

Influencing Factors on Patients' Expectation and Satisfaction with Complete Denture

Bashayer Zaied^{1*} and Salma A Saadaldin²

¹GP Intern, Faculty of Dentistry, Taibah University, AlMadina, Saudi Arabia

²Assistant Professor, Clinical Dental Science Department, Faculty of Dentistry, Princess Nora Bint Abdul Rahman University, Riyadh, Saudi Arabia

***Corresponding Author:** Bashayer Zaied, GP Intern, Faculty of Dentistry, Taibah University, AlMadina, Saudi Arabia.

Received: November 27, 2016; **Published:** December 08, 2016

Abstract

The present study aimed to evaluate the association between the patients variables such as educational level, age and previous experience of wearing removable prosthesis with patients expectation before the treatment and satisfaction after the treatment relevant to esthetic, phonetic, chewing and comfort.

Materials and Methods: Fifty completely edentulous female patients scored their expectation before and satisfaction after treatment with conventional complete denture on a visual analog scale regarding esthetic, phonetic, chewing and comfort.

Results: Patients' rating for expectations were higher than the satisfaction after treatment. No statistical significant association was found between the evaluated parameter (esthetic, phonetic chewing and comfort) of expectation and satisfaction with the patients variables: age, education levels, and previous experience.

Conclusion: Patients' expectations ratings significantly exceeded their satisfactions. There is no significant associations between patients expectations and satisfaction scores with age, education level and patients previous experience.

Keywords: Patient Satisfaction; Complete Denture; Expectations; Phonetics; Esthetics; Chewing

Introduction

Edentulism is defined as the loss of all permanent teeth [1]. It is the final result of a multifactorial process involving biologic factors (caries; periodontal disease; pulpal pathology; trauma and oral cancer) as well as non-biologic factors related to dental procedures (access to care; patient's preferences; treatment options; financial issue; etc.) Poor oral health has been shown to have a negative effect on people overall health and quality of life [2,3].

Oral health services have shown decreases in the edentulism rate at the majority of the worldwide countries; which may lead to reduction in denture need. However; in spite of the reduction in edentulism rates; the number of edentulous patients will increase until the year 2020; due to an increase of the elderly population [4]. Currently; implant-supported over denture is considered as the standard of care for edentulous patients. Yet; number of edentulous patient still have to be treated by conventional removable denture due to medical conditions or financial reasons. Thus; conventional complete dentures still considered as a fundamental treatment for completely edentulous patients; providing aesthetics and other function; in addition to social-psychological advantages of replacing missing teeth [5]. Maintenance and cleanliness of the conventional complete removable denture vs implant-supported over denture are easier and cost less. Edentulous patients often have high expectations from removable prostheses regarding to their appearance and restoring the normal

function. These expectations are affected by different demographic; psychological and socioeconomic variables and they will influence the success and final outcome of the prosthesis. Hence; these expectations are considered an important predictor of patient satisfaction. Patients' satisfaction are multifactorial; involving technical and patients-related factors such as general health; age; gender; personality traits and experiences with previous dentures [6]. Surprisingly; other studies have shown that patient satisfaction is unassociated with denture quality and treatment techniques [7-8]. Although patients' satisfaction is a crucial objective of oral rehabilitation [9]; it is interesting to note that few studies have been conducted in order to verify and understand the factors that affect this satisfaction. The objectives of this study were to evaluate patients' expectation (before treatment) and satisfaction (after treatment) with conventional complete dentures relating to phonetics; chewing; comfort of use and aesthetics and to correlate these expectations and satisfaction with patients parameters (age; education level and previous experience with denture).

Methodology

Observational analytical cross-sectional study was conducted at college of Dentistry; Female Sector; Taibah University/ AlMadina; Saudi Arabia. 50 completely edentulous female patients who were treated by undergraduate dental students to receive conventional dentures were participated in the study. The dentures were constructed using the standardised method. All patients had adequate cognitive ability for understanding the questionnaire language (Arabic or English) and capacity to answer the questions and to complete a denture-rating questionnaire with a numerical sequence from 0–10; covering four parameter relating to denture esthetics; speech; chewing and comfort. The questionnaire was adapted from previous study and translated to Arabic language [10]. Before starting dental treatment to provide the patients with conventional complete denture; the researchers interviewed the patients and assisted them in filling the questionnaire to estimate their expectation. The answers for each item were ranged from 0 (the worst result) to 10 (the best result). One week post insertion of the prosthesis; the patients were re-interviewed by the same researchers using same questionnaire to assess their satisfaction. This study was approved by the Ethics Committee at Taibah University.

