

Dental Anxiety in Relationship to Demographic Variables and Dental Visiting Habits among Dental Patients

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Abstract

The study aims to investigate dental anxiety in relationship to demographic variables and dental visiting habits among dental Patients. This study investigated the demographic differences (age, gender) and dental visitation habits among dental patients using the survey questionnaire approach. The goal of this study was to determine how dental anxiety, demographic factors, and dental visit patterns interrelate. 350 dental patients participated in this cross-sectional study and completed a self-administered questionnaire that included the modified dental anxiety measure (MDAS). Additionally, demographic information was gathered. Dental anxiety causes poor dental appointment habits, according to regression analysis ($p < .05$). Young persons between the ages of 15 and 30 and those who have never seen a dental professional are more likely to experience dental anxiety, according to a posthoc analysis. Females are more likely than males to experience dental anxiety. With age, dental anxiety decreases, and females are more likely to experience it. Poor dental hygiene practices are caused by high dental anxiety, and dental anxiety is worse in people who have never seen a dentist. The findings of this study have significance for oral health and can be applied to health programs to enhance the effectiveness of care.

Keywords: anxiety, dental, habits, demographic variables, Pakistan

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Introduction and Literature Review

Dental anxiety is characterized as an unpleasant mental state of worry or apprehension before the feared stimulus of receiving dental treatment (Armfield, 2018). Dental anxiety has been discovered as a major factor among patients avoiding dental care (Armfield et al., 2006). Previous research has discussed avoiding the dentist, in which people with dental anxiety put off going to the dentist and allow their oral health problems to get worse as a result Thomson et al., 1996; Armfield et al., 2007). Poor dental health causes patients to feel ashamed and to put off visiting the dentist until they are forced to do so by excruciating pain or other uncomfortable symptoms (Armfield et al., 2007). This behavior pattern increases emotions of dental anxiety and worries about receiving dental care. According to a recent study, persons who brush their teeth seldom, smoke, or consume unhealthy foods have poor oral hygiene habits. This makes treatment during checkups more necessary (Pohjola et al., 2016). Several studies have been conducted in different countries to collect information related to dental anxiety (Thomson et al., 2000; McGrath & Bedi, 2004; Hofer et al., 2016; Hagglin et al., 2000;

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Saatchi, et al., 2015). Australians have been shown to have an average prevalence of dental anxiety around 16 percent (Armfield, 2010). Previous literature showed that dental anxiety decreases with age (Thomson et al., 2000; Hagglin et al., 2000) but previous literature does not describe relationship between dental anxiety, age and dental visiting habits. According to an Australian study (Thomson, 1996), people between the ages of 18 and 34 exhibited lower levels of dental anxiety than people between the ages of 35 and 44. Data obtained from the Australian center of Research for Oral Health, showed people in the 45–54 age group are less likely than people in all other age groups to report infrequent dental visits (Australian Research Centre for Population Oral Health, 2018). Different samples and methods for measuring dental anxiety can be blamed for the variations in results. Studies on the subject of whether dental procedures affect patients' anxiety levels have been published.

Early studies found that fears of dental operations were related to unpleasant dental experiences and predictions of trauma (Kleinknecht et al., 1973). The dentist's character traits off set these unfavorable responses. The procedures that use a drill or needle tend to cause the most anxiety. Particularly in people with high dental anxiety. Increased pain reporting is associated with invasive operations such sub gingival scaling, fillings, extractions, and root canal therapy (Maggirias & Locker, 2002). Additionally, these patients anticipated discomfort before treatment, had previously experienced pain, and expressed less control when receiving care. People who reported higher levels of dental anxiety predicted more discomfort from procedures like teeth whitening and vibrating sensations (Hofer et al., 2016). This study involves a patient group receiving dental hygiene care. But according to the literature, regular dental appointments can preventatively reduce dental anxiety (Cregoet al., 2014). Dental experts and students have knowledge about dental anxiety and the challenges it presents to effective treatment results. Treatment of the nervous patient may have consequences such as more appointment cancellations, patients who don't show up at all, poorer health outcomes, and exaggerated pain perceptions (Armfield, 2018; Armfield, 2011; Dogan et al., 2006; Holtzman et al., 1997).

Rationale of the study

Adult patients visiting a dental clinic have been the subject of some studies looking at dental anxiety. In one study (Kaakko et al., 1999) patients attending a dentistry school emergency clinic had higher levels of dental anxiety than the general population and those people who sought care less frequently had higher levels of worry. It was believed that by focusing on particular health promotion programs, administrators and psychologists could increase access to healthcare by having a better grasp of how the three components interact. The current study sought to determine the presence of dental anxiety among demographic characteristics (age, gender), as well as dental visiting habits.

Hypotheses of study

It was hypothesized that:

H1: There would be higher level of dental anxiety among female patients.

H2: The dental anxiety would be higher among young patients.

H3: Higher level of dental anxiety will cause poor dental visiting habits.

Materials and Methods

Research Design

The cross-sectional research design with quantitative methodology was used in this research.

Participants

The participants were 350 dental patients with a spectrum of dental problems who were visiting the hospitals and private clinics. Patients with serious dental conditions and those with disabilities (unable to comprehend or speak) were excluded from the study.

Instruments

Modified Dental Anxiety Scale: The Modified Dental Anxiety Scale (MDAS) (Humphris et al., 2000) was the questionnaire that was used. It consists of five questions with response options of "not at all anxious," "slightly anxious," "fairly anxious," "very anxious," and "extremely anxious." It is a valid and reliable scale with a wealth of normative data from various nations. All things are scored collectively, with a maximum score of 25. High dental anxiety is indicated by a cutoff MDAS score of 19. The MDAS was chosen specifically because of how simple it is to use and how quickly it can be finished. Additionally, the participants were asked to provide their age and gender. The MDAS in Urdu was employed (Khan, et al., 2022).

