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Research Paper



Factors affecting dental prosthesis satisfaction in Pakistani population

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Abstract

The purpose of this clinical study was to determine the level of patients satisfaction after prosthodontic treatment.
This cross sectional study was conducted in Altamash Institute of Dental Medicine, a total of 200 partially edentulous patients already restored with removable or fixed prosthesis participated in this study. Patient satisfaction was evaluated by Likert's scale. The Patients were given options of unsatisfied, not very satisfied, neutral, somewhat satisfied and satisfied to evaluate patients level of satisfaction for factors such as phonetics, pain, mastication, taste and esthetics.
After statistical analysis, Likert scale score's positively for all factors such as phonetics, pain, mastication, taste and esthetics.
After prosthodontic treatment patients show high level of satisfaction with their prosthesis though showing positive impact of prosthesis on oral health.

Keywords: *Satisfaction; Esthetics; Function; Oral Health; Dentures*

1. Introduction

Patient satisfaction and improvement of oral health is the ultimate aim during rehabilitation, it is considered as a major part of patient's well-being (Nikola 2012 & Graziele 2013). Poor oral hygiene is considered as the most common factor that initiates dental caries and periodontal hazards which lead to tooth loss (Radzi et al 2004) .Tooth loss can make patient socially deprived as proposed by Davis et al in 2000 the majority of subjects treated prosthodontically were affected emotionally distress after tooth loss (Fiske J et al 1998). Improving patient esthetics and eliminating problems connected to chewing and speech ability after tooth loss is the foremost concern of any dentist (Nikola 2012).
The lost teeth could be replaced by various types of fixed and removable options depending on the condition of patient oral tissues, abutment tooth which support the prosthesis, bone density and patient financial condition, considering all these factors would lead to achieve an acceptable prosthesis (Amal 2014 & Cosme DC ET al2006).
Marachlioglou et al in 2010 state that patient expectation is higher than satisfaction. It is necessary that both dentist and patient evaluate the treatment options prior its execution as dentist believed that dentures would bring fewer benefits than patients so discussion before provision of denture will improves patient to professional relationship, which at the end improvises patient satisfaction to the prosthesis (Graziele 2013). Therefore it is important to have a mutual understanding regarding the treatment option; it will result in most appropriate prosthesis for patient (Walter MH et al 2007).
Studies based on patient satisfaction were conducted on implant related prosthesis (Heo YY et al 2008), complete (Rania M Samara 2009) and partial denture (Al Rifaiy MQ 2009), all these studies concluded that patient satisfaction for all these factors are important for the acceptance of prosthesis. Therefore comfort level for all these factors is essential as it is consider as the most vital reason for patients to seek out treatment(Al Rifaiy MQ 2009).
The rationale of our study was to evaluate the satisfaction level of various factors related to prosthesis so that strength of each factor can be determine individually which will help dentist to construct a more acceptable prosthesis.

2. Materials and methods

Partially and completely edentulous patients were selected from the prosthodontic department of Altamash Institute of Dental Medicine, Karachi, Pakistan. Total of 200 partially and edentulous patients of both genders were enrolled in this study from 28th April 2015 to 29th September 2015. The patient ranged from 18 to 85 years in age. Verbal consent was taken from each participant. In our study all subjects were already restored with fixed or removable prosthesis.
Patients who were mentally impaired or who can jeopardize the results were excluded from the study; other inclusion and exclusion criteria are listed in Table 1.
Considering (33 %) frequency of general denture satisfaction. The estimated sample size at 6.9% margin of error and 95% confidence interval with a power of 80 is n = 200 patients.
Information regarding patient satisfaction was obtained by a questionnaire. It divided into two parts. In the first part patient is require to answer socio demographic status included age, gender and social status. Second part included prosthesis related factors included type and duration of prosthesis, presence of pain or discomfort, problem connected to chewing, phonetic, mastication

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and esthetics. For each variable patients were given options of " satisfied (1), somewhat satisfied (2), neutral (3), not very satisfied (4) unsatisfied (5)".these questions were ranged on 5-point Likert scale (Panab S et al 2008).
We explored the relationship between the variables by using SPSS version 17.

Table 1: Inclusion and Exclusion Criteria

INCLUSION CRITERIA	EXCLUSION CRITERIA
Age ≥ 18 years	Cognitive impairment
Good oral hygiene	Syndromic condition
Removable denture users	Tempromandibular joint disorder
Fixed prosthesis	Parafunctional habits
	Any oral disease
	Poor oral hygiene

3. Results

The Data were first analyzed for descriptive statistics the mean, standard deviation, minimum, and maximum values, frequency and percentage were performed for qualitative and quantitative variable like gender (fig 1) Age (Table 2),Gender distribution (Table 3).
Effect of phonetics, pain, mastication, taste and esthetics are shown in table 4 and table 5. Figure 2 shows number of patients in different age groups, majority of patients fall between age group from 41-61.
Regarding satisfaction with phonetics, patients reported (165 satisfied and 21 somewhat satisfied) ($p<0.001$) table 4. Status of pain (163 satisfied and 26 somewhat satisfied) ($p<0.001$) mastication (150 satisfied and 49 somewhat satisfied) ($p<0.001$) visible in table 4.
Table 5 show effect of taste and esthetics, satisfaction with taste (183 satisfied and 9 somewhat satisfied) ($p<0.001$) and satisfaction with esthetics (150 satisfied and 32 somewhat satisfied) ($p<0.001$).
There was no significant difference found between different variables (pain, mastication ,chewing and phonetics) and age groups ($p>0.05$),same results ($p>0.05$) were reported by Abdel Salam et al study .However table 6 shows there was significant difference between patients esthetics and age groups (eight four male patients and sixty six female patients were satisfied with their appearances) ($p<0.05$).

