

## Cross Sectional Study on Assessment of Patient Satisfaction with Complete Denture among Libyan Complete Denture Wearers

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### Abstract

Complete denture is one of most treatment strategies for replacing all missing teeth and satisfaction of patient with proposed dental treatment options is considered as non-ending debate which is affected by variety of factors. The study data was obtained through prepared questionnaire which distributed among 32 Libyan complete denture wearers to assess patient satisfaction with his / her complete denture. Statistical analysis was performed by Statistical Packages for the Social Sciences (SPSS) 26.0, Post-stratification Chi-square test was applied by taking p-value  $<0.05$  as significant value. The results revealed that the overall satisfaction scores 30 (93.8%) patients were satisfied with the denture. There was statistically significant difference in age and patients' satisfaction with complete dentures ( $p < 0.05$ ), a positive association between the age of patient and satisfaction with complete denture. Continuous evaluation on patient satisfaction of proposed dental treatment and conducting more studies with different designs to deeply explore factors contributed patient satisfaction is recommended to improve the quality of service

**Key words:** Edentulism, Complete Denture, Patient Satisfaction

## دراسة استقصائية لتقييم مستوى الرضا لدى المرضى الليبيين مرتدي الأطقم السنية المتحركة الكاملة

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### المخلص

يعتبر الطاقم المتحرك الكامل من أهم الاستراتيجيات العلاجية الشائعة لتعويض الأسنان المفقودة كلياً لما يمتاز به من ميزات بيولوجية، وظيفية واقتصادية. إن رضا المريض على الخطة العلاجية المتبعة لعلاج أي مشكلة صحية بما في ذلك مشاكل فقدان الأسنان هدف أساسي ومتغير مهم لقياس جودة الخدمة والأداء وأنه من الصعب تحقيقه كونه يتأثر بعدة عوامل مختلفة. إن الهدف الرئيسي من إجراء هذه الدراسة الاستقصائية هو تقييم مستوى الرضا لدى المرضى الليبيين مرتدي الأطقم المتحركة الكاملة ولتوضيح تأثير العوامل المختلفة مثل العوامل الديموغرافية ومدة ارتداء الأطقم المتحركة والتجربة السابقة لأنواع مختلفة من التعويضات السنية على معدل الرضا لدى الليبيين مرتدي الأطقم المتحركة وفاقدي الأسنان بشكل كلي. إن بيانات هذه الدراسة الاستقصائية تم جمعها بواسطة استبيان تم إعداده وتم توزيعه بشكل عشوائي على 32 مريض يرتدي طاقم متحرك وفاقداً كلياً للأسنان ويترددون على عيادات الأسنان الخاصة داخل مدينة طرابلس وبعد أن تم أخذ الموافقة منهم. تم تحليل بيانات باستخدام برنامج التحليل الإحصائي SPSS-26 والتي أظهرت نتائجها معدلاً عالٍ من رضا المرضى عن الأطقم المتحركة الكاملة. وكما أوضحت النتائج وجود علاقة ذات دلالة إحصائية بين متغير العمر ومستوى الرضا لدى مرتدي الأطقم السنية الكاملة والتي كانت متوافقة مع نتائج لعدد من الدراسات السابقة الأخرى. ولم يتم إيجاد علاقة ذات دلالة إحصائية بين باقي متغيرات الدراسة كالجنس ومدة ارتداء الطاقم الكامل وتجربة المريض السابقة مع التعويضات السنية الأخرى ومستوى الرضا عن الطاقم الكامل. إن إجراء دراسات أخرى باستراتيجيات تختلف عن الدراسة الحالية سيمكن من التفسير وبعمق أكثر حول علاقة متغيرات أخرى لم يتم إدراجها في

هذه الدراسة لتحقيق معدلات أعلى من رضا المريض وفهم العوامل الأخرى المرتبطة بموضوع الدراسة.

الكلمات المفتاحية: فاقدى الأسنان، الأطقم المتحركة الكاملة، رضا المريض.

