.

Table 1:- MDAS QUESTIONNAIRE

1. If you went to your Dentist for TREATMENT TOMORROW, how would you feel?

Not Anxious Slightly Anxious Fairly Anxious Very Anxious Extremely Anxious

2. If you were sitting in the WAITING ROOM (waiting for treatment), how would you feel?

Not Anxious Slightly Anxious Fairly Anxious Very Anxious Extremely Anxious

3. If you were about to have a TOOTH DRILLED, how would you feel?

Not Anxious Slightly Anxious Fairly Anxious Very Anxious Extremely Anxious

4. If you were about to have your TEETH SCALED AND POLISHED, how would you feel?

Not Anxious Slightly Anxious Fairly Anxious Very Anxious Extremely Anxious

5. If you were about to have a LOCAL ANAESTHETIC INJECTION in your gum, above an upper back tooth, how would you feel?

Not Anxious Slightly Anxious Fairly Anxious Very Anxious Extremely Anxious

Instructions for scoring (remove this section below before copying for use with patients)

The Modified Dental Anxiety Scale. Each item scored as follows:

Not anxious=1, Slightly anxious=2, Fairly anxious=3, Very anxious=4, Extremely anxious=5

Total score is a sum of all five items, range 5 to 25. 5-9 less anxious, 10-18 moderately anxious, 19 or above extremely anxious or dental phobia.

ADDITIONAL QUESTION :-

Q:- If you were about to have an endodontic treatment, how would you feel?

Not Anxious Slightly Anxious Fairly Anxious Very Anxious Extremely Anxious

Table 2:- Comparison of Response against question: (Males)

		Visit Tomorrow		Waiting Room		Use of Drill		Scale and Polish		Injection	
		N	%	N	%	N	%	N	%	N	%
Male	Not anxious	86	68.80	66	52.8	44	35.2	53	42.4	52	41.6
	Slightly anxious	29	23.20	47	37.6	52	41.6	53	42.4	40	32
	fairly anxious	8	6.40	10	8	21	16.8	18	14.4	21	16.8
	very anxious	2	1.60	2	1.6	7	5.6	1	0.8	9	7.2
	extremely anxious	0	0.00	0	0	1	0.8	0	0	3	2.4
Total		125	100	125	100	125	100	125	100	125	100

Chi square test P<0.05; statistically significant.

Table 3:- Comparison of Response against question: (Females)

		Visit Tomorrow		Waiting Room		Use of Drill		Scale and Polish		Injection	
		N	%	N	%	N	%	N	%	N	%
Female	Not anxious	73	69.52	54	51.43	50	47.62	47	44.76	51	48.57
	Slightly anxious	27	25.71	46	43.81	35	33.33	47	44.76	25	23.81
	fairly anxious	3	2.86	3	2.86	14	13.33	9	8.57	23	21.90
	very anxious	2	1.90	2	1.90	4	3.81	2	1.90	2	1.90
	extremely anxious	0	0.00	0	0.00	2	1.90	0	0.00	4	3.81
Total		105	100	105	100	105	100	105	100	105	100

P<0.05 Statistically significant

Table 4:- Score comparison with respect to age and

		Score			
		N	Column N %	Mean	Standard Deviation
Age	18 – 29	105	45.7%	8.69	3.29
	30 – 39	37	16.1%	7.92	3.12
	40 – 49	56	24.3%	8.37	3.60
	50 – 59	15	6.5%	7.80	2.27
	60 – 69	15	6.5%	7.07	1.91
	70+	2	.9%	10.50	2.12
Gender	Male	125	54.3%	8.65	3.22
	Female	105	45.7%	7.97	3.21
	Total	230	100.0%	8.34	3.22

P>0.05 Not Significant

Table 5:- Endodontic treatment anxiety comparison with respect to age and gender

		RCT			
		Count	Column N %	Mean	Standard Deviation
Gender	Male	125	54.3%	2.83	1.12
	Female	105	45.7%	2.89	1.97
Age group	18 - 29	105	45.7%	2.95	1.52
	30 - 39	37	16.1%	2.95	2.37
	40 - 49	56	24.3%	2.63	1.14
	50 - 59	15	6.5%	2.60	1.24
	60 - 69	15	6.5%	3.20	1.08
	70+	2	.9%	2.00	1.41

P>0.05 Not Significant

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