

# Assessment of Patient's Satisfaction with the Partial Removable Denture Therapy

## Avaliação da Satisfação do Paciente com o Uso de Prótese Parcial Removível

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### RESUMO

**Objetivo:** Avaliar a satisfação do paciente portador de prótese parcial removível com relação à retenção, estética, fala, mastigação e conforto da prótese. Avaliou-se ainda a influência de fatores, tais como o uso de prótese dentária anterior, idade, sexo, estado civil, escolaridade, presença de doença crônica e tabagismo.

**Método:** O estudo foi feito na Clínica do Departamento de Prótese Removível da Faculdade de Medicina Dentária em Sarajevo. Foram analisados 75 pacientes portadores de prótese parcial removível, os quais responderam a um questionário contendo informações referentes ao uso de prótese, idade, sexo, estado civil, escolaridade, presença de doença crônica, tabagismo, os quais foram classificados com notas de 1 a 5.

**Resultados:** A nota média mais alta foi dada para a fala com prótese removível superior (4,73), e a menor foi para a mastigação com ambas as próteses (3,97). Considerando a mastigação com próteses parciais, as mulheres estavam mais satisfeitas do que os homens.

**Conclusão:** Os pacientes estão em sua maioria satisfeitos com suas próteses dentárias, as quais foram julgadas como satisfatórias pelo cirurgião-dentista. Existem diferenças entre os sexos com o nível de satisfação com as próteses com relação à mastigação.

### ABSTRACT

**Objective:** The aim of this study was to assess patient's satisfaction with retention, aesthetics, chewing, speech and comfort of wearing removable partial denture. Also, the aim of this study is to assess the influence of factors, such as previous wearing of denture, age, gender, marital status, level of education, presence of chronic disease and smoking habits on patient's satisfaction with therapy.

**Method:** Study was done at Clinic and Department of Removable Prosthodontics, School of Dental Medicine in Sarajevo. In study were involved 75 patients who have removable partial denture. They filled out questionnaire with personal data about wearing of the denture, age, gender, marital status, level of education, presence of chronic disease, smoking habits and they graded some aspects of wearing denture with grade from 1 to 5.

**Results:** The highest average grade is given for speech with upper removable denture(4.73), and the lowest was for chewing with both dentures (3.97). Considering the chewing with partial dentures, women were more satisfied than men.

**Conclusion:** Patients are mostly satisfied with their dentures, which are judged as satisfactory by dentist. There is difference between patients of different gender in a level of satisfaction with their dentures in chewing.

### DESCRITORES

Satisfação do paciente; Prótese parcial; Prótese Parcial Removível.

### KEY-WORDS

Patient satisfaction; Denture partial; Denture, Partial, Removable.

## INTRODUCTION

Partial denture is removable prosthesis which compensates missing teeth and alveolar bone after the loss of teeth<sup>1</sup>. Removable partial denture plays role in restoring functions of mastication, phonation and aesthetics, but also it should have proper relationships to remaining teeth, the periodontal and the mucous tissues<sup>2</sup>.

Masticatory efficiency can be improved by wearing of removable partial denture in partially edentulous patient<sup>3</sup>. Quality of patient's life becomes better when aesthetics and functions of stomatognathic system are improved. The clinician's ability to provide better RPDs may have the potential to contribute to better oral health<sup>4</sup>. As a consequence of a differing clinical approaches and a dentists' and patients' individual psychological profiles, the number of removable prostheses is smaller than one may have expected<sup>5</sup>. Except dentist's skill and quality of prosthesis, subjective patient's estimate has importance in final assessment of success of the treatment<sup>6</sup>.

In prosthodontics sometimes we have patients who are unsatisfied with their removable dentures although they are graded as good enough by dentist. Patients are not always satisfied with some construction which are proposed by dentist as the best solution. The knowledge how patients use partial denture would be useful for both dentist and patient in moment when decision about treatment is made<sup>6</sup>. Subjective assessment of partial denture is given by patient and patient's satisfaction is hardly to define<sup>7</sup>.

One third of the respondents believed their prosthesis required adjustment or replacement, and one fourth said the removable partial denture had caused a problem with the natural teeth<sup>8</sup>. Many authors have tried to find out which factors have influence on patient's satisfactory. Previous authors consider that biological, mechanical, esthetic, and psychological factors are related to acceptance of prosthesis and, consequently, to the success of treatment<sup>9</sup>.

Some authors investigated how social conditions under which patients live may influence their acceptance of dentures. They concluded that factors as patient's marital status, occupation, interests, social activities, economy, housing conditions, relationships with neighbours have no significant effects in this respect<sup>10</sup>. But other people's opinion of their new dentures appeared to influence denture acceptance strongly. The nature of the comments that patients received after the insertion of the new dentures showed a highly significant correlation with denture acceptance.

