

Effect of Dental Anxiety on Utilization of Oral Health Services among Adults of Karad City

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ABSTRACT

Introduction: Despite reductions in pain associated with dental visits and an increased awareness by dentists of the importance of building trusted relationships, dental anxiety remains a major issue for dental clinicians and their patients. Dental anxiety has long-term implications because it is both reasonably stable and difficult to assuage. The significance of dental anxiety as an issue in dentistry is magnified by the high prevalence of dental anxiety reported in many countries.

Material and methods: descriptive Cross sectional study was conducted among the adults of Karad city. The sample size was 200 subjects. Subjects were selected using simple random sampling technique. Ethical approval was obtained from the IEC. Informed consent was obtained from the subjects. A questionnaire was administered to assess the demographic variables. Single item modified dental anxiety scale (MDAS), dental visiting characteristics, type 3 Clinical examination will be conducted (WHO). Pilot study was conducted among 30 subjects to assess the face, content, criterion validity and reliability of the questionnaire. Data will be analysed using SPSS ver. 16.

Result: this study showed that there is remarkable relation in dental anxiety and utilization of oral health service. About 59% of participant had not visited dental clinic due to dental anxiety

Conclusion: sizable number of adults living in karad city needed dental care. Routine screening for dental anxiety and counselling to reduce dental anxiety are supported by this study as a means of addressing the impact of dental anxiety on the use of oral health services among adults of karad city.

Keywords: Dental Anxiety, MDAS, Oral Health

INTRODUCTION

Dental anxiety is a common problem both for dental practitioners and the people and afflicts a significant proportion of people of all ages from different social classes and often results in poor oral health by complete avoidance of dental treatment, irregular dental attendance or poor co-operation. Anxiety may be transient, persistent, episodic or limited to specific situation.¹ Dental anxiety is based on several factors like family and social environment, general fearfulness, pain, traumatic and unpleasant experiences. Patient perceptions of behaviours and attitudes of dentists can affect dental anxiety and could influence his or her decision to access dental care. It is therefore becomes important to assess the dental anxiety quantitatively and qualitatively along with its associated factors. Anxiety is a psychological and physiological state characterized by somatic, emotional, cognitive, and behavioural components. Anxiety is considered to be a normal reaction to a stress. Physical effects of anxiety may include heart palpitations, muscle weakness and tension, fatigue, nausea, chest pain, shortness of breath, stomach aches, or headaches and digestive system functions are

inhibited (the *fight or flight* response). Emotional effects may include feelings of apprehension or dread, trouble concentrating, feeling tense or jumpy, anticipating the worst, irritability, restlessness, and, feeling like your mind's gone blank as well as nightmares/bad dreams. Both the high prevalence of dental anxiety and the ramifications in terms of disease experience and treatment make it important that we better understand the mechanisms by which dental anxiety is maintained and possibly exacerbated

Various scientists have conducted surveys in populations of different countries and reported various types of dental anxiety ranging from mild, moderate to severe. Usually more anxiety is observed in older population and in females. Dental Anxiety score was found to vary for those who visited a dentist for tooth removal followed by cleaning, filling and dental check-up and study by showed association of anxiety with avoidance of care and lack of regular dental appointments. Modified Dental anxiety scale enables to assess dental anxiety and relationship with perceived health locus of control among students in an Indian dental school but no such assessment was done in lower strata population with less education, especially in this part of the country.

We therefore undertook this study with an Aim to assess the level of dental anxiety amongst patient's visiting dental OPD of School of Dental sciences, Karad, which would provide information on the patient approach towards dental treatment at that centre.

MATERIAL AND METHODS

The present study was a cross-sectional, questionnaire study. Samples were selected by simple random technique. Study used cross sectional data collected from sample of patients who were attending to School of dental sciences, Karad. Karad is city present in western Maharashtra in the Satara District. They were eligible for study if they were at least 18 years of age and attending School of dental sciences karad.

Exclusion criteria

1 Patients below the age of 18 years and above 30 years were

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not considered.

- 2 Uncooperative patients were excluded
- 3 Edentulous patient were not included.

Strict ethical guidelines regarding professional conduct were enforced for all project staff. Informed consent was obtained from participant and maintained strict confidentiality. Study personnel informed all potential participants their right not to enrol in the study if not interested and to withdraw from the study at any time. Ethical clearance was obtained from the ethical committee of K.I.M.S University. Permission from the concerned regulatory bodies in Hospital to conduct the survey was taken.

