

Comparison of Patients' Satisfaction of Denture Made By Dentists, Dental Specialists, Experimental Technicians and Students

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Abstract

Introduction: Elderly people have a disability in daily activities such as talking, eating and so on and needing prosthetic treatment. Patient satisfaction with complete dentures should be the primary goal of their treatment. The lack of awareness of the dentistry specialists is one of the reasons for the problems. The aim of this study was to assess the satisfaction of patients with dentures made by general practitioners, as well as experimental students and practitioners, in order to improve the success of prosthetic treatment and improve the quality of life of patients.

Method: In this descriptive analytical cross-sectional study, 120 patients were randomly assigned to participate in the study by random sampling and participated in four groups A, B, C, D. Data analysis was performed using descriptive statistics, ANOVA and Tukey post hoc test. SPSS Version 18.0 (Inc., Chicago, IL, USA) software and R Version 3.2.2 software were used with dunn.test package. The significance level in this study was considered 0.05.

Results: Significant differences were found between the groups ($P < 0.001$) and Dentist overall satisfaction, Patients overall satisfaction, Esthetics, Ability to

masticate, Ability to speak, Ease of cleaning, Comfort, Stability, Retention, and Functional limitation. . Also, there was a significant difference between the groups in the field of physical pain, psychological discomfort, physical disability, psychological disability, social disability ($p < 0.001$)

Conclusion: There was a statistically significant difference between the basins in the study groups.

Introduction

One of the problems of older people is the loss of natural teeth. This is considered to be a major event in his life, and subsequently a person with a functional disability. Therefore, patients undergo prosthetic treatment to alleviate these problems (1, 2). Nowadays, due to the fact that patients, dentists and technicians all spend considerable time and money on a removable prosthesis. And, given the widespread use of removable prosthetic patients to prevent problems and diseases, improving the quality of these prostheses is essential (3). Occlusal design is one of the stages of denture fabrication and is one of the factors affecting patient satisfaction and protection of supporting tissues (4). Occlusal design

affects these tissues through their effects on chewing performance and the forces acting on the base denture. Increased resolution in denture bony support is attributed to prosthetic pressures. This could jeopardize the success of prosthetic treatment (5).

Patients with complete prosthesis may have complaints of pain and weakness of the prosthesis or difficulty in eating and speaking (6).

However, the process by which a toothless patient can accept and use his or her prosthesis is a very complicated process. This depends on the coordination of the patient's training, muscular skills and motivations as well as on their expectations (7).

Denture sore mouth (DSM) refers to inflammatory changes in the areas below the maxillary prosthesis, which is accompanied by erythema and mucosal swelling and sometimes pain and burning.

It is the most common type of chronic oral candidiasis with an incidence of 11% to 67% and candidiasis is the most opportunistic infectious disease in the world (8).

International reports on the frequency of complaints from medical practitioners in different countries indicate that despite considerable scientific advances and the presence of new technologies in the field of diagnostic and therapeutic services, complaints have been on the rise (9).

Failure of medical treatment can lead to traumatic results in the patient. In fact, the cause of medical failure is usually the physician's inability to perform the degree of skill, learning, care, and treatment that is commonly and commonly used by other colleagues of the same specialty at the community level (10). The lack of specific rules and scope in the provision of specialized and non-specialized services has also been one of the factors influencing the growing trend of specialized services provided by non-specialists. Lack of awareness of dental professionals is one of the major problems of patients referring to dental

office, so this lack of knowledge can cause many complications in the treatment of patients, because by referring patients to non-specialists and being present. Diverse range of oral health interventions including oral health practitioners, general dentists, and various experimental groups (people without valid academic credentials who have learned some of the therapeutic work in experimental, very incomplete and unscientific) problems There are a number of cases, so there are many cases in this case Forms and becomes part of the medical and forensic system organization (11). There are still many people in our community who work in the dental profession with various titles of experimental dentist, dental assistant, dentist and so on. Unfortunately, the lack of knowledge of these individuals on the one hand, as well as the profits of many of them on the other hand, always puts people at risk for tooth loss, as there seems to be a greater prevalence of toothlessness in the areas where they work. Other factors, such as inadequate scientific information about treatment processes, inaccuracies in work processes, and lack of required technology can have adverse effects on speaking, eating, beauty, and psychosocial factors. Another important point is that full awareness of the diseases and their transmission paths, the prevalence, pathogenicity and consequences of contagious and very dangerous diseases that require a university education and experienced dental practitioners who build teeth to treat patients without teeth. Artificial insects cannot take the necessary measures to prevent the spread of these diseases and contribute to the prevention of these diseases (12). It is a fact that general dentists do not have the success of specialized dentists and may be related to the different training they have gone through. The specialty curriculum significantly enhances their knowledge, as well as the practical and experiential

