

Prevalence and Clinical Characteristics of Dental Phobia among Patients Consulting Dental Clinics in Baghdad 2020

Jinan Bahjat Abdulmajeed, Mushtaq Talib Hashim

ABSTRACT:

BACKGROUND:

Dental phobia is a serious condition with a multifactorial etiology. To overcome the negative impact of dental phobia and avoidance of dental treatment on oral health the prevalence of dental phobia, socio-demographic and clinical factors were investigated in this study.

AIM OF THE STUDY:

To assess the prevalence of dental phobia among adult patients consulting dental clinics in Primary Health Centers. To study the socio-demographic and the clinical characteristics factors associated with dental phobia.

METHODOLOGY:

It is a descriptive, cross-sectional study that was conducted on 211 patients consulting dental clinics in five different Primary Health Centers (PHCs) belong to Al Karkh district.

RESULTS:

The study showed that (7.6%) of patients had dental phobia. Dental phobia was more prevalent in females. The age group recorded the highest level of dental phobia was 20 -29 years old. Regarding the categories of MDAS fear from anesthetic injection was the most influential item. There was positive association between dental phobia and emergency dental visits. There was positive association between dental phobia and being unable to delay dental treatments due to painful or trouble complains. There was positive association between dental phobia and fear from blood, injection and injury. Also dental phobia was higher among patients who experienced discomfort from smelling sterilizers, seeing needles or white coats of medical staff, or hearing sounds of drilling.

CONCLUSION:

7.6% of the patient had dental phobia. Fear from injection of local anesthesia was the main influential item in MDAS. Dental phobia was common in females and in younger age group.

KEYWORDS: dental anxiety, modified dental anxiety scale.

INTRODUCTION:

Anxiety is an alerting signal; it warns of impending danger and enables a person to take measures to deal with a threat. Fear is a similar alerting signal, but it should be differentiated from anxiety as fear is a response to a known, external, definite, or nonconflictual threat; anxiety is a response to a threat that is unknown, internal, vague, or conflictual.⁽¹⁾

Overwhelming and irrational fear of dentistry associated with devastating feelings of hypertension, terror, trepidation, and unease is termed dental phobia or "odontophobia", and has been diagnosed under specific phobias of the Blood-Injury- Injection subtype (according to the Diagnostic and Statistical Manual of Mental Disorders (DSM)-V and the International

Statistical Classification of Diseases and Related Health Problems (ICD)-10.⁽²⁾

Treating such anxious patients is stressful for the dentist, due to reduced cooperation, requiring more treatment time and resources, ultimately resulting in an unpleasant experience for both the patient and the dentist.⁽³⁾

Dental anxiety evokes physical, cognitive, emotional, and behavioral responses in an individual. Anxious individuals feel that something dreadful is going to happen during dental treatment, and hence do not visit the dentist.

Psychiatric unit, Baghdad Teaching Hospital, Medical City, Baghdad, Iraq.

DENTAL PHOBIA

Such behavior ultimately results in bad oral health, with more missing teeth, decayed teeth, and poor periodontal status.⁽⁴⁾

Patients present to the dental office only when in acute emergency situations often requiring complicated and traumatic treatment procedures, which in turn further exacerbates and reinforces their fear, leading to complete avoidance in the future. Consequently, a vicious cycle of dental fear sets in if these patients are not managed appropriately.⁵

PATIENTS AND METHODS:

A descriptive, cross sectional study was conducted in five PHCs in Al karkh district of Baghdad. A direct interview with 211 patients attended Primary Health Centers for dental consultation was conducted while they were waiting for their turn to be seen by the dentist (random sample); each patient received adequate verbal information about the purpose and the procedures of the research. Verbal consent and anonymity of participants was maintained. The researcher was available all the time to answer any inquiry. The survey was conducted over a five months period from 1st of March till 1st of August 2020

Inclusion criteria were: age 18 years old and above, both gender, and patients willing to participate in the study.

Exclusion criteria were: history of mental illness, not willing to participate, patients who failed to fully answer the questions for whatever reasons.

Data were collected by a self-administrated questionnaire which is the Arabic version of the British Modified Dental Anxiety Scale (MDAS). The MDAS is a 5-item multiple-choice questionnaire designed to measure the level of anxiety of respondents in reaction to 5 situations (likert scale) :(1) when planning to visit the dentist the following day, (2) while in the waiting area for the appointment, (3) having a tooth drilled, (4) having scaling of the teeth,

and (5) having a local anesthetic injection. Score is the sum of responses for the 5 items, and ranges from 5-25.⁽⁶⁾ A value of 19 and above indicated high dental anxiety (or dental phobia) and a value of 13 to 18 indicated moderate levels of dental anxiety.⁷ Socio-demographical and clinical data for patients were also collected.

