

Patient Satisfaction and its Relationship to Dental anxiety among patients of Dental Clinics in Baghdad city¹

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Abstract:

Patient satisfaction and dental anxiety considered as an important factors in dental health care and treatment because they greatly affect the patient's cooperation with the dentist and the extent to which follows the guidelines, treatment and preventive instruction. The present study investigates the relationship between patient satisfaction and dental anxiety, as well as their relation to demographic variables such as gender, age, number of visits, and cultural level. The study was applied on a random sample of dental clinics in Baghdad city with total of (200) patient (108 male and 92 female). Two scales were used in this study, patient satisfaction scale PSS (included 9 aspects, constructed by authors) and Iraqi dental anxiety scale DAS (Salem & Muslim, 2015). The results explained that there is an inverse significant correlation between patient satisfaction and dental anxiety. And there are two demographic variables that have predicted with dental anxiety which are age and number of visits to dental clinic. While there are four aspects of patient satisfaction are predicted to dental anxiety, which are satisfaction of (overall appearance of the clinic, the reception, patient information, and services with safety). The research came out with some of recommendations and suggestions.

Key Word: patient Satisfaction, Dental anxiety, Dental clinic.

¹ - This study applied on 200 patients randomly cohesion in (8) private dental clinic from different area of Baghdad city in the period between January-May, 2017..

1. Introduction:

One of the main components that plays a significant role in dental care is **patient satisfaction**. It has a great impact on the compliance of patients, the usage of dental services and their anxiety. Furthermore patient satisfaction relates to the health status and outcome (Reifel, *et al*; 1997). Kotler(2003) has defined satisfaction as' the feeling of pleasure which arise from comparing a product based on the performance or the outcome in relation to the expectations of the patient. For examining the level of patient's satisfaction, Donabedian (1998) suggested four main reasons: satisfaction is the basic objective of care, satisfaction regards as the outcome of the care, satisfaction could significantly affect that care, and lastly satisfaction is the decision of the patient about the care that has received. According to Reifel,etal;1997;Handelman;, etal 1990; Sitzia& Wood ;1997;, Gopalakrishna and Munnaleni;1993 , the socio-demographics characteristics of individuals such as (ethnicity, gender, age, socio-economic status, perceived health, the nature of the provider-patient interaction and structure of the dental care delivery system) have important influence on the patient's satisfaction with dental services.

Othman and Razak (2010) states that evaluating the success of the provided oral health service restricted to measure the level of patient's satisfaction, measurements degree requires a structured questionnaire.

Dental anxiety defined as, the response to situations in which the source of threat to the individual is indefinable, indistinct or not immediately present. Anticipatory anxiety prior to dental procedures is commonly experienced, Dental anxiety reflects the psychological condition of patient as well as the patient's reaction to the stressful environment of dental clinic which takes the form of the dental chair, sight of needle, blood and dentist gloves and masks (Gili;2005) .

The extant studies of dental anxiety and fear have concentrated on dentist's characteristics associated with patient satisfaction and anxiety reduction. The result of Corah & etal study (1988) revealed that satisfaction of the patient to some extent is related to the relationship patients and their dentists, kind of friendliness and spiritual treating for patient regard as vital constituents in patients' satisfaction with dental care. With regard to reducing anxiety, patients were most concerned with their dentists' clear statements about preventing pain.

Corah (1988) states that patient is always looking for these that anchorage him to were more his stress before the examination procedures in dental clinic.

Dental clinics most people do not recognize there are two kind of dental clinics which are Private dental clinic and dental centers; each type of these clinics provides different services and terms upon the greater examination, for clinic centers they often engage large buildings that include various sections; these buildings disseminate over districts. However, Private dental clinics usually belong to group or one dentist which limited to specific sections. Many benefits could be offered by dental centers, especially for those who prefer to make one visit to place to meet their needs of dental treatment .Accordingly, both dental clinics and dental centers were designed to provide high quality of dentistry (pretty smile and healthy teeth), but the difference illustrated at the general atmospheres which are significantly different. If your schedule is pressed and you are on budget; the best option for your oral needs is low cost centers. On the other hand if you are interested in a warm relationship and personal context, private clinic is the right option. (Anderson; 1995, <https://www.dentalclinics.umn.edu/dentalclinic,2017>,<https://www.uhs.uga.edu/services/dental-clinic;2017>).

2. Review of Literature

Friedmen (1995) revealed that, a lot of studies of patient satisfaction relies on patients perception of satisfaction on what is remarked, such as the array of services, a facility's environmental aesthetics and doctors conforming bedside manner and This however may not accurately indicate the quality of care they receive, since the technical aspect of the quality of care is not assessed, However. Patients, as observed by Morgan and Murgatroyd (1994) are passive receivers of treatment specify by professionals and, therefore are not in the position to realize the technical and medical aspects of care. Thus the ability of patients to make decisions or opinions on the technical competency of clinic or hospital and its staff have limited most patient satisfaction studies to the functional quality of care, that is, manner in which medical care is transferred to them (Tomes and Ng.; 1995).

Carman study (2000) noticed that perception of service quality is an attitude, and that the attitude is an activity of some a joining of attributes that a patient considers to be a part of quality. The attributes can be divided in to functional which consist of measures and provider

attentiveness, and technical such as outcome that describe how the service is delivered, thus there exist a link between perceived service quality and patient satisfaction.

