Prevalence of Dental Anxiety Among Patients Visiting Teaching Dental Hospital in Lucknow, India & Self Perceived Treatment Needs

Dr. Anuradha P
Professor and Head

Dr. Aparna Srivastava
P.G. Student

Dr. Sakchhi Tiwari
P.G. Student
Department of Public Health Dentistry
Babu Banarasi Das College of Dental Sciences
BBDU, Lucknow (UP)

Abstract

Dental anxiety is a complex fear with a number of components involving personality or psychological traits as well as conditioning experiences and vicarious learning. This study was done with an aim to assess the prevalence of dental anxiety among patients visiting a teaching dental hospital in Lucknow, India and their self perceived treatment needs. Patients were assessed on the level of anxiety, difference of anxiety between male and female and self perception of treatment need. Data was summarized according to Mean ± SD or percentage. The statistical test used were chi-square (x^2) test, Student's t-test and Mann Whitney U test. Results showed that 18-25 years of age group people had more anxiety towards dental treatment than older age group with females being more affected than males.Recommendations haa been given as proper oral health education should be given to the masses and treatment should be briefed to the patients before starting the procedure.

Keywords: Prevalence, Dental Anxiety, Treatment Needs, Teaching Dental Hospitals.

Introduction

The provocation of anxiety by dental treatment is a universal phenomenon. Anxiety has been defined as an apprehension of danger and dread accompanied by restlessness, tension, tachycardia, and dyspnoea unattached to a clearly identifiable stimulus.[1] Fear is an unpleasant emotion or effect consisting of psycho-physiological changes in response to a realistic threat or danger to one's own experience. Dental anxiety is a complex fear with a number of components involving personality or psychological traits as well as conditioning experiences and vicarious learning.[3-2] Dentally anxious individually are not a homogenous group but in terms of the origins and/or manifestations of their fears of dental treatment.[4,5-3,4]

Relationships between dental anxiety and attitudes toward dentists have been investigated before. Johansson et al found that dental anxiety was directly related with negative attitude towards dentists.[7-5]

Several studies have been carried out to assess the level of dental anxiety among patients visiting various dental clinics and hospitals. The present study aims to assess the prevalence of dental anxiety among patients visiting a teaching dental hospital in Lucknow, India and their self perceived treatment needs.

Aim

To assess the prevalence of dental anxiety among patients visiting a teaching dental hospital in Lucknow, India and their self perceived treatment needs.

Objectives

1. To compare the age wise distribution of the above findings.
2. To collect baseline data.
3. To plan and organize educative programs.

Material & Method

This study was done with an aim to assess the prevalence of dental anxiety among patients visiting a teaching dental hospital in Lucknow, India and their self perceived treatment needs.

It was a questionnaire based cross sectional study which was carried out on patients visiting the various departments of Babu Banarasi Das College Of Dental Sciences And Hospital, Lucknow. Pilot study was conducted on 30 patients with power analysis 0.8. On the basis of results obtained sample size was fixed at 300. It was also done to check for the validity of the questionnaire and calculation of sample size.

Patients above 18 years of age, who gave verbal consent, who can read, write and understand hindi, and who were mentally and physically sound were included in the study.

ethical approval was obtained from the ethical committee of the Babu Banarasi Das University and verbal consent was obtained from each participants prior to the study.

Questionnaire was designed to assess dental anxiety and self perception need of treatment. It was translated to hindi by an expert in the subject. Proforma consisted of three parts which included demographic details, dental anxiety was measured with help of M-DAS(Modified version of Dental Anxiety Scale)and patient perceived treatment needs. Questionnaire was distributed by the examiner herself. Patients were given 5-10 minutes to fill the form and it was taken back that moment itself so as to avoid any drop out. Patients were assessed on the level of anxiety, difference of anxiety between male and female and self perception of treatment need.

