



Evaluation of Satisfaction of Edentulous Patients Having Complete Denture by Patient Denture Assessment: An *In-vivo* Study

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

A conventional complete denture is still a widely used prosthesis. Even after lots of advancement in the field of prosthodontics very little attention has been paid to the emotional status and satisfaction of the patient related to the fabrication of the prosthesis. In this study, all the patients with complete dentures in the department of prosthodontics in Sharad Pawar dental college, were asked to fill the questionnaire regarding the satisfaction of the patient related to the complete denture prosthesis delivered in our department and the result was evaluated by the response given by the patient.

Keywords: Edentulous patients; satisfaction; clinical outcomes; rehabilitation.

1. INTRODUCTION

A widely used prosthesis for the replacement of missing teeth in the edentulous mouth is still a conventional complete denture. Though there has been a lot of advancement in the fabrication

of complete dentures still very little heed has been given to the emotional status of the patient after experiencing prosthesis.[1] Loss of their natural teeth which further leads to a decrease in functional ability while speaking and chewing leads to suffering from lasting emotional upset to

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too many patients with the absence of all the teeth. So, after receiving prosthesis improvement in functional ability while chewing and speaking and emotional status of the patient plays role in the satisfaction of the patient. [2].

According to Berg[3], the building of an ethical complete denture prosthesis relies on the mechanical, biological, and physiological interplay between the patient and dental professional. These complete dentures satisfy most of the patients. However, some patients may remain unsatisfied even if the prosthesis is made on an all accepted basis.[3].

There are many studies to evaluate the clinical outcomes and the functional ability to chew and to eat a balanced diet with sufficient nutrition but very few studies in the literature have shown the feeling and experience the patient has experienced after receiving the denture. This satisfaction of the patient also plays an important role in the success of prosthetic rehabilitation.[1].

Patient satisfaction and adaption are seen many times with poorly formed prostheses but the assessment of the prosthesis by the patient many times doesn't correspond with the clinician's judgment nor with biological components. Assessment of patient's agreement and contentment with their prosthodontic treatment is bounded across numerous techniques used in assembling and grading all the chief components such as how many times the rectification done post-insertion, emotional quality of patients, self-assessment of emotional state or quality of life, various stats and demographic factors (e.g., age, sex, education status, revenue status, multicultural contrast), the patient belief of prosthesis, the standard of prosthesis construction, factors related to occlusion, factors that are linked with biological characteristics of the patient (e.g., degree of alveolar ridge resorption, saliva characteristic, hypertrophy of tongue, oral mucosa quality, denture-bearing area status).[4].

So, this study aimed at assessing the satisfaction level of the patient having complete denture using a questionnaire. Various objectives involved in this study are to assess the satisfaction of food intake, perception of aesthetics and function, and overall acceptability by complete denture patients.

2. METHODOLOGY

Total patients reported to the "department of prosthodontics" in "Sharad Pawar dental college,

Wardha" between January to April 2020 for complete denture were screened for eligibility criteria depending on inclusion and exclusion criteria.

2.1 Inclusion Criteria

Each case included in this study :

1. Have received both maxillary and mandibular complete denture prostheses from the department between January and April 2020

2.2 Exclusion Criteria

1. Cases with complete denture prostheses that are implant-supported
2. Cases with complete denture prosthesis made elsewhere
3. Cases that got their denture before January 2020
4. Cases with a single complete denture

Patients who cleared the inclusion criteria were explained about the study and questionnaire that will be asked to them and the verbal informed consent has been taken by all the patients who cleared the inclusion criteria. This questionnaire includes questions related to function, aesthetics and speech, expectations, and the importance of a complete denture. Taking into consideration the pandemic COVID19, the study was completed through teledentistry to avoid face-to-face interaction i.e., the included patients were asked to fill the questionnaire verbally through teledentistry and their responses are marked accordingly. At the end of the study, this questionnaire was evaluated using SPSS 22.0 version and graph pad prism 7.0 version [5].

3. RESULTS

The Fig. 1 depicts the response of the patients for the questions related to aesthetics and speech and the maximum response for question 1 is that patients feel slightly uncomfortable regarding people watching them and for question 2 maximum response given was that patient's denture click seldomly while speaking.

The Fig. 2 depicts the response of the patient regarding function among which maximum response for question 1 is that patients feel either no or mild pain during chewing food and for question 2 maximum response says that it is very easy for denture wearers to swallow food bolus and water whereas for question 3 maximum

response shows that they feel slightly satisfactory if the enjoyment of the meal is considered.

response was that forty percent of the patient feels that food gets stuck into their upper denture very often whereas rest forty percent feels food get stuck seldom in their upper denture whereas for question 2 maximum response says that upper denture is either completely fit or it is movable/displaced.