RESULTS:

In this study, the overall MDAS score of patients showed that (62.1%) mild or no dental phobia, (30.3%) had moderate dental phobia, and (7.6%) were with high level of dental phobia.

The highest prevalence of dental phobia was seen among females (9.2%) with a statistically significant association ($P = 0.007$) between MDAS score and gender. 46.4% of study patients were married and having children. The majority of study patients were living in urban area (82%). It was obvious that about two thirds (63.5%) of study patients completed higher education and 53.6% of them reported fair monthly income. In explaining crowding index, it was stated by 60.2% of study patients that it was between 1-2. 46.4% of the patients visited dentists on emergency; 23.2% were delaying dental visits; 28% had previous bad experience with dental treatment; more than quarter (25.6%) of them had fear from blood, injury or needle; 33.2% were hearing bad stories or information about dentists and dental treatment; 35.1% said that media had a role in poor attitude toward dentists and dental treatment; and 45% said that smell of sterilizers or seeing the white coat are causing feeling of discomfort.

In this study, there were statistically significant associations ($P < 0.05$) between MDAS score and dental visits, delaying dental visits, fear from blood, injury or needle, and feeling of discomfort by smell of sterilizers or seeing the white coat.

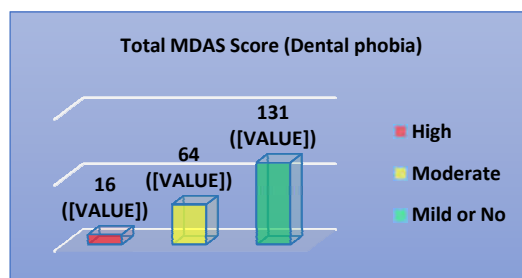


Figure1 : Distribution of patients according by MDAS score.

Table 1 : Association of MDAS score and socio-demographic characteristics.

Variable	MDAS Score			Total (%) n= 211	P- Value
	High (%) n= 16	Moderate (%) n= 64	Mild/No (%) n= 131		
Age Group (Years)					
< 20	2 (6.7)	8 (26.7)	20 (66.7)	30 (14.2)	0.412
20 - 29	8 (11.6)	17 (24.6)	44 (63.8)	69 (56.9)	
30 - 39	1 (2.0)	20 (39.2)	30 (58.8)	51 (24.2)	
≥ 40	5 (8.2)	19 (31.1)	37 (60.7)	10 (4.7)	
Gender					
Male	4 (4.9)	16 (19.8)	61 (75.3)	81 (38.4)	0.007
Female	12 (9.2)	48 (36.9)	70 (53.8)	130 (61.6)	
Residence					
Urban	14 (8.1)	53 (30.6)	106 (61.3)	173 (82.0)	0.794
Rural	2 (5.3)	11 (28.9)	25 (65.8)	38 (18.0)	
Occupation					
Public sector employee	9 (7.1)	35 (27.8)	82 (65.1)	126 (59.7)	0.591
Private sector employee	2 (10.5)	7 (36.8)	10 (52.6)	19 (9.0)	
Retired	1 (14.3)	4 (57.1)	2 (28.6)	7 (3.3)	
Unemployed	4 (6.8)	18 (30.5)	37 (62.7)	59 (28.0)	
Educational Level					
Illiterate	0 (0)	1 (100.0)	0 (0)	1 (0.5)	0.346
Primary School	1 (6.7)	8 (53.3)	6 (40.0)	15 (7.1)	
Secondary School	4 (6.6)	18 (29.5)	39 (63.9)	61 (28.9)	
Collage and Higher Education	11 (8.2)	37 (27.6)	86 (64.2)	134 (63.5)	
Marital Status					
Single	8 (9.0)	20 (22.5)	61 (68.5)	89 (42.2)	0.157
Married with children	6 (6.1)	35 (35.7)	57 (58.2)	98 (46.4)	
Married without children	1 (7.1)	3 (21.4)	10 (71.4)	14 (6.6)	
Other	1 (10.0)	6 (60.0)	3 (30.0)	10 (4.7)	
Monthly Income					
Good	4 (4.4)	24 (26.4)	63 (69.2)	91 (43.1)	0.093
Fair	10 (8.8)	38 (33.6)	65 (57.5)	113 (53.6)	
Poor	2 (28.6)	2 (28.6)	3 (42.9)	7 (3.3)	
Crowding Index					
< 1	3 (7.0)	11 (25.6)	29 (67.4)	43 (20.4)	0.858
1 – 2	10 (7.9)	42 (33.1)	75 (59.1)	127 (60.2)	
> 2	3 (7.3)	11 (26.8)	27 (65.9)	41 (19.4)	

