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Prevalence of dental anxiety in relation to socio-demographic factors using two psychometric scales in Baghdad

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Abstract

Background: In spite of advances in dentistry, anxiety about dental treatment and the fear of pain remains public health problem and is a significant impediment to dental treatment. The purpose of this study was to assess the levels of dental anxiety in patients who referred to Al-Mustansiriyah dental clinics and Al-Shiekh Omar specialized dental center in Baghdad and their relation to their gender, age, educational level.

Materials and methods: The study was done on (800) patients, aged (20-59) years in Baghdad. The survey form was prepared and translated from English to Arabic languages by certified translator and were filled by patients themselves without any help from dentists. Patients with mental retarded, those who not having completed the survey form and those below 20 years and above 59 years were excluded. The survey was divided into 3 parts (socio-demographic information, Modified dental anxiety scale (MDAS) and Dental fear survey (DFS).

Results: The present study showed that females had higher anxiety (13.57, 47.38) than males (8.98, 37.75) for Modified dental anxiety scale and Dental fear survey respectively. The anxiety decreased with advance of age (12.31, 11.41, 10.89, 10.45 for Modified dental anxiety scale and 43.10, 41.22, 38.69, 37.93 for Dental fear survey) in groups (1,2,3,4) respectively. The anxiety decreased with advance of teaching, so the uneducated patients had higher mean of anxiety (14.45, 48.59) while the postgraduate patients had lower anxiety (9.10, 36.30) for Modified dental anxiety scale and Dental fear survey respectively than others. There was high significant difference between males and females at P-value (≤ 0.01) for both Modified dental anxiety scale and Dental fear survey scales.

Analysis of variance (ANOVA) test showed high significant difference among age groups and among education level groups at P-value (≤ 0.01) for both Modified dental anxiety scale and Dental fear survey scales. The higher percentage of anxiety scales was appeared in minimal anxiety score in males (56%, 48%) in Modified dental anxiety scale and Dental fear survey respectively, while lessor percentage was appeared in very high anxiety score in males (5.1%, 5.5%) in Modified dental anxiety scale and Dental fear survey respectively. Pearson's correlation coefficient (R) showed that there was a positive relationship between gender and anxiety scales, with statistically high significant at P-value (≤ 0.01). While, there was inverse relationship between age and anxiety scales, and between

education and anxiety scales with statistically high significant at P-value (≤ 0.01) for both relations.

Conclusion: The females had higher rate of anxiety than males. The anxiety decreased with advance of age and education level of patients. There was a strong (positive) relationship between gender and anxiety. While, there was inverse (negative) relationship between anxiety with age and education.

Keywords: Anxiety, age, gender, educational level, Modified dental anxiety scale, Dental fear survey scale.

Introduction

Anxiety is described as a vague, unpleasant feeling accompanied by the premonition that something undesirable is about to happen. It is a reaction to a perceived danger that is unknown to the individual. On the other hand, fear is a biological response to a specific threat, and is a reaction to a known danger or threat. Phobia, which shares features with both anxiety and fear,

involves an avoidance response and is associated with a debilitating loss of function [(1,2)].

Dental anxiety (DA) partially limits, or completely prevents, utilization of oral health care services [(3,4)]. For many patients, fear and anxiety is a real problem that can become a barrier to treatment in the long run. Moreover, there are some patients who avoid dentists altogether because of their extreme fears, even in cases of emergency such as toothache. In addition, dentists may also become anxious when dealing with anxious patients, leading to management difficulties, which may cause the treatment time to prolong [(5,6)]. The most common origins of (DA) happen to be a previously painful or negative experience during visits to a dentist. A patient's anxiety also poses major management problems for the dental team as more treatment time will be required for an anxious patient and is very likely to miss appointments [(7)].

Dental anxiety is prevalent worldwide and not limited to a population or country [(8)]. Depending on the population and the measurement technique, there have been numerous studies that have reported high (DA) levels in approximately (10-20%) of their participants [(9-11)]. It's reported that (25%) of UK adults and (20%) of US adults reporting delays in visiting the dentist due to dental fear [(12,13)].

Possible factors related to (DA) that have been studied include age, gender and others [(14,15)]. Many studies ascertain that (DA) is more common in women [(11,16-18)]. In addition, it has reported that anxiety subsides with age [(19)]. Some studies claim that patients with higher education experience less anxiety during dental procedures [(11,19)].