A total 200 number of individuals were approached for the study, after providing informed consent; participants completed the survey administrated by trained study personnel.

Study activities were conducted in either Marathi or English, according to preference of participant choice. Modified dental anxiety scale (MDAS) in form of questionnaire was given to patients visiting dental OPD. [Table no. 2].

Questions included in questionnaire were:

1. If you went to your dentist tomorrow, how would you feel?
2. If you were sitting in the waiting room (waiting for treatment), how would you feel?
3. If you were about to have tooth drilled, how would you feel?
4. If you were about to have your teeth scaled and polished, how would you feel?
5. If you were about to have a local anaesthetic injection in your gums, how would you feel?

Survey collected dental anxiety, utilization of oral health care assessment form which provides details about anxiety. The data was analysed using common database and statistical software for each of the parameters in the questionnaire. Inter group comparisons were done and results were computed using Chi-square analysis. Chi square test offers an alternative method of testing the significance of difference between to proportions. It has the advantage that it can also be used when more than two groups are to be compared.²

Two dependent variables were analysed in this study. The first variable described dental anxiety using the Modified Dental Anxiety Scale (MDAS). The second variable was utilization of

oral health-care services; measured as the time since the last dental care visit. The MDAS is a scale comprising five questions relating to situational dental anxiety, where each question can be scored from 1 (lowest anxiety) to 5 (highest anxiety). The sum of the four questions determines the MDAS score, which can range from five to twenty five.

Utilization of oral health-care services was determined by asking the participants, “When was the last time you visited the dentist?” For the purposes of this analysis, responses were dichotomized to the last dental appointment occurring within the past 12 months vs. longer than 12 months ago.

Statistical analysis:

Chi square analysis was done with readings of high dental anxiety and severe dental anxiety with the readings of patient visited dental health care clinic in last 12 months. And the results are as follows.

RESULT

It shows that there is large significance of dental anxiety on oral health service utilization among the adults of karad city. Dental anxiety has became barrier to receive oral health care. Details about particular cause of anxiety shows that most common reason of anxiety among adults of karad city is getting injected with needed syringe. Second most common reason for dental anxiety in adults of karad city is tooth extraction. Detailed descriptions regarding dental anxiety among adults of karad city are given in table no. 3

Half of the patient had a regular dentist but almost 2/3rd reports that it had been longer than 12 months since their last dental clinic visit. More than 40% adults of karad city reported that they had needed dental care in past 12 months but did not get it because of the dental anxiety.

The prevalence of high dental anxiety was 76.5% and prevalence of severe dental anxiety was 58% among the adults of karad city. Chi Square test result for high dental anxiety and utilization of oral health care services was 52.758 at <0.0001 p value and 4 degrees of freedom. The row and column variables are significantly associated. Chi-squared for trend is 15.887 (1 degree of freedom). p value is < 0.0001. There is a significant linear trend among the ordered categories. Values are shown in Table 4 (I).

Chi Square test result for severe dental anxiety and utilization of oral health care services is 82.318 at < 0.0001 p value and 4 degree of freedom. The row and column variables are significantly associated. Chi-squared for trend is 59.021 (1 degree of freedom). p value is < 0.0001. There is a significant linear trend among the ordered categories. Values are shown in Table 4 (II).

DISCUSSION

Our study represents one of the first attempts to recognise the

Demographic variables		Number of patients	Percentages
Age	18yrs to 20yrs	97	48.5%
	21yrs to 25yrs	61	30.5%
	26yrs to 30yrs	42	21%
Gender	Male	87	43.5%
	Female	113	56.5%
Total		200	100%

Table-1: Demographic characteristics of study participants.

Questions	Not anxious	Slightly anxious	Fairly anxious	Very anxious	Extremely anxious
If you went to dentist tomorrow for treatment	70	103	14	10	3
Sitting in waiting room for a treatment	40	76	66	12	6
About to have your tooth drilled	6	56	47	65	26
About to have your teeth scaled	75	68	33	15	9
About to have injection in your gums	9	24	45	50	72

Table-2: Questionnaire

relation between dental anxiety and utilization of oral health service among adults of karad city. Our findings suggest that about 59% of adults in karad city have dental anxiety. Due to the dental anxiety they refuse to take oral health service.