exercises that specialist dentists find superior to general dentists (13).

In general, it can be said that the reason for referral to experimental dental practitioners is due to many reasons, such as faster delivery of artificial teeth, encouragement of relatives and friends, more experienced dental implants and cheaper dental services. Based on previous studies, no comprehensive study has been performed to date on the whole range of experimental to specialist dentists, and patients have not been adequately responded to. Therefore, there is a need for extensive research on this issue and introducing appropriate and specialized therapists to patients. The purpose of this study was to compare the patients' satisfaction of the denture made by dentists, dental specialists, experimental technicians and students

Method and Material

This is a cross-sectional descriptive-analytical study. The inclusion criteria for our study are complete toothless individuals who had complete denture, had no history of systemic disease and specific drug use, and were selected, studied and studied in terms of healthy appearance and no history of neuromuscular disease.

Those who participated in our study signed the consent and exclusion criteria included those who did not wish to participate in the study for some reason. The age of the study participants was 60 to 70 years old, and they were asked by telephone to ask questions and those who had received a six-month denture were invited to participate. Patients from the four groups A, B, C, D were assigned to specialist dentists, general dentists, dental students, and experimental dentists, respectively. Required individuals of group A and B were collected from specialist dental clinics in Kermanshah and required persons from group C were collected from patients referring to prosthodontics department of Kermanshah dental schools. The

workplaces of the experimental dentists were also identified and contacted with patients referring to the province. Among the experimental dentists and general and specialist dentists in the city, a few cases were selected as sample and their number according to the sample size and proportion of the study subjects.

The sample size was 120 people including 60 men and 60 women who were selected randomly. Thirty of the study population were in group A, 30 in group B, 30 in group C, and 30 in group D.

To calculate the sample size, the FBBO and BO groups questionnaire variable scores were used in the study of Moradpour et al. (21). The standard deviation of total questionnaire scores was $\sigma = 95.43$. Considering $d = 45$, $\alpha = 0.05$ and $90\% \beta = 1$, the minimum sample size was 96 (24 in each group). Sample size was calculated by the following formula.

$$n = 2 \left(\sigma \frac{Z_{1-\alpha/(2\tau)} + Z_{1-\beta}}{d^2} \right)^2$$

The data collection tool was a written questionnaire with a reliability coefficient of 85% which was completed through structured interviews with closed questions. This questionnaire measures the quality of life associated with oral health (GOHAI). These areas: Eating, talking and swallowing, discomfort and pain: Including the use of medication to relieve pain or discomfort from the oral condition. Psychosocial Functioning: Concerns about oral health, appearance dissatisfaction, avoidance of social contact due to oral problems. The questionnaire used was confirmed by the Oral Health Impact Profile for Edentulous Adult (22). The questionnaire consisted of 19 questions, each question had 5 items, and the items were given scores of 0 to 4, respectively. These 19 questions fall into 7 areas: Functional limitation, Physical pain, Psychological discomfort, Physical disability,

Psychological disability, Social disability and Handicap. The less a patient gets, the more satisfied he or she is with his or her denture, meaning Oral Health Related Quality Of Life (OHRQOL) has been better. Finally, the mean scores for each question were calculated for each type of denture, and the P values for A versus B and C for C and A were calculated using the krusal walis test. Frequency is then calculated for each of the 0 to 4 solutions and placed into one of two satisfied and dissatisfied groups according to the Likert scale. According to the Likert scale, the satisfied group includes totally satisfied, very satisfied and reasonably satisfied and the dissatisfied group includes not very satisfied and not at all satisfied.

