

Original Paper

**Evaluation of Patients' Satisfaction with the Complete Denture made in Prosthodontics
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ABSTRACT

Aim: In this study, patient's satisfaction with complete denture made in prosthodontics department of Tabriz dentistry faculty was evaluated based on the residual alveolar ridge. **Materials and methods:** This retrospective study was carried out on 60 patients referred to the Prosthodontics Department of Tabriz Dentistry School by through completing questionnaires and clinical examination. Data from the study were analyzed using SPSS 17 software. In this study, p-value less than 0.05 were considered statistically significant. **Results:** In this retrospective study, 61.5 % of participants were male and mostly in the age group of 30 to 40 years. 43.3 % of patients had Ridge Class II, 56.7 % Class had ridge class III. None of the studied patients, had class four or one ridge. The results of present study showed well that satisfaction of patients, in some cases, has a significant relation according to the residual ridge conditions of the patient one and three months after delivery of prosthesis. Satisfaction rate was higher in patients with ridge class II. Moreover, satisfaction of patients showed an increase in three-month intervals. **Conclusion:** 38.4 % of patients showed satisfaction with their new teeth three months after prosthesis delivery. Satisfaction of patients was because of chewing soft food; overall capability of chewing, talking easily, the retention of dentures and denture satisfaction was higher in patients with Class II boats.

INTRODUCTION

Psychological effects of complete edentulous are complex, variable, and range from small items to diseases of the nervous system.¹ Although the complete denture can meet the aesthetics needs of many patients, there are people who believe their social life is severely affected.² Despite the decline of edentulous adults in European countries and North America due to population growth, especially in developing countries and least developed countries, a total of edentulous patients in need of complete dentures are, in general is increasing.³ This issue reveals required knowledge of dentists regarding the principles of construction and maintenance of dental implants more than ever. Dentist is required to have a correct diagnosis and treatment when making prosthesis, so that all the aspects including physiologic, anatomic, and mental conditions of each patient can be considered in addition to considering medical health condition of the patient.⁴ Due to the increasing use

of the complete prosthesis, the importance of patients after the dentures has attracted attention. In this regard in the literature, examining the problems of the complete prosthesis and various factors related to this issue has been dealt with.⁵

In a study designed to evaluate patients' satisfaction with complete dentures, it is concluded that patients are generally satisfied with the denture made for them, and most of satisfaction was in terms of appearance, ease of use, convenience of speaking, taste of food, easy to clean, and a small number of patients have complained because of their teeth, and in general they have recommended this type of treatment to other patients.⁶ In another study by Mc Cord et al, pain and looseness are the most complaints after taking dentures delivery to the patients.⁷ Definitely, problems of patients with their prosthesis start after delivery that can be temporary and eliminated after a while, or they can be so serious that patient cannot tolerate it and stops using the prosthesis.⁸ Therefore, the dentist is required to

recognize the problems and find out measures to take. In another study by Bilhan et al the causes and factors related to satisfaction or dissatisfaction of patients with complete prosthesis was investigated. It was concluded that the highest patient's satisfaction was with ability to chew solid and hard foods most of patient's dissatisfaction was with the wound caused by the teeth.⁹ In another similar study by Smith, pain due to sickness and disability in chewing have been recognized as the most important factor involved in patients' satisfaction, and patients have complained of them.¹⁰ Another study showed that 66% of edentulous patients are dissatisfied with their lower jaw denture; the primary reason included the lack of retention that causes pain and discomfort, respectively.¹¹ Most studies have measured the patients' problems at a particular period, and also in most of these studies, the height of the ridge and tissues of the mouth before administering the prosthesis have not been considered. Therefore, in this study, almost every area of patients' dentures has been valued and their dentures have been evaluated in two periods of one and three months after delivery.

MATERIALS AND METHODS

In this retrospective study, 60 recipients of full dentures in removable prosthesis Dental Faculty of the University of Medical Sciences of Tabriz were selected randomly and non-contingently. Inclusion criteria were consent to participate in the study and receiving the implant at the time of study and exclusion criteria were any systemic uncontrolled diseases affecting problems after delivery of the prosthesis, having psychological problems and any previous complete denture. The questionnaire used in this study is designed based on previous studies and the questions are very simple. To assess the validity, the questionnaire was given to 10 professors of Faculty and necessary modifications were made. To assess reliability of the questionnaire after validity verification, Cronbach's alpha coefficients was calculated and the amount of this coefficient was 78% meaning that reliability is fit. After one and three months after delivery of prostheses, patients were called and the questionnaire including questions about demographic data and patient satisfaction about issues such as ease of implant, stability, forms of speech, ease of chewing, realizing food taste and appearance of prosthesis was handed to them. Each of the questions was answered with the options of "I am quite satisfied, I'm satisfied, I have no idea, I am dissatisfied, and I am quite dissatisfied". Professors examined the residual ridges of patients and morphology of the residual ridge was recorded according to Mc Garry category.¹² After completing the information, using appropriate statistical tests, patients' satisfaction with complete dentures after one and three months after treatment were compared. The data from the study were studied using descriptive statistics (frequency, percentage, mean, standard deviation) and chi square test using SPSS 17 software. In this study, p-value less than 0.05 was considered statistically significant.

