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Impact of Sociodemographic and Dental Clinic Related Factors Causing Dental Anxiety in Patients

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ABSTRACT

Dental anxiety has been reported to be impacted by an individual's sociodemographic characteristics like age, gender, marital status and level of education. This anxiety can be attributed to the pain experienced during dental treatment. **Objective:** To evaluate the impact of sociodemographic and dental clinic related factors causing dental anxiety in patients. **Methods:** A descriptive cross sectional study was conducted on 196 patients in Sharif Medical and Dental College, Lahore. Those with any psychological, systemic disorders and on medications were excluded. Participants who underwent dental extraction irrespective of their age, marital status, gender and education were included. Modified Norman Corah Dental Anxiety scale was used as data collection tool. Chi square was used to find the association between sociodemographic factors and dental anxiety level. **Results:** The study was done on 196 participants with 49% females and 51% males. Most of the patients (64.3%) were below 35 years of age while 35.7% were above it. Majority of the patients suffered severe dental anxiety (38%) followed by high (22%), moderate (20.9%) and mild (18.4%). Significant associations between gender and anxiety while taking dentist`s appointment (p=0.048), being next in turn at the clinic (p=0.029), being on the way to clinic (p=0.023) were seen. Significant impact of marital status on anxiety caused in patients going to the clinic was seen (p=0.039). Age also significantly affected dental anxiety in patients undergoing dental extraction (p=0.017). **Conclusions:** Severe dental anxiety was higher in the older age group. The impact of sociodemographic factors on dental anxiety due to dental clinic related factors (getting an appointment, waiting for their turn in clinic and on their way to the dentist) showed males and those who were married generally had a relaxed state of mind.

INTRODUCTION

Dental anxiety is a widespread condition that affects people of all ages [1]. While there are many reasons why some people are afraid of dental procedures, sociodemographic factors are important in determining how anxious a person is about dental treatment [2]. Comprehending these elements is essential to formulate tactics that are effective to reduce dental anxiety and enhance oral healthcare consequences [3]. Age is an important sociodemographic factor that determines dental anxiety [4]. Fear of the dentist is most common in childhood and adolescence and decreases as people get older [5]. Gender also impacts dental anxiety [6]. According to studies, women often report higher levels of dental anxiety than men, suggesting that gender may play a role in this phenomenon [7]. There are a number of possible reasons for this disparity, such as communication preferences, cultural or societal expectations, and painful dental experiences in the past [8]. People belonging to a strata of population with low education levels are unaware of oral health importance and are therefore, more likely to suffer from dental anxiety [9]. Delays in receiving dental treatment can be caused by these factors, which can

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increase anxiety [10]. Acquiring oral health education not only improves one's comprehension of it but also gives them the ability to cope with stress and anxiety associated with their dental issues [11]. Dental professionals can help reduce discomfort and anxiety by using distraction techniques, topical numbing agents, and gentle insertion methods during the procedure [12]. Following a procedure, dentists can give patients precise instructions on how to manage numbness, reassure them that it will only last temporarily, and provide instructions for oral hygiene and pain management after procedures [13]. Throughout the dental care process, dental anxiety can appear at different points such as when a patient is waiting for an appointment or is experiencing a particular procedure [14]. In order to reduce anxiety and guarantee a positive dental experience, it is crucial to recognize the triggers and put coping mechanisms into place.

The aimed of our study was to evaluate the impact of sociodemographic and dental clinic related factors causing dental anxiety in patients.

METHODS

The study was presented to the ethical committee of Sharif Medical and Dental College, Lahore and data collection commenced after that (No. SMDC/SMRC/178-21). The study was conducted in College of Dentistry, Sharif Medical and Dental College, Lahore over a period of 4 months starting from June 2021 and ending in September 2021. The study design was descriptive cross sectional. Participants who had a history of undergoing dental extraction irrespective of their age, marital status, gender and educational level were included in the study. Those with any psychological disorder e.g. Schizophrenia, Bipolar disorder etc. and systemic disorders e.g. hypertension, diabetes etc. and those on medications were excluded from the study. Using an online sample size calculator Scalex Sp 1.0.01 the sample size was calculated to be 196 by keeping a precision of 5%, confidence level 95% and prevalence of dental anxiety to be 85% [15]. The data collection proforma included information on sociodemographic factor of age, gender, marital status and level of education. The patients were scheduled for dental extraction. After the extraction data were collected from them using the modified Norman Corah Dental Anxiety scale was used for data collection. Modified Norman Corah Dental Anxiety scale [16]. The Dental clinic related factors causing dental anxiety were extracted from Modified Norman Corah Dental Anxiety scale and included getting dental appointment, on way to the dentist, waiting for your turn in cline Prior to data collection informed consent was obtained. The questionnaire had a total of eleven questions. The questions in the scale were modified to record the dental anxiety experience of patients undergoing extraction, therefore, it was subjected to reliability testing after modification. The modified questionnaire had a Cronbach alpha value of 0.89. A score of 1 was given to relaxed, score 2 was given to a little uneasy, score 3 was uneasy, score 4 was assigned to tense and 5 was given to extremely tense. Based on these scores the classification of levels of anxiety was done. Mild anxiety (score 11 to 17), moderate anxiety (18 to 22), high anxiety (23 to 29) and severe anxiety (30 to 55). SPSS version 24.0 was used for data analyses. P≤0.05 was regarded a significant. The statistical test used for analyses was Chi square. Chi square was used to find the association between sociodemographic factors and dental anxiety level. It was also used to find the association of gender and marital status with dental anxiety associated with factors related to dental clinic.