Aesthetics, mastication, phonation, the number of missing teeth were found to be associated with satisfaction in RPD wearers<sup>7,11,12</sup>. The material, stress distribution, denture base extension and standards of removable partial denture construction were not found to be associated with satisfaction<sup>7,13-15</sup>. Some authors found association between RPD acceptance and

retention, chewing, comfort, aesthetics, and hygiene (patient evaluation)<sup>9</sup>. Subjects with a RPD were in general less satisfied with their dental state than person without partial denture. They found no differences in satisfaction between persons with tooth-bounded and distal extension prosthesis<sup>15</sup>. The Kennedy's classification of partial edentulousness also doesn't influence on patient's satisfaction with prosthesis<sup>7</sup>. Complete denture wearers were significantly more satisfied with chewing, speech and retention of maxillary denture than RPD wearers, but RPD wearers were significantly more satisfied with retention and comfort of wearing mandibular denture<sup>16</sup>.

The aim of this study is to assess patient's satisfaction with retention, aesthetic, chewing, speech and comfort of RPD, and to estimate the influence of factors such as previous experience of wearing denture, age, gender, marital status, level of education, presence of chronic disease and smoking habit on patient's satisfaction with RPD.

## MATERIAL AND METHODS

A total of 75 patients with removable partial denture were examined at the Department of Removable Prosthodontics, School of Dental Medicine, University in Sarajevo. There were 53 females and 22 males, in the age between 28 and 86 years. According to age they were divided into 3 groups: subjects younger than 39, subjects from 40 to 59 and subjects older than 60.

We used questionnaire, which was devised for a purpose of this study, divided in two parts. The first part was consisted from questions about previous experience of wearing denture, age, gender, marital status, education level, chronic disease and smoking habit. In second part participants graded some aspects of wearing denture (retention, aesthetic, chewing, speech and comfort of RPD) using the scale from 1 to 5 (from 1 = dissatisfaction to 5 = excellent, which is a common grading scale in our educational system).

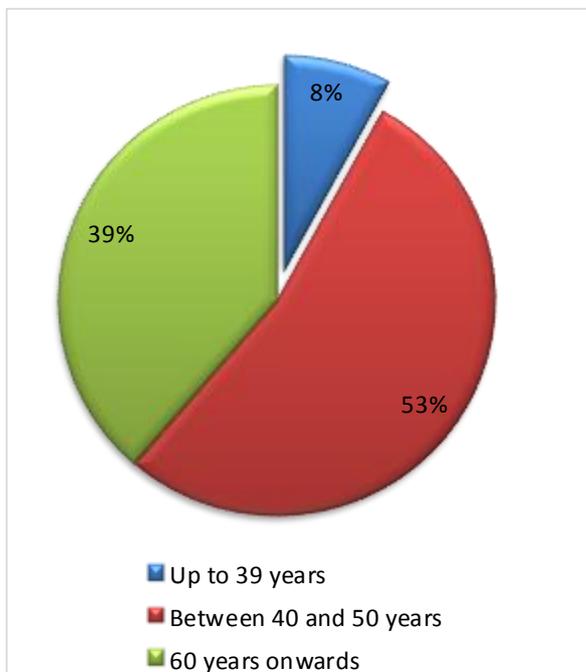
## RESULTS

Histograms of the frequencies of variables are shown in graphics 1-6.

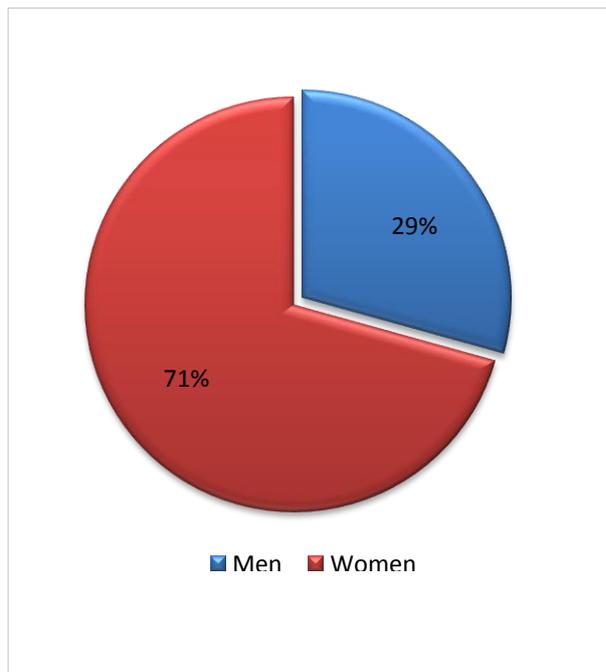
In Tables 1, 2 it is shown that the highest grade is for speech with upper denture (4,73), and the lowest for chewing with both dentures (3,97).