The Fig. 3 depicts the response of the patient regarding their satisfaction with the upper denture among which question 1 maximum

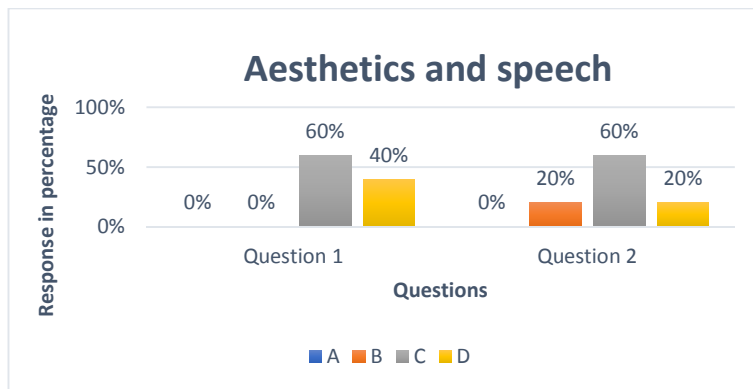


Fig. 1. Statistical Analysis of Aesthetic and Speech

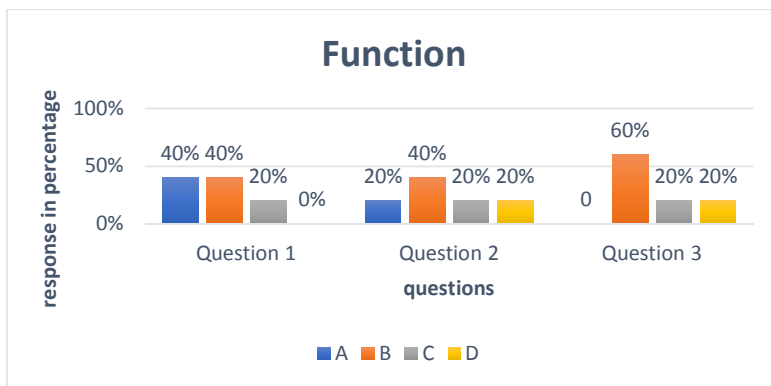


Fig. 2. Statistical analysis of function

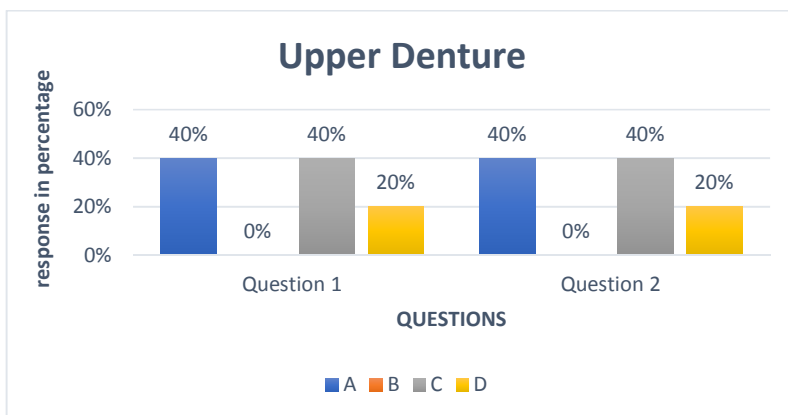


Fig. 3. Statistical analysis of upper denture

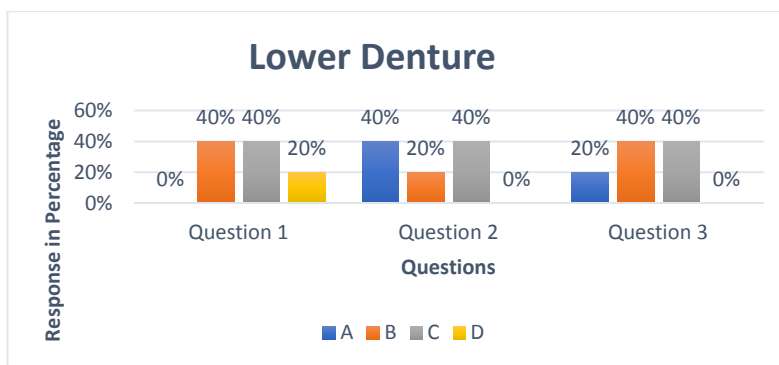


Fig. 4. Statistical analysis of lower denture

The Fig. 4 depicts the response regarding the satisfaction of the patient with the lower denture among which for question 1 maximum response was that forty percent of the patient feels that food gets stuck into their lower denture very often whereas rest forty percent feels food get stuck seldom in their lower denture and for question 2 maximum response says that lower denture is either completely fit or it is loosely retained whereas for question 3 maximum response says that it is either comfortable or uncomfortable. Very few patients responded saying that it is very comfortable and none of them has said that it is very uncomfortable.