Searches related to a recent study published by Oxford University press in association with the International Society for Quality Health Care; all right reserved, that study is (The patient satisfaction questionnaire of Euprimecare project: measurement properties), 2016 by the authors Cimas et al which was investigated that measurement of patient satisfaction is considered an important outcome indicator to assess health care quality ,and that study aims to describe the psychometric properties of the primary care satisfaction scale (PCSS) of Euprimecare project. The conclusion of that study: PCSS, as a reliable and valid scale, could be used to measure satisfaction in primary care in Europe, since a large number of studies have proposed scales to measure patient satisfaction, there is a lack of psychometric information on them.

There is evidence of a reciprocal relationship between patient satisfaction and continuity of care (which is associated with better patient outcomes). Conversely, dissatisfaction and complaints can mean not only loss of business/investment, but also increased risk of malpractice lawsuits. Accreditation, business improvement, and risk management are not the only reasons patient satisfaction is important. Surveying patient satisfaction can offer patients an opportunity to participate in their care by reporting their care experiences and building engagement. (Fullam, *et al*;2009,Saultz,and Lochner;2005, Van, *et al*;2006).

Patient satisfaction surveys represent real-time feedback for providers and show opportunities to improve services/decrease risks. However many organizations/ providers do not know how to use the patient satisfaction opportunities information they receive. This may be because providers often seek yes/no responses or ratings on a Likert scale without asking patients to report on their care experience (Davies,*etal*;2008,O'Reilly;2009).

Hamasaki, et al ;(2011) found' that patients who felt positively about their communication with their dentists had better outcomes related to satisfaction and lower fear than those who felt less positively about their dentists' communication.

Patient satisfaction is an important and common indicator for measuring the quality of health care. Patient satisfaction affects clinical outcomes, patient retention, and medical malpractice claims. It affects the delivery of timely, efficient, and patient health care. So the patient satisfaction is an agent but a very effective indicator to measure the success of doctors and

hospitals, and the last three factors directly affect patient satisfaction that article focuses on patient satisfaction, its assessment, and its effects and implications for health care delivery, (especially in oral and dental health) (Prakash,2010).

Research problem:

Although, there are a number of studies have proposed scales to measure patient satisfaction, there is a lack of psychometric information on them especially as relation to dental anxiety.

The aim of the present study is to investigate and analyze the level of patient satisfaction and its relationship with dental anxiety among patients of dental clinic in Baghdad city.

Research objectives:

1. Measuring the patient satisfaction and Dental anxiety among the patients of the dental clinics in Baghdad city.

2 – To investigate:

A. Differences in patient satisfaction according to the variables of (gender, number of visits, and cultural level).

B. Differences in the Dental anxiety according to the variables of (gender, number of visits, and cultural level).

C. The relationship between patient satisfaction, dental anxiety and age.

D. **The prediction of** (patient satisfaction, gender, age, number of visits and cultural level) on dental anxiety among dental clinic patients in Baghdad city

3. Method

3.1 Participants:

The Sample of the study included ((8 private dental clinic which randomly selected from different areas of Baghdad city to include 200 patients randomly cohesion (108 male and 92 female) were selected)). The demographic variables will be studied are shown in (Table 1) While the sample age ranged between (15–60) years (Mean=31.2, SD =9.55) the males were (Mean= 31.055 SD =8.86 and rang= 45) while females (Mean = 31.36 and SD = 10.41 and range = 45).

Table (1) sample is distributed according to (gender, number of visits and cultural level)

Total	Female									Male									Gender
	University level			Secondary stage			Elementary school & less			University Level			Secondary stage			Elementary school & less			cultural level
	More	Twice	Once	More	Twice	Once	More	Twice	Once	More	Twice	Once	More	Twice	Once	More	Twice	Once	Number of visits
200	44	8	4	22	2	6	2	2	2	46	6	2	28	8	6	6	4	2	

3.2 Measurements

The patient satisfaction scale (PSS): The two authors constructed a scale of patient satisfaction according to the Likert's scale which included (9) **aspects (sub-scales)** based on some scales and literature approaches of patient satisfaction such as PSQ scale (Ware, et al, 1976); PSQ-18 scale (Marshall and Hays,1994); patient Satisfaction article (Prakash, 2010) ; the study of measurement of patient satisfaction article at the Academic hospital,(2008) and (Teware and Sunit,2008).

A (39) items were constructed for PSS which are distributed on the nine aspects (sub scales). 3-point Likert's scale which are (yes, somewhat, no) given the degree (1, 2, 3) respectively. The scale started with some demographic information such as (gender, age, number of visits and cultural level) as shown in appendix (1). **As follow the (39) item are disturbed into sub scales:**

1. General appearance of the clinic (4 items).
2. Reception (4 items).
3. The waiting room (4 items).
4. Practices of the doctor and his staff (9 items).
5. Patient information (4 items).
6. Appointment and Schedule dates (4 items).
7. Safety and service procedures (3 items).
8. Financial costs of treatment (4 items).
9. Complaints (3 items).

Validity & Reliability: the facial Validity of PSS was tested by Jury² and got More than 90%. The **Reliability** of PSS has been tested by Alpha-cronbach, and its value was (0.91).

² . Group of experts are specialized in psychology and mental and dental health, who are from Center of Educational and Psychological Researches Baghdad University and specialized Center of Dentistry in Ministry of health.

