

# Assessment of Dental Anxiety towards Dental Care among Patients Attending Dental Institution in Bengaluru City

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**Abstract:** ***Background:** Dental anxiety is a major hurdle when it comes to seeking early advice regarding oral and dental problem. It is a common observation that anxious patients defer their visit to dental practices till the time it becomes absolutely necessary to obtain dental treatment. Clinicians need to diagnose the condition and evaluate strategies to reduce it. **Aim:** The aim of the present study was to assess the dental anxiety levels towards dental treatment among the Patients attending dental institution. **Material and Methods:** A cross sectional study was carried out for a period of three months i, e June to August 2017, study was conducted among 400 subjects (at least 18 years old) in dental institution in Bengaluru city. The data was collected using questionnaire consisting of Modified dental anxiety scale (MDAS). **Statistical analysis:** Chi-square test, Mann –Whitney u test was performed to statistically analyze qualitative data. A p-value of 0.05 was considered. **Results:** In the present study female participants were more anxious compared to male participants. Highest mean MDAS score was seen for tomorrow's dentist visit followed by scaling polishing, Extraction, Drilling and waiting room. **Conclusion:** This cross-sectional study supports associations between dental anxiety and avoidance of oral health care. It is recommended that promotion of oral health education and providing health care services helps patients to overcome the anxiety factor.*

**Keywords:** Dental anxiety, MDAS, Dental institution, Anxiety levels, Bengaluru.

## 1. Introduction

Anxiety may be expressed as a vague, unpleasant feeling accompanied by the premonition that something undesirable is about to happen. It is a reaction to an unknown danger<sup>1</sup>. Dental anxiety is patient's response to stress that is specific to dental situation and is ranked as the fourth among common fears and ninth among intense fears<sup>2</sup>. Dental anxiety is a major hurdle when it comes to seeking early advice regarding oral and dental problems. It is a common observation that anxious patients defer their visit to dental practices till the time it becomes absolutely necessary to obtain dental treatment<sup>3</sup>. It increases the prevalence of dental diseases. There is a lack of data regarding the levels of Dental anxiety among the patients. Hence, for better understanding, management and development of treatment strategies for these patients, the present study was undertaken to assess the levels of dental anxiety among patients visiting Rajarajeswari Dental College and Hospital Bengaluru Karnataka.

### Aim

The aim of the present study is to assess the dental anxiety levels towards dental treatment among the Patients attending dental institutions

### Objectives

- 1) To assess the level of dental anxiety prevailing in dental patients attending the dental institution in Bengaluru city
- 2) To compare the anxiety levels of female and male patients

## 2. Materials and Methods

A cross sectional questionnaire study was conducted among new patients attending dental outpatient department of Rajarajeswari Dental College and Hospital Bangalore, The study was carried out for a period of three months that is June to August 2017. It conducted to assess the level of dental anxiety amongst patients visiting for the first time to dental college.

### Sample size

Based on prevalence of 53% from previous studies given by 'Deogate sc, Suresan et al<sup>4</sup>, the estimated sample size for present study is 382 which was rounded of to 400.

### Tool

Various scales have been used to measure dental anxiety such as corah's dental anxiety scale (CDAS), Stouthard's dental anxiety inventory short form (DAI-S) and Dental fear survey (DFS).

Modified Dental Anxiety Scale (MDAS)<sup>5</sup> was used in current study. This scale is more useful for screening and diagnosing patients with dental anxiety as it was shown to be more comprehensive, highly valid and reliable, with simpler and more consistent answering system.

The modified dental anxiety scale (MDAS) contains 5 multiple choice

Items including the followings:

1 = If you went to your dentist for treatment tomorrow, how would You feel?

2 = If you were sitting in the waiting room, how would you feel?  
 3 = If you were about to have a 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 anesthetic injection in your Gum, how would you feel?

The scores for each of the 5 item responses were added to give an estimated value of dental anxiety. It different from the CDAS it includes question about a local anesthetic injection. Each question has five scores ranging from 'not anxious' to 'extremely anxious', an ascending order from 1 to 5. Each question carries a maximum score of 5 with a total possible maximum score of 25 and a minimum score of 5 for the entire scale. A score of 19 or above is considered as a case of high-dental anxiety.

**Inclusion criteria**

- New patients visiting the dental OPD of the Hospital were included.
- Age of 18years and above.
- Patients consented for the study.
- Patient who could read and write Kannada and English were included.