0) totally satisfied; 1) very satisfied; 2) reasonably satisfied; 3) not very satisfied & 4) not at all satisfied.

Finally, by calculating the mean score of each domain and the sum of the scores of the 7 domains, the total score was calculated and the overall satisfaction was compared between the three teeth.

The validity of the questionnaire was measured in the study of Mr. Shirani et al. (23). In addition to the questionnaire, it is a standard and valid questionnaire used in internationally accredited articles (22, 24).

Also, minimum patient satisfaction is measured based on the 0-20 satisfaction guideline.

Data were analyzed using Kolmogorov-Smirnov test and ANOVA. Tukey post hoc test was used for binary comparisons.

Significant level of adjustment was used by Benferoni correction. SPSS Version 18.0 (Inc., Chicago, IL, USA) and R Version 3.2.2 software with dunn.test package were used for data analysis.

Significance level was set at 0.05.

Results

In the present study, 120 participants were asked to complete the questionnaire. 58 (48.3%) of them were women. The mean age of participants was 48.8 ± 0.008

Table 1 Comparison of demographic characteristics of all participants between the four different groups

		Prosthodon tist	General Dentist	Student	Experimental Dentist	Total	P- value
Genre	Male	19(63.3%)	13(43.3%)	13(43.3%)	17(56.7%)	62(51.7%)	.308 ^a
	Female	11(36.7%)	17(56.7%)	17(56.7%)	13(43.3%)	58(48.3%)	
Class	Class I	20(66.7%)	24(80.0%)	23(76.7%)	25(83.3%)	92(76.7%)	.322 ^b
	Class II	9(30.0%)	3(10.0%)	4(13.3%)	3(10.0%)	19(15.8%)	
	Class III	1(3.3%)	3(10.0%)	3(10.0%)	2(6.7%)	9(7.5%)	
Age		62.40±6.27	65.13±7.22	65.57±12.29	62.40±6.57	65.00±8.48	.301 ^c

^a Chi-Square Test

^b Monte Carlo Chi-Square Test

^c ANOVA Test

Demographic characteristics of study participants were compared between different groups. The results showed that there was no significant difference in age, sex and class between the groups (Table 1).

There was a statistically significant difference in Dentist general satisfaction between the groups ($P < 0.001$). The mean of this variable in the prosthetic group was statistically higher than that of the general dentist, student, and experimental dentist groups. And there was no experimental dentist. There was a statistically significant difference in Patients general satisfaction between groups ($P < 0.001$). There was a statistically significant difference in esthetics between the groups ($P < 0.001$). The mean of this variable was higher in the groups of prosthetic and experimental dentist than the general dentistry and student groups. There was a statistically significant difference in Ability to masticate between groups ($P < 0.001$). The mean of this variable was significantly higher in the groups of experimental prosthodontics and dental practitioners than the general dentistry and student groups. There was a statistically significant difference in Ability to speak between groups ($P < 0.001$). The mean of this variable in prosthetic groups was statistically higher than that of general dentist and student groups and also there was a

significant difference between the groups of prosthetic and dentist groups. There was no empirical.

There was a statistically significant difference in Ease of cleaning between groups ($P < 0.001$). The mean of this variable in prosthetic groups was statistically higher than that of general dentist and student groups and also there was a significant difference between the groups of prosthetic and dentist groups. There was no empirical. There was a statistically significant difference in Comfort between the groups ($P < 0.001$). The mean of this variable was significantly higher in the groups of Experimental Prosthodontics and Experimental Dentist than the general dentistry and student groups. There was a statistically significant difference in Stability between the groups ($P < 0.001$). The mean of this variable was higher in the groups of prosthetic and experimental dentist than the general dentistry and student groups. There was a statistically significant difference in retention between the groups ($P < 0.001$), so that the mean of this variable was significantly higher in the dental and experimental dentist groups than in the general dentistry and student groups (Table 2).