DISCUSSION:

This cross-sectional study spotted the light on the prevalence of dental phobia among adult patients consulting dental clinics in PHCs. The percentage of patients with dental phobia was (7.6%) which was similar finding to a study in UK (6.82%)⁸, it was higher than other study conducted in Saudi (5.4%), Sweden (5.4%), Malaysia (3.5%)⁹, but is lower than expected when compared to other studies, UAE (21%), Turkey (23.5%), Northern Ireland (19.5%)¹⁰

France (13.5%)¹¹, that can be attributed to the small sample size, also figure of mental illnesses in Iraq is less than the western countries as it was clear in Iraqi Mental Health Survey¹², and dentally anxious patients usually avoid dental treatment and so dental clinics, underrepresentation also could be related to that private dental clinics was not included in our study as the sample was restricted to patients consulting governmental Primary Health Centers

DENTAL PHOBIA

and patients treated in private dental clinics showed higher anxiety score than others.⁹

According to the categories of MDAS, dental anesthetic injection procedure was the highest score on anxiety level with (16.1%) of patients being extremely anxious and (18.5%) were very anxious, however dental scaling and polishing was the least influential item on dental anxiety with (2.4%) being extremely anxious, that was consistent with Humphris et al study in UK¹³, Saudi⁶, as the majority of highly anxious patients attributing the anxiety and fear to traumatic experience, pain or even discomfort during dental treatments so it is expected that the last item of the questionnaire concerning anesthetic injection will be the most influential while item concerning dental scaling and polishing was the least influential item in the questionnaire as patients are often motivated toward such intervention that do not usually involve serious or painful procedures.

Regarding age, this study was consistent with previous ones in Saudi⁶, UK⁸ Australia¹⁴, as younger patients (20-29 years) was the larger age category recorded high anxiety toward dental treatment with (11.6%) being extremely anxious or phobic compared to (2%) of 30 – 39 years, this could be explained that as people progress with age the level of anxiety generally declines, also with aging, people experienced diseases and expected to have more exposure to dental instrument and dental treatment than younger patients so that may influence their responses. In contrast, other study showed increased dental anxiety with advanced age conducted in UAE¹⁰. It is worthy to mention that advanced age group of patients may not have been well or adequately represented in our studied sample due to pandemic of corona virus and fear of infection and complications.

The study showed that dental phobia was higher among females as compared to males (P-value 0.007), it was similar finding to other studies conducted by Rajwar and Goswami in India¹⁵, Bahamma and Hassan in Saudi Arabia⁶, and Suhani et al in Egypt¹⁶, this could be attributed to that female have lower pain threshold, also female are more capable to express their feelings of fear or anxiety than males, in general phobias disorder are more common in female.¹

This study demonstrated that (46.4%) of the patients visited the dentists in an urgent or highly needed pattern (when there was a severe pain and /or trouble), this indirectly reflected the high level of avoidance to regular visits for checkup or when the complaint is simple, till the problems are severe which is usually late stage of disease progression that required traumatic or invasive measures or even dental extraction and hence patients became unable to delay their consultation, (10.2%) of those patients reported dental phobia and (39.8%) reported moderate level of anxiety. Only about (15.6%) of patients reported regular dental visits, and only (3%) of them reported high level of anxiety regarding dental treatment, there was positive association between how regular dental visits were and development of dental phobia with P-value (0.019), which was consistent with other studies in Saudi⁶, France¹¹, UK¹³, Australia¹⁴, Suhani et al study in Egypt¹⁵, USA¹⁶. As we noticed, patients who visited dentist more frequently had less anxiety toward dental treatment as repeated exposure to anxiety provoking stimuli reduces the level of anxiety eventually and that is one of the most important method of behavioral treatment of phobias in general, in addition, frequent exposure may enable the patient to cope better with anxiety. We should put in mind other reasons for irregular nature of dental visits rather than being anxious per se like the lack of access to regular dental care or financial reasons.

The study showed that half of patients reported feelings of discomfort as soon as they got into any medical facilities due to sights of needles, white coats, smells of detergents, sounds like drilling sounds in dental clinics and it was positively associated with dental anxiety with P-value (0.001), as (11.6%) of those patients reported dental phobia, which is similar finding to other studies conducted in Netherland¹⁷ and in India¹⁸, this finding reflects the role of behavioral learning (conditioned experiences) when neutral stimuli acquired the properties of painful one by being associated with it and participate in the development of phobias.