Data was summarized according to Mean ± SD or percentage. The chi-square (x^2) test was used for comparison of categorical data (descrete). Student's t-test was used to compare mean age of two groups while comparison of mean scores of anxiety and self perception was done by Mann Whitney U test.

Result

The basic characteristics (age and gender) and prevalence of dental anxiety (M-DAS score) among study population (dental patients) is summarized in table 1 and also

Public Health Dentistry

Anuradha, et al.: Prevalence of Dental Anxiety Among Patients Visiting Teaching Dental Hospital in Lucknow, India & Self Perceived Treatment Needs

graphically in fig. 1 to fig. 4.

Table 1: Age, Gender and Prevalence of dental anxiety.

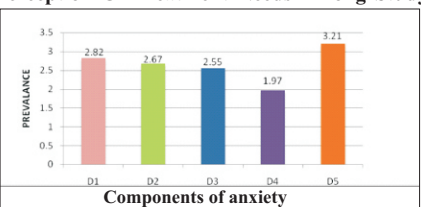| Characteristics	(n=300)
Age groups: 18-25 yrs 26-40 yrs >41 yrs	157 (53.3%) 111 (37.0%) 32(10.0%)
Gender: Males Females	162 (54.0%) 138 (46.0%)
Prevalence of anxiety(M-DAS): No anxiety(<9) Mild anxiety(9-12) Moderate anxiety(13-15) Severe anxiety(>27) Total (mild+moderate+severe)	156 (52.0%) 74 (24.7%) 43 (14.3%) 27 (9.0%) 144 (48.0%)
Prevalence of anxiety according to age: 18-25 yrs 26-40 yrs >41 yrs	77 (25.7%) 47 (15.7%) 20 (6.7%)
Prevalence of anxiety according to gender: Males Females	61 (20.3%) 83 (27.7%)
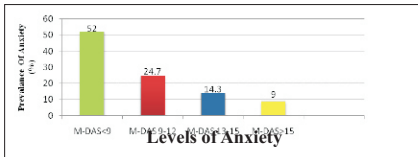
**Fig 1: Prevalence of dental anxiety among study population.**
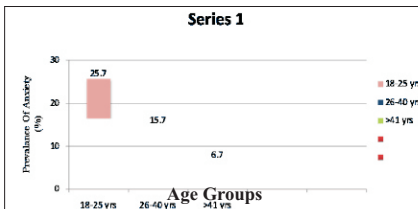
Fig2: Age wise prevalence of dental anxiety among study population

Among patients, 156 (52.0%) have no dental anxiety while 74 with mild anxiety (24.7), 43 moderate (14.3%) and 27 severe (9.0%) (table 1 and fig. 3); giving overall (mild + moderate + severe) prevalence of dental anxiety 48%. The prevalence of dental anxiety was highest in 18-25 years (25.7%), followed by 26-40 years (15.7%) and more than 41 years the least(6.7%)(table 1 and fig. 4). Further, the prevalence of dental anxiety was higher in females(27.7%) than males (20.3%) (table 1 fig. 5).

B.components Of Dental Anxiety And Self Perception Of Treatment Needs Among Study

Population
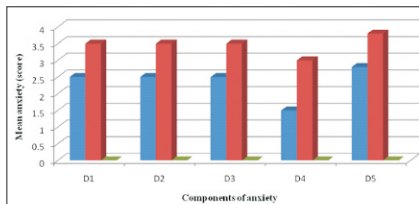**Fig. 3: Mean scores of different components of anxiety of study population.**
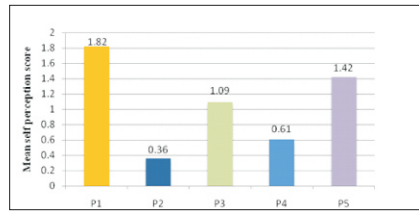
Components of self perception
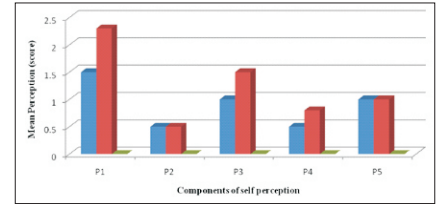**Fig. 4: Mean scores of different components of self perception of study population.**