Number of patients leaving in Karad city has anxiety associated with obtaining dental care. Routine screening of dental anxiety and counselling to reduce anxiety are supported by this study as a means of addressing the Effect of dental anxiety on utilization of oral health services among adults of Karad city.

It is known as oral cavity is mirror of whole body therefore it is important in detecting many diseases as first manifestation are seen in oral cavity. Therefore regular dental check-up has

important role in early detection of any disease. Oral check-up is not only important from dental aspect but also general body disease. Diseases like syphilis, Harpies virus infection, HIV, and lot more can be detected early due to screening of oral cavity.³

Dental anxiety in general population has long been associated with delay or avoidance in seeking dental care. Numerous studies support the idea that dental anxiety can result from previously traumatic or negative dental experience.⁴⁻⁷ Individuals with dental anxiety avoid dental care, avoidance results deterioration of their dental condition. Awareness of their worsening condition leads to more anxiety regarding pending treatment and the increased anxiety reinforces the avoidance behaviour. The emotional state can be detrimental to both patient and dentist. It may be a source of professional stress, which can decrease the dentist performance.⁸

Experiencing severe pain during and post dental procedure is amongst the most prevalent stressful incident, and can cause psychological trauma and a never ending fear of the dentist.⁹ Research has shown that many people delay dental visiting due to issues of cost^{10,11}, perceived time restraints¹² or out of apathy or lack of interest.^{13,14} Higher prevalence of dental anxiety among the adults raises concern because of the well documented negative impact that dental anxiety has upon keeping timely and regular dental appointments and the potential for serious health consequences resulting from not maintaining oral health. Our findings suggest that there should be increased efforts to screen adults with dental anxiety.

Limitations of this study are, these data are from a sample of adults of karad city recruited from School of dental sciences, Karad clinics in a large urban area. Therefore, generalizations to other adults in rural areas or other states should be made with caution. Second, these data are based upon self-reports, and differential recall may have been a factor regarding events of the past year; therefore, data may be affected by under or over reporting. Third, because the data are cross-sectional, neither the temporal relations nor causal relations are provided for the associations found.

CONCLUSION

This study suggests the need for continued, increased focus on oral health in adults. To minimise and eliminate the dental anxiety there should be proper counselling of patient. Dental anxiety can divert the patient from utilization of oral health service and indirectly affect patients overall health. Early

Sr No.	Dental concern assessment	Percentages
1	Injection	123 (61.5%)
2	Extraction	88 (44%)
3	Jaw gets tired	61 (30.5%)
4	Root canal treatment	54 (27%)
5	Number of appointments and necessary time	47 (23.5%)
6	Fear of being injured	47 (23.5%)
7	Sound or vibrations of the drill	45 (22.5%)
8	Cost of dental treatment	45 (22.5%)
9	Embracement about the conditions of mouth	40 (20%)
10	Panic attacks	36 (18%)
11	Smells in dental clinic	33 (16.5%)
12	Probing to assess gum disease	32 (16%)
13	Gagging during impression	32 (16%)
14	The sound of feeling scraping during scaling	30 (15%)
15	Cold air hurts the teeth	29 (14.5%)
16	May need lots of dental appointments	23 (11.5%)
17	Not being numb enough	21 (10.5%)
18	Dislike the numb feeling	18 (9%)
19	Not enough information about procedure	18 (9%)
20	Not being able to stop the dentist	16 (8%)
21	Being criticized or not taken seriously	16 (8%)
22	X rays	14 (7%)
23	Not feeling free to ask questions	13 (6.5%)
24	I don't like feeling confined or not in control	10 (5%)
25	Not being listen	8 (4%)
26	Rubber dam	7 (3.5%)

Table-3: Dental concern assessment

Sr No.	Chi Square test result for high dental anxiety and utilization of oral health care services.		Chi Square test result for severe dental anxiety and utilization of oral health care services	
	(I)		(II)	
	Total	Percent	Total	Percent
1	69	15.44%	62	15.09%
2	71	15.88%	65	15.82%
3	124	27.74%	85	20.68%
4	74	16.55%	68	16.55%
5	109	24.38%	131	31.87%
Total	447	100%	411	100%
Column A	152	34%	116	28.22%
Column B	295	66%	295	71.78%

Table-4: Chi square test results

detection of many diseases and disorders may be compromised due to dental anxiety.

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