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Self-Assessment of Dental Anxiety in Patients visiting Community Health Centre – A Questionnaire Study

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Abstract

Background: Dental anxiety is a prevalent issue affecting individuals of all ages and social backgrounds, leading to poor oral health outcomes due to avoidance of dental treatment. Various factors, including family environment, fearfulness, and past experiences, contribute to dental anxiety. Understanding patient perceptions of dentists' behaviors is crucial in addressing dental anxiety and promoting access to dental care.

Objective: This study aimed to quantitatively and qualitatively assess dental anxiety levels among new patients visiting a dental OPD at a Community Health Centre in Kanpur, India..

Methods: A cross-sectional questionnaire study was conducted among new patients aged over 18 years attending the dental OPD. The Modified Dental Anxiety Scale (MDAS) questionnaire was utilized after pilot-testing and translation into Hindi for better patient understanding. Ethical clearance and permissions were obtained, with a total sample size of 520 patients based on daily OPD attendance.

Results: The study assessed the prevalence, severity, and associations of dental anxiety in the adult population attending the Community Health Centre in Kanpur. The MDAS questionnaire revealed varying levels of dental anxiety among patients, with scores compared across different socio-demographic factors.

Conclusion: The findings of this study shed light on the importance of addressing dental anxiety in patients seeking oral health care. By understanding the factors contributing to dental anxiety and its impact on treatment-seeking behavior, dental practitioners can tailor interventions to alleviate anxiety and improve patient outcomes. Further research in this area is warranted to enhance dental care delivery and patient experiences

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

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oral health by complete avoidance of dental treatment, irregular dental attendance or poor co-operation. Dental anxiety is based on several factors like family and social environment, general fearfulness, pain and traumatic, 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.(1) It is therefore becomes imperative to assess the dental anxiety quantitatively and qualitatively and its associated factors.

Anxiety is a psychological and physiological state characterized by somatic, emotional, cognitive, and behavioural components.(2) Anxiety is considered to be a normal reaction to a stressor. 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.

Various scientists(3–5) have conducted surveys in populations of different countries and reported various types of dental anxiety ranging from mild, moderate to severe.(6) None of the available literature from the studies conducted by other workers(7–9) shows dental anxiety varied among different age groups and differs among genders.(10) 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 (11) and study by Humphris GM et al.(12) showed association of anxiety with avoidance of care and lack of regular dental appointments.

Modified Dental anxiety scale [14] enabled 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 new patient's visiting dental OPD of Community Health centre, Kanpur which would provide information on the patient approach towards dental treatment at that centre.

Aim & Objectives

Aim

The aim of this study was to estimate the prevalence, severity and associations of dental anxiety in a sample of the adult population attending Dental OPD of Community Health Centre, Kanpur, Uttar Pradesh.

Objectives

The Objective of the study was –

• To assess the level of dental anxiety in patients visiting comprehensive rural health hospital using Modified Dental Anxiety Scale (MDAS) Questionnaire.

• To assess and compare the dental anxiety score with various socio-demographic factors.

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Materials and Methods

Prior to being finalized, the questionnaire was pilot-tested in new O.P.D patients visiting the Dept. Public Health Dentistry at Rama Dental College Hospital & Research Centre, Kanpur to ensure its validity and reliability. This procedure was done to ascertain the appropriateness of each question, as well as eliciting from any feedback from the responder. Minor modification was made after this pilot test taking into account the comments and suggestion received the responder as a whole. Questionnaire was translated into Hindi language for the convincing and better understanding of the patient.

Ethical clearance was obtained from the ethical committee of Rama Dental College Hospital & Research Centre, Kanpur. Permission from the concerned regulatory bodies in the government Hospital to conduct the survey was taken.

The present study was a cross- sectional, questionnaire study conducted in new patients attending dental OPD of Community Health Centre. The study was conducted to assess the level of dental anxiety amongst new patient's using MODIFIED DENTAL ANXIETY SCALE (MDAS) questionnaire, which was translated into Hindi.