Many different types of instruments (scales) have been developed to measure (DA), including the Geer Fear Scale (GFS) [(20)], Corah's Dental Anxiety Scale (CDAS) [(21)], Dental Fear Survey (DFS) [(22,23)], State Trait Anxiety Scale (STAI) [(24)], Getz Dental Belief Survey (DBS) [(25)] and Modified Dental Anxiety Scale (MDAS) [(26)], Short-Form Fear of Pain Questionnaire (SF-FPQ) [(27)]. All of these scales have been adopted and tested for many years in dental and psychological researches [(28)]. The (MDAS) scale has been shown to have good reliability and validity. Mean scores are provided for phobic and non-phobic patients [(26,29)]. The completion of the questionnaire does

not increase the patient's anxiety, but it can reduce the anxiety level in the practice settings [30,31]. Other researchers have used translated versions of it, and report that the scale appears to be reliable and valid in these translated versions [32-34]. While (DFS) scale which one of the most frequently used measures of (DA) [35,36], and used in behavioral research studies, which gives good stability, high reliability, and acceptable validity in diverse cultures and languages [37-39]. Also, it was based on a theory of learning and is much more relevant than other traditional instruments, regarding both the understanding and the assessing and treating of the (DA) [40].

The purpose of this study was to assess the levels of (DA) before dental treatment in patients who referred to dental clinics in Baghdad, Iraq and their relation to their socio - demographic factors (age, gender, educational level).

Materials and methods

This cross-sectional study was conducted in College of Dentistry of Al-Mustansiriyah University and Al-Shiekh Omar specialized dental center in Baghdad. Samples were made up from 800 patients, who were attending clinics during 9 months of study period. After checking in, each patient was provided with a survey form (which prepared and translated from English to Arabic by certified translator) and was asked to answer the questions. All the participants were informed about the confidentiality of their answers.

Inclusion criteria were included the age between (20-59) years and agreement to participate in the study. The sample (800 patients) was divided into 4 age groups (G1: 20-29, G2: 30-39, G3: 40-49, G4: 50-59); and each group consisted from (100 males) and (100 females). Exclusion criteria were mental disabilities, under the age of (20) or above (59) years and those not having completed the survey form. No intervention was provided to the participants to help them answer the questions.

The first part of the survey was included socio-demographic information which are age, gender, and educational level (Uneducated, Elementary schools, Intermediate / High schools, Undergraduate, Postgraduate) as shown in Appendix (1).

The second part of the survey was an Arabic version of (MDAS). The (MDAS) includes 5 multiple choice questions (visit tomorrow, waiting room, use of drill, scaling and polishing, and injection) with their answers for patients' anxiety as shown in Appendix (2). A scoring method was used with 5 possible answers to each question (score 1: not anxious, score 2: slightly anxious, score 3: fairly anxious, score 4: very anxious, and score 5: extremely anxious). Summation of values for all answers represent a score for level of (DA) with a score ranged from (5 to 25) [26]. This total score can be classify to minimal anxiety (total MDAS: 5-9), moderate anxiety (total MDAS: 10-12), high anxiety (total MDAS: 13-17), very high anxiety (total MDAS: 18-25).

Third part of survey was an Arabic version of (DFS) questionnaire. The original version of (DFS) contained 27 items [22] and the present one 20 items [23] formulated in such a way as to identify the specific and unique answers to a variety of stimuli correlated to the dental activity [41,42]. This scale consists of three subscales: the first one is related to a pattern of avoiding the dental treatment and to the anticipatory anxiety (8 items) (put off making appointment, cancelled/failed to appear, making an

appointment, approaching dental office, sitting in waiting room, sitting in dental chair, smell of dental office, seeing the dentist), the second one represents the fear associated with the stimuli and the procedures during treatment (5 items) (muscle tenseness, increase breathing rate, perspiration increase, nausea, heart rate increase) and the third one the psychological reaction or the arousal during treatment (7 items) (seeing anesthetic needle, feeling anesthetic needle, seeing the drill, hearing the drill, feeling the drill, having teeth cleaned, overall fear of dentistry) as shown in Appendix (3). The response options follow a rating scale ranging from "never" or "not at all" (score = 1) to "nearly every time" or "very much" (score = 5) [23]. Avoidance scores can be ranged from (8 to 40), physiological arousal from (5 to 25), and fears of specific stimuli/situations from (7 to 35). The total (DFS) scores could be ranged from (20 to 100), with highest scores indicating high (DA) [41,43]. This total score can be classify to minimal anxiety (total DFS: 20-33), moderate anxiety (total DFS: 34-58, high anxiety (total DFS: 59-75), very high anxiety (total DFS: 76-100).