## Introduction

Complete denture therapy is the most commonly prescribed treatment worldwide to restore function and aesthetics for elderly patients due to financial and biological constraints. (Miranda B. et al. 2014). The success of complete denture therapy is largely dependent on the quality of the denture, the psychological state of the patient, and the biological condition of the patient. (Santos B et al. 2015) As the number of patients using complete dentures continues to rise, it's clear that there's a need for a tool to measure how satisfied patients are with their dentures. Currently, there are many ways to measure patients' satisfaction with their dentures, such as how well they chew, how well they hold their teeth, how stable they are, how comfortable they are, how fit and healthy they are, and how aesthetically pleasing they look (Komagamine Y et al 2014 ). However, none of those measures measure the quality of your dentures as a whole (Mccord J & Grant A. 2000) Prosthetic treatment needs must be evaluated systematically to identify gaps in oral health care and to collect the data needed to improve the oral health of the population (Archana K et al 2015). Patient satisfaction has always been the primary objective of any dental treatment. Patient satisfaction surveys reveal highlight out gaps in our treatments, which translates into better care and more satisfied patients, which in turn shows patients that they're receiving a high-quality treatment and that it's delivered with the highest level of care. (Archana K et al, 2015). Patient satisfaction is a result of interrelated factors. Efficiency of mastication, aesthetics, comfort of speech and function are some of the factors that contribute to patient satisfaction (Eswaran. M et al 2016). Dental professionals need to have a good understanding of how the patient feels about their teeth and how it affects their day-to-day life. In addition to the biologic and technological factors taken into account during the

manufacturing of complete dentures, additional factors may also have a significant impact on a person's satisfaction with complete dentures. Age, gender, literacy level, socioeconomic background, marital status, the relationship between the patient and the healthcare provider, and psychological factors are some of these. (Miranda B et al 2014 & Ntala P et al 2010). Numerous other factors also have an impact on patient satisfaction. Age of the patient and prior denture-wearing experience are regarded as crucial considerations. According to one study, individuals older than sixty years old had more trouble adapting to their new complete dentures than patients younger than sixty. (Critchlow SB, Ellis JS ,2011).

### **The aim of study**

The objective of the present study to assess patient satisfaction with his /her complete denture and to explore the influence of many factors as demographic variables on satisfaction level among complete denture wearers

### **Materials and Methods**

**Study Design:** Across sectional study was carried out among Libyan complete denture wearers who were attending private dental clinics in Tripoli even for follow up or for treatment.

**Patient selection:** 32 Patients who received complete denture prostheses were randomly selected from the private prosthodontic clinics in Tripoli. Edentulous patients presented and examined at private dental clinic and treated with complete denture were observed and interviewed. The Informed consent was obtained from the patients prior to study. The patient inclusion criteria were being edentulous having worn complete dentures for at least 2weeks, Patients who can understand and respond to the questions asked them to answer the Questionnaire that prepared for study data collection. The selected patients and after obtaining their written consent to participate in the study, a questionnaire was filled in consultation with the patient starting with patient demographic data. The details regarding the duration of dental prostheses and presence of prosthetic complications as loss of retention, Ulceration, Denture base food catching, Denture pain during function, Color and size of

artificial teeth, were recorded as it was reported by the patient. The patient was encouraged to give frank opinion about his/her worn denture. The questions were asked in his/her own mother tongue. Once the questionnaire was completed for 32 patients' satisfaction level on his /her complete denture were measured by different parameters like i) Retention, ii) aesthetics, iii) food retention, iv) mastication, v) wearing time of complete denture, and vi) overall satisfaction for maxillary and mandibular dentures

**Data Analysis:** SPSS version 26 was used to analyze the study data. Using descriptive statistics, Mean and SD were calculated for quantitative variables, whereas frequencies and percentages were calculated for qualitative variables. Spearman's correlation was applied to assess the strength of the relationship between age, sex duration of complete denture wearing, Place of complete denture as well as patient experience with previous dental prosthesis and patient satisfaction scores

### Results

According to descriptive statistic tests, out of group of 32 complete denture patients 11(34.4%) were females and 21(65.6%) were males with Mean of age is 58 years. as shown in (Table 1)