The study subject among new patients attending the dental O.P.D of the Hospital. The total sample size was 520; the sample size was calculated based on the daily O.P.D. at the hospital

Inclusion criteria

- New patients visiting the dental OPD of the Hospital were included
- Age between - > 18 years
- Patient attending OPD between 9 am- 2 pm
- Subjects giving voluntary informed consent
- Patient waiting in dental OPD.
- For the illiterate patient questionnaire was filled by the examiner

Exclusion criteria

- Patients below the age of 15 years and above 60 years were not considered.
- Uncooperative patients were excluded.
- Edentulous patient were not included

Tool (Questionnaire)

A pre-tested questionnaire was used i.e. self reported closed ended MODIFIED DENTAL ANXIETY SCALE (MDAS) questionnaire. The modified dental anxiety scale (MDAS) [2] 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 summed up to give an estimated value of dental anxiety. This self-rating instrument was introduced by [15]. It differs from the CDAS by including an additional question about a local anesthetic injection. Each question has five scores

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ranging from 'not anxious' to 'extremely anxious', in an 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 for the entire scale. A anxiety score was classified as

<10—No or Low Anxiety

11–18—Moderate Dental Anxiety

>19—Severe Dental Anxiety/Dental Phobia

The Questionnaire was filled in by the patient. In this study, an Indian language translation of MDAS was used. To establish full congruity between the Indian and English versions, the Indian version was back translated into English and tested for inconsistencies. Later on it was put for statistical analysis. This was found to be significant

Statistical Analysis

The data was analyzed using common database and statistical software. For each of the Parameters in the questionnaire, the percentages, means and standard deviation were calculated. Inter group comparisons were done and results were computed using Chi- square analysis.

Result

Five hundred twenty respondents participated in the study and the demo- graphic details of the respondents, along with their medical status, are given in Table 1 and Graph 1-3.

It was seen that 75% of the female respondents had an MDAS score >10 which denotes dental anxiety, with 20% of the female respondents reporting having dental phobia as compared to the 11% dental phobic male respondents, with 67% of the male respondents having an MDAS score >10 overall as seen in Table 2, Graph 4. The association between increased dental phobia and the female gender was significant (p-value = 0.038).

When comparing dental anxiety to the Kuppuswamy socioeconomic status of the respondents, it was seen that the respondents who reported being a part of the upper class and upper middle class had an MDAS score >10, i.e., 50% and 70%, respectively, implying dental anxiety in these groups, with only 50% of the upper class and 16% of the upper middle-class respondents reported having the dental phobia. Of the respondents in the upper lower and lower class, 18% and 90% reported having dental anxiety, respectively, and 18% of the upper lower and 10% of the lower class reported having dental phobia. The chi-square value was insignificant (p-value = 0.06). (Table 3, Graph 5)

Table 1: Demographics of Respondents

		N	**%age**
Gender	Male	274	52.7%
	Female	246	47.3%
Age	20–45	336	64.6%
	46–55	98	18.8%
	56–65	60	11.5%
	>65	26	5.0%
Socio economic Status	Upper class	4	0.8%
	Upper Middle class	224	43.1%