The data was checked and corrected from errors before data analysis by Microsoft Excel software version 2016. Then, data was analyzed using SPSS® software version 21. Both descriptive (Mean, Percentages) and inferential analysis (Pearson's correlation coefficient (R), analysis of variance (ANOVA) with least significant differences (LSD), independent t-test) were used in order to analyze and assess the results of the study.

Results

The present study showed that females had higher (DA) (13.57±5.57, 47.38±19.45) than males (8.98±4.42, 37.75±16.40) for MDAS and FDS respectively, Table (1) and Figure (1). Independent t-test showed statistically high significant difference (HS) between males and females at P-value (≤ 0.01) for both MDAS and DFS scales, Table (2). The MDAS scale showed that male patients had (56.5%, 25.3%, 13%, 5.3%), while females had (26.8%, 22%, 26%, 25.3%) of minimal, moderate, high anxiety and very high anxiety scores respectively. While DFS scale demonstrated that males had (48.3%, 34.5%, 11.8%, 5.5%), while females had (33.8%, 30.8%, 21%, 14.5%) of minimal, moderate, high and very high anxiety scores respectively, Table (3).

The study showed that anxiety decreased when participants get older (12.31±6.11 for MDAS and 43.10±21.68 for DFS, 11.41±5.44 for MDAS and 41.22±18.49 for DFS, 10.89±4.70 for MDAS and 38.69±16.65 for DFS, 10.45±4.05 for MDAS and 37.93±16.24 for DFS) for Groups (1,2,3,4) respectively, Table (1) and Figure (2). Analysis of variance (ANOVA) test showed statistically (HS) among age groups at P-value (≤ 0.01) for both MDAS and DFS scales, Table (4). The least significance difference test (LSD) showed that there was only (HS) between (G1) and (G3, G4) for both MDAS and DFS scales, while there was non-significant difference (NS) between (G1) and (G2) for MDAS and DFS scales. Also, there was (NS) between (G2) and (G3, G4) and there was (NS) between (G3) and (G4) for both MDAS and DFS scales, Table (5). Whereas, the MDAS scale demonstrated that (G1) had (38%, 13%, 24%, 25%), (G2) had (42%, 25%, 18.5%, 14.5%), (G3) showed (51%, 27.5%, 13%, 8.5%), (G4) showed (55.5%, 29.5%, 8%, 7%) of minimal, moderate, high anxiety and

very high anxiety scores respectively. While DFS scale demonstrated that (G1) had (37%, 27%, 20%, 16%), (G2) had (40.5%, 31.5%, 16%, 12%), (G3) showed (45%, 38%, 12.5%, 4.5%), (G4) showed (50.5%, 42%, 85.5%, 2%) of minimal, moderate, high anxiety and very high anxiety scores respectively, Table (6).

Furthermore, the study demonstrated that anxiety decreased when education level increase, in which the uneducated patients had higher level of (DA) (14.45±6.79 for MDAS, 48.59±23.66 for DFS) while the postgraduate patients had lower (DA) (9.10±3.64 for MDAS, 36.30±15.16 for DFS) than others, Table (1) and Figure (3). Also, (ANOVA) test showed statistically (HS) among education level groups at P-value (≤ 0.01) for both MDAS and DFS scales, Table (7). In MDAS scale, the (LSD) showed that there was (HS) between Uneducated patients and others, and there was (HS) between Elementary patients and (Intermediate/High, Undergraduate, Postgraduate) patients. While there was (NS) between Intermediate/High patients and (Undergraduate, Postgraduate) patients, and there was (NS) between Undergraduate and Postgraduate patients. Whereas in DFS scale, the (LSD) showed that there was significant difference (S) between Uneducated and Elementary patients, and there was (HS) between Uneducated patients and (Intermediate/High, Undergraduate, Postgraduate) patients. While there was (NS) between Elementary patients and (Intermediate/High, Undergraduate, Postgraduate) patients, and there was (NS) between Intermediate/High patients and (Undergraduate, Postgraduate) patients, also there was (NS) between Undergraduate and Postgraduate patients, Table (8). Whilst, the MDAS scale demonstrated that (Uneducated patients) had (31.8%, 18.2%, 22.7%, 27.3%), elementary patients had (41.9%, 14.5%, 19%, 24.6%), Intermediate/High patients showed (47%, 22.5%, 16.5%, 14%), undergraduate degree patients showed (47.6%, 26.2%, 14.6%, 11.7%), postgraduate degree patients showed (55%, 30%, 10%, 5%) of minimal, moderate, high anxiety and very high anxiety scores respectively. While DFS scale demonstrated that Uneducated patients had (31.8%, 25%, 22.7%, 20.5%), Elementary patients had (36.9%, 33.5%, 15.6%, 14%), Intermediate/High patients showed (42.2%, 37.3%, 12%, 8.5%), Undergraduate patients showed (46.6%, 39.8%, 7.8%, 5.8%) , Postgraduate patients showed (50%, 40%, 5%, 5%) of minimal, moderate, high anxiety and very high anxiety scores respectively, Table (9).