Dental Anxiety Scale (DAS): Dental anxiety scale of (Salim and Muslim, 2015) was prepared for the Iraqi environment, which had a good validity and reliability. The Alpha-cronbach value of this scale was (0.937). The DAS included (8) items, as shown in appendix (2).

4. Results

4.1 The Measurement of patient satisfaction and dental anxiety among the patients of dental clinics in Baghdad city.

4.1.1 The Measurement of Patient satisfaction according to the total and sub-scales scores: The results showed, generally, a high satisfaction of patients in the dental clinics, and a high satisfaction in the most of sub-scales with the exception of the satisfaction about complaints, which have a low significance value in this aspect ,as shown in table(2).

4.1.2 The Measurement of dental anxiety:

The T-test value of the DAS indicated a high dental anxiety of dental clinics patients, and its value (7.64) which is statistically significant at (0.001) level as shown in (Table 2).

Table (2) t-test value of PSS and DAC

DF=199, N=200

The Scale	t-test	Standard deviation S.D	P.V	Mean	significance S.G
Satisfaction as a whole	22.64	8.52	78	97.29	0.001
Satisfaction about the overall appearance of the clinic	21.35	1.18	8	10.53	0.001
Satisfaction about reception	12.66	1.42	8	9.80	0.001
Satisfaction about waiting room	10.72	1.78	8	9.91	0.001
Satisfaction about doctor & assistant staph	31.67	2.05	18	24.50	0.001
Satisfaction about patient information	12.41	1.63	8	10.03	0.001
Satisfaction about the appointment & dates	14.49	1.76	8	10.56	0.001
Satisfaction about the safety procedures & services	10.94	1.27	6	7.40	0.001
Satisfaction about the financial cost of treatment	6.26	1.82	8	9.14	0.001
Satisfaction about the complaints	-3.67	1.57	6	5.42	0.001
Dental anxiety	7.64	4.70	18	21.60	0.001

4.2 Differences in patient satisfaction according to the (gender, number of visits, and cultural level).

4.2.1 The differences of patient satisfaction according to the total and sub-scales scores of the variables (gender, number of visits and cultural level).

The results of Two way ANOVA as shown in **Table (3)** indicated the following:

4.2.1.1 The cultural level of the patient affects the general satisfaction (i.e. patient satisfaction increased by increasing the cultural level).

4.2.1.2 There was an interaction among (gender, number of visits and cultural level) in patient satisfaction.

Table (3) Two Way ANOVA of PSS scores according to the variables (gender, number of visits and cultural level)

Dependent Variable: satisfaction

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	3149.599 ^a	17	185.271	3.004	.000
Intercept	636305.566	1	636305.566	10318.241	.000
Gender	70.332	1	70.332	1.141	.287
Visits	159.455	2	79.727	1.293	.277
Cultural	386.859	2	193.430	3.137	.046
gender * visits	284.267	2	142.134	2.305	.103
gender * cultural	441.656	2	220.828	3.581	.030
visits * cultural	291.975	4	72.994	1.184	.320
gender * visits * cultural	975.671	4	243.918	3.955	.004
Error	11223.581	182	61.668		
Total	1907442.000	200			
Corrected Total	14373.180	199			

a. R Squared = .219 (Adjusted R Squared = .146)

4.2.2: The Differences of patient satisfaction about the general appearance of the clinic according to the variables (gender, number of visits, and cultural level).

The results of two way ANOVA as shown in **Table (4)** indicated the following:

4.2.2.1 A number of visits affects the satisfaction of the patient for the general appearance of the clinic (i.e. patient satisfaction increased by increasing the number of visits), and there was an interaction between the number of visits and gender and an interaction between the number of visits and cultural level In the satisfaction of the patient with the general appearance of the clinic.

4.2.2.2 There was an interaction among (gender, the number of visits and cultural level) of the patient's satisfaction about the general appearance of the clinic.

Table (4) Two way ANOVA of PSS scores about the general appearance of the clinic according to the variables (gender, number of visits, and cultural level)

Dependent Variable: General

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	63.876 ^a	17	3.757	3.196	.000
Intercept	7670.387	1	7670.387	6525.129	.000
Gender	.847	1	.847	.720	.397
Visits	10.182	2	5.091	4.331	.015
Cultural	.235	2	.118	.100	.905
gender * visits	8.884	2	4.442	3.779	.025
gender * cultural	2.126	2	1.063	.904	.407
visits * cultural	18.041	4	4.510	3.837	.005
gender * visits * cultural	18.603	4	4.651	3.956	.004
Error	213.944	182	1.176		
Total	22454.000	200			
Corrected Total	277.820	199			

a. R Squared = .230 (Adjusted R Squared = .158)

4.2.3 The Differences of patient satisfaction for the reception according to the variables (gender, number of visits, and cultural level).

The results of two way ANOVA as shown in **Table (5)** indicated that The number of visits affects the patient satisfaction about the reception in the clinic (i.e. Patient satisfaction increased by increasing the number of visits to the clinic) and there was an interaction between the number of visits and gender in patient satisfaction for the reception in the clinic.

Table (5) Two way ANOVA of PSS scores about the reception according to the variables (gender, number of visits, and cultural level)

Dependent Variable: Reception

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	49.960 ^a	17	2.939	1.528	.089
Intercept	6850.359	1	6850.359	3561.776	.000
Gender	.180	1	.180	.094	.760
Visits	11.970	2	5.985	3.112	.047
Cultural	3.097	2	1.548	.805	.449
gender * visits	18.637	2	9.319	4.845	.009
gender * cultural	2.662	2	1.331	.692	.502
visits * cultural	12.613	4	3.153	1.639	.166
gender * visits * cultural	5.472	4	1.368	.711	.585
Error	350.040	182	1.923		
Total	19608.000	200			
Corrected Total	400.000	199			

a. R Squared = .125 (Adjusted R Squared = .043)

4.2.4: The Differences of patient satisfaction about the waiting room according to variables (gender, number of visits, and the cultural level).