The data were entered in the Statistical Package for Social Sciences (SPSS) version 20.0 (Chicago; USA) for analysis. Descriptive statistics were formulated in form of means and standard deviations for quantitative percentage for qualitative data. The Wilcoxon's matched pairs test was used to compare the patients' expectation before and satisfaction after the treatment and the Mann-Whitney test was used to determine the statistically difference between the patients' expectation before and satisfaction after the treatment with previous experience. ANOVA test was used to analyze the scores; educational level and age. A p-value less than 0.05 were accepted as a statistically significance controlling for alpha error.

Results

Descriptive analysis of the data showed that 62% (31) of the participant were first denture wearers; while 38 % (19) had denture before. Current age of participants was categorized into four groups: (40 -50 years old) 18% ; (51 - 60 years old) 42% ; (61 - 70 years old) 34% and (above 70) 6 % .

28 (56 %) participants were Illiterate; 13 (26%) got elementary to middle school education compared to 9 (18 %) patients who completed their high school education.

The results on association between the investigated parameters before and after the treatment is shown in Table 1. Pretreatment expectation scores exceeded post treatment satisfaction scores with significant relationship for the four investigated parameters (aesthetic; chewing; phonetic and comfort) (p value = 0.000).

Parameter	Before	After	P - value
Aesthetic	9 ± 0.904	8.26 ± 0.944	0.000*
Mastication	8.50 ± 0.886	6.90 ± 1.216	0.000*
Phonetics	8.34 ± 0.939	7.38 ± 0.901	0.000*
Comfortable	8.60 ± 0.808	7.40 ± 1.030	0.000*

Table 1: Comparison of expectation ratings before and satisfaction ratings after, presented as means ± standard deviations using Wilcoxon test (statistically significant difference*).

As shown in Table 2: there was correlation between pretreatment expectation and educational level regarding aesthetic (p value = 0.014); though there was no association found between the phonetics; mastication and comfort expectation with educational level. For the post treatment satisfaction; no correlation found with satisfaction regarding the four investigated parameter.

Parameter	Aesthetic		Mastication		Phonetics		Comfortable	
	Before	After	Before	After	Before	After	Before	After
Age	0.011*	0.023*	0.576	0.111	0.651	0.362	0.132	0.130
Education Level	0.014*	0.616	0.865	0.298	0.981	0.525	0.444	0.861
Previous Experience	0.399	0.667	0.229	0.596	0.018*	0.858	0.870	0.858

Table 2: Showing statistically significant difference between the investigated parameter before and after the treatment with complete denture using ANOVA and Mann-Whitney tests Statically significant deference*.

A significant association was found between phonetics expectation and previous experience (Table 2: p value = 0.018) and no correlation was found between aesthetic; mastication and comfort expectation association with previous experience. And there was no correlation observed among the four aspects of satisfaction with previous experience. Aesthetic is the only parameter that had significant relationship with the age for both expectations and satisfaction (p value = 0.011 and 0.023 respectively).

Discussion

The results of the current studies were coincide with the results of a study carried by Yun Zou., *et al.* [10]; while disagree with previous studies [11,12]. The difference between the results can be attributed to the fact that the satisfaction with complete denture prosthesis is multifactorial; involving technical skills of the dentist in addition to the patients' factors (e.g. systemic and psychological conditions; motivations; personality) as well as to the patients' oral conditions (quality of alveolar ridge; oral mucosa; muscles activity and salivary flow). Dentist should take in considerations that old-age people usually need longer time to adept themselves to new dentures; and acceptance to new circumstances is not easy for them. Complete edentulous patients expect that their dentures fit and function like their natural teeth; denying the fact of the various changes in the oral cavity such as resorbed ridges and atrophied muscles [10]. Generally; post-insertion reaction to the complete denture for first-denture wearer is disappointment. The denture cannot be compared to their natural teeth regarding to fit and function. Mainly; those patients are complaining of foreign subjects sensation; nausea; phonetic problems and difficulty in chewing. Dentists should understand patients' expectations before treatment and provide the patients with detailed information at every dental appointment to help the patients to learn how to cope with the complete dentures and increase the rate of satisfaction. The results of the current study concerning other variables such as previous experience; educational level and age were in agreement with the findings of Yun Zou., *et al.* [10]. The relationship between previous experience and phonetics expectation are different from other studies [13,14] but coincide by other studies [15,16]. A significant difference was found between aesthetic expectation and

education level. Baracat, *et al.* [17] did not find a significant association between aesthetic expectation and education level in patients who received implant supported prosthesis treatment in contrast to the findings in this study. A possible explanation for this conflict could be ascribed to the fact the participants in the study were female and generally women are more concerned about aesthetics and are usually not satisfied with their dentures.

