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DENTAL FEAR;

THE PREVALENCE OF DENTAL FEAR AND ANXIETY IN PATIENTS COMING TO DEPARTMENT OF DENTISTRY AT LAHORE GENERAL HOSPITAL, PAKISTAN.

Zainab Fatima[1], Aysha Rashid[2], Farakh Abdullah[3], Bushra Rasheed[4]

1. BDS
PGR
Department of Orthodontics
Punjab Dental Hospital, Lahore.
2. MBBS, FCPS
Assist Professor
Department of Psychiatry
Lahore General Hospital.
3. MBBS
PGR
Department of Psychiatry
Lahore General Hospital.
4. MBBS

Correspondence Address:
Dr. Aysha Rashid
Assist Professor
Department of Psychiatry
LGH.
ashi.32c@gmail.com

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ABSTRACT... Objectives: Anxiety towards dental procedures is common problem that may be experienced by dental patients all over the world. This study focused on evaluating the prevalence of dental anxiety and its relationship with age, gender, religion, residence, previous traumatic experience and family history in patients coming to dental department of Lahore General Hospital, Pakistan. **Study Design:** Cross-sectional study. **Setting:** Department of Dentistry of Lahore General Hospital, Pakistan. **Period:** 1st Jan 2017 to 29th Feb 2017. **Material and Methods:** A total of 110 patients, aged 10- 85 years were selected for the study. A questionnaire comprising the Modified Dental Anxiety Scale (MDAS) and Dental Concern Assessment was used to measure the level of dental anxiety and concern towards dental procedure was used. Data was analyzed using SPSS version 20. **Results:** The mean anxiety score of the 110 patients was 10.43 (SD=5.4). The prevalence of dental anxiety among the study population was 37.9%. Based on severity of dental anxiety, 13.6% and 24.3% were found to be moderately and highly anxious, respectively. Independent sample t-test showed males were "slightly anxious" than females on items of MDAS such as use of drill and injection. Correlational analyses show significant positive relationship between residence, family history, dental concern and dental anxiety. Linear regression revealed that residence (rural) emerged as significant predictor of MDAS in patients with dental anxiety (P>0.05) accounting for 76% of variance. **Conclusion:** Female patients, patients belonging to rural areas and family history were associated with increased MDAS score.

Key words: Dental Anxiety, Dental Concern.

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INTRODUCTION

Anxiety is an emotion characterized by unpleasant feelings of fear over anticipated events involving future harm, often accompanied by nervous behavior physical complaints, and rumination.[1] An explicit stimulus such as injection or sound or sight of a drilling machine can evoke dental anxiety.[2] Patient's distinct response towards nervous tension experienced at the time of dental treatment in which the threat is unambiguous, unclear or usually not present is termed as dental anxiety.[3] Most common symptom is i.e. increased heart rate, and it was found out that the sight of the needle produces more fear among patients (25.1%) and similar was the case with the sensation of the injection (24.1%).[4]

Dental anxiety is prevalent worldwide and the rates are equivalent all over.[5] Several studies reported that 2.5-20% people undergo high dental anxiety[4,7] and this difference might be due to diversity in the population and the techniques of measurements. Regardless of the advancements made in dental materials, technologies, and enhanced information, a considerable percentage of patients endure dental anxiety.[8] Dental anxiety is rated fourth between common fears and ninth among intense fears. Another research shows that 80% of American population experiences anxiety regarding dental treatment and in 5-14% dental anxiety is severe.[9] Dental anxiety can be attributed to age, gender, academic qualification and socioeconomic status.[3,8] Females as compared to males experiences more dental anxiety[3,4,9,10] and reported to be more common in young adult age group, high school students reported being

more fearful.[10] Some studies claim that patients with lower educational background suffer from more anxiety during dental procedures.[3,10] Many patients fear that there will be pain during treatment. Some of them become anxious because of the thought that they will receive injection. Some patient dislike sensation of drill and some dislike the loss of personal space. It was found out that if patient previously experience any significant trauma during procedure they will become more fear full and anxious in future.[10]