The results of two way ANOVA as shown in **table (6)** indicated that the cultural level affects the patient satisfaction about the waiting room (i.e. patient satisfaction increased by increasing of the cultural level of the patient).

Table (6) Two way ANOVA of PSS scores about the waiting room according to the variables (gender, number of visits, and cultural level)

Dependent Variable: waiting Room

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	121.965 ^a	17	7.174	2.578	.001
Intercept	6589.835	1	6589.835	2368.316	.000
Gender	4.602	1	4.602	1.654	.200
Visits	4.051	2	2.025	.728	.484
Cultural	40.082	2	20.041	7.203	.001
gender * visits	6.242	2	3.121	1.122	.328
gender * cultural	8.109	2	4.054	1.457	.236
visits * cultural	12.526	4	3.131	1.125	.346
gender * visits * cultural	10.493	4	2.623	.943	.440
Error	506.415	182	2.782		
Total	20270.000	200			
Corrected Total	628.380	199			

a. R Squared = .194 (Adjusted R Squared = .119)

4.2.5 Differences in the patient satisfaction about the dentist according to the variables (gender, number of visits, and cultural level).

The results of two way ANOVA as shown in **table (7)** indicated the following:

4.2.5.1 The gender affects the patient satisfaction about the doctor, the male was more affected.

4.2.5.2 The number of visits affects the patient's satisfaction about the doctor, (i.e. patient satisfaction increased by increasing the number of visits).

4.2.5.3 There is an interaction between the gender and cultural level in the patient's satisfaction about the doctor.

4.2.5.4 There is an interaction between the gender and the number visits and cultural level in the patient's satisfaction about the doctor.

Table (7) Two way ANOVA of PSS scores about the doctor according to the variables (gender, number of visits, and cultural level)

Dependent Variable: Doctor

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	189.613 ^a	17	11.154	3.150	.000
Intercept	40407.863	1	40407.863	11412.754	.000
Gender	34.132	1	34.132	9.640	.002
Visits	34.379	2	17.190	4.855	.009
Cultural	19.134	2	9.567	2.702	.070
gender * visits	15.285	2	7.643	2.159	.118
gender * cultural	42.861	2	21.431	6.053	.003
visits * cultural	2.669	4	.667	.188	.944
gender * visits * cultural	35.690	4	8.923	2.520	.043
Error	644.387	182	3.541		
Total	120884.000	200			
Corrected Total	834.000	199			

a. R Squared = .227 (Adjusted R Squared = .155)

4.2.6 Differences in patient satisfaction about the patient information according to variables (gender, number of visits and cultural level).

The results of two way ANOVA as shown in **table (8)** indicated the following:

4.2.6.1 The cultural level affects the patient's satisfaction about the patient's information (i.e. patient satisfaction increased by increasing the cultural level)

4.2.6.2 There is an interaction between the gender and cultural level in the patient satisfaction about the patient information.

4.2.6.3 There is an interaction between the cultural level and the number of visits in the patient satisfaction about the patient information.

4.2.6.4 There is an interaction among (gender, the number of visits, and cultural level) in the patient satisfaction about patient information.

Table (8) Two way ANOVA of PSS scores on the patient information according to the variables (gender, number of Visits , and cultural level)

Dependent Variable: information

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	137.645 ^a	17	8.097	3.758	.000
Intercept	6860.442	1	6860.442	3183.786	.000
Gender	.187	1	.187	.087	.769
Visits	5.937	2	2.969	1.378	.255
Education	25.843	2	12.921	5.997	.003
gender * visits	4.225	2	2.112	.980	.377
gender * cultural	13.413	2	6.707	3.112	.047
visits * cultural	46.750	4	11.687	5.424	.000
gender * visits * cultural	55.897	4	13.974	6.485	.000
Error	392.175	182	2.155		
Total	20650.000	200			
Corrected Total	529.820	199			

a. R Squared = .260 (Adjusted R Squared = .191)

4.2.7. Differences in patient satisfaction about appointments and dates according to the variables (gender, number of Visits, and cultural level).

The results of tow way ANOVA as shown in **table (9)** indicated that there is an interaction between the cultural level and the number of Visits in the patient satisfaction about the appointment and the dates.

Table (9) Two way ANOVA of PSS scores about appointment and the dates according to variable (gender, number of visit and cultural level)

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	92.798 ^a	17	5.459	1.894	.021
Intercept	7681.494	1	7681.494	2665.546	.000
Gender	3.355	1	3.355	1.164	.282
Visits	8.779	2	4.390	1.523	.221
Cultural	1.514	2	.757	.263	.769
gender * visits	.341	2	.170	.059	.943
gender * cultural	7.756	2	3.878	1.346	.263
visits *cultural	34.188	4	8.547	2.966	.021
gender * visits cultural	16.951	4	4.238	1.471	.213
Error	524.482	182	2.882		
Total	22920.000	200			
Corrected Total	617.280	199			

a. R Squared = .150 (Adjusted R Squared = .071)

4.2.8 Differences in patient satisfaction about safety procedures and services according to the variables (gender, number of Visits, and cultural level).