Statistical analysis

The Statistical Package for Social Sciences was used to examine the data (24th Edition). For each demographic variable, the mean, standard deviation, frequency, and percentage were examined. The data were analyzed for gender differences using t-tests. Age groups and dental visiting habits were studied using a one-way Analysis of Variance (ANOVA). Cronbach's Alpha was used to conduct a reliability analysis for the Modified Dental Anxiety Scale (MDAS). For statistical significance, a probability level of $p < .05$ was chosen.

Ethical Consideration and Procedure

The receptionist drew in new patients in the dental hospital waiting areas. The informed consent was taken from the participants and they were assured that the data will only be used for research purpose. The patients were informed that the study's objective was to identify three important factors, including dental anxiety and visitation patterns that can affect access to dental care. They were also told that refusing to participate in the study would not affect their treatment.

Results

Table 1

Demographic Characteristics (N=350)

Gender	N	Mean	SD	Percent
Female	210	1.69	.744	39.9
Male	140	1.43	.646	60.1
Age Groups	N	Mean	SD	Percent
15-30	202	1.68	.470	57.7
31-45	106	1.53	.501	30.3
46-60	42	1.42	.499	12.2

The above table demonstrates the frequency distribution of demographic characteristics of study participants with respect to age and gender. The Mean and SD scores of

Table 2

T-test showing differences on MDAS between Males and Females (N=350)

Scale	Males		Females		t	p
	M	SD	M	SD		
MDAS	10.23	4.702	12.54	4.893	-4.423	.04*

* $p < 0.05$

Table 2 demonstrate the Mean and SD of gender. The table value denotes the p value is less than .05 which shows significant results as females will have more dental anxiety.

Table 3*ANOVA showing mean difference for three groups of age on MDAS (N=350)*

Scale		Sum of Squares	df	Mean Square	F	Sig.
MDAS	Between Groups	421.233	2	210.616	9.012	.000
	Within Groups	8180.138	348	23.371		
	Total	8601.371	350			

* $p < 0.05$

Table 3 demonstrate the mean difference for three groups of age on MDAS. The p value less than .05 shows significant results means there are obvious differences exist on MDAS in terms of age.

Table 4*Multiple Comparisons for three groups of age on MDAS*

Dependent Variable	(I)Age	(J)Age	Mean Difference	Std.Error	Sig. (I-J)
MDAS	15-30	31-45	1.783*	.578	.006*
		45-60	2.908*	.812	.001*
	31-45	15-30	-1.783*	.578	.006*
		45-60	1.124	.873	.403*
	45-60	15-30	-2.908*	.812	.001*
		31-45	-1.124	.873	.403*

* $p < 0.05$

The above table shows comparison of age groups for dental anxiety with mean difference, standard error and level of significance.

Table 5*ANOVA showing mean difference for three groups of Dental Visiting Habits on MDAS*

Scale		Sum of Squares	df	Mean Square	F	Sig.
MDAS	Between Groups	344.849	2	172.425	7.309	.001*
	Within Groups	8256.522	351	23.590		
	Total	8601.371	353			

* $p < 0.05$

The table given above shows the mean differences between groups and within groups with mean square, effect size and significance level.

Table 6
Multiple Comparisons for three groups of dental visiting habits on MDAS

Scale	(I)DVH	(J)DVH	Mean Difference	Std. Error	Sig. (I-J)
Modified Dental Anxiety Scale	Within a year	Between 1-3 years	-1.548	.699	.070*
		Never Visited	-2.155*	.585	.001*
	Between 1-3 years	Within a year	1.548	.699	.070*
		Never Visited	-.607	.740	.680*
	Never Visited	Within a year	2.155*	.585	.001*
		Between 1-3 years	-1.124	.740	.680*

* $p < 0.05$

Table 6 results demonstrate that those who never visited dental clinics suffer more from dental anxiety as compared to those who once visited.

Discussion

This cross-sectional study assessed dental patients' levels of anxiety. In order to better understand how dental anxiety affects patients' dental visit behaviors, a study on dental patients was done. Investigations were also conducted into the variations in demographic factors in relation to dental anxiety. Our findings showed that dental phobia was associated with gender, age, and dental visit frequency. A large portion of people worldwide have dental anxiety. The study results proved hypotheses that females and young adults will have more dental anxiety and those who never visited dental clinics suffer more from dental anxiety as compared to others. The findings of the research are in line with the previous research by Armfield (2010) which reported that dental anxiety prevails in individuals with respect to 16%. Moreover, the literature also suggested that dental anxiety decreases with respect to age, although the relationship between dental visiting habits, age, and dental anxiety is found in our study. The findings also suggested that people with middle age are less prone to anxiousness with respect to dental treatment, but it is frequently seen in young adults. Although the study suggested that, dental anxiety fears are mainly related to the level of patient's anxious treats and unpleasant experiences of previous treatments and operations.

(Kleinknecht et al., 1973).

Conclusion

According to the current study, younger and female participants had higher levels of dental anxiety than older and male participants. Since younger people were more anxious about seeing the dentist, encouraging them to do so more frequently would help to reduce their anxiety. A poor quality of life for oral health is caused by dental anxiety. More focus on this particular area of health is expected to result in fewer oral health difficulties for the general population as the future appears bright indeed. Research proved that maintaining good oral hygiene is essential to achieving and maintaining, overall physical and emotional well-being throughout life.

Limitations and Suggestions

The findings of this study depicted the demographic variables with respect to age and gender only. It is also suggested to other demographic variables such as educational level and residential orientation with respect to dental anxiety and dental visiting habits of patients.

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