# Prevalence of Dental Anxiety among patients reporting to a Dental Hospital in Pune, Maharashtra.

Amita Aditya; MDS,[a] Akshay Sharma; BDS,[b] Shruti Joshi; BDS,[c] Apurva Kaluskar; BDS,[d] Shruti Patil; BDS,[e] Daya K. Jangam[f]

*a Reader, Department of Oral Medicine and Radiology, Sinhgad Dental College & Hospital, Pune*
*bPost graduate student, Department of Orthodontics & Dentofacial Orthopedics, Dr. DY Patil Dental College & Hospital, Pune*
*c Post graduate student, Department of Oral Medicine and Radiology, Sinhgad Dental College & Hospital, Pune*
*d Post graduate student, Department of Orthodontics & Dentofacial Orthopedics, Sinhgad Dental College & Hospital, Pune*
*e Post graduate student, Department of Oral Medicine and Radiology, Sinhgad Dental College & Hospital, Pune*
*f Professor & head, Department of Oral Medicine and Radiology, Sinhgad Dental College & Hospital, Pune*

*Corresponding Author: Amita Aditya; MDS*

**Abstract**
***Background and objectives:*** *Dental anxiety may act as an important limiting factor that interferes or rather prevents the effective utilization of the dental health care services available. As health care professionals, we need to have a better understanding and management strategies for the anxious patients. Hence this study was planned to estimate the prevalence of dental anxiety and evaluate the factors affecting it in patients reporting to one of the Dental College and Hospital in Pune.* ***Methodology****: 100 patients, aged above 18 years and who were willing to participate in the study were included in it. Modified Corah's Dental Anxiety Scale (MDAS) was translated and linguistically validated in Marathi (local language), which was then used to assess the level of anxiety.* ***Results:*** *Study showed 60% of the participants with slight or fair amount of anxiety. Dental phobia was prevalent in 5% of the patients. Anxiety was also found to be dependent upon the type of treatment seeked. However, no significant gender difference was noted.* ***Conclusion:*** *Significant number of patients reporting for treatment may suffer from dental anxiety. Hence strategies regarding its estimation and management must be incorporated in the day to day dental practice.*
***Keywords:*** *Anxiety; Modified Corah's Dental Anxiety Scale; psychosocial; dental phobia*
-------------------------------------------------------------------------------------------------------------------------
Date of Submission: 27-03-2020                                                                    Date of Acceptance: 15-04-2020
-------------------------------------------------------------------------------------------------------------------------

## I. Introduction:

Dentistry in modern times is largely becoming patient centric and hence emphasis on holistic practice and behavioural management is the need of the hour. In quest to treat a tooth, many a times we forget to see a patient as a whole and ignore his psychosocial status. Anxiety is described as a state in which certain situation or place triggers excessive fear.[1] Dental Anxiety is described as fear of Dentistry and of receiving dental care. Previous studies indicate that dental anxiety acts a barrier to dental care for a consistent proportion of the population. For many patients, fear and anxiety is a real problem that can become a barrier to treatment in the long run. In addition, dentists may also become anxious when dealing with anxious patients, leading to management difficulties and prolongation of the treatment time.[2,3] This can be avoided by assessing dental anxiety through simple self-reported scale. However, this does not seem to be a common practice amongst Dentists which may be owed to the lack of awareness amongst them. Hence a need was felt to conduct a study which would highlight the need to develop a better understanding and management strategies for the anxious patients. There are few reports regarding prevalence of dental anxiety in India.[4,5] However; to the best of our knowledge, no such data are available regarding the population in this geographical region, and it has been proposed that the prevalence and characteristics of dental anxiety do get influenced by cultural and sociodemographic characteristics.[6] Therefore, this study was planned with an aim to estimate the prevalence of dental anxiety and evaluate the associated factors amongst the patients reporting to a Dental College and Hospital in Pune. The dental institution where this study was carried out provides each and every treatment free

of cost and hence caters to people of diverse socio-economic strata, with a large number of patients of poor economic and educational background as well. This gave us an opportunity to analyze a wide range of socio-economic and educational demographics associated with dental anxiety.