Dental anxiety is now considered one of the major problems for patient and dentist[5] which effects patient/dentist relationship resulting in misdiagnosis.[11] To avoid dental fear and associated anxiety people usually delay, withdraw or avoid dental treatment.[4,5] A comparative research between anxious and non anxious patients revealed anxious patients have more decomposed, missing and fewer filled teeth.[12] Furthermore, anxious patients are often unsatisfied with their treatment and took more time for reassurance; posing difficulty in managing these issues during the treatment.[5] Poorer oral health negatively effect social life of patients suffering from dental anxiety.[12,13]

Dentists usually overlook the dental anxiety problem in patients coming for treatment of their dental problems. A screening method to evaluate the dental anxiety among patients were used only by 20% of the dentist.[14] For appropriate management options among dental patients it is necessary that dentist screen the patients before starting the treatment.[15] Different scales are used scales for this purpose namely, Dental Fear Survey (DFS)[16,17], Corah's Dental Anxiety Scale (CDAS)[18,19], Humphris et al[20] established Modified Dental Anxiety Scale (MDAS), based on the CDAS. Hence, for appropriate management of anxious patients it is crucial to evaluate their levels of dental anxiety prior to treatment.

Rationale/Significance of the Study

Present study was done to evaluate the dental anxiety in patients and their relation to age, gender, residence, family history of dental anxiety, past traumatic experiences. Further, it may give directions to dentists to handle patients with dental anxiety by referring them to clinical psychologist for proper management of anxiety prior to dental treatment. Furthermore, the study may also enhance patient's understanding behind dental anxiety and treatment that may significantly improve their oral health and social life.

Hypotheses

1. To evaluate the prevalence of dental fear and anxiety in patients referred to Lahore General Hospital and to understand its relation with age, residence, gender previous traumatic experiences and family history.
2. There will likely to be gender differences on items of MDAS.
3. There will likely to be positive relationship between MDAS and DCA in relation to age, gender, residence, past traumatic experience and family history in patients with dental anxiety.
4. Residence and family history will be the predictors of MDAS and DCA in patients with dental anxiety.

METHODS & MEASURES

Research Design and Sample

It is across-sectional study which was conducted in the department of dentistry of Lahore General Hospital, Pakistan. Samples were collected from 100 patients (64 male & 46 female) who were coming to department of dentistry from 1st Jan 2017 to 29th Feb 2017.Their age range was from 10 to 85 years (Mean 47.40, SD= 20.0).

The inclusion criteria for this study is:

- Age of 18 and above.
- Both genders
- Agreement to participate in the study.

Exclusion criteria

People who were intellectually disable
People who did not complete the assessment tools.

MEASURES

Demographic Information Form

Information included gender, age, education,

religion, residence, marital status, previous traumatic experience and family history.

Modified Dental Anxiety Scale (MDAS[20])

This scale measures dental anxiety in following situations:

1. Anticipation of a visit to dental clinic,
2. Time required in the dentist's office for treatment,
3. Time required in the dental chair for drilling of teeth,
4. Time required in the dental chair for scaling the teeth, and 5. Waiting in the dental chair for receiving a local anesthetic injection. It is a brief, 5 item questionnaire with a consistent answering scheme for each item ranging from 'not anxious' to 'extremely anxious'. It is summed together to construct a Likert scale with a minimum score of 5 and a maximum of 25. Patients with scores of 11 or more are considered dentally anxious. Scores from 11 to 14 reflect moderate anxiety; and scores from 15 to 19 show high anxiety.

Dental Concern Assessment (DCA[21])

This scale was used to evaluate the maximum anxiety-eliciting procedure. This questionnaire included a set of 26 situations and procedures encountered at the dental office during the treatment. The participant rates the concern from 1 (Low), 2 (Moderate), 3 (High), and 4 (Don't Know). DCA comprises of following items: injection, the sound or fee of scraping during teeth cleaning, not enough information about the procedure, extraction, root canal treatment, x-rays, etc. Participants scoring 2 or above on the DCA were considered as showing concerns towards the dental treatment procedures.

