

# A Relation Between Dental Anxiety, The Parental Family and Regularity of Dental Attendance in India

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## ABSTRACT

**Aims and Objective:** The aim of the study was to investigate the relationship between dental anxiety and regularity of dental attendance.

**Methods:** A survey was carried out among 25-30 years old 150 inhabitants of Udaipur in order to study between regularity of dental attendance and dental anxiety, dental upbringing of respondents, dental behaviors of the parents, education, sex, socioeconomic status, and interaction between these independent variables, on the others. Data were analyzed with Chi square and Multiple Logistic Regression analysis.

**Results:** Education, dental upbringing, regular dental attendance, socioeconomic status and interaction between education and anxiety were found to be importance for the prediction of regularity of dental attendance.

**Conclusion:** it has to concluded that other factor must be included to achieve and improvement of the classification of irregular attenders. Dental anxiety, although of importance, can not account for adequate differentiation between regular and irregular attenders.

**Key Words:** Behavioral dental science, dental anxiety, dental survey, regularity of dental attendance.

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Anxiety are found to be associated with the utilization of dental service's.(1-3) Exact amount of people who are apprehensive about dental treatment are not know, Different studies regarding dental anxiety have mostly focused –" not on the effects of care seeking behavior , but rather on the measurement of anxiety , reducing fear or the correlation of anxiety on their determination.(4)

Anxiety is psychological phenomenon that is difficult to measure because patients may hide their feeling's regarding dental treatment, syringes and instruments. In this report, we used response with regarded to their anxiety in the dental situation. This is called dental anxiety.

Despite the technological advances in modern dentistry

anxiety about dental treatment's and fear of pain associated with dentistry are widespread. Dental anxiety is a major issue with respect to provisions of and access to dental care.(5)

Many people all over the world are dentally anxious, but different studies show considerable results. For instance, an investigation in U.S.A. showed that only 20% are free of dental fear,(6) but in another study it appeared that 30% patients are afraid to visit a dentist and 34% consider fear about the dentist as a problem.(7) Two regional studies in the Netherlands showed that about one half of the respondents are dentally anxious.(3) In, Tokyo, Japan, 23% of a sample associated the word "dentist" with pain, 10% with fear, 8%with didn't want to visit dentist and 3% "hate him".(8)

Many reasons which are associated with anxiety for general population are illiteracy, lack of dental awareness among the parents, not regular dental attendees and their socioeconomic status. Shocking results are found when comparative analysis was carried out between the relationship of dental anxiety and regularity in dental attendance.

Dealing with a selected group, 4%-9% of subjects state that dental anxiety keeps them away from making regular dental visits. It might be that other barriers to the utilization mentioned in some studies, such as "Laziness" and no good dentist available are in likely that people dare to admit that they dentally anxious.(3)

Dental anxiety has been shown to be more prevalent among women than men,(3-4,9-11) although the population of women who visit the dentists are more than men.(3,12,13)

Dental Anxiety is further found to be age related. For instance, the proportion of dental anxious children is lower than that of adults(4) and among adults dental anxiety diminishes with increasing age. The onset of dental anxiety is thought to originate in childhood, peak in early adulthood and declines with age.

A traumatic previous experience, unfavorable history of dental treatment and attitude of dentist were found to be fearful.(14) Fearful and non fearful patient appeared to be dentally anxious because they might have had traumatic facial injury,(15) painful experience in dental clinics,(3,16-20) maternal anxiety,(3) Punishment during treatment,(21) fear of extraction,(22,23) others might be associated with dental anxiety. All these factors can lead to irregular dental attendance, delay in seeking treatment or its avoidance all together.(24)

People who seek regular preventive dental care have better oral health than those who have not received dental care regularly or who seek care only when required. Minority population or low socioeconomic status people tend to visit the dentist infrequently. Men and older adults are less likely to visit dentist than women and young adults. A significant disparity exists in the utilization of dental care service among population groups.

The aim of the present study is to examine relationship between regularity of dental attendance and other variables like, dental Anxiety, dental behavior of parents, the dental upbringing of the respondents, education, socioeconomic status and sex. An attempt will be made to differentiate between regular and irregular dental attendance by use of independent variables and their intersections.