Pearson's correlation coefficient (R) showed that there was a positive correlation between gender and anxiety scales (MDAS, DFS), with statistically (HS) at P-value (≤ 0.01). While, there was negative correlation between age and anxiety scales, and between education and anxiety scales with (HS) at P-value (≤ 0.01) for both relations, Table (10).

Discussion

Dental anxiety was perceived as a problem in the sample examined. This was clearly seen irrespective of age, gender, education level. Fear of dental treatment continues to put a great burden on all those who have anything to do with the dental profession, including the patients. Dental professionals have tried to assess the extent of this problem in order to find methods and techniques to help patients overcome it [(44)]. This study was done to assess the levels of (DA)

in patients and their relation to their gender, age, educational level in Iraq.

The result of the study showed that females had higher (DA) than males and this may be explained that females being able to express their feelings of fear more openly than males [18,45]. Also, females have lower thresholds and exhibit less tolerance for pain at given stimulus intensities than males [35]. Thus, dentists are advised to make their appointment stress-free especially for females and use the modern technologies that make patients relax prior to treatment [44]. The result demonstrated that higher percentage of anxiety scales was appeared in minimal anxiety score in males, while lessor percentage was appeared in very high anxiety score in males too. This can be give a clue about why (DA) was low in males in comparison to females. This result was agreed with other results [28,44-49].

While, the anxiety decreased with age advancement. This result was in agreement with other studies [26,48-52]. This might be due to general decline in anxiety with aging and greater exposure to other diseases and their treatment [46]. Also, the higher percentage of score was appeared in minimal anxiety score in (G4:50-59 years), while lessor percentage was appeared in very high anxiety score in (G4). This can be give an idea about why (DA) was low in (G4) in comparison to other age groups. Explanations proposed as to why (DA) might decrease with age include the ability to cope with experiences or the phenomenon may be due to the ageing process itself characterized by a general decline in anxiety [46,53]. There was inverse (negative) relationship between age and anxiety scales. This result was agreed with other studies [28,44,48,49,54,55].

Also, the anxiety decreased with advance of education level of patients which was agreed with Saatchi et al. [49]. This finding may relate to the lack of independence and feeling of insecurity among Uneducated patients [7], but the results was disagree with Holtzman et al. [54] who done in an emergency dental clinic in Brazil, so that the education level may be not affect on anxiety level. In addition, the higher percentage of score was appeared in minimal anxiety score in Postgraduate patients, while lessor percentage was appeared in very high anxiety score in MDAS of Postgraduate patients and in high anxiety and very high anxiety scores in DFS of Postgraduate patients. This can give hint why the (DA) was low in Postgraduate patients in comparison to other patients. Also, there was inverse (negative) relationship between education and anxiety scales. This result was agreed with Saatchi et al. [49]. This result may be discussed that increasing of age or education level may leads to decrease of anxiety of these patients and vice versa. This result may raise concerns on the awareness of the oral health in Baghdad in general. So, the uneducated patients may have social distance between a highly educated dentist and them with little education which results in the patient's embarrassment and worries about problems of communication in a physician-patient relationship [56].

Therefore, it recommend to prepare more dental educational programs on prevention and oral health care for all age groups, ranging from persons with elementary school education to the highly educated. As previous bad experience from treatment is the leading cause of anxiety, particular focus should be on this aspect of apprehension during dental training. Continuous education programs for dentists should encourage them to help patients to overcome their fear by

giving them adequate explanation of the treatment procedures and providing them with proper pain management. Furthermore, treatments for moderate and severe dental anxiety often require more special interventions. It is possible to refer such patients to dental fear clinics where the best management can be offered [(44)].

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Table 1: Mean and standard deviation of Modified dental anxiety scale and Dental fear survey scores breakdown across gender, age and educational levels.