The results of two way ANOVA as shown in **table (10)** indicated the following:

4.2.8.1 The number of Visits affects the satisfaction of the patient about the procedures of safety and services (i.e. it increased by increasing the number of the Visits).

4.2.8.2 There is an interaction between the gender and the number of Visits of the patient satisfaction with safety of PSS scores about the safety procedures and services according to the variables (gender, number of Visits, and cultural level)

Dependent Variable: safety

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	53.966 ^a	17	3.174	2.140	.007
Intercept	3533.291	1	3533.291	2381.397	.000
Gender	1.679	1	1.679	1.132	.289
Visits	13.657	2	6.829	4.602	.011
Cultural	3.419	2	1.709	1.152	.318
gender * visits	15.008	2	7.504	5.058	.007
gender * cultural	3.354	2	1.677	1.130	.325
visits * cultural	5.810	4	1.453	.979	.420
gender * visits * cultural	9.339	4	2.335	1.574	.183
Error	270.034	182	1.484		
Total	11276.000	200			
Corrected Total	324.000	199			

a. R Squared = .167 (Adjusted R Squared = .089)

4.2.9 Differences in patient satisfaction about the financial costs of treatment according to the variables (gender, number of Visits, and cultural level).

The results of two way ANOVA interaction are shown in **Table (11)** indicated that the cultural level affects the patient satisfaction about the financial costs and the treatment (i.e. patient satisfaction increased by increasing the number of the Visits).

Table(11) Two way ANOVA of PSS scores about the financial costs of treatment according to the variables (gender, number of Visits, and Cultural level)

Dependent Variable: Costs

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	107.569 ^a	17	6.328	2.100	.009
Intercept	5233.397	1	5233.397	1736.481	.000
Gender	.058	1	.058	.019	.890
Visits	6.124	2	3.062	1.016	.364
Culture	19.751	2	9.875	3.277	.040
gender * visits	15.526	2	7.763	2.576	.079
gender * cultural	9.371	2	4.685	1.555	.214
visits * cultural	21.645	4	5.411	1.795	.132
gender * visits * cultural	15.554	4	3.889	1.290	.275
Error	548.511	182	3.014		
Total	17364.000	200			
Corrected Total	656.080	199			

a. R Squared = .164 (Adjusted R Squared = .086)

4.2.10 Differences of Patient satisfaction about the complaints according to the variables (gender, number of visits and cultural level)

The results of two way ANOVA as shown in **table (12)** indicated the following:

4.2.10.1 There is an interaction between the gender and cultural level of the patient satisfaction about the complaints.

4.2.10.2 There is an interaction among (gender, the number of visits, and cultural level) of the patient satisfaction about the complaints.

Table (12) Two way ANOVA of PSS scores about the complaints according to the variables (gender, number of f Visits, and cultural level)

Dependent Variable: Complaints

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	77.419 ^a	17	4.554	1.996	.014
Intercept	1839.509	1	1839.509	806.140	.000
Gender	.055	1	.055	.024	.877
Visits	3.011	2	1.506	.660	.518
Cultural	1.649	2	.825	.361	.697
gender * visits	6.710	2	3.355	1.470	.233
gender * cultural	14.967	2	7.483	3.279	.040
visits * cultural	7.204	4	1.801	.789	.533
gender * visits * cultural	27.549	4	6.887	3.018	.019
Error	415.301	182	2.282		
Total	6368.000	200			
Corrected Total	492.720	199			

a. R Squared = .157 (Adjusted R Squared = .078)

4.3 Differences in dental anxiety according to the variables (gender, number of Visits and cultural level).

The results of Two way ANOVA as shown in **table (13)** indicated the following:

4.3.1 The number of visits affects the dental anxiety (i.e. dental anxiety increased by decreasing the number of the Visits).

4.3.2 There is an interaction between the number of Visits and the cultural level in dental anxiety.

Table (13) Two way ANOVA of DAS according to the variables (Gender, number of Visits, and cultural level)

Dependent Variable : Dental anxiety

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	1029.727 ^a	17	60.572	3.283	.000
Intercept	38106.407	1	38106.407	2065.158	.000
Gender	17.369	1	17.369	.941	.333
Visits	505.402	2	252.701	13.695	.000
Cultural	36.629	2	18.314	.993	.373
gender * visits	46.021	2	23.011	1.247	.290
gender * cultural	16.672	2	8.336	.452	.637
visits * cultural	184.433	4	46.108	2.499	.044
gender * visits * cultural	44.768	4	11.192	.607	.658
Error	3358.273	182	18.452		
Total	97700.000	200			
Corrected Total	4388.000	199			

a. R Squared = .235 (Adjusted R Squared = .163)

4.4 The correlation between patient satisfaction, dental anxiety, and age.

The results of the Pearson correlation coefficient as shown in **table (14)** indicated the following:

4.4.1 The correlation between patient satisfaction and the age revealed that there is no statistically significant relationship at 0.05 level based on the total and sub-scales scores.

4.4.2 The correlation between dental anxiety and age revealed that there is a negative correlation and statistically significant relationship at 0.001 level, it means that the older the patient, the lower the level of dental anxiety and vice versa.