Procedure

The researcher recruited participants from dental department of Lahore General Hospital. Purpose of the study was explained and informed consent was obtained from the participants who agreed to take part in study. They were assured about the confidentiality. Assessment measures (MDAS and DCA) including demographic sheet were administered. Data were analyzed and results were discussed.

RESULTS

There were 64 males (58.2%) and 46 females (41.8%) in our sample. The mean age of sample is 47.40 years for both gender however majority of the sample shows that they belong to age group of 26-40 years (27.3%). Mostly belongs to rural areas (70%) than urban areas (30%). Majority of the participants had no previous traumatic experience (84.5%) than those having previous traumatic experience (15.5%). The majority of the participants had no family history of dental anxiety (80.9%). The mean total dental anxiety score was 10.43 (SD=5.4). The results of our study shows that 37.9% of the participants are suffering from dental anxiety.13.6%were found to be moderately and 24.3% highly anxious, respectively (Figure-1). Independent sample t-test showed males were "slightly anxious" than females onitems of MDAS such as use of drill and injection (Table-I).

The relationship between DCA, MDAS, age, gender, residence, previous traumatic experience and family history in patients with dental anxiety Pearson Product Moment Correlation was employed. Results are shown in Table-II.

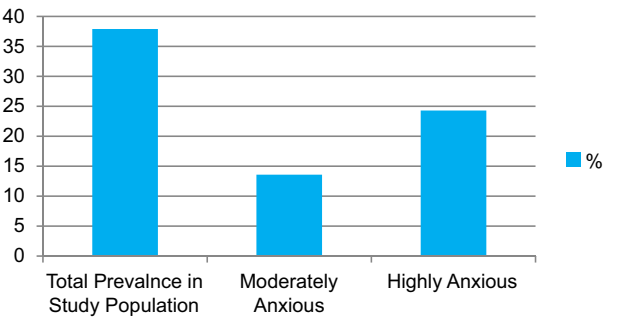

Figure-1. Percentage of dental anxiety in sample (n=110)

Results show significant positive relationship between residence, family history, dental concern and dental anxiety in patients with dental anxiety. No correlation was found between age, gender, religion, previous traumatic history, DCA and MDAS scores.

Linear regression analyses were employed to see residence and family history as predictors of MDAS in patients with dental anxiety.

Items of MDAS	Gender	N	M	SD
Visit Tomorrow	Male	64	1.40	.791
	Female	46	1.50	.862
Waiting Room	Male	64	1.59	.987
	Female	46	1.58	.932
Use of Drill	Male	64	2.40	1.28
	Female	46	2.32	1.52
Scale and Polish	Male	64	2.34	1.31
	Female	46	2.36	1.40
Injection	Male	64	2.71	1.46
	Female	46	2.60	1.42

Table-I. Item frequency breakdown of MDAS across male and female (n=110)

Measures	2	3	4	5	6	7	8	M	SD
1.Age	.00	-.01	.04	.89	-.01	.01	-.04	47.4	20.0
2.Gender	-	.04	.04	-.09	-.01	.15	-.00	1.41	.495
3.Religion	-	-	-.05	-.12	-.05	.09	.16	1.28	.451
4.Residence	-	-	-	.11	.16	.16	.23*	1.30	.460
5.Previous traumatic experience	-	-	-	-	-.08	.03	-.06	1.84	.363
6.Family History	-	-	-	-	-	.05*	.06*	1.80	.394
7.DCA	-	-	-	-	-	-	.56**	32.5	6.11
8.MDAS	-	-	-	-	-	-	-	10.4	5.49

Table-II. Relationship between age, gender, religion, residence, previous traumatic experience, family history, DCA and MDAS in patients with dental anxiety (n=110)
Note: DCA=Dental Concern Assessment; MDAS= Modified Dental Anxiety Scale.*p<0.05. ** p<0.01.

Results revealed that residence (rural) emerged as significant predictor of MDAS in patients with dental anxiety (P>0.05) accounting for 76% of variance.