**Exclusion criteria**

- Patients below the age of 18 years and above 60 years were not considered.
- Uncooperative patients were excluded.
- Patient who dint give consent for the study were excluded

**Pilot study**

The questionnaire was pilot-tested in 30 patients visiting the Dental College for the first time. This procedure was done to check the appropriateness of each question. The Questionnaire was translated into Kannada language for the better understanding of the patient. The reliability of the questionnaire was analyzed using cronbach's alpha was arrived 0.75 which was found to be acceptable.

**Ethical clearance**

Ethical clearance was obtained from the ethical committee of Rajarajeswari Dental College and Hospital Bengaluru

**3. Results**

The study included 400 patients visiting Rajarajeswari Dental College and hospital for the first time, out of which 196(49%) were males and 204 (51%) were females. (Figure 1)The age of the study participants ranged from 18-49& above years. Most of the subjects amongst the four age groups were in the 18-28 years age group (49.5%) followed by 49 &above(22.3%) then were 29-38 age group(17.0%)years age group and least were in the 39-48(11.3%)age group.

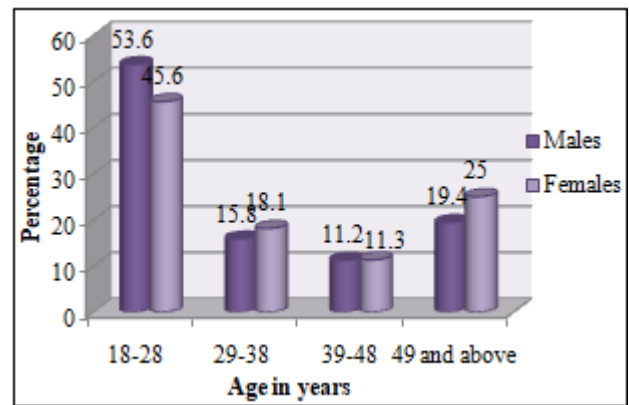


Figure 1: Distribution of age based on gender

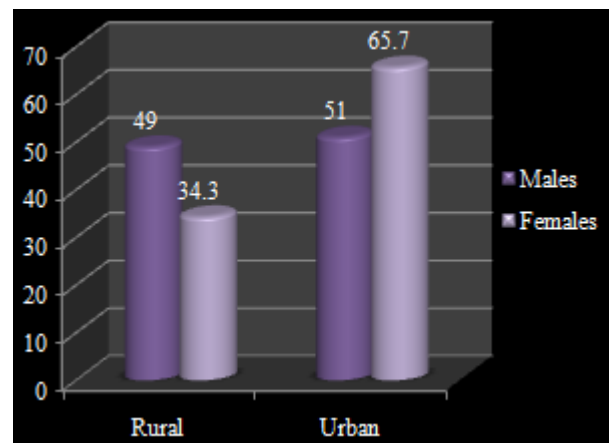


Figure 2: Distribution of the location based on gender

Majority of study participants were from urban locality that is 58.5% and 41.5% were from rural locality .among the total 58.5% of urban participants about 51% were male & 65.7% were female participants, were as 49% Male & 34.3% female participants were from rural locality.

Table 1: Distribution of the education based on gender

Gender	Education	Frequency	Percent
Males	Lower and Higher primary	20	10.2
	High School	42	21.4
	Pre-University	10	5.1
	Graduation	108	55.1
	Post-graduation	16	8.2
	Total	196	100.0
Females	Lower and Higher primary	11	5.4
	High School	62	30.4
	Pre-University	26	12.7
	Graduation	86	42.2
	Post-graduation	19	9.3
	Total	204	100.0
Chi-square value- 14.05			
p value- 0.007*			

Table 3 shows distribution of education based on education. Majority of the participants in both males (55%) and females (42%) had completed graduation.

**Table 2:** Frequency break down of MDAS across male and females

Question	Tomorrow appointment(Q1)		Waiting room(Q2)		Use of drill(Q3)		Scale and polish(Q4)		local anesthesia(Q5)	
	Male N (%)	Female N (%)	Male N (%)	Female N (%)	Male N (%)	Female N (%)	Male N (%)	Female N (%)	Male N (%)	Female N (%)
Not anxious	142(72.4)	110(53.9)	141(71.9)	48(23.5)	82(41.8)	27(13.2)	120(61.2)	82(40.2)	70(35.7)	26(12.7)
Slightly anxious	44(22.4)	74(36.3)	54(27.6)	109(53.4)	75(38.3)	58(28.4)	49(25.0)	60(29.4)	66(33.7)	53(26.0)
Fairly anxious	1(0.5)	20(9.8)	1(0.5)	17(8.3)	26(13.3)	58(28.4)	18(9.2)	15(7.4)	36(18.4)	30(14.7)
Very anxious	9(4.6)	0(0)	0(0)	30(14.7)	13(6.6)	61(29.9)	9(4.6)	38(18.6)	19(9.7)	62(30.4)
Extremely anxious	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	0(0)	9(4.4)	5(2.6)	33(16.2)
Total	196(100)	204(100)	196(100)	204(100)	196(100)	204(100)	196(100)	204(100)	196(100)	204(100)

