

Assessment of Dental Anxiety Level Among Adult Patients Visiting Dental College in Chengalpet District-A Questionnaire Survey

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Abstract

Background: Dental Anxiety is considered to be an imaginary threat to an odd, unpleasant experience accompanied by the forewarning that something undesirable is expected. The aim the study was to assess level of dental anxiety among patients visiting dental college in chengalpet district

Materials and methods: The study consists of 519 adult patients from both genders visiting dental college in chengalpet for dental treatment. Data collection was carried out through the administration of self-administered pre-validated questionnaire. The Modified Dental Anxiety Scale (MDAS) which consists of 7 closed ended questions with responses placed in five-point Likert scale and one open ended question was used to evaluate the degree of anxiety among study participants. Chi square test was done to know the association between anxiety and the type of dental treatment.

Results: The results shows there is presence of anxiety with dental treatment in giving an injection followed by extraction, visiting dentist, waiting room and scaling respectively. There was a significant difference between socio economic status and level of dental anxiety with a p value (<0.05), with an upper lower class of 42% very anxious. There is significant difference between new and old cases and level of dental anxiety with old cases value of very anxious (60%). There was no any difference in the anxiety level between male and female.

Conclusion: Dental anxiety was found to be present among patients undergoing dental treatment.

Key Words: Dental anxiety, Adult patients, Dental treatment.

Introduction

Anxiety is considered to be an imaginary threat to an odd, unpleasant experience accompanied by the forewarning that something undesirable is expected. Dental fear or Anxiety is considered to be aroused by a real, immediately present, specific stimulus (e.g. needles, hand pieces), whereas for anxiety, the source of threat is unclear, ambiguous or may not be present immediately. It is defined as apprehension of danger and dread, accompanied by restlessness, tension, tachycardia and dyspnoea unattached to a clear unidentifiable stimulus. Dental anxiety is related to age, gender, educational qualification, socioeconomic status, and culture and varies from person to person [1]. Weiner and Sheehan (1990) have suggested that dentally anxious people could be classified into two groups, exogenous and endogenous, with respect to the source of their anxiety. In the former, dental anxiety is the result of conditioning via traumatic dental experiences or vicarious learning, dental anxiety is ranked fourth among common fears and ninth among intense fears [1]. Identifying dentally anxious patients is crucial for management and treatment outcome. Hence, factors that have been identified as responsible for dental anxiety in populations from industrialized countries may not be the same among population of developing countries such as India [2]. If dentists are aware about the level of anxiety among their patient, they can anticipate patient's behaviour and be better prepared to take measures to help alleviate anxiety. Fearful dental patients avoid dental treatment, seek emergency dental care, postpone their dental visit and have poor oral health-related quality of life and more number of missing and decayed teeth. Identifying dental anxiety among adult patients is crucial for management and decision-making regarding treatment. Since there are very little information as the impact of dental anxiety among adults. Hence, this study was conducted to assess the level of anxiety toward dental

treatment among adult study participants visiting dental college in chengalpet district.

Materials and Methods

This questionnaire was conducted in dental college in chengalpet district. Convenience sampling was done and data were collected from the 515 patients coming to the dental OPD of Karpaga Vinayaga Institute of Dental Sciences during the month of study period of December 2020 to January 2021. Ethical clearance was obtained from the Institutional Committee of Karpaga Vinayaga Institute of Dental Sciences KIDS/025/2020. Informed consent was obtained from the study participants prior to filling of the questionnaire and complete anonymity and confidentiality were assured. All the patients aged ≥ 18 years, who visited OPD of dental college for any dental treatment during this period and were willing to participate were included in the study. Patients with any serious physical anomaly or psychological limitations which will hinder in understanding the questionnaire were excluded from the study. Structured questionnaire to record the demographic and socioeconomic data, previous dental visit as well as scores on anxiety scale regarding dental treatment were administered using MDAS to all the study participants designed both in Tamil and English languages. Investigator personally administered the questionnaire to the participants and helped the participants with the questions where they faced difficulty in understanding.

The questionnaire was used to collect the following information:

1. Sociodemographic information (age, sex, address, education, occupation and annual family income).
2. Details of previous dental visits and treatments (five questions).

3. Questions related to MDAS. This scale includes five brief multiple-choice questions and concerns patients’ anxiety in the following situations:

- a. Anticipating a visit to dental clinic.
- b. Waiting in the dentist’s office for treatment.
- c. Waiting in the dental chair for drilling of teeth.
- d. Waiting in the dental chair for scaling of the teeth.
- e. Waiting in the dental chair for receiving a local anaesthetic injection (5 questions).

Possible answers could range from “non-anxious” with a value of 1 to “extremely anxious” with a value of 5. The summation of values for all answers assembles a score for level of dental anxiety with a minimum of 5 and maximum of 25. Patients scores of 0–10 were considered slightly/non-anxious. Scores from 11 to 14 were fairly anxious and scores from 15 to 25 were very anxious. The questionnaire was designed in a local language (Tamil) and the translation was checked by Tamil teacher using back translation method. The questionnaire was tested for content validity by five subject experts-Community medicine, Public health dentist, oral medicine and two Teachers. Sample size calculation was done by using Morgan’s table was found to be 519 [3]. Questionnaire was assessed for content validity index relevance with simplicity, clarity and ambiguity and CVI score is 0.9 [4]. The questionnaire was pilot tested and checked for the reliability with Cronbach’s alpha test value of 0.82 [5]. These participants were not included in the main study. The questionnaire was designed in a local language (Tamil) and the translation was checked by Tamil teacher using back translation method [6].