Table (14) Pearson correlation coefficient values between PSS, DAC and age

Dental anxiety	Complains	Cost	Safety	Appointment	Information	Doctor	Waiting room	Reception	G. app.	Whole satisfaction	
0.272-	0.110-	0.001	0.019	0.083-	0.108-	0.018	0.072	0.108-	0.059	0.046-	Age
Sig.**	Not Sig	Not Sig	Not Sig	Not Sig	Not Sig	Not Sig	Not Sig	Not Sig	Not Sig	Not Sig.	Sig.

**sig a 0.01 level *at 0.05 level

4.4.3 The correlation between DAS and PSS. As shown in table (15):

4.4.3.1 There is a negative significant correlation between dental anxiety and satisfaction about the general appearance of the clinic anxiety (i.e. dental anxiety decreased by increasing the patient satisfaction and vice versa).

4.4.3.2 There is a positive significant correlation between dental anxiety and satisfaction about the information provided to the patient (i.e. dental anxiety increased by increasing the patient satisfaction about the information).

4.4.3.3 There is a negative significant correlation between dental anxiety and satisfaction about safety procedures and services (i.e. dental anxiety decreased by increasing the patient satisfaction about safety, and vice versa).

4.4.3.4 There is a positive significant correlation between the dental anxiety and satisfaction about the treatment costs (i.e. dental anxiety increased by increasing the patient satisfaction about treatment costs).

4.4.3.4 There is a negative significant correlation between dental anxiety and the complaints (i.e. dental anxiety decreased by increasing the patient satisfaction about the complaints). The results also showed there was no statistically significant relationship between the other sub-scales of PSS and DAS.

Table (15) Pearson correlation coefficient values between PSS and DAC

Complain	Cost	safety	Appointment	Information	Doctor	Wetting Room	Reception	General apperance	Satisfaction as a whole	
0.152-	0.153	0.153-	0.069	0.357	0.005-	0.099-	0.112-	0.349-	0.031	Dental anxiety
Sig.*	Sig.*	Sig.*	Not sig.	Sig**	Not sig.	Not sig	Not sig.	sig**	Not sig.	Sig*.

**sig a 0.01 level *at 0.05 level

4.5 The prediction of (patient satisfaction, gender, age, number of visits and cultural level) on dental anxiety among dental clinics patients in Baghdad city.

The results of Multiple Regression Analysis (Enter method) as shown in tables (16),(17). The value of coefficient determination (R^2) is (0.64) and the ANOVA regression of (R^2) indicated the efficiency of regression analysis of predication (see table-16). It means that the independent variables (patient satisfaction, gender, age, number of visits and cultural level) totally interpreted (46%) of the variance of DAS scores.

Table (16) ANOVA regression of (R^2)

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2018.179	13	155.245	12.185	.000 ^a
	Residual	2369.821	186	12.741		
	Total	4388.000	199			

a. Predictors: (Constant), Complaints, gender, General, age, Reception, education, visits, booking, safety, information, doctor, Room, Costs

b. Dependent Variable: anxiety

Multiple regression analysis was used to determine the extent to which these independent variables (patient satisfaction, gender, age, number of visits and cultural level) contribute to the dependent variable (dental anxiety) and then calculate the standard beta (B) coefficients for the relative contribution of each independent variable. The values of,

standard *B*, and T-test values showed dental anxiety could be significantly predicted by those variables, as shown in **Table (17)**.

Table (17) Regression Coefficients Values

Coefficients ^a		Un standardized Coefficients		Standardized Coefficients	T	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	37.036	4.298		8.617	.000
	Gender	.554	.520	.059	1.066	.288
	Visits	-1.863	.412	-.268	-4.517	.000
	Culture	-.733	.433	-.102	-1.691	.093
	Age	-.077	.028	-.156	-2.743	.007
	General	-1.094	.250	-.275	-4.384	.000
	Reception	-1.032	.203	-.312	-5.090	.000
	Room	-.026	.188	-.010	-.137	.891
	Doctor	.154	.162	.067	.949	.344
	Information	.949	.192	.330	4.942	.000
	Appointment--	.236	.165	.088	1.424	.156
	Safety	-.551	.229	-.150	-2.409	.017
	Costs	.069	.191	.027	.362	.718
	Complaints	.447	.191	.150	2.343	.020

a. Dependent Variable: Dental anxiety

Discussion and Conclusion:

Generally, the results of this study reveal that patient satisfaction is inversely related to dental anxiety, and some aspects of Patient satisfaction such as (satisfaction with the general appearance of the clinic, satisfaction with the reception, satisfaction with patient information provided, and satisfaction with safety procedures and services) have predicted with dental anxiety. Furthermore, the results showed That there were significant correlations between dental anxiety and patient satisfaction on one hand and the demographic variables such as (age, number of visits and cultural level) on the other hand, the age of patient is inversely related to dental anxiety whereas the number of visits has reversely a connection with patient anxiety, which means that both of them have predicted with dental anxiety. These findings agree with most of the previous studies, such as the study of (Marshall and vetal, 1994; Reifel etal, 1997; Prakash and Bhanu, 2010; Salem and Muslim, 2015) and some other studies mentioned in the literature review of current study. As for patient satisfaction, the literatures indicated that there are multiple aspects of patient satisfaction. The results of the current study show that the patient of private dental clinics in Baghdad city satisfied with all aspects of satisfaction, except that is due to the complaints which are distinguished by dissatisfaction to it. These may be related to the cultural and administrative factors of the public facilities.