Table 2 Comparison of domains between different groups

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	Prosthodontist		General Dentist		Student		Experimental Dentist		P-value
	Med	Range	Med	Range	Med	Range	Med	Range	
Functional limitation	.00 ^a	.00-11.50	7.81 ^b	.00-15.62	7.59 ^b	.00-11.72	9.17 ^b	.00-14.37	<.001
Physical pain	.61 ^a	.00-13.43	7.95 ^b	.00-17.91	8.00 ^b	.00-14.48	3.24 ^{ab}	.00-13.43	<.001
Psychological discomfort	.00 ^a	.00-9.72	7.82 ^b	.00-15.63	6.86 ^b	.00-13.63	7.87 ^b	.00-15.63	<.001
Physical disability	.00 ^a	.00-9.75	8.40 ^b	.00-14.28	7.14 ^b	.00-13.32	7.14 ^b	.00-13.01	<.001
Psychological disability	.00 ^a	.00-8.49	7.10 ^b	.00-11.32	4.25 ^b	.00-11.32	6.36 ^b	.00-11.32	<.001
Social disability	.00 ^a	.00-12.73	12.06 ^b	.00-25.45	7.94 ^b	.00-20.66	10.49 ^b	.00-23.22	<.001
Handicap	.00 ^a	.00-9.34	3.11 ^{ab}	.00-12.45	3.11 ^b	.00-10.88	3.11 ^{ab}	.00-12.45	<.001
Total	.00 ^a	.00-74.96	48.52 ^b	.00-112.66	44.87 ^b	.00-95.79	53.59 ^b	.00-102.17	<.001

Med: Median; Range: Minimum-Maximum
 Kruskal Wallis Test with Dunn's post-test
 Groups with the same letter are not significantly different ($P > 0.05$).

There was a significant difference in Functional Limitation between the study groups ($P < 0.001$). The

mean of this variable in the prosthetic group was statistically lower than that of the general dentist, student and experimental dentist groups and also there was a significant difference between the groups. There was no student, experimenter and dentist. There was a statistically significant difference in physical pain between the study groups ($P < 0.001$). The mean difference in the prosthetic group was statistically lower than that of the general dentist and student groups, and there was a significant difference between the experimental and other groups. did not have. There was a statistically significant difference in the groups of Psychological discomfort ($P < 0.001$). The mean of this variable in the prosthetic group was statistically lower than that of the general dentist, student and experimental dentist groups and also there was a significant difference between the groups of general dentistry. There was no student, experimenter and dentist. There was a significant difference in physical disability between the study groups ($P < 0.001$). The mean of this variable in the prosthetic group was statistically lower than that of the general dentist, the student and the experimental dentist groups, and also there was a significant difference between the groups. There was no student, experimenter and dentist.

There was a statistically significant difference in Psychological disability between the study groups ($P < 0.001$). The mean of this variable in the prosthetic group was statistically lower than that of the general dentist, the student and the experimental dentist groups, and also there was a significant difference between the groups. There was no student, experimenter and dentist. There was a significant difference in Social Disability between the study groups ($P < 0.001$). The mean of this variable in the prosthetic group was statistically lower than that of the general dentist, student, and experimental dentist groups, and also there was a significant difference between the

groups of general dentistry. There was no student, experimenter and dentist. There was a significant difference in the handicap between the study groups ($P < 0.001$). The mean of this variable in the prosthetic group was statistically lower than that of the student group and the groups of general dentist and experimental dentist did not have any significant difference with the other groups. There was a statistically significant difference in the total number of basins between study groups ($P < 0.001$). The mean of this variable in the prosthetic group was statistically lower than that of the general dentist, student, and experimental dentist groups. There was no student and experimental dentist.

Discussion and conclusion

Attitudes and perceptions about the appearance of teeth vary among populations and among individuals within a population (14). In general, the elderly (55 years and older) are more satisfied with the appearance of teeth than younger ones (15, 16). There have been many studies of patient satisfaction in the dental field, including the J.Wasan study. In 1990, in a study examining the impact of clinical variables on patient satisfaction with denture, there was no relationship between mandibular ridge quality, pain, chewing problems, and denture looseness, and patients with optimal anatomical conditions may have similar problems. Patients with atrophic ridge (6). In another study, Smith et al. In 2004 stated that the expectations of patients attending private centers were quite different from those attending hospitals and colleges of dentistry (17). Pan and colleagues in Canada in 2008 Impact of gender on patient satisfaction was assessed. As in the present study, there was no significant difference between patients' satisfaction in both sexes (18).