Data Collecton

The data collection is done by giving the structured questionnaire in person to the adult patients visiting dental college in chengalpet.

Statistical Analysis

Data collected during the survey were entered into excel sheets and were subjected to statistical analysis. Statistical analysis was done by the IBM SPSS Statistics 20 for descriptive data analysis. Chi square test was done to know the association between anxiety and the type of dental treatment.

Results

The present study involved 519 participants. The study sample comprised of 52% male and 48% female with no any significant difference (p value<0.05) in the anxiety level between them.

The results shows there is presence of anxiety with dental treatment in giving an injection followed by extraction, visiting dentist, waiting room and scaling respectively (Figure 1). Majority of the participants belong to upper lower class and they exhibit significant level of anxiety with a p value<0.005 (Table 1 and Figure 2).

There is significant difference between new and old cases and level of dental anxiety with old cases value of very anxious (60%). Patients who has previous dental experience (old case) showed higher level of anxiety (Table 2).

Treatment such as Scaling, filling, orthodontic treatment, Tooth replacement showed significant different among participants with p value<0.05. Whereas patient regarding extraction showed a non-significant different (Table 3).

Discussion

The present study was carried out to assess the dental anxiety among the adult patients visiting dental college in chengalpet district. The results show that the anxiety level varies for different dental treatments where giving an injection shows

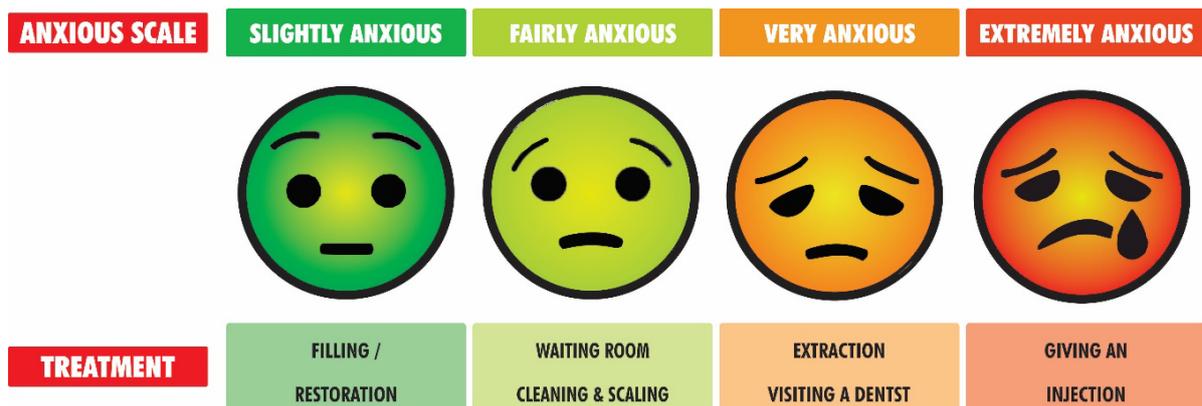


Figure 1: Pictorial representation of dental anxiety among participants.

Table 1: Association between socio economic status and level of dental anxiety.

| Socio economic status | Anxiety score | | | | | | | | Chi square test | p value |
|-----------------------|------------------|-----|----------------|----|--------------|-----|-------|-----|-----------------|---------|
| | Slightly anxious | | Fairly anxious | | very anxious | | Total | | | |
| | f | % | f | % | f | % | f | % | | |
| Upper | 1 | 100 | 0 | 0 | 0 | 0 | 1 | 0.2 | 23.951 | 0.002* |
| upper middle | 22 | 58 | 2 | 5 | 14 | 37 | 38 | 7.3 | | |
| lower middle | 0 | 0 | 0 | 0 | 1 | 100 | 1 | 0.2 | | |
| upper lower | 202 | 43 | 112 | 24 | 151 | 32 | 465 | 90 | | |
| Lower | 3 | 21 | 0 | 0 | 11 | 79 | 14 | 2.6 | | |
| Total | 228 | 44 | 114 | 22 | 177 | 34 | 519 | 100 | | |