Variables		No. (%)	Scales			
			MDAS		DFS	
			Mean	SD	Mean	SD
Gender	Males	400 (50%)	8.98	4.42	37.75	16.40
	Females	400 (50%)	13.57	5.57	47.38	19.45
Age	G1 (20-29 years)	200 (25%)	12.31	6.11	43.10	21.68
	G1 (30-39 years)	200 (25%)	11.41	5.44	41.22	18.49
	G3 (40-49 years)	200 (25%)	10.89	4.70	38.69	16.65
	G4 (50-59 years)	200 (25%)	10.45	4.05	37.93	16.24
Education level	Uneducated schools	44 (5.5%)	14.45	6.79	48.59	23.66
	Elementary schools	179 (22.4%)	12.17	6.45	42.43	19.74
	Intermediate/High schools	351 (43.9%)	10.99	5.06	40.29	17.96
	Undergraduate	206 (25.8%)	10.41	4.93	39.01	16.94
	Postgraduate	20 (2.5%)	9.10	3.64	36.30	15.16

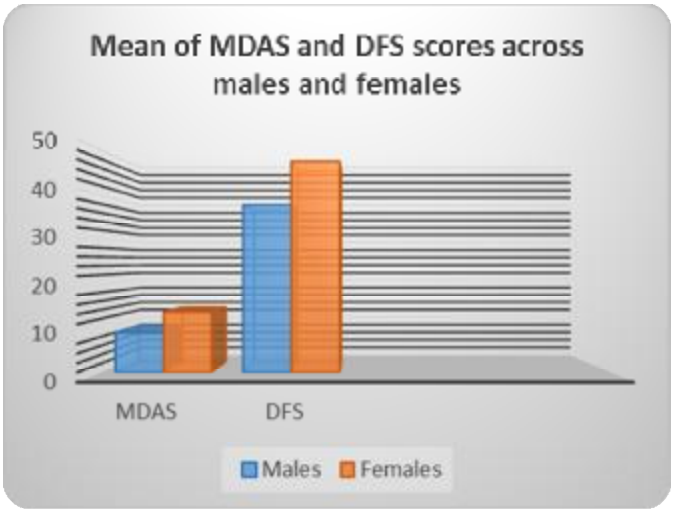

Figure 1: Mean of Modified dental anxiety scale and Dental fear survey scores breakdown across males and females.

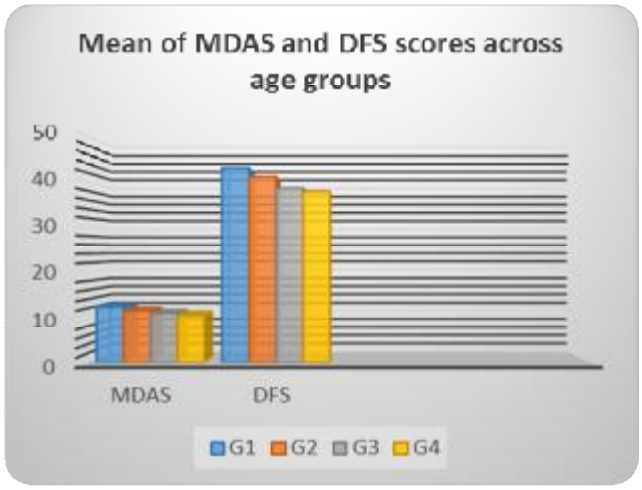

Figure 2: Mean of Modified dental anxiety scale and Dental fear survey scores breakdown across age groups.

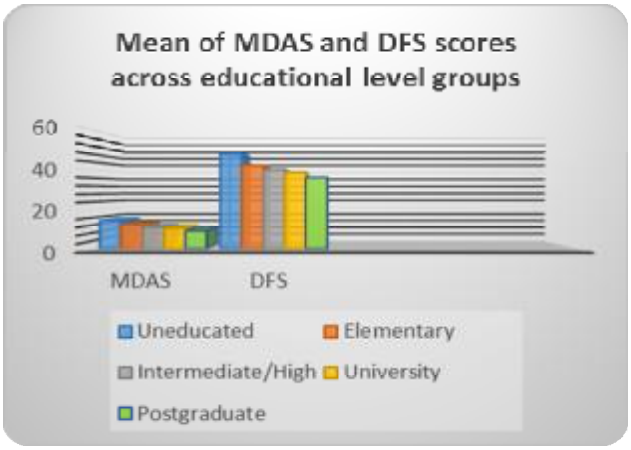

Figure 3: Mean of Modified dental anxiety and Dental fear survey scores breakdown across education level groups.

Table 2: Independent t-test for Modified dental anxiety and Dental fear survey for comparison between males and females.