## II.  Materials And Methods:

After obtaining ethical clearance and permission from the institutional research review board, 100 patients aged above 18 years and who were willing to participate were included in the present study using consequent convenient sampling method. Patients with any history of psychosocial disorders were excluded from the study. Details of patients were entered in a predesigned proforma after obtaining their consent for participation.

Dental anxiety was measured by Modified Corah's Dental Anxiety Scale (MDAS). Modified Corah's Dental Anxiety Scale (MDAS) was translated in Marathi (local language) using forward and backward blind translation method. Same questionnaire was provided in English to the Non-Marathi speaking patients.

MDAS consists of five questions each of which has five scores, ranging from 'not anxious' to 'extremely anxious,' in ascending order from 1 to 5. Each question thus carries a possible maximum score of 5, with a total possible maximum score of 25 and a minimum score of 5 on the entire scale. A score of 13 or above is considered a case of dental anxiety and with scores of 19 and above indicating dental phobia. [7]

Analysis of data was done using the Descriptive analysis and chi square test was used to evaluate the correlations.

## III. Results:

Graph 1 a & b represent the demographic characteristics of the study population. Sixty nine males and 31 females participated in the study with a mean age of 30.38 years (SD+/- 12.684).

Table 1 represents the frequency distribution for the questions asked as per the Modified Corah's Dental Anxiety Scale. Some interesting observations regarding the prevalence of dental anxiety were made. 61% of the patients reported to have some amount of anxiety in response to question 1 with as many as 27% of them reported with fair amount of anxiety. 74% of patients confessed to have anxiety while sitting in the waiting room. As many as 72% of the patients reported to have anxiety related with tooth drilling where as the percentage of patients anxious about scaling dropped to 51%. As many as 82% of the patients were anxious regarding local anaesthetic injection with as many as 55% of them being very or extremely anxious. On analysis of the overall score, 35% patients were found to be not anxious, 60% of them showed anxiety with score lower than 19 and as many as 5% of them reported dental phobia with a score above 19.

The correlation of MDAS score with the age and gender was evaluated and has been represented in Table 2. There was no statistical difference between mean MDAS score of males and females. An analysis of different age groups showed that anxiety seemed to be slightly more in younger patients and in patients aged 60 and above. The highest level of dental anxiety was seen among housewives and school or college students compared with those self-employed and professionals.

## IV. Discussion:

Dental anxiety is ranked fourth among common fears and ninth amongst intense fears.[8]t is a common problem faced by the patients worldwide but often goes neglected by the clinician due to lack of communication and use of scales to measure it. Fearful dental patients are reported to avoid dental treatment, avoid seeking emergency dental care, postpone their dental visit, and have poor oral health and more number of missing and decayed teeth.[9]

According to our study, the highest level of dental anxiety was seen among housewives and school or college students compared with those self-employed and professionals. Our findings indicate that mean dental anxiety score was not significantly different between females and males. However, according to results obtained, ratings of dental anxiety were higher in females than males. It may infer that women express anxiety more readily than men do as also noted in some previous studies.[5] In our Indian society, it is often considered a taboo for men to express their fears which may be the reason behind this. According to our study, anxiety seemed to be slightly more in younger patients which could indicate developing adaptability to the stressful situations with age as indicated by certain psychosocial studies. [10] Anxiety was also seen to be dependent on type of treatment sought. Significant percentage of patients reported to be anxious of invasive dental procedures like injections and teeth extraction. It definitely indicates the need of adequate patient counseling and estimation of their level of anxiety so that remedial steps could be taken before such procedures. Another important finding was that more than three-fourth of the patients admitted to feel anxious while sitting in the waiting room. This may underline the need of making the environment of the waiting room rather comforting and introduce some distracters such as television, soothing music etc. Some educative videos or posters regarding dental procedure may also be displayed in order to decrease the patients' apprehensions.