In regard to the differences of patient satisfaction and the dental anxiety in accordance with the demographic variables (gender, number of visits and educational level), the dominant feature of the results do not confirm that there are significant indexes of prediction in spite of the presence of some significant differences in demographic variables, or in some of the interactions among them. In conclusion, dental anxiety has a significant correlation with patient's satisfaction of private dental clinic, and There are two demographic variables that have predicted with dental anxiety which are the age and number of visits, while four aspects of patient satisfaction are predicted with dental anxiety, these aspects are (overall appearance of the clinic, satisfaction with the reception, patient satisfaction with information provided, satisfaction with services and safety measures). The researchers recommend that dentists and dental care professionals and their dental assistant in dental clinics to concern with the aspects of patient's satisfaction that have addressed in the current study. On one hand, to enhance the patient satisfaction levels on multiple aspects. On the other hand, to reduce their dental anxiety levels. Moreover, the researchers recommend that the dentists should consider the aspect of compliance that need to be confirmed. A similar study could be conducted, but it prefers to consider the governmental health centers and clinics in Iraq as well as conducting studies on patient satisfaction and dental anxiety and their relation to other psychological, social or demographic variables or a study focus on the development of dental anxiety or patient satisfaction among patients.

قناعة المريض وعلاقتها بقلق عيادات طب الاسنان في مدينة بغداد

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ملخص البحث: يعد رضا المريض والقلق من معالجة الاسنان من العوامل الأساسية و المهمة في رعاية صحة الاسنان وعلاجها كونهما يؤثران بدرجة كبيرة في مدى تعاون المريض مع طبيب الاسنان وفي مدى التزامه بالإرشادات والتعليمات العلاجية والوقائية. يتحرى البحث الحالي دراسة العلاقة بين رضا المريض وقلق معالجة الأسنان، فضلا عن علاقتهما ببعض المتغيرات الديموغرافية مثل (الجنس، والعمر، عدد مرات المراجعة، والمستوى الثقافي). أجريت الدراسة على عينة عشوائية من العيادات الخاصة بطب الأسنان في محافظة بغداد مقدارها (200) مراجع (108 ذكر و92 أنثى)، استعملت في الإجراءات أداتين، الأولى لقياس رضا المريض من أعداد الباحثين (تتضمن ٩ مجالات)، والثانية لقياس قلق الأسنان لـ(سالم ومسلم ٢٠١٥). كشفت النتائج عن وجود علاقة دالة ارتباطيه عكسية بين رضا المريض وقلق الأسنان، وان هناك متغيرين ديموغرافيين قد أنبأ بقلق الأسنان هما: (العمر وعدد مرات المراجعة)، في حين أنبأت

أربعة مجالات من رضا المريض بقلق معالجة الأسنان والمجالات هي: (الرضا عن المظهر العام للعيادة، والرضا عن الاستقبال، والرضا عن معلومات المريض المقدمة، والرضا عن إجراءات السلامة والخدمات). وقد خرج البحث ببعض التوصيات والمقترحات.

الكلمات المفتاحية: (قناعة المريض , قلق الاسنان , عيادة طب الاسنان)

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Appendix 1 (Patient Satisfaction scale PSS)

أخي المراجع.. اختي المراجعة
تحية طيبة...

في ادناه مجموعة من العبارات الاستفهامية تتعلق بالعيادة التي تراجعها وبمستوى رضاك عنها وعن طريقة تعاملها معك من جميع النواحي مثل (الخدمات والاستقبال والعلاج والتكلفة المالية.... وغيرها)، يرجى قراءتها بإمعان وبيان موقفك منها من خلال الخيارات الموجودة امام كل تساؤل وهي (نعم، نوعا ما، كلا) ، ولك منا جزيل الشكر والامتنان و متمنين لك الصحة المستدامة الشفاء العاجل. يرجى مليء المعلومات في الجدول ادناه اما برسم دائرة حول الخيار المنطبق عليك او بالكتابة في الحقل.

الجنس	ذكر	انثى
العمر (يكتب بالسنوات)		
عدد مرات المراجعة للعيادة	اول مرة	ثلاث
التحصيل الدراسي	يقرأ ويكتب	ثانوي
العمل (يكتب)	ابتدائي	جامعي

يرجى الاجابة عن التساؤلات ادناه من خلال الخيارات الموجودة امامها من خلال وضع علامة (√) في المكان الذي تتفق معه. ولا تترك عبارة دون اجابة