RESULTS

38.4 % of patients were satisfied with their teeth one month after the prosthesis delivery. Chi-square test showed that there is no significant relationship between satisfaction with the color of the teeth, chewing solid food, the process of cleaning the teeth, feeling taste of food, the size of the arranged teeth, facial appearance after the prosthesis delivery and cosmetics of denture based on residual ridge of the patient one month after the prosthesis delivery. On the other hand, satisfaction with chewing soft food, overall ability to chew, simply speaking, the retention of denture and overall satisfaction with denture showed a significant relation based on conditions of the residual ridge, so that the rate of satisfaction in patients with ridge class II was higher (Table 1). 67 % of patients were satisfied with their teeth three months after the prosthesis delivery. Chi-square test showed that there is no significant relationship between satisfaction with the color of the teeth, the process of cleaning the teeth, feeling taste of food, the size of the arranged teeth, and facial appearance after the prosthesis and cosmetics of denture based on residual ridge of the patient three months after the prosthesis delivery. On the other hand, satisfaction with chewing soft food, overall ability to chew, ease of speaking, the retention of denture and overall satisfaction with denture showed a significant relation based on conditions of the residual ridge, so that the rate of satisfaction in patients with ridge class II was higher. In addition, as statistical analysis shows satisfaction with the ability to chew solid food three months after the prosthesis delivery has a significant relationship with the residual ridge so that in patients with ridge Class II, the satisfaction of chewing ability was more than the other group (Table 2). To compare patients' satisfaction one month and three months after the prosthesis delivery, the chi-square test was used. The test showed that the satisfaction of denture color is reduced after three months after prosthesis delivery, but the relationship was not significant (P value = 0.2). Satisfaction of the taste of food and the size of the arranged teeth did not change. In addition, patients' satisfaction with denture cleaning process and beauty of the denture significantly decreased (P value <0.05). Patient's satisfaction with facial appearance after the prosthesis delivery, chewing soft and hard food, the overall ability to chew, ease of speaking, the retention of dentures and denture overall satisfaction also increased significantly (P value <0.05).

DISCUSSION

Day by day, the number of denture wearers is increasing because all the people are not able to pay for implants and must use denture. Prosthetic should not appear noticeably artificial while talking, laughing and smiling and in addition to stability and convenience, it should have a valid interface.¹² Dissatisfaction of patients with their treatment in the branches of medical science has always existed and dentistry is no exception. Most dissatisfaction is about pain, insufficient retention dentures, difficulty in speaking and eating and reduction of chewing ability.^{9, 13} Most of these problems still occur despite dentist's expertise in the diagnosis and treatment of

Table 1. Evaluation of patients' satisfaction with complete dentures based on residual ridge of patients one month after the prosthesis delivery

	Morphology of residual ridge of patients										P value
	Class II					Class III					
	Fully satisfied	Satisfied	No idea	Dissatisfied	Fully dissatisfied	Fully satisfied	No idea	Dissatisfied	Fully dissatisfied	Fully satisfied	
Color of denture satisfaction (%)	0	25	18.3	0	0	41.7	15	0	0	0	0.23
Satisfaction of chewing soft food (%)	0	18.3	20	5	0	11.7	21.7	23.3	0	0	0.02
Satisfaction of chewing hard food (%)	0	6.7	18.3	18.3	0	5	23.3	28.3	0	0	0.69
Satisfaction of chewing ability (%)	0	13.3	30	0	0	10	31.7	15	0	0	0.003
Satisfaction of the size of the set teeth (%)	0	23.3	10	10	0	36.7	0	20	0	0	0.16
Satisfaction of the cleaning dentures (%)	0	15	11.7	16.7	0	35	8.3	13.3	0	0	0.11
Feeling flavor of food (%)	0	20	20	3.3	0	26.7	13.3	16.7	0	0	0.057
Satisfaction of facial appearance (%)	0	26.7	6.7	10	0	16.7	33.3	6.7	0	0	0.3
Satisfaction of comfort in talking (%)	0	23.3	10	10	0	36.7	0	20	0	0	0.01
Satisfaction of cosmetics of denture (%)	0	15	11.7	16.7	0	35	8.3	13.3	0	0	0.11
Satisfaction of denture retention (%)	0	20	20	3.3	0	26.7	13.3	16.7	0	0	0.047
Denture total satisfaction (%)	0	26.7	6.7	10	0	11.7	33.3	11.7	0	0	0.001

edentulous and use of suitable dental materials.¹⁴ The fact is that sometimes the dentures are really well made by the dentist, but the patient cannot stand it, and sometimes, there are some patients who are quite satisfied with their denture. Usually, the problem is originated from the issue that patients have not been justified well. Therefore, patient's expectations from their denture do not match with what they feel in their mouth.¹⁵ Due to the high population using complete denture and the urgency of paying attention to denture as a means of therapy, in the present study, the satisfaction rate of patients with made complete prosthesis has been examined in prosthesis sector of dentistry faculty of Tabriz based on the residual ridge of patients.