Conclusion

Patients' expectations ratings significantly exceeded their satisfactions. Expectations: There is no significant associations between rating scores and different education level; age and previous experience groups.

The limitations of the present study

Relatively small number of participants in the study. Also other factors; such as denture quality; personality of the patient and patient/dentist relationship should be considered in the evaluation of pretreatment expectation and post-treatment satisfaction. Also all the participants in the study were female; yet the difference in gender may affect the study result.

Bibliography

1. "The glossary of prosthodontic terms. E -book". *Journal of Prosthetic Dentistry* 94.1 (2005): 10-92.
2. PE Petersen, *et al.* "The global burden of oral diseases and risks to oral health". *Bull World Health Organ* 83.9 (2005): 661-669.
3. PE Petersen. "The World Oral Health Report 2003: continuous improvement of oral health in the 21st century—the approach of the WHO Global Oral Health Programme". *Community Dentistry and Oral Epidemiology* 31.1 (2003): 3-23.
4. Allen PF and McMillan AS. "A review of the functional and psychosocial outcomes of edentulousness treated with complete replacement dentures". *Journal of the Canadian Dental Association* 69.10 (2003): 662.
5. Leles CR, *et al.* "Assessing perceived potential outcomes of prosthodontic treatment in partial and fully edentulous patients". *Journal of Oral Rehabilitation* 35.9 (2008): 682-689.
6. Kovac Z, *et al.* "Multivariate analysis of different factors affecting the patient general satisfaction with complete dentures". *Collegium Antropologicum* 36.3 (2012): 791-794.
7. Wolff A, *et al.* "Correlation between patient satisfaction with complete dentures and denture quality, oral condition, and flow rate of submandibular /sublingual salivary glands". *International Journal of Prosthodontics* 16.1 (2003): 45-48.
8. Gaspar MG, *et al.* "Correlation of previous experience, patient expectation and the number of post-delivery adjustments of complete dentures with patient satisfaction in a Brazilian population". *Journal of Oral Rehabilitation* 40.8 (2013): 590-594.
9. Celebic A, *et al.* "Factors related to patient satisfaction with complete denture therapy". *Journals of Gerontology Series A: Biological Sciences and Medical Sciences* 58.10 (2003): M948-M953.
10. Zou Y and Zhan D. "Patients' expectation and satisfaction with complete denture before and after the therapy". *Vojnosanit Pregl* 72.6 (2015): 495-498.
11. Bellini D, *et al.* "Patients' expectations and satisfaction of complete denture therapy and correlation with locus of control". *Journal of Oral Rehabilitation* 36.9 (2009): 682-686.
12. De Siqueira GP, *et al.* "Patients' expectation and satisfaction with removable dental prosthesis therapy and correlation with patients' evaluation of the dentists". *Acta Odontologica Scandinavica* 71.1 (2013): 210-214.

13. Siadat H., *et al.* "Patient satisfaction with implant-retained mandibular overdentures: a retrospective study". *Clinical Implant Dentistry and Related Research* 10.2 (2008): 93-98.
14. Pan S., *et al.* "Sex differences in denture satisfaction". *Journal of Dentistry* 36.5 (2008): 301-308.
15. Jonkman RE., *et al.* "An analysis of satisfaction with complete immediate (over)dentures". *Journal of Dentistry* 25.2 (1997): 107-111.
16. Yamaga E., *et al.* "A structural equation model relating oral condition, denture quality, chewing ability, satisfaction, and oral health-related quality of life in complete denture wearers". *Journal of Dentistry* 41.8 (2013): 710-717.
17. Leung KCM and Pow EHN. "Oral rehabilitation with removable partial denture in advanced tooth loss situations". *Hong Kong dent Journal* 6.1 (2009): 39-45.

Volume 6 Issue 3 December 2016

© All rights reserved by Bashayer Zaied and Salma A Saadaldin.