RESULTS

The study was done on 196 participants in which 49% were female and 51% were males. The percentage of individuals above 35 years was 35.7% while 64.3% were below 35 years of age. Among the sample 54% individuals were married and 82% were educated. It was seen majority of the patients suffered severe dental anxiety (38%) followed by high (22%), moderate (20.9%) and mild (18.4%). Table 1 shows that severe anxiety was the most prevalent in all groups. Age and level of dental anxiety were significantly associated with each other. The association of gender, marital status and educational status were insignificant with dental anxiety.

Table 1: Association of Dental Anxiety with Sociodemographic Factors

Sociodemographic Factors		Dental Anxiety Level of Patients				Total N (%)	p-Value
		Mild Anxiety N (%)	Moderate Anxiety N (%)	High Anxiety N (%)	Severe Anxiety N (%)		
Age	Above 35	12 (6.1%)	23 (11.7%)	11 (5.6%)	24 (12.2%)	70 (35.7%)	0.017*
	Below 35	24 (12.2%)	18 (9.2%)	33 (16.8%)	51 (26.0%)	126 (64.3%)	
Marital Status	Married	17 (8.7%)	29 (14.8%)	19 (9.7%)	41 (20.9%)	106 (54.1%)	0.061
	Single	19 (9.7%)	12 (6.1%)	25 (12.8%)	34 (17.3%)	90 (45.9%)	
Gender	Female	17 (8.7%)	19 (9.7%)	20 (10.2%)	43 (21.9%)	99 (50.5%)	0.515
	Male	19 (9.7%)	22 (11.2%)	24 (12.2%)	32 (16.3%)	97 (49.5%)	
Educational Status	Unedu-cated	6 (3.1%)	10 (5.1%)	4 (2.0%)	15 (7.7%)	35 (17.9%)	0.288
	Edu-cated	30 (15.3%)	31 (15.8%)	40 (20.4%)	60 (30.6%)	161 (82.1%)	

Table 2 showed that majority of the individuals were relaxed while getting a dental appointment for extraction and on their way to the dentist while most expressed a little uneasiness waiting for their turn in the clinic.

Table 2: Dental Clinic Related Factors Affecting Dental Anxiety

Dental Anxiety	Getting a Dental Appointment N (%)	Way to the Dentist N (%)	Waiting for your Turn in Clinic N (%)
Relaxed	108 (55.10%)	82 (41.80%)	53 (27%)
A little Uneasy	54 (27.60%)	66 (33.70%)	78 (39.80%)

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Uneasy	28 (14.30%)	38 (19.40%)	45 (23%)
Tense	5 (2.60%)	10 (5.10%)	18 (9.20%)
Extremely Tense	1 (0.50%)	0 (0%)	2 (1%)

The impact of sociodemographic factors on dental anxiety due to dental clinic related factors was assessed. Among all the sociodemographic factors only gender and marital status was found to have significant association with dental anxiety associated with dental clinic related factors. Table 3 showed that in all three scenarios males had a higher relaxed state of mind. Females on the other hand expressed distress and tension and the association between these factors associated with dental clinic and gender were significant.

Table 3: Effect of Gender On Dental Anxiety Associated with Dental Clinic Related Factors

Dental Clinic Related Factors	Dental Anxiety	Gender		Total N (%)	p-Value
		Male N (%)	Female N (%)		
Getting an Appointment	Relaxed	60 (30.6%)	48 (24.5%)	108 (55.1%)	0.048*
	A Little Uneasy	27 (13.8%)	27 (13.8%)	54 (27.6%)	
	Uneasy	10 (5.1%)	18 (9.2%)	28 (14.3%)	
	Tense	0 (0.0%)	5 (2.6%)	5 (2.6%)	
	Extremely Tense	0 (0%)	1 (0.5%)	1 (0.5%)	
Way to the Dentist	Relaxed	43 (21.9%)	39 (19.9%)	82 (41.8%)	0.023*
	A Little Uneasy	39 (19.9%)	27 (13.8%)	66 (33.7%)	
	Uneasy	11 (5.6%)	27 (13.8%)	38 (19.4%)	
	Tense	4 (2.0%)	6 (3.1%)	10 (5.1%)	
Waiting for your Turn	Relaxed	30 (15.3%)	23 (11.7%)	53 (27.0%)	0.029*
	A Little Uneasy	44 (22.4%)	34 (17.3%)	78 (39.8%)	
	Uneasy	19 (9.7%)	26 (13.3%)	45 (23.0%)	
	Tense	4 (2.0%)	14 (7.1%)	18 (9.2%)	
	Extremely Tense	0 (0%)	2 (1%)	2 (1%)	

Table 4 showed that another sociodemographic factor that was found to significantly affect the dental anxiety in patients when they were on their way to dental clinic was married status. The patients who were married stated having a relaxed mind throughout the process while the unmarried individuals displayed signs of uneasiness and stress.