ت	المجال الاول: المظهر العام للعيادة	نعم	نوعا ما	كلا
١	هل تجد ان العيادة بحاجة الى صيانة او اصلاح او تجديد؟			
٢	هل المظهر الخارجي للعيادة مقبول؟			
٣	هل نظافة العيادة بالمستوى المطلوب؟			
٤	هل هناك دورة مياه خاصة بالمراجعين؟			
ت	المجال الثاني: الاستقبال			
١	هل يوجد موظف استقبال (سكرتير او سكرتيرة) خاص بالعيادة؟			
٢	وهل يبدي موظف الاستقبال تقديم المساعدة او التعاون؟			
٣	هل تنتظر طويلا حتى تدخل غرفة الطبيب؟			
٤	هل تشعر بان هناك محسوبة (واسطة) لتسهيل الدخول للطبيب؟			
ت	المجال الثالث: غرفة الانتظار			
١	هل يقدم لك الاستقبال والترحيب عند الدخول للعيادة؟			
٢	هل في العيادة ما يكفي من الترفيه للأطفال؟			
٣	هل تساعد غرفة الانتظار على الاسترخاء؟			
٤	هل هناك مقاعد كافية ومريحة في غرفة الانتظار؟			
ت	المجال الرابع: ممارسات الطبيب والعاملين			
١	هل يبدي لك طبيب الاسنان التعاون والمساعدة الكافيان؟			
٢	هل تشعر بان الطبيب ودود ولطيف؟			
٣	هل يبدي لك طبيب الاسنان الرعاية والاهتمام اللازمان؟			
٤	هل يصغي ويستمع اليك طبيب الاسنان باهتمام؟			
٥	هل يوضح ويفسر لك طبيب الاسنان حالتك بشكل كافٍ ومرض؟			
٦	هل تشعر بالثقة حول نوعية العلاج الذي يقدمه لك الطبيب؟			
٧	هل تتقبل ان يطلب منك طبيبك فحوصات اضافية مختبرية وشعاعية، علما بانها طلبها منك سابقا؟			
٨	هل العاملون في العيادة ودودون ولطيفون معك ومع المراجعين؟			
٩	هل يعمل العاملون في العيادة (السكرتير وغيرهم) على بث الطمأنينة فيك؟			
ت	المجال الخامس: معلومات المريض			
١	هل هناك ما يكفي من منشورات وملصقات مفيدة عن الاسنان وعلاجها؟			
٢	هل يوجد في غرفة الانتظار عرض فيديو عن العناية بالاسنان وعلاجها؟			
٣	هل يوجد في غرفة الانتظار مجلات او كراسيات او صحف مهمة ومفيدة تتعلق بعناية الاسنان وعلاجها؟			
٤	هل هناك من صور ملتقطة عن الاسنان قبل العلاج وبعده؟			
ت	المجال السادس: المواعيد			

١	هل من السهل عليك حجز موعد مع هذا الطبيب؟
٢	هل مدة موعد الحجز التي تحدد لك مقبولة؟
٣	هل يسمح لك بالحجز او بتغيير مواعيد هاتفيا؟
٤	هل مواعيد الحجز والعلاج داخل العيادة دقيقة؟
ت	المجال السابع: اجراءات السلامة والخدمات
١	هل يمانع طبيبك من تزويدك بتقرير عن حالتك الصحية عند المطالبة به؟
٢	هل انت راض عن اجراءات السلامة والوقاية التي يتخذها الطبيب من انتشار الامراض الوبائية مثل (الايذز، والتهاب الكبد الفيروسي وغيرها)؟
٣	هل يسمح لك بإدخال مرافق معك اثناء العلاج؟
ت	المجال الثامن: التكاليف المالية للعلاج
١	هل تنتقد طريقة دفع التكاليف المالية للفحص والعلاج؟
٢	هل يقدم لك الطبيب تسهيلات مالية عن تكلفة الفحص والعلاج مثل (خصم او تقسيط)؟
٣	هل تشعر بان رسوم العلاج وتكلفته مقبولة ومقنعة؟
٤	هل تنتقل زيادة تكاليف العلاج في حال تغير مسار العلاج وطبيعته؟
ت	المجال التاسع: الشكاوى
١	هل هناك صندوق للشكاوى في العيادة؟
٢	هل هناك من يتلقى الشكاوى ويعمل على حلها؟
٣	هل تشعر ان هناك شكاوى وتدمر من مراجعة العيادة؟

Appendix 2 (Dental anxiety scale DAS)

عزيزي المراجع...عزيزتي المراجعة

تحية طبية

بين يديك قائمة تتضمن مجموعة من الجمل، تصف مشاعرك واحاسيسك قبل واثناء مراجعتك الى طبيب الاسنان يرجى قراءة كل مجموعة من الجمل من رقم (١) الى رقم (٨)، واختيار بديل واحد لها بوضع دائرة حول الحرف الذي يسبق كل جملة منها من الحروف (أ, ب, ج, د, هـ) والتي تعطي أدق وصف لحالتك النفسية والشعور السائد لديك، ترجح أنها الأكثر انطباقاً على حالتك. راجيا ان تكون دقيقاً وصريحاً مع عدم ترك اية مجموعة بلا اجابة. علماً بان اجابتك سرية ولا يطلع عليها أحد سوى الباحث .

ملاحظة : يرجى كتابة العمر () والجنس ()

الباحث غسان حسين سالم

الباحث سعدي جواد مسلم

ت	الفقرات	لست قلقاً	قلق بعض الشيء	قلق بشكل ملحوظ	قلق جداً	قلق لأقصى حد
١	اشعر وانا أتجه الى عيادة طب الاسنان بأني.					
٢	اشعر وانا اجلس في غرفة الانتظار في عيادة طب الاسنان بأني.					
٣	اشعر حينما يستدعيني طبيب الاسنان للبدء بالفحص والعلاج بأني.					
٤	اشعر عندما اجلس على كرسي الفحص لطبيب الاسنان ويبدأ الطبيب بالفحص بأني.					
٥	اذا كنت على وشك ان يعمل لي تنظيف وتلميع الاسنان فأشعر بأني.					
٦	اذا كنت على وشك ان يعمل لي حفر في الاسنان فأشعر بأني.					
٧	اذا كنت على وشك ان تحقن بحقنة تخدير موضعي في لثتي فأشعر بأني.					
٨	اذا أخبرني طبيب الاسنان المعالج بموعد جلسة أخرى للعلاج فأشعر بأني.					