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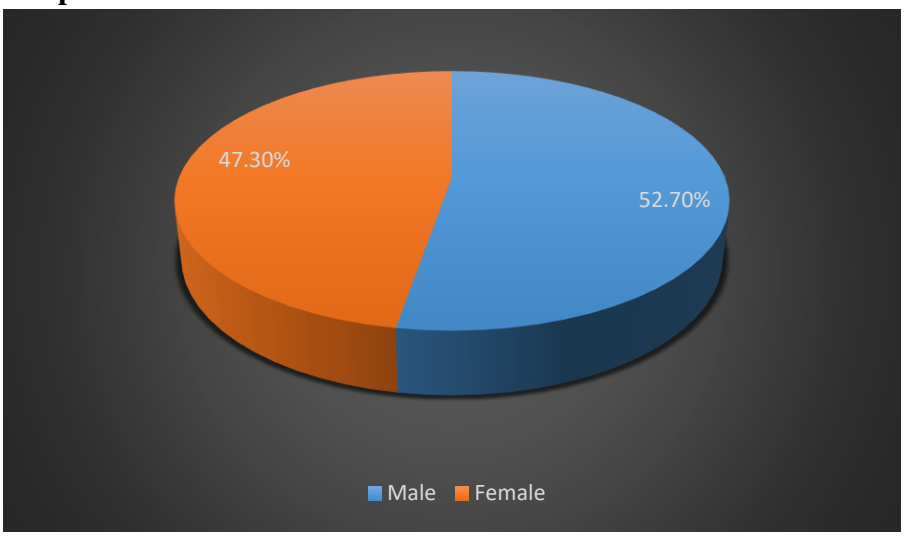
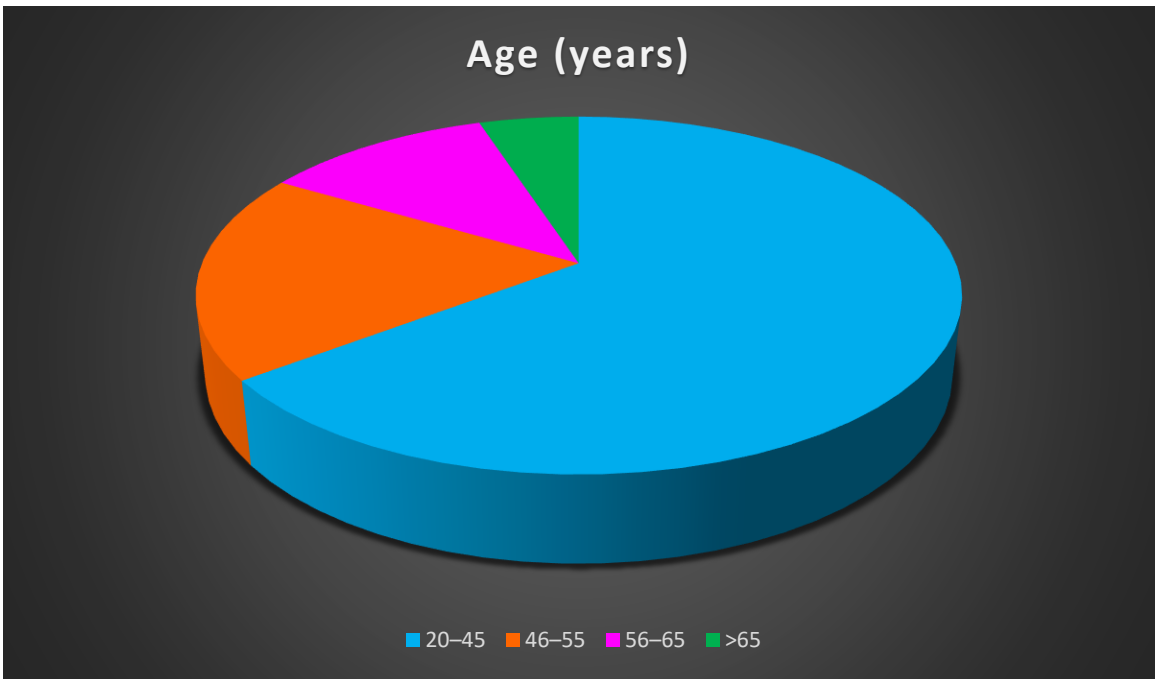
	Lower Middle Class	100	19.2%
	Upper Lower Class	172	33.1%
	Lower Class	20	3.8%

Graph 1:



Graph 2:



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Graph 3:

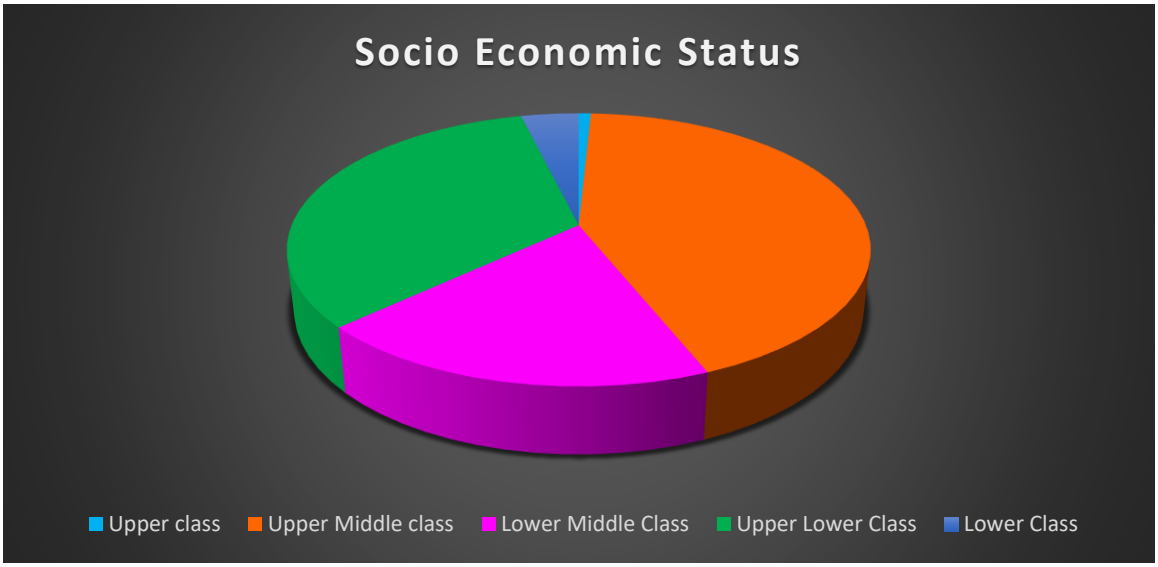

Table 2. Dental Anxiety scores according to Gender

Dental Anxiety	Low Anxiety	Moderate Anxiety	Severe Anxiety	Chi square value	P Value
Male	86 (31.4%)	156 (56.9%)	32 (11.7%)		
Female	60 (24.4%)	136 (55.3%)	50 (20.3%)		