## Methods

A survey was carried out in Udaipur city which is located in

south eastern zone of Rajasthan State. The sample was randomly drawn from a local survey department which contains the names and address of the potentially respondents. Ethical clearance was obtained by Ethical committee of Darshan Dental College. The study was conducted in January 2008. 150 subjects responded to the questionnaires. The response rate was 78.94%.

The data were collected by means of a preceded questionnaire dealing with regularity of dental attendance, anxiety, dental attendance pattern of the parents, and dental upbringing of the respondents, education, sex and socioeconomic status. The reliability of the questionnaire was assessed after 10 days. Pre-test of the questionnaire was done before starting the survey.

## Criterion Variable

### Regularity of dental attendance

Regular dental attendance is defined as making at least at least one dental visit every 6 months for an uninterrupted period of at least 4 years; Irregulars are those who had not visited a dentist consequently for the last 4 years.

## Independent Variables

- **Dental Anxiety:** Self respected duration of psycho physiologic response such as not able to sleep and excessive perspiration, prior to dental appointment has measured using seven point scale. The lowest score indicating that responds started at least several days before the appointment and the highest score, with no response.
- **Dental attendance pattern of the parents:** Dental behavior of the parents is combined in one variable. Score 1 mean that both parents are regular dental attenders. Score 2 mean either the father or mother is regular and score 3 mean other condition.
- **Dental upbringing of the respondents:** Score 1 means a child was regularly sent to dentist. Score 2 mean child was occasionally sent to dentist. Score 3 mean child not sent at all to dentist.
- **Education:** The variable was measured on an 7 point scale the lowest score indicating the lowest level of education and the highest score, the highest level.
- **Sex:** Score 1 indicates men and 2 women.
- **Socioeconomic status:** Score 1 indicates subjects who are categorized as BPL (Below poverty line) citizens and who carry BPL card with them and score 2 indicates subjects who were not categorized as B.P.L according to Department of Family Welfare, Government of India.
- **Statistic:** Data were analyzed with Chi square and Multiple Logistic Regression analysis. For cross tabulation and logistic regression analysis variable were forced into the model by dichotomizing the continuous data.

**Table 1: Sample size reasons for non - response and description of the (actual responds.)**

	Absolute	%
Sample Size	190	100%
<b>Non- genuine non-response</b>		
Not existing address	7	3.66%
<b>Genuine non response</b>		
Not found at home	9	4.23%
Refusals	10	5.26%
<b>Response, but not interviewed</b>		
Not born in Udaipur	8	4.21%
Occupational regulations requires dental visit		63.15%
<b>Response, Interview Completed</b>		
Regular dental attenders	66	34.73%
Irregular dental attenders	84	44.21%

**Results**

Table 1 shows that among the total sample size, the number of actual respondents, reasons for non respondents etc. Result also shows that out of 190 subjects only 150 responded. Subjects, who were not found at home, not born in Udaipur, were excluded from our study.

**Table 2: Relationship between sex and regular visit to dentist**

Sex - regular visit to a dentist	Sex	Regular Dental Attenders	Irregular Dental Attenders
1.	Male	37 (24.7%)	58 ( 38.7)
2.	Female	29 (19.3%)	26 ( 17.3)
Total		66 (44%)	84 (56%)

*Chie - Square value-2.684, df-1, P- .101*

**Table 3: Relationship between Anxiety and regular dental visit.**

Anxiety	Regular	Irregular	Total Amount
Anxious	44 (29.3)	58(38.7)	102 (68%)
Non Anxious	22 (14.7)	26(17.3)	48 (32%)
TOTAL	66 (44.0)	84(56.0)	150 (100%)

*Chie - Square value -.096, df-1, P-.009*

**Table 4: Results of the step wise Multiple Logistic Regression analysis**

Variable	- 2 llike-lihood ratio of reduced model	Chie-Square	Degree of Freedom	P Value
Regular Dental Attendance	79.60	2.533	1	0.111
Socioeconomic Status	77.07	0.007	1	0.933
Sex	79.26	2.2	1	0.138
Education X Anxiety	77.23	0.165	1	0.685
Education X Dental Upbringing	78.16	1.09	1	0.296

Table 2 shows the relationship between sex and regular visit to dentist. 38.7% male were irregular dental attendees. It shows that males are more irregular than females. 19.3% female are regular dental attendees and they regularly visit to the dentist.