Table 2 shows individual frequency breakdown of MDAS across male and female participants. When patients were asked how would they feel about their dentist appointment tomorrow? (Q1) majority of them were not anxious, among them 72.4%(142) were males and 53.9%(110) were females, around 22.4%(44) males and 36.3%(74) female were slightly anxious, 0.5%(1) male patient and 9.8%(20) female patients were fairly anxious and none of the female patient were very anxious when compared to male patients 4.6%(9)

When patients were asked how they would feel when they are waiting for the treatment in treatment room (Q2) majority of the participants i.e 71.9%(141) male patients were not anxious as compared to females patients and 53.4%(109) female patients were slightly anxious, Where as only 1(0.5%) male patients and 17(8.3) female patients were slightly anxious & none of the male patients and 30(14.7%) female patients were very anxious and none among 400 participants were extremely anxious in waiting room.

When patients were asked about how they would feel if they had to get their teeth drilled (Q3), 41.8%(82) male patients showed no anxious as compared to 13.2%(27) female patients, 38.3%(75) male patients and 28.4%(58) female patients and 13.3%(26) male were slightly anxious, 28.4%(58) female patients and 13.3%(26) were fairly anxious, 6.6%(13) male patients and 29.9%(61) female patients were very anxious were none of participants were extremely anxious for the drill.

When the patients were asked how they felt when they were about to have their teeth scaled and polished (Q4) majority of male patients i.e. 61 % (120) were not anxious as compared to female patients. Female patients were slightly more anxious as compared to male patients. 9.2% (18) male participants and 7.4% (15) female participants were fairly anxious. Female patients were 4 times more i.e. 18.6% than compared to males during scaling and polishing procedure.

When patients were asked how they felt when they were about to take a local anesthetic injection, (Q5) Only 35.7%(70) male patients and 12.7%(26) female patients were not anxious, were as majority 33.7% (66) male patients were slightly anxious as compared 26.0%(53) female patients, 36(18.4%) male patients and 14.7%(30) female patients were fairly anxious, 19.7%(19) male patients and 30.2%(62) female patients were very anxious, only 2.6%(5) male patients and 16.2%(33) female patients were extremely anxious for local anesthetic injection.

#### 4. Discussions

The aim of the present study was to assess the dental anxiety levels towards dental treatment among the Patients attending dental institution OPD for the first time.

Despite the technological advances made in modern dentistry, Anxiety about dental treatment and fear of pain associated with dentistry, remains widespread globally and is considered as a major barrier to dental treatment<sup>6</sup>.

It therefore becomes imperative to assess the dental anxiety quantitatively and qualitatively and it's associated factors<sup>7</sup>.

The study conducted by Horst and wit et al (1993) showed that females are more anxious towards dental treatment than males<sup>8</sup>. The same was found in our study with higher MDAS score of 2.348 for female participants compared to 1.635 for male participants. Medical and psychological research on human responses to pain stimuli has generally found that women report higher levels of anxiety (they have lower thresholds) and exhibit less tolerance for pain at a given stimulus intensities than men<sup>9</sup>.

In the present study the highest mean MDAS score was seen for tomorrow's dentist visit followed by scaling polishing, Extraction, Drilling and waiting room. This is in contrary to the study by Bhalla et al<sup>7</sup> which shows highest mean MDAS score was seen for those who had visited dentist for cleaning followed by tooth removal, filling and dental check up and whereas study conducted by shreshta et al<sup>9</sup> shows highest mean DAS score was for tooth removal followed by cleaning, filling and dental check up.

Lack of dental health education might result in patients fear and anxiety which in turn might end with poor patient compliance and attitudes and this will make it more difficult to manipulate patients and yield dental care and thus increase the levels of dental profession related stress<sup>2</sup>.

#### 5. Conclusion

Present cross-sectional study support to the significant associations between dental anxiety and avoidance of dental care. Treating anxious patients is difficult task for dental surgeon. It is recommended that dental education and health care services should be promoted to overcome the anxiety factor among the patients seen to be associated with missed dental appointments. Assessment of dental anxiety may be recommended to assist the dentist in identification and management of dentally anxious patients.

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