Scales	Mean difference	t-value	P-value	Sig.
MDAS	-4.59	-12.88	0.00	**
DFS	-9.63	-7.52	0.00	**

P ≤ 0.01 High Significant * *

Table 3: Percentages of Modified dental anxiety and Dental fear survey scores for males and females.

Scales	Gender	No. (%)			
		Minimal anxiety (5-9)	Moderate anxiety (10-12)	High anxiety (13-17)	Very high anxiety (18-25)
MDAS	Males	226 (56.5%)	101 (25.3%)	52 (13%)	21 (5.3%)
	Females	107 (26.8%)	88 (22%)	104 (26%)	101 (25.3%)
		Minimal anxiety (20-33)	Moderate anxiety (34-58)	High anxiety (59-75)	Very high anxiety (76-100)
DFS	Males	193 (48.3%)	138 (34.5%)	47 (11.8%)	22 (5.5%)
	Females	135 (33.8%)	123 (30.8%)	84 (21%)	58 (14.5%)

Table 4: ANOVA test for Modified dental anxiety and Dental fear survey for comparison among age groups.

Scales	ANOVA	SS	df	MS	F-test	P-value	Sig.
MDAS	Among groups	381.494	3	127.165	4.815	0.00	**
	Within groups	21021.725	796	26.409			
	Total	21403.219	799				
DFS	Among groups	3383.405	3	1127.802	3.333	0.01	**
	Within groups	269383.470	796	338.421			
	Total	272766.875	799				

P ≤ 0.01 High Significant * *

Table 5: LSD for Modified dental anxiety and Dental fear survey for multiple comparison among age groups.

Scales	Groups		Mean Difference (I-J)	SE	P-value	Sig.
MDAS	G1	G2	0.895	0.513	0.08	NS
		G3	1.415	0.513	0.00	**
		G4	1.855	0.513	0.00	**
	G2	G3	0.520	0.513	0.31	NS
		G4	0.960	0.513	0.06	NS
	G3	G4	0.440	0.513	0.39	NS
DFS	G1	G2	1.880	1.839	0.30	NS
		G3	4.415	1.839	0.01	**
		G4	5.175	1.839	0.00	**
	G2	G3	2.535	1.839	0.16	NS
		G4	3.295	1.839	0.07	NS
	G3	G4	0.760	1.839	0.68	NS

P ≥ 0.05 Non-Significant (NS) P ≤ 0.01 High Significant * *

Table 6: Percentages of Modified dental anxiety and Dental fear survey scores for age groups.

Scales	Groups	No. (%)			
		Minimal anxiety (5-9)	Moderate anxiety (10-12)	High anxiety (13-17)	Very high anxiety (18-25)
MDAS	G1	76 (38%)	26 (13%)	48 (24%)	50 (25%)
	G2	84 (42%)	50 (25%)	37 (18.5%)	29 14.5%)
	G3	102 (51%)	55 (27.5%)	26 (13%	17 (8.5%)
	G4	111 (55.5%)	59 (29.5%)	16 (8%)	14 (7%)
		Minimal anxiety (20-33)	Moderate anxiety (34-58)	High anxiety (59-75)	Very high anxiety (76-100)
DFS	G1	74 (37%)	54 (27%)	40 (20%)	32 (16%)
	G2	81 (40.5%)	63 (31.5%)	32 (16%)	24 (12%)
	G3	90 (45%)	76 (38%)	25 (12.5%)	9 (4.5%)
	G4	101 (50.5%)	84 (42%)	11 (5.5%)	4 (2%)

Table 7: ANOVA test for Modified dental anxiety and Dental fear survey for comparison among education level groups.

Scales	ANOVA	SS	df	MS	F-test	P-value	Sig.
MDAS	Among groups	864.415	4	216.104	7.267	0.00	**
	Within groups	23643.074	795	29.740			
	Total	24507.489	799				
DFS	Among groups	4294.589	4	1073.647	3.165	0.01	**
	Within groups	269669.411	795	339.207			
	Total	273964.000	799	1073.647			

P ≤ 0.01 High Significant * *

Table 8: LSD for Modified dental anxiety and Dental fear survey for multiple comparison among education level groups.