CONCLUSION:

- Knowledge the prevalence of dental anxiety is important mainly for dental offices, as this study highlights the need for action toward such serious health issue.
- (7.6%) of patients were highly anxious, (30.3%) of patients were moderately anxious and (62.1%) of patients were not anxious.
- Among the dental procedures, local anesthetic injection was the most common reason for dental anxiety.
- Females showed higher level of dental anxiety than males,
- Emergency nature of dental visits when pain is severe was reported by (46.4%) which reflects the high level of avoidance to regular dental visits.
- Dentally anxious patients showed high level of fear from blood, injury and injection.
- Discomfort by smell of sterilizers, sight of needles, white coats of medical staff, hearing the sound of drilling was reported by anxious patients.

REFERENCES:

1. Sadock B.J, Sadock V.A, Ruzi P. anxiety disorders. In: synopsis of psychiatry. 11th edition. USA: Wolters Kluwer. 2015; 387-91.
2. U. Berggren, M. Hakeberg, and S. G. Carlsson, "No differences could be demonstrated between relaxation therapy and cognitive therapy for dental fear," *J Evid Based Dent Pr.*, 2001;1: 117-18.
3. C.-O. Brahm, J. Lundgren, S. G. Carlsson, P. Nilsson, J. Corbeil, and C. Hägglin, "Dentists' views on fearful patients. Problems and promises.," *Swed. Dent. J.*, 2012;36: 79-89.
4. J. Van Wijk and J. Hoogstraten, "The Fear of Dental Pain questionnaire: construction and validity," *Eur. J. Oral Sci.*, 2003; 111: 12-18.
5. J. M. Armfield, A. J. Spencer, and J. F. Stewart, "Dental fear in Australia: who's afraid of the dentist?," *Aust. Dent. J.*, 2006; 51: 78-85.
6. M. A. Bahammam and M. H. Hassan, "Validity and reliability of an Arabic version of the modified dental anxiety scale in Saudi adults," *Saudi Med. J.*, 2014; 35: 1384-89.
7. L. Al-Nasser, F. Yunus, and A. Ahmed, "Validation of Arabic Version of the Modified Dental Anxiety Scale and Assessment of Cut-off Points for High Dental Anxiety in a Saudi Population," *J. Int. Oral Heal.*, 2016;8: 21-26.
8. M. White, L. Giblin, and L. D. Boyd, "The Prevalence of Dental Anxiety in Dental Practice Settings," *J. Dent. Hyg. JDH*, 2017;91: 30-34.
9. E. Ahme, "Dental Anxiety and Its Behavioral Consequences in a Sample of Saudi Adults," [Online]. Available: <http://www.oralhealth.ro/volumes/2016/volume-3/Paper898.pdf>.
10. H. Eid, "Prevalence of Dental Phobia Among Patients At," *Gulf Med. J.*, 2016;5: S136-42.
11. E. Nicolas, V. Collado, D. Faulks, B. Bullier, and M. Hennequin, "A national cross-sectional survey of dental anxiety in the French adult population," *BMC Oral Health*, 2007;7: 1-7.
12. S. Alhasnawi *et al.*, "The prevalence and correlates of DSM-IV disorders in the Iraq Mental Health Survey (IMHS).," *World Psychiatry*, 2009;8: 97-109.
13. G. M. Humphris, T. A. Dyer, and P. G. Robinson, "The modified dental anxiety scale: UK general public population norms in 2008 with further psychometrics and effects of age," *BMC Oral Health*, 2009;9:1-8.
14. J. M. Armfield, "The extent and nature of dental fear and phobia in Australia," *Aust. Dent. J.*, 2010;55: 368-377,
15. S. Alamri, S. Alshammari, M. Baseer, M. Assery, and N. Ingle, "Validation of Arabic version of the Modified Dental Anxiety Scale (MDAS) and Kleinknecht's Dental Fear Survey Scale (DFS) and combined self-modified version of this two scales as Dental Fear Anxiety Scale (DFAS) among 12 to 15 year Saudi school students i," *J. Int. Soc. Prev. Community Dent.*, 2019vol. 0, no. 0, p. 0,
16. M. Tellez, D. G. Kinner, R. G. Heimberg, S. Lim, and A. I. Ismail, "Prevalence and correlates of dental anxiety in patients seeking dental care," *Community Dent. Oral Epidemiol.*, 2015;43;135-142