Normality of the variance distribution was tested using the Shapiro-Wilk's test, and there was abnormal distribution.

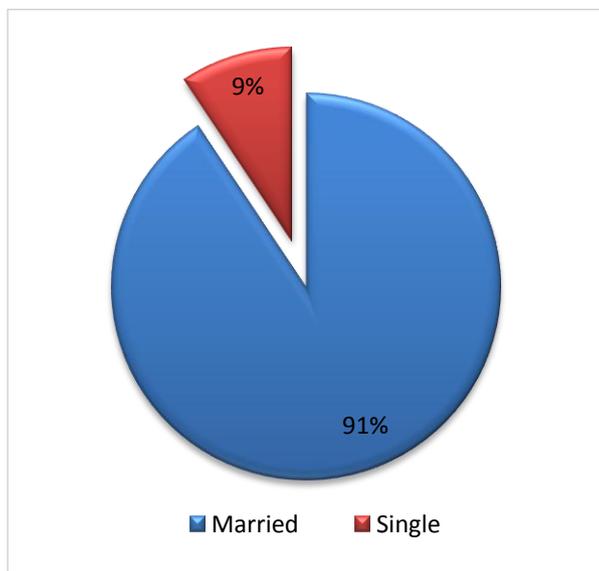
The significance of the differences between variables was tested using Mann-Whitney's U test and Kruskal-Wallis's test, which revealed significant difference between male and female in satisfaction with chewing ( $p=0,048<0,05$ ) Women were more satisfied than men. (Table 3).



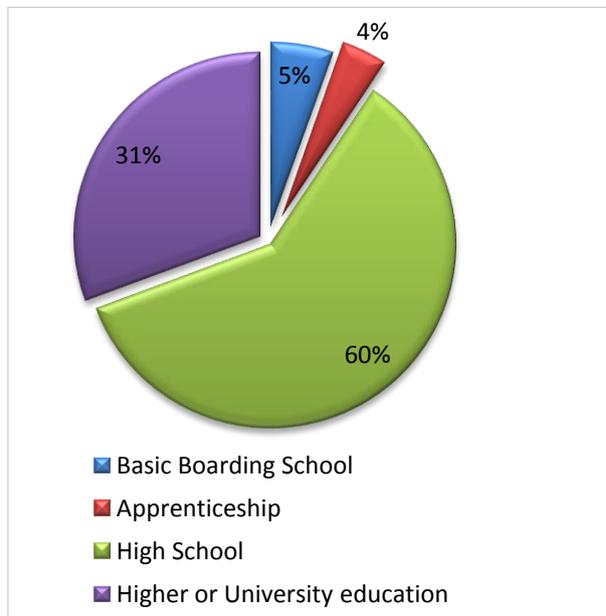
Graphic 1. Distribution of patients according to age.



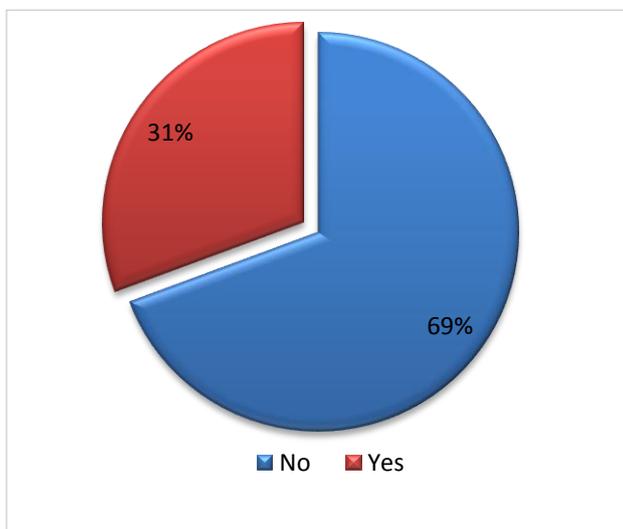
Graphic 2. Distribution of patients according to gender.



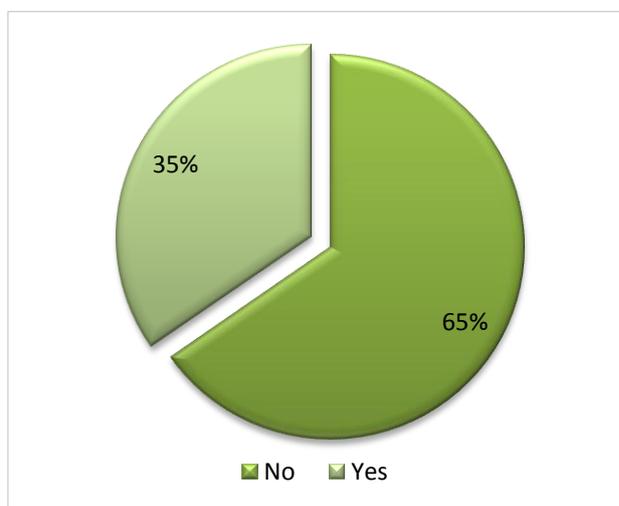
Graphic 3. Distribution of patients according to marital status.