Characterstics	Males (n=168)	Females (n=132)	t/U value	P value
Age (years)	32.74 ± 13.00 (19-65)	29.50 ± 10.20 (18-52)	0.77	0.446
Anxiety(MDAS):				
D1	2.47 ± 1.31 (22.5%)	3.29 ±1.82 (20.3%)	1.40	0.161
D2	2.32 ± 1.20 (22.1%)	3.14 ± 1.96 (19.4%)	1.07	0.283
D3	2.16 ± 1.21 (19.6%)	3.07 ± 2.02 (18.9%)	1.05	0.295
D4	1.32 ± 0.48 (12.0%)	2.86 ± 1.96 (17.6%)	2.13	0.033
D5	2.74 ± 1.52 (24.9%)	3.86 ± 1.23 (23.8%)	2.34	0.019
Total	11.00 ± 4.57 (100.0%)	16.21 ± 8.71 (100.0%)	1.99	0.046
Self perception:				
P1	1.53 ± 1.12 (33.3%)	2.21 ±o.97 (35.6%)	1.66	0.096
P2	0.37 ± 0.50 (8.0%)	0.36 ± 0.50 (5.7%)	0.07	0.948
P3	0.84 ± 0.83 (18.2%)	1.43 ± 0.65 (23.0%)	2.03	0.042
P4	0.47 ± 1.12 (30.7%)	0.79 ± 0.58 (12.6%)	1.52	0.128
P5	1.42 ± 1.12 (30.7)	1.43 ± 0.94 (23.0%)	0.33	0.745
Total	4.63 ± 2.41 (100.0%)	6.21 ± 1.81 (100.0%)	2.30	0.022

**Table 2: Frequency distribution of components of anxiety and self perception according to gender**

Table 2 showed that the mean age of males was slightly higher than females. Comparing the mean age of males and females, t test revealed similar (p>0.05) age between the two groups.

Similarly, comparing the mean scores of each component of anxiety between males and females, U test revealed significantly (p<0.05) different and higher scores of both D4 & D5 of females as compared to males while the scores of D1, D2 & D3 did not differ between differ beween the two genders i.e found to be statistically similar. The overall (D1+D2+D3+D4+D4) anxiety scores of females was also significantly (p<0.05) different and higher than the males (table 2).

Similarly, comparing the mean scores of each component of self perception between males and females, U test revealed significantly (p<0.05) different and higher scores of P3 of females as compared to males while the scores of P1, P2, P4 & P5 did not differ between differ beween the two genders i.e found to be statistically similar. The overall (P1+P2+P3+P4+P5) self perception scores of females was also significantly (p<0.05) different and higher than the males.

^{ns}p>0.05 or *p<0.05- Males vs. Females
Fig. 5: Mean scores of different anxiety components of male and female study population

^{ns}p>0.05 or *p<0.05- Males vs. Females
Fig. 6: Mean scores of different self perception components of male and female study population
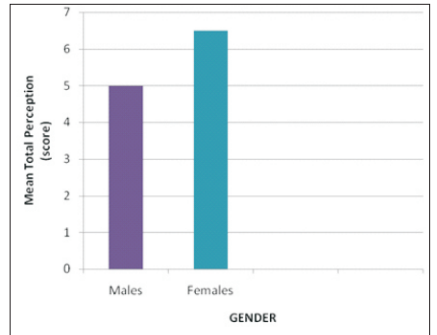
Fig. 7: Mean scores of overall self perception of male and female study population.