**Table 1: Descriptive statistics on the age of study population (N=32)**

	N	Minimum	Maximum	Mean	Std.Deviation
Age of patient	32	30.00	78.00	58.00	12.32883
Valid N	32				

Based on overall satisfaction scores 30 (93.8%) patients were satisfied with their complete denture as shown in (Table 2)

**Table 2: Descriptive statistics on the percentage of satisfaction with Complete denture among the study sample N=32**

Are satisfied with your complete denture	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	30	93.8	93.8	93.8
No	2	6.3	6.3	100
Total	32	100	100	

Many problems had been reported among the study population related to the use of their complete denture such as 50.0% of total population stated they had felt pain during denture use at first time, 53.1% had difficulty in food mastication, 31.3% reported they had mouth ulceration 28.1 % had changed their diet to cope with recent dental prosthesis, 34.4% stated complained from instability of complete denture and 25% of population reported sticking of food on their denture ,The vast majority of study population 26 (81.3%) reported about the wearing pattern of their recent complete denture and stated that they are wearing their denture most of time and showed high compliance with their complete denture use. Among of study population 22 patients (68.8%) reported they had dental prosthesis before their recent complete denture, 5 patients (15.6 %) experienced previous history with Fixed dental prosthesis, meanwhile 9 (28.1) of them experienced previous partial denture and similar percentage reported they had treated with complete denture before .

Chi-square test applied at 95% confidence interval revealed significant relation between age and patient satisfaction with complete denture. The test result can be seen in (Table 3)

**Table 3: Chi-Square Test for Relation between age of patient and satisfaction with complete denture**

	Valid	df	Asymptotic significance (2-sided) p-value
<b>Pearson Chi-square</b>	32.000	20	.043
<b>Likelihood ratio</b>		20	.779
<b>Linear-by linear Association</b>	.056	1	.813
<b>N of valid cases</b>			

*NOTE: Significant statistical relation when p-value less than 0.05*

In our study, there was a trend toward decrease in function satisfaction with increasing age. Furthermore, younger people showed less satisfaction than those were between age of (60-63) years and that can be noted from Bar chart in figure 1.

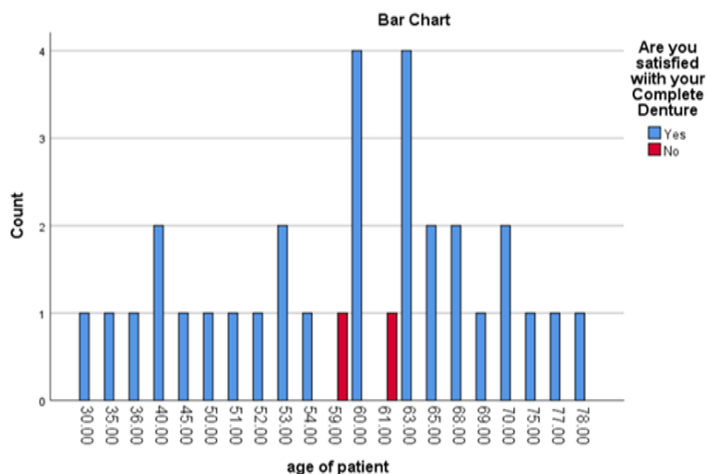


Figure 1: On patient satisfaction level in relation to the age of study population

According to statistical test results shown in (Table 4), there were no significant relation was reported regarding to patient sex, patient experience with dental prosthesis before, place of recent complete denture, duration of complete denture wearing and patient satisfaction with P values were more than 0.05

**Table 4: Chi-Square Tests regarding to patient sex, patient experience with dental prosthesis before, place of recent complete denture, duration of complete denture wearing and patient satisfaction**

Variable	Pearson Chi-Square value	N of Valid Cases	Asymptotic Significance (2-sided) P-Values
Sex of patient	0.231a	32	0.631
Place of Complete denture	4.622a	32	.099
Duration of complete denture wearing	2.702a	32	0.259
Previous experiences with dental prosthesis	0.970a	32	0.325

## Discussion

For any dental treatment, patient satisfaction has always been the top priority. For a patient wearing full denture prosthesis, many factors play a part in his/her overall satisfaction. For the operating dentist, efficient mastication and good aesthetics, oral health, speech, and wearing comfort have always been his/her top concern. In a patient receiving a complete dental prosthesis, many factors have a combined role in achieving his/her satisfaction with complete denture. Several studies related to satisfaction in complete denture had been conducted to assess the level of patient satisfaction as well as factors contributing to satisfaction with complete denture prosthesis.