## V. Conclusion:

Being health care providers, we must be aware of the fact that our patients need extra care and our empathetic approach as they come to us. This study underlines the presence of fair amount of dental anxiety in significant percentage of the patients event in a convenient sample who seeked dental treatment by choice. It may be speculated that many patients may not even report for dental treatment due to this anxiety. Hence it is of utmost importance for Dentists to identify and manage dental anxiety, thereby addressing a major hindrance in successful delivery of treatment.

## References

[1]. Aditya A, Lele S. Association between psychosocial disorders and oral health. J Dent Allied Sci 2015;4:84-8
[2]. Hawamdeh S, Awad M. Dental anxiety: Prevalence and associated factors. Eur J Gen Dent 2013;2:270-3.
[3]. Humphris GM, Morrison T and Lindsay SJE. The Modified Dental Anxiety Scale: Validation and United Kingdom Norms' Community Dental Health 1995; 12: 143-50.
[4]. Appukuttan D, Datchnamurthy M, Deborah SP, Hirudayara GJ,Tadepalli A, Victor DJ. Reliability and validity of the Tamil version of Modified Dental Anxiety Scale. Journal of Oral Science 2012; 54(4): 313-20.
[5]. Malvania EA, Ajithkrishnan CG. Prevalence and socio-demographic correlates of dental anxiety among a group of adult patients attending a dental institution in Vadodara city, Gujarat, India. Indian J Dent Res 2011;22:179-80.
[6]. Ekanayake L, Dhamawardena D. Dental anxiety in patients seeking care at the university dental hospital in Srilanka. Community Dent Health 2003;20:112-6.
[7]. Humphris GM, Hull P. Do dental anxiety questionnaires raise anxiety in dentally anxious adult patients? A two-wave panel study. Primary Dental Care 2007; 14: 7-11.
[8]. Appukuttan DP, Tadepalli A, Cholan PK, Subramanian S, Vinayagavel M. Prevalence of Dental Anxiety among Patients Attending a Dental Educational Institution in Chennai, India – A Questionnaire Based Study. OHDM 2013;12(4): 289-94
[9]. Newton JT, Buck DJ. Anxiety and pain measures in Dentistry: A guide to their quality and application. JADA 2000;131:1449-57.
[10]. Aldwin CM, Sutton KJ, Chiara G, Spiro A. Age Differences in Stress, Coping, and Appraisal: Findings From the Normative Aging Study. Journal of Gerontology: psychological sciences 1996, 5(4):79-88