The Fig. 5 depicts the response of the patients regarding the importance of denture in their life among which maximum response for question 1 and 2 shows that patients feel denture is very important to them for chewing food as well as for appearance whereas for question 3 maximum response says that they feel very easy in wearing dentures.

The Fig. 6 depicts the expectation of the patients regarding their dentures among which the maximum response for question 1 shows that patients are slightly unsatisfied with their dentures whereas the maximum response for question 2 shows that there are minor problems with their dentures.

4. DISCUSSION

Understanding fully the patient’s dissatisfaction with the denture is somehow difficult because assessment of the denture by the dentist differs from that of the patient. Patient satisfaction for the denture is not only important for the patient’s quality of life but also it is the most important outcome for the dentist.[6].

Patient satisfaction has often been considered as a treatment outcome and thus with the help of a questionnaire we have tried to assess the satisfaction of the patient post-treatment. Satisfaction is achieved by the collective role of a group of factors in a patient receiving “complete denture prosthesis”. For an operating dental practitioner effective mastication, aesthetically pleasing, satisfying speech, and comfort of wearing by the patient have been the utmost bothering. To meet both ends of the patient-dentist relationship and treatment consequences could be achieved by an emotional evaluation as related to satisfaction.[1].

Studies done earlier have shown that many factors can play a principal role regarding the satisfaction of the patients with their dentures, including those related to the denture construction technique, those related to the patient, and those related to the dental practitioner. [7].

In a research performed by Marinus A J, et al, they investigated the relationship between dental practitioner and the patient. In the questionnaire, patients were asked about their experience and their assumption about the new prosthesis.[8].

In another research done by Marinus A J, on indicators of disappointment with a prosthesis the outcome proved for most patients gratification with dentures is independently determined and, it is uncertain for the dental practitioner and patient.[9].

Kagamine Yuriko et al also conducted a study in 2014 to check the accuracy of a questionnaire for self-assessment of complete dentures. Cases included in the study were the cases who had both new upper and lower dentures made at the “university hospital of dentistry, Tokyo medical

and dental university". The accuracy of the patient denture assessment (PDA) was assessed by inspecting internal consistency and test-retest reliability. PDA also revealed good validity by

evaluating discriminant validity and thus it can help the dental practitioner to obtain a thorough knowledge of the patient insight in using their dentures.[5].

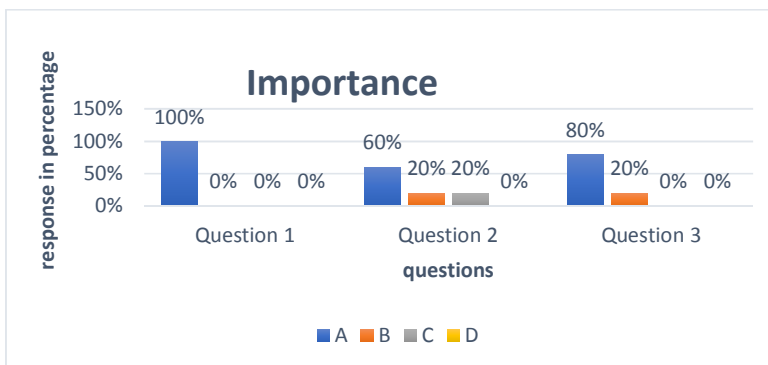


Fig. 5. Statistical analysis of importance

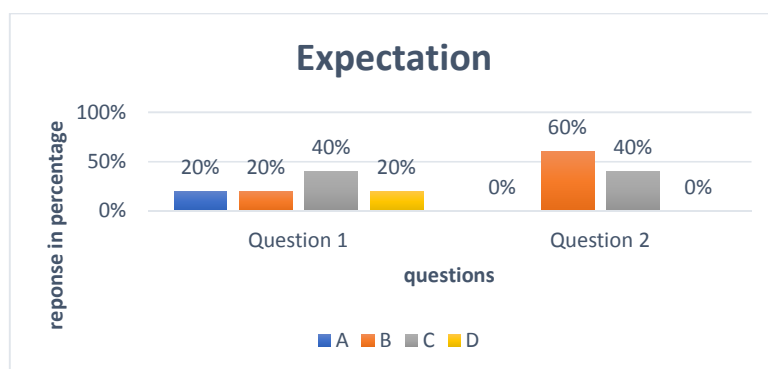


Fig. 6. Statistical analysis of expectation

Table 1. Function

	A	B	C	D	-2x Value	p-value
Question 1	0.4	0.4	0.2	0	58.67	0.0001, S
Question 2	0.2	0.4	0.2	0.2	16	0.0011, S
Question 3	0	0.6	0.2	0.2	101.3	0.0001, S