This study demonstrates (93.8%) higher patient's satisfaction level with their complete denture. However, the low percentage of patients who were not satisfied with their dentures (regardless of the denture quality) those sample might be a very interesting for further investigation to explore about the factors involved with their dissatisfaction and how these factors may be modified to achieve higher rates of satisfaction

According to Pearson Chi-square test a significant relation between the age and patient satisfaction level with P Value less than 0.05. These results agree with those reported in the literature by other researchers. (Gaspar M, et al 2013 & Fenlon M, Sherriff M, 2008 ) Our results explored that, there was no significant relation between genders in patient satisfaction, both among complete dentures which were in accordance to other studies results (Fenlon M et al 2008, Turker S et al 2009, Miranda B et al 2014). In the present study, with respect to gender, males displayed a high value of satisfaction as compared to females which might be due to inequalities between the sample size regarding the gender and might to the fact that females their need to seek treatment solely for aesthetic purposes, Which is can be seen in figure 2.



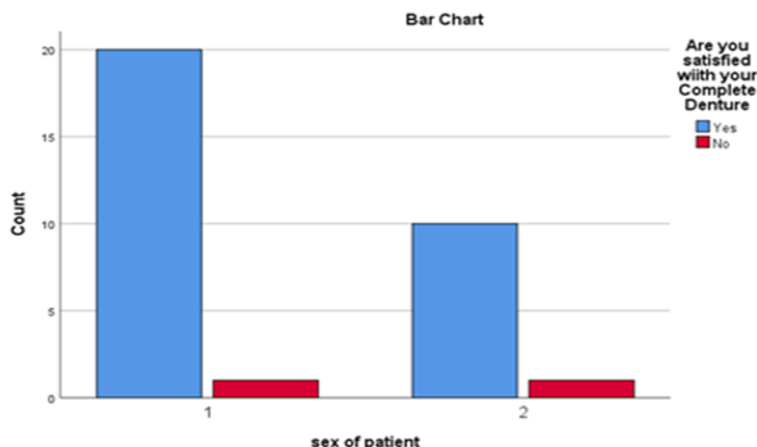


Figure 2: Explore gender differences with satisfaction level  
1=Male 2=Female

However, the results of this study may have important clinical implications on exploring the reasons for patient dissatisfaction sensation with their complete denture may be associated with tooth loss were highly unfavorable, demonstrating that these feelings aren't just because of aesthetic or functional issues that come with losing teeth, nevertheless, as well as because the mouth and teeth significant psychological importance which require further attention from future researchers. With the limitation of this study, we recommend evaluating more in-depth contributing factors and their correlation regarding patient and dentist satisfactions. Furthermore, a large sample size for future studies would also help to obtain more accurate results

### Conclusion

This study concluded high levels of patient satisfaction approximately (93.8%) of the patients were satisfied with conventional complete denture therapy. According to the study results, the age of patient has significant relation with patient satisfaction level with their complete denture while the sex of patient, duration of denture uses and place of complete denture have no influence on patients' satisfaction level with complete dentures.

The most frequently encountered complication in association with removable dentures is the difficulty in food mastication followed by the instability of complete removable denture. The result of study indicated that older age patients were more satisfied with their complete denture rather than younger age patients. So, younger age group must be counselled to keep their unrealistic expectations in check. It can also be suggested to the teaching institutes and dental clinics to routinely evaluate the patients' satisfaction for any practice after the treatment is complete which can ultimately help in constant improvement in the quality of services provided by healthcare workers

### Acknowledgments

All thanks and appreciation to all the participants who contributed to the study for their unlimited cooperation

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