Discussion

Dental Anxiety : This study was conducted to find the prevalence of dental anxiety in patients attending a teaching dental hospital in Lucknow and their self perception of treatment needs. Study was carried out in the Babu Banarasi Das College of Dental Sciences. Result shows 48% prevalence of dental anxiety in patients coming for check-up and various treatments. This result was higher than those reported in other studies, where prevalence ranges from 32%-35%. This result can be attributed to the differences in geographical location.

The prevalence of dental anxiety was highest in 18-25 years(25.7%), followed by 26-40 years(15.7%) and more than 41 years the least(6.7%). This is in accordance with the study done by Shrestha A et al[1] where highest dental anxiety was reported in 21-30 years of age group followed by 31-40 years.

Further the prevalence of dental anxiety was higher in females(27.7%) than in males(20.3%). This result was similar to that given by Malvania A and Ajithhkrishnan CG where females were found to be significantly more anxious than males.[14]

A total M-DAS of 19 or more indicates a highly anxious dental patient who may even be dental phobic. The contribution of D5 (local anesthetic injection) on total anxiety was the highest(24.3%). This is in accordance with the results given by Nair A, Shankarapillai R et al[15] where higher fear from dental injections was found in 35.5% of the sample. Highest anxiety for D5 was followed by D1(visit tomorrow-21.3%), D2(waiting room-20.2%), D3(drill-19.3%), and D4(scale and polish-14.9%).

Self perceived treatment need : The component of patients self perception of treatment need scores P1,P2.P3,P4,P5 of all

Public Health Dentistry | ht

Anuradha, et al.: Prevalence of Dental Anxiety Among Patients Visiting Teaching Dental Hospital in Lucknow, India & Self Perceived Treatment Needs

patients ranged from 0-4, 0-1, 0-2, 0-2 and 1-5 respectively. P1 was highest i.e 34.3% an P2 lowest i,e 6.9%. P3 for females was higher as compared to males which can be because the females are more conscious of their oral health.

As this study was done on patients reporting to hospital, majority of patients coming to hospital belong to low socio-economic status. The quality of life combined with the self perceived oral health creates a self-perceived need of dental care. Oral health problems also influence the social and psychological well being.

Conclusion

Dental anxiety is prevalent in major group of population. Results showed that 18-25 years of age group people had more anxiety towards dental treatment than older age group with females being more affected than males. Taking treatment into consideration anxiety was reported to be highest for injections and least for scaling and polishing. Taking self perception of oral health in to consideration females were seen to be more conscious for their oral health than males.

Recommendations

1. Proper oral health education should be given to the masses.
2. Treatment should be briefed to the patients before starting the procedure.
3. Practitioners need to be educated about the causes of dental anxiety and receive training in how to treat the problem.

References

1. Shrestha A et al. Dental anxiety among patients visiting a teaching dental hospital in Mangalore, India. J. Nepal Dental Assoc. (2009), VOL. 10, No.1
2. Brukiene V et al. Is dental treatment experience related to dental anxiety? A cross-sectional study in Lithuanian adolescents. Stomatologija, Baltic Dental and Maxillofacial 2006, Vol. 8, No. 4, pages 108-114.
3. Hamissi J et al. Factors affecting dental anxiety and beliefs in an Iranian population. International Journal of Collaborative Research on Internal Medicine and Public Health, 2012, Vol. 4 No.5, Pages-585-588
4. Kulkarni S. Jain M et al. A relation between dental anxiety, the parental family and regularity of dental attendance in India. Journal oral health comm. Dent 2009, Vol 3, Issue 2
5. Nair A, Shankarapillai R et al. The dental anxiety levels associated with surgical extraction of tooth. International Journal of Dental Clinics 2009, Vol 1, Issue 1, Pages 20-23
6. Hund R et al. Dental anxiety: causes, complications and management approaches. J Minimum Interventional Dentistry 2009, Vol 2, Issue 1
7. Ananthkrishnan M et al. dental anxiety and oral hygiene in Udaipur rural women – A cross sectional study, International Journal of Dental Clinics, 2010, Vol 2, Issue 4, Pages 33-35