Table 2. Aesthetics and speech

	A	B	C	D	-2x Value	p-value
Question 1	0	0	0.6	0.4	144	0.0001, S
Question 2	0	0.2	0.6	0.2	101.3	0.0001, S

Table 3. Lower Denture

	A	B	C	D	-2x Value	p-value
Question 1	0	0.4	0.4	0.2	58.67	0.0001, S
Question 2	0.4	0.2	0.4	0	58.67	0.0001, S
Question 3	0.2	0.4	0.4	0	58.67	0.0001, S

Table 4. Expectation

	A	B	C	D	-2x Value	p-value
Question 1	0.2	0.2	0.4	0.2	16	0.0011, S
Question 2	0	0.6	0.4	0	144	0.0001, S

Table 5. Upper denture

	A	B	C	D	-2x Value	p-value
Question 1	0.4	0	0.4	0.2	58.67	0.0001, S
Question 2	0.4	0	0.4	0.2	58.67	0.0001, S

Table 6. Importance

	A	B	C	D	-2x Value	p-value
Question 1	1	0	0	0	400	0.0001, S
Question 2	0.6	0.2	0.2	0	101.3	0.0001, S
Question 3	0.8	0.2	0	0	229.3	0.0001, S

So, many studies have been done previously to assess the satisfaction of the patient using a questionnaire to assess the satisfaction of the patient. In our study, we have used modified PDA i.e., made it a close-ended questionnaire to assess the satisfaction which allows patients to answer more effectively and makes evaluation less time-consuming.

According to Sato et al overall pleasure extremely corresponds with chewing, speech, pain, aesthetics, fit, retention, and comfort. Hence, these changeable factors were employed for assessment in the current study and the questionnaire here has these variables for the assessment.[10].

Knowing patient satisfaction after the treatment will not only tell how satisfied the patient is with the prosthesis but will also help the dentist in improving certain areas of complete denture fabrication such as consideration for psychological acceptance of complete denture by the patient.[11].

5. CONCLUSION

It has been said that a patient can either make or break a dental practice. During a patient's management, the quality of work done by him/her may satisfy the dentist, but the success of treatment is determined by the amount of patient's satisfaction. Hence after completing the treatment this questionnaire can be used as a routine part of any dental practice. This will result in persistent development in the standard of services provided by the dental practitioner.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline patients consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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QUESTIONNAIRE

DATTA MEGHE INSTITUTE OF MEDICAL SCIENCES

(Deemed to be University)

SHARAD PAWAR DENTAL COLLEGE AND HOSPITAL, SAWANGI(MEGHE)

DEPARTMENT OF PROSTHODONTICS and Crown & Bridge

Aim: To evaluate the satisfaction level of the patient having complete denture using patient denture assessment

Objective: To assess the satisfaction of food intake, perception about esthetics, function and overall acceptability of complete denture patient

Function

1. How much pain do you feel during eating food?
A. No pain B. Mild C. moderate D. severe
2. How easy is it for you to swallow food bolus and water?
A. very easy B. easy C. difficult D. very difficult
3. How well do you enjoy your meals?
A. same as natural teeth B. completely satisfactory C. slightly satisfactory D. uncomfortable

Aesthetics & Speech

1. How worried are you about other people watching you?
A. too much uncomfortable B. uncomfortable C. slightly uncomfortable D. Not at all
2. How often does your denture click while speaking?
A. Very frequently B. Often C. seldom D. never

Lower Denture

1. How often does food debris get stuck into your lower denture?
A. Very frequently B. Often C. seldom D. never
2. How is your lower denture retained on the ridge?
A. Perfectly fit B. Occasional displacement C. loosely retained D. floating denture
3. How uncomfortable is your lower denture?
A. Very comfortable B. Comfortable C. uncomfortable D. very uncomfortable

Expectations

1. Are you satisfied with your denture?
A. Very Satisfied B. satisfied C. slightly unsatisfied D. unsatisfied
2. Are there any problems in the denture?
A. No Problems B. Minor problems C. Major Problems D. Intolerable

Upper Denture

1. How often does food debris get stuck under your upper denture?
A. Very often B. Often C. Seldom D. Hardly
2. How does your upper denture fit?
A. Fit B. unfit C. Movable/displaced D. inappropriate

Importance

1. How important are your dentures to you for chewing food?
A. very Important B. occasionally important C. unimportant D. least bothered
2. How important are your dentures to you for your appearance?
A. very Important B. occasionally important C. unimportant D. least bothered
3. What is the level of ease you feel when wearing your denture?
A. Very easy B. Easy C. difficult D. Very difficult

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