*p value < 0.05 – statistically significant

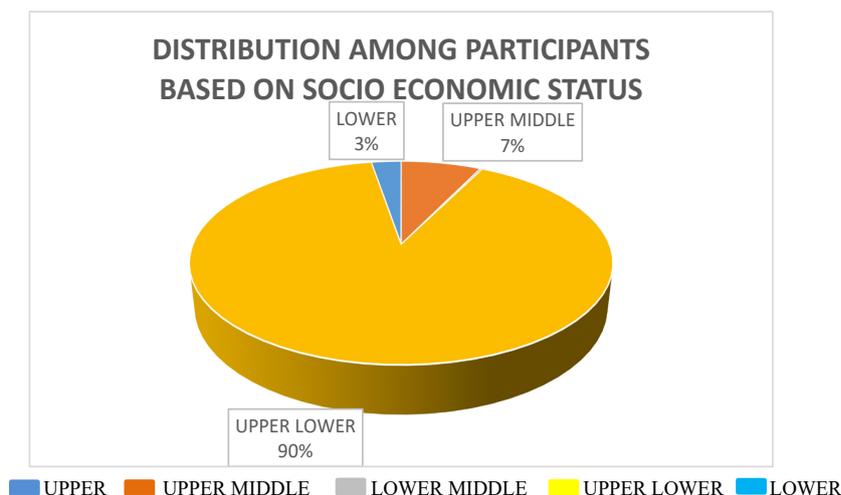


Figure 2: Distribution among participants based on socio-economic status.

Table 2: Association between new & old cases and anxiety level.

| Score | Slightly anxious | | Fairly anxious | | Very anxious | | Total | Chi square test | p value |
|-------|------------------|----|----------------|----|--------------|----|-------|-----------------|---------|
| | f | % | f | % | f | % | | | |
| New | 91 | 51 | 38 | 21 | 48 | 27 | 177 | 7.296 | 0.026* |
| Old | 137 | 40 | 76 | 22 | 129 | 38 | 342 | | |
| total | 228 | | 114 | | 177 | | 519 | | |

*p value<0.05 – statistically significant

Table 3: Association between the treatment and level of dental anxiety.

| | Score | Slightly anxious | Fairly anxious | Very anxious | Total | Chi square test | p value |
|-------------------|-------|------------------|----------------|--------------|-------|-----------------|---------|
| Scaling | No | 133 | 75 | 86 | 294 | 8.826 | 0.012* |
| | Yes | 95 | 39 | 91 | 225 | | |
| | Total | 228 | 114 | 177 | 519 | | |
| Filling | No | 161 | 68 | 90 | 319 | 16.64 | 0.001* |
| | Yes | 67 | 46 | 87 | 200 | | |
| | Total | 228 | 114 | 177 | 519 | | |
| Ortho | No | 171 | 76 | 130 | 377 | 2.734 | 0.658 |
| | Yes | 57 | 38 | 47 | 142 | | |
| | Total | 228 | 114 | 177 | 519 | | |
| Tooth replacement | No | 209 | 95 | 153 | 457 | 5.682 | 0.058 |
| | Yes | 19 | 19 | 24 | 62 | | |
| | Total | 228 | 114 | 177 | 519 | | |
| Tooth replacement | No | 154 | 107 | 164 | 425 | 56.82 | 0.001* |
| | Yes | 74 | 7 | 13 | 94 | | |
| | Total | 228 | 114 | 177 | 519 | | |

more anxiety followed by extraction and visiting a dentist, waiting room and cleaning/scaling, filling/restoration.

Patients with higher educational levels may have better oral health or visit the dentist more regularly. Previous studies show that the differences in educational level did not influence the dental anxiety level as was the case in the studies of Kanegane et al. and Arslan et al. [11-13] A plausible explanation for the observed trend could be that higher education provides the individual with better tools to cope with stressful situations like anxiety [7,8]. The result of our study shows that the person with upper lower socio-economic status shows high anxiety level which also indicates the role of education with dental anxiety.

Studies have shown that dental anxiety is more common among women [12-15]. The result of our study is that females and males show same level of anxiety which is similar to that

of Kanegane et al. found no relationship between gender and dental anxiety [11].

Dental anxiety was higher among the subjects who had received dental treatment compared to those who had not undergone some form of dental treatment. The result is in contrast with the studies reported by Ekanayake et al. [16], Woosung et al. [17] and Erten et al. [18]. Non-utilization of dental service may be because of negative attitude toward dentist or dental treatment due to various reasons or might be because of fear of unknown origin from dental treatment [19], and as fear and dental anxiety are positively correlated, dental anxiety might be high among subjects who have never received dental treatment.

The patients visiting dental college is more anxious towards giving an injection. Comparing with the previous literature Sinha et al. studies shows the same results with the

patients with high anxiety towards receiving an injection [1].

The limitation of the study was the population which includes only adults, whereas the children's anxiety was not examined.

Further studies are needed to address the dental anxiety levels in different populations, which will help dental care providers to better manage their patients. More information should emerge in this field since specialties in dentistry are becoming more available to the public, and except for pediatric dentistry, none has given adequate attention regarding patient management prior to and during specific dental treatments. The development of dental anxiety could be prevented with pain control, behaviour management and consideration of patient as a whole. The inclusion of behaviour sciences in dental education and the integration of ethical considerations in the academic dental curriculum could help to improve the situation.

Conclusion

Dental anxiety was found to be present with patient undergoing dental treatment. Scaling, Restoration, orthodontic treatment shows less anxiety level. Whereas giving an injection and extraction shows higher anxiety level. Patients with previous experience of dental treatment shows higher anxiety than new case and the socio-economic status also plays a role.

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