Patient satisfaction with dentures can affect their quality of life (19). The success of prosthetic treatment depends on many factors. Improvement of prosthesis performance

as one of these important factors has been investigated in some previous studies (20). In 2008, Fenlon et al. In London examined factors affecting patient satisfaction in a new denture in 522 patients with a mean age of 65 years. Another critchlow study in Newcastle in 2009 showed that mandibular ridge anatomy had a significant relationship with patient satisfaction and that alveolar ridge quality was identified as a complicating factor in patient satisfaction (22).

In the Mon Mon Tin-Oo et al. 2011 study, as in the present study, there was a statistically significant difference between the groups in terms of appearance and aesthetics of the teeth, with a higher percentage of women dissatisfied than men. The inconsistency of tooth color had a significant negative effect on patients' satisfaction with the overall appearance of the tooth. Other studies with similar results can be found in the findings of the 2009 study by Akarslan et al (23).

Bilhan et al in Istanbul in 2012 evaluated patient satisfaction and the type of patients with denture problems in 64 patients with a mean age of 63 years, with the most common problem being reported loss of retention (85.9%). There was no significant relationship between the position of the artificial teeth and patient satisfaction (24). In 2016, Dena and colleagues also studied patient satisfaction in dental health centers in a study. The highest satisfaction was seen in the performance of dentists and resident services and the least in satisfaction with the physical appearance of the center and access to facilities (25).

In 2015, Lee et al., In a study of patients' satisfaction with dental surgeries and the problems caused by it, examined. In this study, surgeries performed by senior dentists and newly graduated dentists were evaluated. Finally, the satisfaction of the patients as the present study was higher than that of the senior dentists, and 9% of the patients

again required emergency care after dental surgery (26). This suggests that interpersonal factors, such as verbal and nonverbal critical communication, are key to patient satisfaction. This is in agreement with the findings of many studies (27, 28 and 29).

Effective communication with the patient can not only allow the patient to have a complete understanding of the procedure performed and the expected results, but also provide comfort during treatment. All of this helps to build a positive relationship with the patient. As a novice, it is not surprising that general dentists and students are less successful in communicating with the patient and establishing a dentist-patient relationship and that the patient's satisfaction with their performance is lower than that of specialist dentists.

Conclusion

The results showed that there were statistically significant differences in Dentist general satisfaction, Patients general satisfaction, Esthetics, Ability to masticate, Ability to speak, Ease of cleaning, Comfort, Stability, Retention and Functional limitation in the study groups.

There was also a statistically significant difference in the areas of Physical pain, Psychological discomfort, Physical disability, Psychological disability, Social disability and Handicap area and in the basins as a whole.

References

1. McGrath C, Bedi R. Why are we 'weighting'? An assessment of a self-weighting approach to measuring oral health-related quality of life. *Community dentistry and oral epidemiology*. 2004;32(1):19-24.
2. Zarb GA, Hobkirk J, Eckert S, Jacob R. *Prosthetic Treatment for Edentulous Patients-E-Book: Complete Dentures and Implant-Supported Prosthesis*: Elsevier Health Sciences; 2013.
3. Marachlioglou C, Dos Santos J, Cunha V, Marchini L. Expectations and final evaluation of complete

dentures by patients, dentist and dental technician. *Journal of oral rehabilitation*. 2010;37(7):518-24.