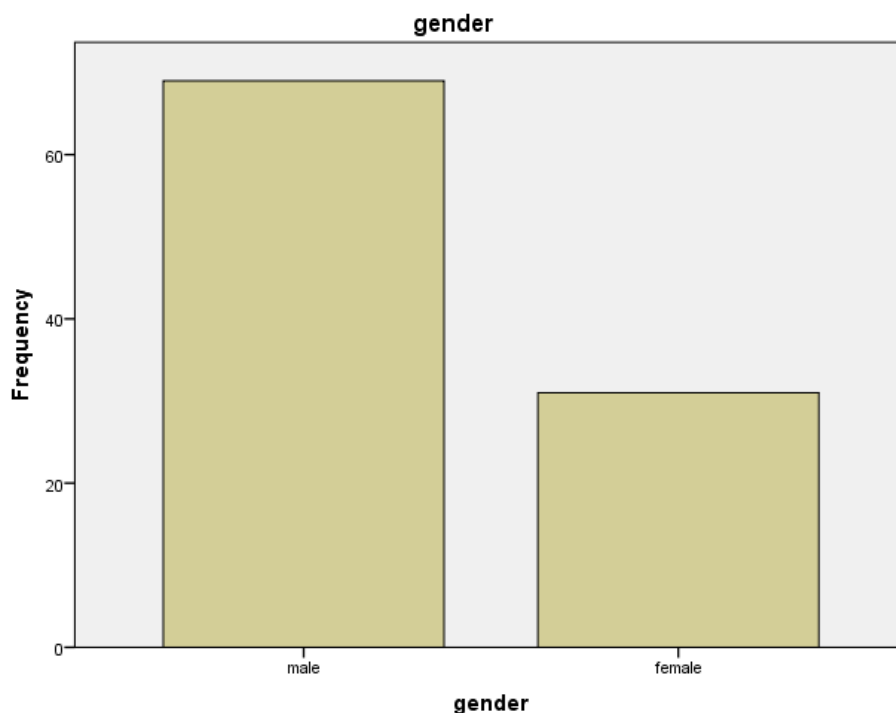**Graph 1 (a &b): Demographic characteristics of the study population**
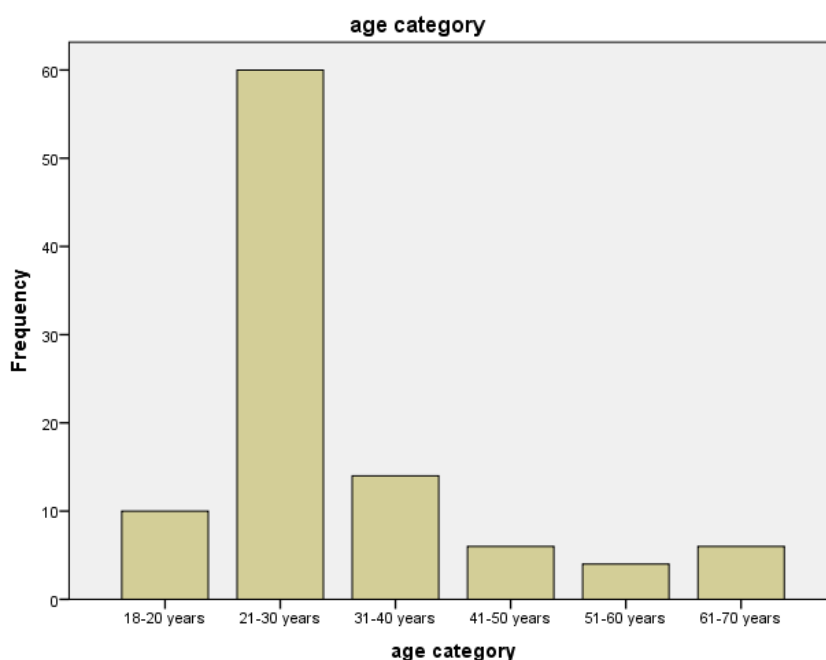
**Table 1: Frequency distribution and mean total score for the questions asked as per the       Modified Corah's Dental Anxiety Scale (MDAS)**

| Item | Not anxious (%) | Slightly anxious (%) | Fairly anxious (%) | Very anxious (%) | Strongly anxious (%) | Mean total Score |
|------|------|------|------|------|------|------|
| **Q1** | 39 | 24 | 27 | 07 | 03 | 12.10 (SD +/- 4.648) |
| **Q2** | 26 | 39 | 22 | 10 | 03 | |
| **Q3** | 28 | 21 | 23 | 20 | 08 | |
| **Q4** | 49 | 31 | 13 | 04 | 03 | |
| **Q5** | 18 | 13 | 14 | 27 | 28 | |

**Table 2: Age and gender wise distribution of mean scores on Modified Corah's Dental  Anxiety Scale (MDAS)**

| | Gender | | Age group (in years) | | | | | |
|------|------|------|------|------|------|------|------|------|
| | **Male** | **Female** | **18-20** | **21-30** | **31-40** | **41-50** | **51-60** | **61-70** |
| **Mean Score** | 11.92 | 12.48 | 12.9 | 12.2 | 12.42 | 10.83 | 9.5 | 12.0 |