Scales	Groups		Mean Difference (I-J)	SE	P-value	Sig.
MDAS	Uneducated	Elementary	2.275	0.917	0.01	**
		Intermediate/High	3.460	0.872	0.00	**
		Undergraduate	4.037	0.905	0.00	**
		Postgraduate	5.354	1.470	0.00	**
	Elementary	Intermediate/High	1.184	0.500	0.01	**
		Undergraduate	1.761	0.557	0.00	**
		Postgraduate	3.078	1.285	0.01	**
	Intermediate/High	Undergraduate	0.576	0.478	0.22	NS
		Postgraduate	1.894	1.253	0.13	NS
	Undergraduate	Postgraduate	1.317	1.277	0.30	NS
DFS	Uneducated	Elementary	6.160	3.099	0.04	*
		Intermediate/High	8.297	2.945	0.00	**
		Undergraduate	9.571	3.058	0.00	**
		Postgraduate	12.2909	4.966	0.01	**
	Elementary	Intermediate/High	2.136	1.691	0.20	NS
		Undergraduate	3.410	1.881	0.07	NS
		Postgraduate	6.130	4.342	0.15	NS
	Intermediate/High	Undergraduate	1.274	1.616	0.43	NS
		Postgraduate	3.993	4.234	0.34	NS
	Undergraduate	Postgraduate	2.719	4.313	0.52	NS

$P \geq 0.05$ Non-Significant (NS) $P < 0.05$ Significant (S)* $P \leq 0.01$ High Significant * *

Table 9: Percentages of Modified dental anxiety and Dental fear survey scores for education level groups.

Scales	Education levels	No. (%)			
		Minimal anxiety (5-9)	Moderate anxiety (10-12)	High anxiety (13-17)	Very high anxiety (18-25)
MDAS	Uneducated	14 (31.8%)	8 (18.2%)	10 (22.7%)	12 (27.3%)
	Elementary	75 (41.9%	26 (14.5%)	34 (19%)	44 (24.6%)
	Intermediate/High	165 (47%)	79 (22.5%)	58 (16.5%)	49 (14%)
	Undergraduate	98 (47.6%)	54 (26.2%)	30 (14.6%)	24 (11.7%)
	Postgraduate	11 (55%)	6 (30%)	2 (10%)	1 (5%)
		Minimal anxiety (20-33)	Moderate anxiety (34-58)	High anxiety (59-75)	Very high anxiety (76-100)
DFS	Uneducated	14 (31.8%)	11 (25%)	10 (22.7%)	9 (20.5%)
	Elementary	66 (36.9%)	60 (33.5%)	28 (15.6%)	25 (14%)
	Intermediate/High	148 (42.2%)	131 (37.3%)	42 (12%)	30 (8.5%)
	Undergraduate	96 (46.6%)	82 (39.8%)	16 (7.8%)	12 (5.8%)
	Postgraduate	10 (50%)	8 (40%)	1 (5%)	1 (5%)

Table 10: Correlation of socio-demographic factors with psychometric scales.

Socio-demographic factors	Scales	R	P-value	Sig.
Gender	MDAS	0.415	0.00	**
	DFS	0.259	0.00	**
Age	MDAS	-0.132	0.00	**
	DFS	-0.109	0.00	**
Education	MDAS	-0.178	0.00	**
	DFS	-0.115	0.00	**

$P \leq 0.01$ High Significant * *

Appendix (1): First part of the survey.

القسم الأول-المعلومات الاجتماعية والديمغرافية						
الجنس	ذكر			أنثى		
العمر	٢٠-٢٩		٣٠-٣٩	٤٠-٤٩		٥٠-٥٩
التحصيل العلمي	بلا	ابتدائية	ثانوية (متوسطة أو اعدادية)		دبلوم أو بكلوريس	دبلوم عالي أو ماجستير أو دكتوراه

Appendix (2): Second part of the survey.

القسم الثاني-Arabic version of (MDAS)					
MDAS 1	كيف سيكون شعورك إذا كان لديك جلسة علاج في عيادة طب الأسنان غدا؟	غير قلق	قلق بشكل بسيط	قلق	قلق أكثر من المعتاد
MDAS 2	كيف سيكون شعورك إذا كنت تنتظر في غرفة انتظار طبيب الأسنان لعلاج أحد اسنانك؟	غير قلق	قلق بشكل بسيط	قلق	قلق أكثر من المعتاد
MDAS 3	كيف سيكون شعورك عندما يقوم طبيب الأسنان بحفر أحد اسنانك؟	غير قلق	قلق بشكل بسيط	قلق	قلق أكثر من المعتاد
MDAS 4	كيف سيكون شعورك عندما يقوم طبيب الأسنان بإخراج الأدوات التي سوف تستخدم لقشط التكلسات الموجودة على الأسنان بالقرب من اللثة؟	غير قلق	قلق بشكل بسيط	قلق	قلق أكثر من المعتاد
MDAS 5	كيف سيكون شعورك عندما تستعد لأخذ حقنة التخدير وانت على كرسي طبيب الأسنان؟	غير قلق	قلق بشكل بسيط	قلق	قلق أكثر من المعتاد

Appendix (3): Third part of the survey.