Graph 4

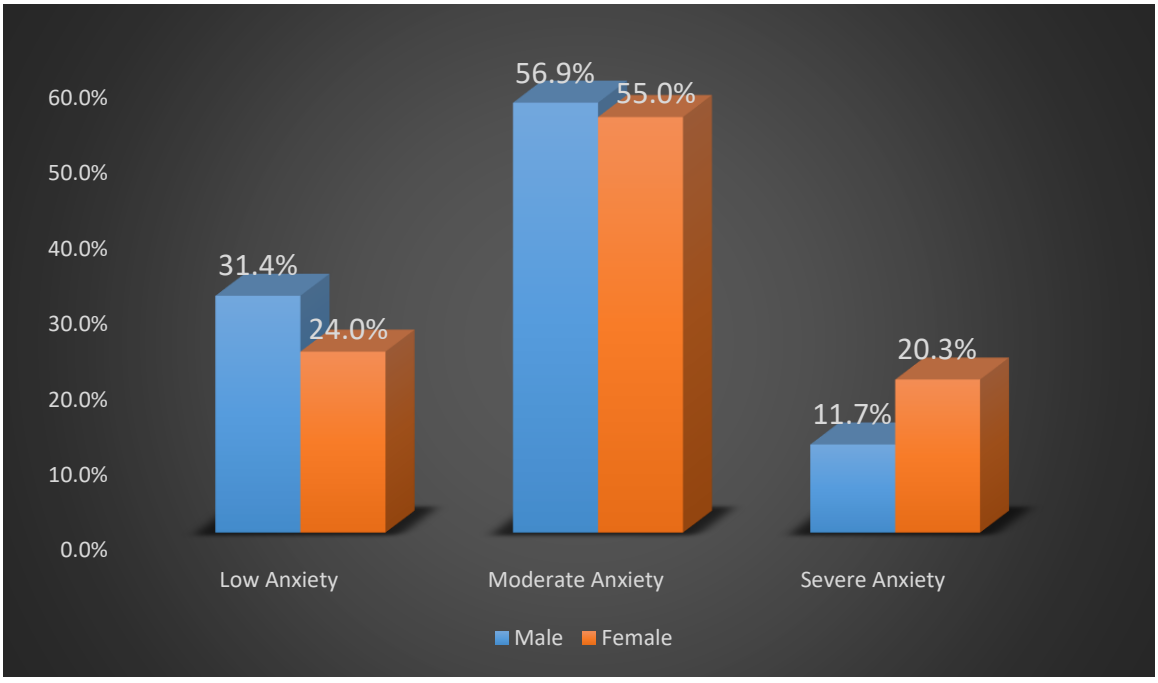

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Table 3. Dental Anxiety scores according to Kuppuswamy Status.

Dental Anxiety	N	Low Anxiety	Moderate Anxiety	Severe Anxiety	P Value
Upper class	4	2 (50%)	0 (0%)	2 (50%)	**0.06**
Upper Middle class	224	66 (29.5%)	122 (54.4%)	36 (16.1%)	
Lower Middle Class	100	32 (32.0%)	58 (58.0%)	10 (10.0%)	
Upper Lower Class	172	42 (24.4%)	98 (57.0%)	32 (18.6%)	
Lower Class	20	2 (10.0%)	16 (80.0%)	2 (10.0%)	

Graph 5:

Discussion

Dental Anxiety, or in its severe form, dental phobia, acts as a massive barrier to seeking out dental care. Lack of proper dental care results in a poor quality of oral health (OHRQoL) and ultimately a deteriorated quality of life. Dentists need to understand the factors that aggravate feelings of dental anxiety in their patients in order to treat them effectively and tactfully. It is also necessary to raise awareness about these factors because dentists themselves can perpetuate these circumstances, which are detrimental to the overall treatment of patients.

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The modified dental anxiety scale is one of the most commonly used scales to measure dental anxiety. It is a tool that has been translated and validated in several languages, including Urdu. Similarly, Kuppuswamy's socioeconomic status scale has been used widely in research in the South Asian subcontinent and was a tool that we used in this study as well(13). The study focuses on the factors such as gender, socioeconomic status, which may or may not aggravate feelings of dental anxiety in the masses.

The present study sheds light on the association between gender and dental anxiety. Females were more prone to suffering from dental anxiety and dental phobia than their male counterparts, with 75% of female respondents reporting being dentally anxious. This significant association was echoed in many other kinds of research(14–18). Deogade et al. and Waseem et al. attributed it to women's readiness to express their anxiety more often than their male counterparts who may not be as open about their fears because of social stigmas(16,19). It was seen in the present study that people of a lower socioeconomic status were more prone to have anxiety regarding receiving dental treatment. This trend was consistent with numerous other studies as well, all of which concluded that a poor socioeconomic status created more dental anxiety(14,19–21). Most of the time it can be because of the cost of the dental treatment(20,22), which is deemed to be a more expensive treatment modality. It was clear that communities that were more deprived of necessities were more prone to have dental anxiety as opposed to communities that were not deprived(21,23,24).

Dental anxiety is indeed closely linked to factors such as gender, age, and socioeconomic status of individuals. These factors are related to exposure of the individuals to dentists and their treatment, a greater understanding of the morbidities of life, and the ability to afford dental treatment. Understanding these factors helps dentists raise appropriate awareness and allows patients to gain the correct understanding of dental treatments which can help alleviate their concerns adequately.

One of the major limitations of the study was using patients presenting to the hospital which prevented the gathering of more diverse data in terms of socioeconomic status and education levels. Secondly, the questionnaires were administered by the researchers which can create bias by either over-estimating or under-estimating responses along with directed elaboration of cues to help respondents understand the questions.

Conclusion:

Dental Anxiety is consistently present despite efforts to raise dental awareness and the proactive approaches by dentists to bridge the gap between dentistry and the patients who need it.

The following trends were concluded from our study:

• Women were more inclined to admit to being dentally anxious in the sample and hence were perceived to be more fearful of getting dental treatment.

• People of a lower socioeconomic status were reported to have more dental anxiety

It is recommended that dental education and health care services should be promoted to overcome the fear/anxiety factor

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