Table 3 shows the relationship between anxiety and regular visit. 38.7% anxious subjects were irregular dental attendees. It shows that dentally anxious subjects are more irregular dental attendees than non anxious people.14.7% non anxious are regular dental attendees.

In Table 4, the results of the stepwise analysis are summarized for the pertinent variables and the first order interaction between them. The order in which the terms are presented in Table 4 is also the order of entering. No terms were removed. The Chi-square tests were not satisfactory; both corresponding probabilities were not significant.

Table 5 shows that Regression coefficient of 2 terms are higher than 2.0, socioeconomic status having the highest value and are, therefore, considered to deliver a substantial contribution to the differentiation between regular and irregulars. The interaction between education and the dental upbringing by the parents does not quiet reach level of 2.0. The standardized coefficient for education is low. Regular dental attendees to whom the higher score is assigned have a high score on dental anxiety, indicating one is (almost) not afraid. The negative coefficient for anxiety indicates that a high score associated with the irregular attendees.

**Table 5: Regression Coefficients, Standard errors and Odds ratio of the variables in the study model**

Variables	Regression Coefficients	Standard Errors	Odds Ratio	P Value
Intercept	-0.975	1.163	0	0.402
Education	0.248	1.225	1.282	0.839
Anxiety	-0.476	1.084	0.621	0.66
Dental Upbringing	2.354	1.326	10.527	0.076
Regular Dental Attendance	0.734	0.466	2.084	0.115
Socioeconomics Status	3.886E-OZ	0.461	1.04	0.933
Sex	-0.549	0.371	0.578	0.139
Education X Anxiety	0.472	1.169	1.603	0.686
Education X Dental Upbringing	-1.357	1.379	0.258	0.325

## DISCUSSION

The study represents one of the first attempts to explore the association between dental anxiety and regularity of dental attendance. Large sample size, the sampling process and the national sampling frame all provide a major strength to this research is enabling to assess the association in India. The response rate was relatively high and comparable with other UK national studies.

Research reveals, that the ratio regular: Irregular followed to be 44:56. The ratio of regular dental visitors is less than that from the irregular, 2/3rd of the respondents were found to be dentally anxious; this proportion is higher than that of others in the Netherlands, Japan, Wales,(3,8) and lower than one other study.(6) Among the reasons for these differences, the years by which pre studies were done might be important for the improvement of dental equipment and procedure, the improvement of dental anxiety, especially the situational anxiety.

Even when one of the more stringent assessments of dental anxiety was used (DAS > 15), over 1 in 10 Indian people were classified as experiencing high levels of dental anxiety. Further more, these findings could be compared with some local studies which have employed similar measures of dental anxiety and thus, suggest that dental anxiety remains widespread in India as like Britain.(25)

In addition, the prevalence of dental anxiety is somewhat similar to findings in other countries.(2,3) However, lack of national data covering a wide range of age groups, differences in measurement and categorization of dental anxiety make it difficult to make direct comparisons.

The study conducted by H B Schuurs, HUGO J Duivenvoorden HJ et al shows that 76% were regular and 26% were irregular dental attenders(26) while in our study we found that 44% were regular and 56% were irregular dental attenders. The analysis indicates that dental upbringing is the most powerful predictor of the independent variables used in our study, for differentiating between the regular and irregular dental attenders. It might be concluded that dental anxiety negatively affects regularity of dental attendance but being afraid does not keep every one from making regular dental visits. Those who are dentally anxious and yet make regular dental visits might have at their disposal adequate coping resources in regard to their anxiety.(27)

Socioeconomic status is another important factor among the people for regular dental visits. The study shows only 37.93% subject who are below poverty line, are regularly visitors to the dentist and 45.45% above poverty line are regular dental visitor. It has been found that subjects, who visit the dentist for chiefly curative function and not a preventive one, are generally irregulars and has a low socio economic status and

these peoples place a higher priority on reassurance from the dentist than on his professional skills.(28)

It is of interest to note that regularity of dental attendance is associated with the interaction education X anxiety. The higher educated and less anxious respondents are more likely to be regular.

In order to make regular dental visits incentives might be needed all the more if one is anxious, such an incentive might be dental upbringing the respondents who were sent to a dentist on a regular basis when young all more likely to be regular at their present age than those who were not regularly sent to a dentist.

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