Table 2: Descriptive Statistics Age of Patients N=200

Variable	Minimum	Maximum	Mean	Std.Deviation
Age	18.00	85.00	50.8050	16.46092

Table 3: Descriptive Statistics Gender Distribution

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	114	57.0	57.0	57.0
Female	86	43.0	43.0	100.0
Total	200	100.0	100.0	

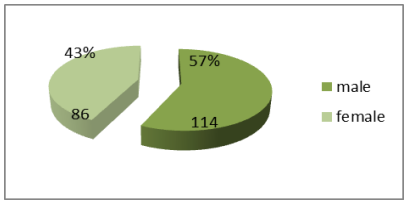


Fig. 1: Gender Distribution N=200.

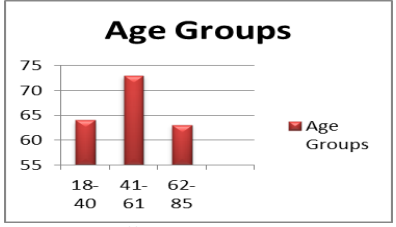


Fig. 2: Different Age Groups N=200.

Table 4: Effect of Phonetics, Pain and Mastication N=200

Variables	Frequency	Percentages
Phonetics		
Satisfied(1)	165	82.5
Somewhat satisfied(2)	21	10.5
Neutral(3)	5	2.5
Not very satisfied(4)	7	3.5
Unsatisfied(5)	2	1.0
Pain		
Satisfied(1)	163	81.5
Somewhat satisfied(2)	26	13.0
Neutral(3)	6	3.0
Not very satisfied(4)	4	2.0
Unsatisfied(5)	1	.5
Mastication		
Satisfied(1)	120	60.0
Somewhat satisfied(2)	49	24.5
Neutral(3)	10	5.0
Not very satisfied(4)	13	6.5
Unsatisfied(5)	8	4.0
P –Value < 0. 001		

Table 5: Effect of Taste and Esthetics N=200

Variable	Frequency	Percentages
TASTE		
Satisfied(1)	183	91.5
Somewhat satisfied(2)	9	4.5
Neutral(3)	3	1.5
Not very satisfied(4)	3	1.5
Unsatisfied(5)	2	1.0
ESTHETICS		
Satisfied(1)	150	75.0
Somewhat satisfied(2)	32	16.0
Neutral(3)	8	4.0
Not very satisfied(4)	6	3.0
Unsatisfied(5)	4	2.0

P –Value < 0. 001

Table 6: Gender Based Esthetic Level

ESTHETICS	GENDER		TOTAL
	MALE	FEMALE	
Satisfied	84	66	150
Somewhat satisfied	21	11	32
Neutral	6	2	8
Not very satisfied	3	3	6
Unsatisfied	0	4	4
Total	114	86	200

P-Value> 0.05

4. Discussion

Patient satisfaction always influenced by different factors (Abdelsalam Mohamed et al 2012). According to Berg in 1993 patient satisfaction with different prosthesis is interrelated, it could be dental or patient related factors. Today, over 10,000 publications on prosthodontic treatment and patient satisfaction are found in the literature. However, less than 2% of these studies deal with patient-centered outcomes after any prosthodontic therapy (Abdelsalam 2012, Pjetursson 2005& De Grandmont 1994).Therefore aim of our study is based on patient self-assessment on treatment options.
As for phonetics, results indicate that only seven (not very satisfied) and two (unsatisfied) patients from total of two hundred patients were dissatisfied and almost all participant showed improved sign of speaking, similar results reported by other researchers (Abdelsalam 2012, Heydecke 2013, G McFarland 2004 & Naert I et al 1998).
As for pain, nearly no patient complains of pain after rehabilitation of prosthesis, only one patient showed dissatisfaction with denture ($p<0.001$), similar results concluded by Yea-Yin Yen et al research in 2015 in which only 8.7% subjects complained of pain.

As for variable mastication or chewing, this considered as the most important factor for any denture wearer patient, according to results of our study 40% patients were not completely satisfied with mastication variable. De bruyn et al in 1997 study contraindicate these results, in his research 90% patients pointed out optimal chewing experience, it may be because patients were restored with fixed prosthesis.

Table 5 represents variables taste and esthetics, for taste one eighty three (91.5%) patients were completely satisfied, which conclude taste as the most satisfactory element in this study, past study result show that 62.6% participants were satisfied with this variable, differences of results may be because of large number of sample size (Al. Sharafat F 2008).

Several other authors have found evidence that esthetics play a chief role in acceptance of dentures, it is consider as the main factor which can influence the success of treatment (Magnusson T 1986 & El Askary et al 2008). As for esthetics in our study, 75% subjects were satisfied with their appearance, while in sharafat's study in 2008 result show 65.5% patients satisfaction with esthetics, according to Rizwan et al in 2013 and Abdelsalam et al in 2012 studies conclude 63.8% and 48.5 patient satisfaction with esthetics, all these studies has limited number of participants.

According to Sato in 2000, general satisfaction with any type of prosthesis is highly interrelated with mastication, phonetics, pain, taste and esthetics. Therefore, in our study all variables are assessed.

The data presented in our study might help future researchers to develop and improve study designs with broader outcome measures that will support dentist to make appropriate therapeutic decisions for every individual patient.

5. Conclusion

In this study, after prosthodontic treatment patients show high level of satisfaction with their prosthesis though showing positive impact of prosthesis on oral health.

In view of our findings, practitioners should focused on patient centered outcome for success of dental prosthesis.

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