القسم الثالث-Arabic version of (DFS)						
A. Avoidance questions						
DFS 1	هل حدث يوما ان كان الخوف من علاج الاسنان سببا يمنعك من حجز موعد لعلاج أحد اسنانك؟	كلا مطلقا	مرة أو مرتان فقط	مرات قليلة	غالبا	في جميع الاحيان تقريبا
DFS 2	هل حدث يوما ان كان الخوف من علاج الاسنان سببا أدى بك الى الغاء مود لعلاج أحد اسنانك؟	كلا مطلقا	مرة أو مرتان فقط	مرات قليلة	غالبا	في جميع الاحيان تقريبا
DFS 8	هل تخشى عمل موعد لعلاج أحد اسنانك؟	كلا مطلقا	قليلا	نوعا ما	كثير	كثيرا جدا
DFS 9	هل تخشى الذهاب لعيادة طب الأسنان؟	كلا مطلقا	قليلا	نوعا ما	كثيرا	كثيرا جدا
DFS 10	هل تخشى الجلوس والانتظار في غرفة انتظار طبيب الأسنان؟	كلا مطلقا	قليلا	نوعا ما	كثيرا	كثيرا جدا
DFS 11	هل تخشى الجلوس على كرسي طبيب الأسنان؟	كلا مطلقا	قليلا	نوعا ما	كثيرا	كثيرا جدا
DFS 12	هل تخشى رائحة عيادة طب الأسنان؟	كلا مطلقا	قليلا	نوعا ما	كثيرا	كثيرا جدا
DFS 13	هل تخشى رؤية طبيب الأسنان يدخل؟	كلا مطلقا	قليلا	نوعا ما	كثيرا	كثيرا جدا
B. Physiological arousal						
DFS 3	هل يحصل لك تشنج في العضلات خلال علاج أحد اسنانك؟	كلا مطلقا	مرة أو مرتان فقط	مرات قليلة	غالبا	في جميع الاحيان تقريبا
DFS 4	هل يزداد معدل تنفسك خلال علاج أحد اسنانك؟	كلا مطلقا	مرة أو مرتان فقط	مرات قليلة	غالبا	في جميع الاحيان تقريبا
DFS 5	هل يحصل لك تعرق خلال علاج أحد اسنانك؟	كلا مطلقا	مرة أو مرتان فقط	مرات قليلة	غالبا	في جميع الاحيان تقريبا
DFS 6	هل تشعر بالغثيان (لعبان النفس) والم في المعدة خلال علاج أحد اسنانك؟	كلا مطلقا	مرة أو مرتان فقط	مرات قليلة	غالبا	في جميع الاحيان تقريبا
DFS 7	هل يزداد معدل دقات قلبك عند علاج أحد اسنانك؟	كلا مطلقا	مرة أو مرتان فقط	مرات قليلة	غالبا	في جميع الاحيان تقريبا
C. Specific fear						
DFS 14	هل تخشى رؤية ابرة التخدير؟	كلا مطلقا	قليلا	نوعا ما	كثيرا	كثيرا جدا
DFS 15	هل تخشى الشعور بألم حقن ابرة التخدير؟	كلا مطلقا	قليلا	نوعا ما	كثيرا	كثيرا جدا
DFS 16	هل تخشى رؤية أدوات الحفر الخاصة بالعلاج؟	كلا مطلقا	قليلا	نوعا ما	كثيرا	كثيرا جدا
DFS 17	هل تخشى سماع صوت أدوات الحفر لخاصه بالعلاج؟	كلا مطلقا	قليلا	نوعا ما	كثيرا	كثيرا جدا
DFS 18	هل تخشى الشعور باهتزاز صوت أدوات الحفر لخاصه بالعلاج؟	كلا مطلقا	قليلا	نوعا ما	كثيرا	كثيرا جدا
DFS 19	هل تخشى عملية تنظيف الأسنان؟	كلا مطلقا	قليلا	نوعا ما	كثيرا	كثيرا جدا
DFS 20	بالأخذ بجميع النقاط السابقة، ماهي كمية خوفك من علاج الاسنان؟	كلا مطلقا	قليلا	نوعا ما	كثيرا	كثيرا جدا