Graphic 4. Distribution of patients according to education level.



Graphic 5. Distribution of patients according to presence of chronic disease.



Graphic 6. Distribution of patients according to smoking habit.

**Table 1. Statistical parameters of retention lower denture, aesthetics lower denture, retention upper denture and aesthetics upper denture**

	Retention lower denture	Aesthetics lower denture	Retention upper denture	Aesthetics upper denture
Average grade	4.20	4.66	4.66	4.62
Median	4.00	5.00	5.00	5.00
Mod	5	5	5	5
Standard deviation	0.962	0.570	.522	.610

**Table 2. Statistical parameters of chewing, speech and comfort**

		Chewing	Speech	Comfort
Lower denture	Average grade	4.04	4.57	4.32
	Median	4.00	5.00	4.00
	Mod	4	5	4
	Standard deviation	.793	.634	.670
Upper denture	Average grade	4.64	4.73	4.45
	Median	5.00	5.00	5.00
	Mod	5	5	5
	Standard deviation	.505	.467	.688
Both dentures	Average grade	3.97	4.36	4.14
	Median	4.00	5.00	4.00
	Mod	4	5	5
	Standard deviation	.971	.798	.961

**Table 3. Results of Mann-Whitney U test by testing differences in satisfaction with retention lower denture, aesthetics lower denture, retention upper denture, aesthetics upper denture, chewing, speech and comfort according to factor: the gender**

	R.U.D.	R.L.D.	AE.U.D.	AE.L.D.	Chewing	Speech	Comfort
Mann-Whitney U	215.500	413.000	219.000	364.000	426.000	495.500	446.000
Wilcoxon W	810.500	603.000	814.000	554.000	679.000	748.500	699.000
Z	-.161	-.231	-.058	-1.169	-1.977	-1.177	-1.737
Asymp. Sig. (2-tailed)	.872	.818	.954	.242	.048	.239	.082

a. Grouping Variable: Spol

## DISCUSSION

The influence of different factors on patient's satisfaction has already been studied in several studies. Many authors have agreed that some factors have influence on patient's satisfaction with partial denture. These factors are: aesthetics, retention, speech, number of missing teeth, oral hygiene habits<sup>7,11,12</sup>.

Azadeh i Mahdavian<sup>17</sup> found that women and patients older than 50 years were more dissatisfied in accepting partial denture than other patients. According Frank et al.<sup>8</sup> patients younger than 60 years were more dissatisfied than other. According to the results, Wakabayashi et al.<sup>18</sup> found that the age has influence on

satisfaction, because younger patients were more dissatisfied with aesthetics of denture. There is a significant correlation between patient attitudes towards ageing and patient acceptance of new denture<sup>19</sup>. Akeel<sup>20</sup> found no significant associations between patient satisfaction and age, or denture experience, which is in agreement with our results. Weinstein et al.<sup>21</sup> think that the age was not a significant predictor of denture success.

According to Frank<sup>8</sup>, the patients who had experience with previous RPDs were more satisfied than the patients with their first ever RPDs. In Knezović-Zlatarić et al.<sup>12</sup> study, no difference was found in the patients' satisfaction between patients with their first ever RPD and the patients who had previous experience.

According to our results, statistically significant difference was found between males and females for satisfaction with chewing. Of all factors estimated in our study, only gender was found to have influence on patient's satisfaction. Males with partial denture were less satisfied with chewing than females, which is in agreement with Knezović-Zlatarić et al.<sup>6</sup>. Wakabayashi et al.<sup>18</sup> found that females were less satisfied with comfort than males. With respect to the acceptance of removable partial denture, there was a difference among gender<sup>22</sup>.

Although we expected to find the difference between patients with different education level, that was not found in the results. The possible reason for this is small number of patients included in this study. According to other studies, patients with higher level of education gave lower grades for aesthetics of denture<sup>6,10,22</sup>.

## CONCLUSION

1. Patients were mostly satisfied with their removable partial dentures, which were evaluated as satisfactory by dentist.
2. Males with partial denture were less satisfied with chewing than females.
3. Factors as previous wearing of denture, age, gender, marital status, level of education, presence of the chronic disease, smoking habits did not make any influence on the patient's satisfaction with the partial denture therapy.

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