Table 4: Effect of Marital Status On Dental Anxiety Associated with Dental Clinic Related Factors

Dental Clinic Related Factors	Dental Anxiety	Marital Status		Total N (%)	p-Value
		Single N (%)	Married N (%)		
Way to the Dentist	Relaxed	33 (16.8%)	49 (25.0%)	82 (41.8%)	0.039*
	A Little Uneasy	35 (17.9%)	31 (15.8%)	66 (33.7%)	
	Uneasy	14 (7.1%)	24 (12.2%)	38 (19.4%)	
	Tense	8 (4.1%)	2 (1.0%)	10 (5.1%)	

DISCUSSION

Globally anxiety that has its connection with dental treatment was estimated to be between 9 to 20% [17]. Literature was more inclined towards the notion of dental anxiety being a more gender specific problem and was usually linked to the females more in comparison to the males [4]. These results were comparable to our study where 21.9% females were found to be severely anxious due to dental treatment or the anticipation of it in comparison to males (16.3%) but the association was insignificant (p=0.515). This behavior or inclination towards development of anxiety can have its roots in the fact that women were more vocal about their feelings as compared to males [18]. It can also be connected to a relative delicate nature and less ability to withstand pain in females. Another study reported results similar to our study where females were found to be less anxious than their male counterparts [4]. The reason of a finding so deviant form the predominant literature can be attributed to the particular group in question and their understanding of anxiety associated with dental treatment. Our study also assessed association of anxiety levels with marital status and educational level and age. Age was found to significantly impact dental anxiety (p=0.017). Individuals from both age groups predominantly experienced severe dental anxiety but it was higher in the older age group (26%) as compared to 12% in the younger one. The association of marital status (p=0.061) and educational status (p=0.288) were insignificant with dental anxiety but severe anxiety was most prevalent in all groups. Al Ansari et.al reported results comparable to our study. They reported that although the association between the sociodemographic factor of marital status and dental anxiety was insignificant, the participants reported suffering from moderate level of dental anxiety [15]. Ayata M and Eraslan R reported highly educated individuals to suffer from anxiety more in comparison to the lesser educated [9]. These findings were very similar to our study where educated people were more anxious than the un-educated ones. In our study we explored factors pertaining to the dental clinic in addition to the sociodemographic factors as reasons for causing dental anxiety. Our study reported that majority of the individuals were relaxed while getting a dental appointment for extraction (55%). Another study reported comparable results where 50% patients were comfortable with the thought of visiting a dentist. Our study found that most participants expressed a little uneasiness waiting for their turn (38.9%)in the clinic which was different from another study in which 49% expressed no feelings of distress while doing so [19]. In our study we assessed the association between sociodemographic factors and dental clinic and treatment related factors as causes of dental anxiety in patients. Our study reported that among all the sociodemographic factors only gender and marital status was found to have significant association with dental anxiety associated with dental clinic related factors. It was seen that in all three scenarios (getting an appointment, way to the dentist and waiting for your turn in the clinic) males had a higher relaxed state of mind i.e. 30.6%, 21.9% and 15.3% respectively. Females on the other hand expressed distress and tension and the association

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between these factors associated with dental clinic and gender were significant. Another sociodemographic factor that was found to significantly affect the dental anxiety in patients when they were on their way to dental clinic was married status. The patients who were married stated having a relaxed mind (25%) throughout the process while the unmarried individuals displayed signs of uneasiness and stress. There were no studies that evaluate this aspect of dental anxiety and therefore, no data were found in literature that had findings comparable to our study. Anxiety levels can be lowered and relaxation encouraged by furnishing the waiting area with relaxing or comfortable furnishings, calming music, and interesting reading material [20]. Establishing an understanding and building trust between patients and dental professionals can be achieved by having open lines of communication with staff regarding wait times, procedure specifics, and any concerns or preferences [21].

CONCLUSIONS

Individuals from both age groups predominantly experienced severe dental anxiety but it was higher in the older age group. The impact of sociodemographic factors on dental anxiety due to dental clinic related factors (getting an appointment, waiting for their turn in clinic and on their way to the dentist) showed the males and those who were married generally had a relaxed state of mind. On assessment of factors affecting dental anxiety in individuals irrespective of sociodemographic factors it was deduced that most of the individuals were relaxed while getting a dental appointment for extraction and on their way to the dentist but most of them expressed distressed while waiting for their turn in the clinic.

Authors Contribution

Conceptualization: AU, ANK, NRK, WM

Methodology: AU, ANK, NRK

Formal analysis: AU, ANK, NRK

Writing, review and editing: AU, ANK, NRK, WM, LM, AM

All authors have read and agreed to the published version of the manuscript.

Conflicts of Interest

The authors declare no conflict of interest.

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