DISCUSSION

37.9% of patients shows dental anxiety which suggeststhat anxiety is very high among patients coming for their dental treatment was prevailing despite the advances made in modern dentistry are exceptional. A comparison with the study done by Do Nascimento shows that prevalence in this study is high as compared to study done by Do Nascimento (37.9%) vs (23%).[9] However, as compared to the study conducted by Madfa (63%)[23] and Saatchi (58.8%)[24] it was less. The differences in prevalence rates can be ascribed to the sample sizes, geographical variation or procedural differences. Furthermore, prevalence of anxiety associated with dental treatment calculated from our study population was close to Saudian population.[25] The mean total dental anxiety score was 10.43 (SD=5.4), which is similar to the anxiety levels reported from studies in Greece[26], India[27] and China.[28] However, this score is unlike from the mean score calculated by the study done by Saatchi[24] and Erten[29] who reported MDAS score of 12.34.

The results of this study showed no relationship of dental anxiety with age. The difference in the resultis due to the fact that aging is associated with decrease anxiety. Similarly increased exposure and awareness also decreases the fear. This finding is are in line with study done by Saatchi[24] and Tunc[30] who also concluded that dental fear and anxiety were not affected by age. This finding is contrary to the findings of Abanto[31] and that ofAcharya.[26]

Females were slightly anxious than males onthree out of five items of MDAS.This result is in conformity with the studies by Erten,[29] Saatchi,[24] Auerbach,[33] and de Jongh.[34] A study done by Kanegane[32] showed that there is no relationship between gender and dental anxiety. This difference may be explained as women are more expressive than males in their feelings of anxiety. In addition, female experiences more physiological symptoms as compared to man. Phobic anxiety disorder, panic disorder, major depressive disorder, stress, and fear are more

common in femalesand may be associated with dental anxiety.[8]

Previous studies reveal that dental anxiety fluctuates with sex, age, education and social status.[3] In this study, we analyzed the relation between patients' sociodemographic factors (including age, gender, residence, previous traumatic experience and family history) and MDAS and DCA scores. Results of our study showed no statistically significant difference in anxiety levels between the age groups. Previous studies also shows results which are similar to our results. Studies conducted by Do Nascimento[9], Humphris[3] and Peretz[34] showed that dental anxiety was strongly related with age. Similarly younger patients were more anxious than older ones.

Themessl-Huber[35] done a meta-analysis by using 43 experimental studies about parental and child dental fear, confirmed that there was a significant correlation between child, dental anxietyand anxiety fear by parents. The interaction between family's dental anxieties was further evaluated to find the predictors of child's MDAS and it was concluded that family dynamics plays a major role in creating dental anxiety among children. It was found out that if mother and father experiences anxiety it will emerged as significant predictors[36] for child anxiety. Our result findings are consistent with previous literature on the topic of family history as significant predictor of dental anxiety. This suggests that the patients learned their anxious response to dental treatment indirectlyby observing the behavior of family members.

Participants belonging to rural areas demonstrate dental anxiety more than the participants living in developed countries. The results of the present study are similar to Vargas[37] and Vargas[38] which concluded that people residing in rural communities have significant oral health problems and dental concerns. It may be because that people living in rural area have poor access to dental department and they have limited or no exposure to equipment used in treating dental problems.

LIMITATIONS OF THE STUDY

The limitation of our study is that it is done in a hospital setting so the true picture of the population on a whole cannot be depicted and it might be possible that the anxiety in the population may be higher. Similarly most of the study population belongs to lower socio-economic status. People belongs to higher socio-economic status usually went to private sector so our results cannot be generalized. There is a need for a population based study.

CONCLUSION

Dental anxiety was common among patients coming for dental treatment. Dental anxiety was not affected by age, past traumatic experience and family history. Dental anxiety levels of males were slightly anxious than females on two items measuring dental anxiety. In addition, having elevated levels of dental concern can cause more dental anxiety.

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The saddest thing about betrayal
is that it never comes from your enemies.

– Unknown –

AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Zainab Fatima	Data collection and write up.	
2	Aysha Rashid	Research design and write up.	
3	Farakh Abdullah	Statistical analysis.	
4	Bushra Rasheed	Literature research.	