The results of the present study showed very well that patients' satisfaction with chewing soft food, overall capability of chewing, talking easily, the retention of dentures and overall satisfaction with denture has a significant relation based on the conditions of the residual ridge of patient one and three months after delivery of prosthesis, so that the rate of satisfaction in patients with ridge call II was more. In a study by Awad et al. at the University of Mc Gill Canada of reviewed satisfaction rate of patients with dentures, and concluded that satisfaction of patients has a significant relation with their ability of chewing and speaking, and there is a high relation between appearance of teeth and satisfaction of patients.¹⁶

In a study conducted by Kimoto et al, the patients who had little Ridge height of edentulous showed low satisfaction with the denture and the ability to chew.¹⁷ Moreover, a study showed that using buccalized occlusion, compared with other occlusions, increased satisfaction of patients with complete prosthesis.¹⁸ In the study of Alfadda et al., most patients were between (somewhat satisfied) to (very satisfied) that their satisfaction was more related to factors such as use of denture in both upper and lower jaws and having stability and adequate retention of lower jaw denture.¹⁹ In the study of Al Sharafat et al., satisfaction of patients with complete prosthesis has been examined, and it is concluded that patients have mostly been satisfied with appearance, ease of use, ease of speaking, taste of foods, and ease of cleaning. A few patients have complained of pain while using dentures and they totally have recommended this type of treatment to other patients.⁶ In another study by Celebiu et al. evaluating satisfaction of patients with the complete dentures, most of the problems of patients have been about ability to chew solid and hard foods, and speaking.²⁰

In this study, patient's satisfaction with facial appearance after the prosthesis, chewing soft and hard food, the overall ability to chew, ease of speaking, the retention of denture and overall satisfaction of the teeth had a significant increase one to three months after delivery prosthetic increased significantly (P value <0.05). moreover, the satisfaction with chewing solid food for three months after delivery of the prosthesis also had a significant relationship with Ridge and it was higher in Ridge Class II rather than ridge class III (P value <0.05). So perhaps it can be claimed that patient's satisfaction in areas such as the ability to chew food and talking and finally the general satisfaction of the denture is related

Table 2. Evaluation of patients' satisfaction with complete dentures based on the residual ridge of patients, three months after the prosthesis delivery

	Morphology of residual ridge of patients								P value	
	Class II				Class III					
	Fully satisfied	Satisfied	No idea	Dissatisfied	Fully dissatisfied	Satisfied	No idea	Fully dissatisfied		
Color denture satisfaction (%)	0	12	18.3	13	0	24.3	14	18.4	0	0.3
Satisfaction of chewing soft food (%)	0	38.3	10	5	0	21.7	11.7	13.3	0	0.02
Satisfaction of chewing hard food (%)	0	25.7	9.3	8.3	0	22	20.3	14.3	0	0.04
Satisfaction of chewing ability (%)	0	39.3	2	2	0	35	11.7	10	0	0.03
Consent of the size of the teeth are arranged (%)	0	21.3	12	10	0	36.7	2	18	0	0.06
Satisfaction of the cleaning dentures (%)	0	10	16.7	16.7	0	23	12.3	21.3	0	0.11
Feelings flavor food (%)	0	22	18	3.3	0	24.7	14.3	17.7	0	0.057
Satisfaction with facial appearance (%)	0	33.7	6.7	3	0	24.7	25.3	6.6	0	0.61
Satisfaction of comfort in talking (%)	0	41.3	2	3	0	39.7	9	5	0	0.01
Cosmetic denture satisfaction (%)	0	12	9.7	21.7	0	23	10.3	23.3	0	0.3
Satisfaction with denture retention (%)	0	33	7	3.3	0	29.7	9.3	17.7	0	0.02
Denture satisfaction (%)	0	37	7.7	3	0	30	8.9	13.4	0	0.01

to quality of prosthetics as well as other cases, such as the ability to match the patient and getting used to the prosthesis that needs further studies.

According to the results of the study and the relation of residual ridge and subsequent satisfaction of patient and that patient's satisfaction within the first three months of prostheses increased, it is recommended that both anatomical and psychological factors must be considered while selecting and representing the plan of treatment for edentulous patients. Moreover, by communicating effectively with patients, compliance with dentures and subsequent satisfaction of patient can be facilitated.

CONCLUSION

The results obtained from the present study are as the following:

1. 38.4 % of patients showed satisfaction one month after delivery of prosthesis, and 67 % showed their satisfaction three months after delivery.
2. Satisfaction of chewing soft food, overall ability to chew, ease of speaking, the retention of denture and overall satisfaction with denture have a significant relationship based on residual ridge of patient one and three months after the prosthesis delivery so that the satisfaction was higher in patients with ridge class II. In addition, satisfaction of patients with chewing hard and solid foods three months after prosthesis delivery had a significant relation with the ridge of patient, it was higher in ridge class II compared with class III.
3. Patient's satisfaction with facial appearance after the prosthesis, chewing soft and hard food, the overall ability to chew, ease of speaking, the retention of denture and overall satisfaction of the teeth also had a significant increase one to three months after delivery of the prosthesis.

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