4. Deniz D, Kulak Ozkan Y. The influence of occlusion on masticatory performance and satisfaction in complete denture wearers. *Journal of oral rehabilitation*. 2013;40(2):91-8.
5. Wyatt CC. The effect of prosthodontic treatment on alveolar bone loss: a review of the literature. *The Journal of prosthetic dentistry*. 1998;80(3):362-6.
6. Van Waas MA. The influence of clinical variables on patients' satisfaction with complete dentures. *The Journal of prosthetic dentistry*. 1990;63(3):307-10.
7. Towards Edentulousness A. A review of the functional and psychosocial outcomes of edentulousness treated with complete replacement dentures. *J Can Dent Assoc*. 2003;69(10):662
8. Iacopino AM, Wathen WF. Oral candidal infection and denture stomatitis: a comprehensive review. *The Journal of the American Dental Association*. 1992;123(1):46-51.
9. Schoenfield LJ, Berci G, Carnovale RL, Casarella W, Caslowitz P, Chumley D, et al. The effect of ursodiol on the efficacy and safety of extracorporeal shock-wave lithotripsy of gallstones: the Dornier National Biliary Lithotripsy Study. *New England Journal of Medicine*. 1990;323(18):1239-45.
10. Gorney M, Gram A. Essentials of malpractice claims prevention for the plastic surgeons; 1999: 7-16.
11. Taghavi Z, Jafari S. Prevalence and causes of patient complaints of general dentists in Tehran Legal Medicine Organization of Tehran during 2003-2004 in connection with the treatment of oral and maxillofacial surgery: Thesis.
12. Burt BA, Eklund SA. *Dentistry, Dental Practice, and the Community-E-Book*: Elsevier Health Sciences; 2005.

13. Alley BS, Kitchens GG, Alley LW, Eleazer PD. A comparison of survival of teeth following endodontic treatment performed by general dentists or by specialists. *Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology, and Endodontology*. 2004;98(1):115-8.
14. Vallittu P, Vallittu A, Lassila V. Dental aesthetics—a survey of attitudes in different groups of patients. *Journal of dentistry*. 1996;24(5):335-8.
15. Alkhatib MN, Holt R, Bedi R. Age and perception of dental appearance and tooth colour. *Gerodontology*. 2005;22(1):32-6.
16. Akarслан ZZ, Sadik B, Erten H, Karabulut E. Dental esthetic satisfaction, received and desired dental treatments for improvement of esthetics. *Indian Journal of Dental Research*. 2009;20(2):195.
17. Smith P, McCord J. What do patients expect from complete dentures? *Journal of dentistry*. 2004;32(1):3-7.
18. Pan S, Awad M, Thomason JM, Dufresne E, Kobayashi T, Kimoto S, et al. Sex differences in denture satisfaction. *Journal of dentistry*. 2008;36(5):301-8.
19. Adam RZ. Do complete dentures improve the quality of life of patients? : University of the Western Cape; 2006.
20. Paulino MR, Alves LR, Gurgel BC, Calderon PS. Simplified versus traditional techniques for complete denture fabrication: a systematic review. *The Journal of prosthetic dentistry*. 2015;113(1):12-6.
21. Perea C, Suárez-García MJ, Del Río J, Torres-Lagares D, Montero J, Castillo-Oyagüe R. Oral health-related quality of life in complete denture wearers depending on their socio-demographic background, prosthetic-related factors and clinical condition. *Medicina oral, patología oral y cirugía bucal*. 2013;18(3):e371.
22. Critchlow SB, Ellis JS. Prognostic indicators for conventional complete denture therapy: a review of the literature. *Journal of dentistry*. 2010;38(1):2-9.
23. Tin-Oo MM, Saddki N, Hassan N. Factors influencing patient satisfaction with dental appearance and treatments they desire to improve aesthetics. *BMC oral health*. 2011;11(1):6.
24. Bilhan H, Geckili O, Ergin S, Erdogan O, Ates G. Evaluation of satisfaction and complications in patients with existing complete dentures. *Journal of oral science*. 2013;55(1):29-37.
25. Ali DA. Patient satisfaction in dental healthcare centers. *European journal of dentistry*. 2016;10(3):309.
26. Lee CT, Zhang S, Leung YY, Li SK, Tsang CC, Chu C-H. Patients' satisfaction and prevalence of complications on surgical extraction of third molar. Patient preference and adherence. 2015;9:257.
27. Schouten B, Eijkman M, Hoogstraten J. Dentists' and patients' communicative behaviour and their satisfaction with the dental encounter. *Community dental health*. 2003;20(1):11-5.
28. Corah NL, O'Shea RM, Bissell GD. The dentist-patient relationship: perceptions by patients of dentist behavior in relation to satisfaction and anxiety. *Journal of the American Dental Association (1939)*. 1985;111(3):443-6.
29. Jackson JL, Chamberlin J, Kroenke K. Predictors of patient satisfaction. *Social science & medicine*. 2001;52(4):609-20.