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Original Research Article

Evaluating smiles: A survey on patient satisfaction post complete denture prosthesis insertion

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ABSTRACT

Aim: This study aims to evaluate patient satisfaction following the insertion of complete denture prostheses.**Objectives:** The objectives include assessing patient satisfaction across several dimensions: retention, appearance, pronunciation, chewing, denture finishing, and overall satisfaction.**Materials and Methods:** A survey using a structured questionnaire was conducted. Patient satisfaction levels were measured on a scale ranging from "very happy" to "not at all happy". The study sample comprised 118 participants, determined using appropriate formulas for cross-sectional studies.**Results:** Results indicate notable satisfaction levels among participants. Specifically, 63% were satisfied with the fit of their upper denture, and 40% with their lower denture fitting. Aesthetic satisfaction was reported by 46% for denture color and 50% for teeth color. Satisfaction with facial appearance post-denture insertion was noted in 52% of respondents. Additionally, 36% expressed satisfaction with speech, 29% with mastication, 44% with denture smoothness, and 61% with overall denture satisfaction.**Conclusion:** This study highlights the crucial role of complete denture prostheses in enhancing patient satisfaction across various aspects. While satisfaction levels with denture fit, aesthetics, and overall experience are notably high, opportunities for improvement exist in speech clarity and mastication effectiveness.This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.For reprints contact: reprint@ipinnovative.com

1. Introduction

Conventionally, complete denture prosthesis has been applied for replacing lost teeth. Despite advancements in denture fabrication and techniques, the psychological impact on patient's post-treatment has received limited attention.¹ Psychological factors, along with elements such as mastication and speech, are crucial for predicting the outcome of complete denture treatments. In addition to predicting patient satisfaction, the standard of new complete dentures can be used to investigate possible connections between clinical parameters, patient characteristics, and overall satisfaction with the new dentures.

2. Materials and Methods

A survey was planned to evaluate patient satisfaction following the insertion of complete denture prostheses. About 118 patients who received complete denture prosthesis were selected randomly from Department of Prosthodontics & Crown, and Bridge Seema Dental College Rishikesh.

A validated questionnaire on complete denture on required questions was prepared for the survey. Around 118 patients were taken for survey. All the 118 patients responded to the questionnaire. An informed consent was provided to all the patients and were assured that the information will be kept confidential.

These patients were asked to return for a follow-up two weeks after receiving their prostheses.

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2.1. Inclusion criteria

1. The patients who are receiving complete denture prosthesis in post graduate clinic of our department.
2. Patients recalled after two weeks of the insertion.
3. Patients with good physical and mental health.
4. Patients who are aware of their oral hygiene.

2.2. Exclusion criteria

1. Patients present with implant supported complete denture prosthesis.
2. Patients with complete denture prostheses made elsewhere.
3. Patients wearing complete denture prostheses for more than two weeks.

2.3. Methodology

Patients selected for the study were seated comfortably on a dental chair. After receiving the written consent to participate in the study, a validated questionnaire was filled by all the participants. Details regarding the newly fabricated prosthesis were recorded as reported by each participant. They were encouraged to provide honest feedback about their new dentures, with assurance that their identities would remain confidential. The questions were asked in the patient's native language.

Once the questionnaires were completed for 118 patients, the responses were grouped based on a satisfaction scale: very happy, happy, average, not happy, and not at all happy. The parameters evaluated included:

1. Retention
2. Appearance
3. Pronunciation
4. Chewing
5. Denture finishing
6. Overall satisfaction for both maxillary and mandibular dentures.

3. Results

Among the total population (118) chosen for the study 69 were males and 49 were females. (Chart 1)

3.1. Retention

Out of 118 patients (Chart 2)

1. 63 (53%) were very happy with the fit of their upper denture.
2. 27 (23%) were happy with the fit of their upper denture.
3. 23 (20%) had average satisfaction with the fit of their upper denture.
4. 4 (3%) were not happy with the fit of their upper denture.

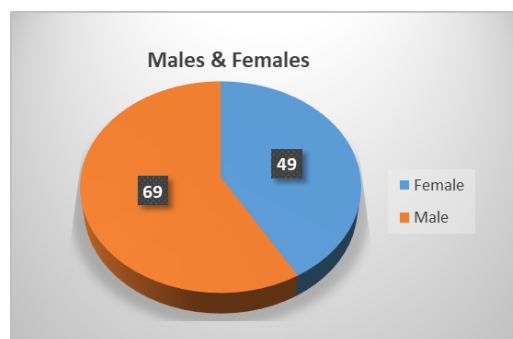


Chart 1: Distribution of population among male & female

5. 1 (1%) was not at all happy with the fit of their upper denture.

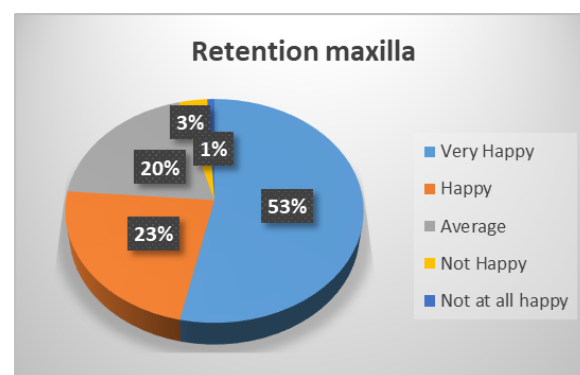


Chart 2: Patient satisfaction regarding the fit of maxillary denture

3.2. Patient satisfaction regarding the fit of the lower denture

Out of 118 patients (Chart 3)

1. 47 (40%) were very happy with the fit of their lower denture.
2. 41 (35%) were happy with the fit of their lower denture.
3. 22 (18%) had average satisfaction with the fit of their lower denture.
4. 6 (5%) were not happy with the fit of their lower denture.
5. 2 (2%) were not at all happy with the fit of their lower denture.

3.3. Patient satisfaction regarding the colour of the denture

Out of 118 patients:

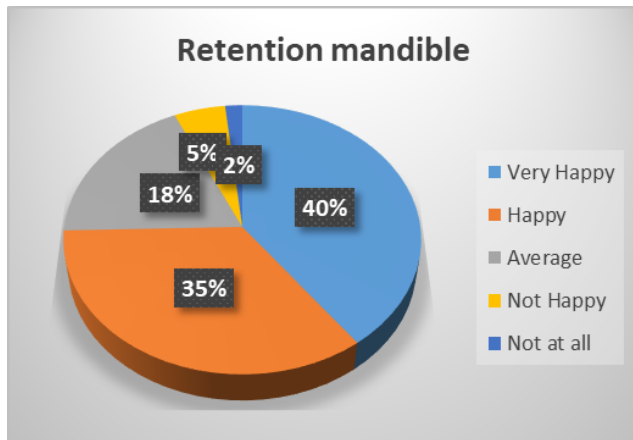


Chart 3: Patient satisfaction regarding the fit of mandibular denture

1. 53 (46%) were very happy with the color of their denture.
2. 49 (43%) were happy with the color of their denture.
3. 12 (10%) had average satisfaction with the color of their denture.
4. 4 (1%) were not happy with the color of their denture.

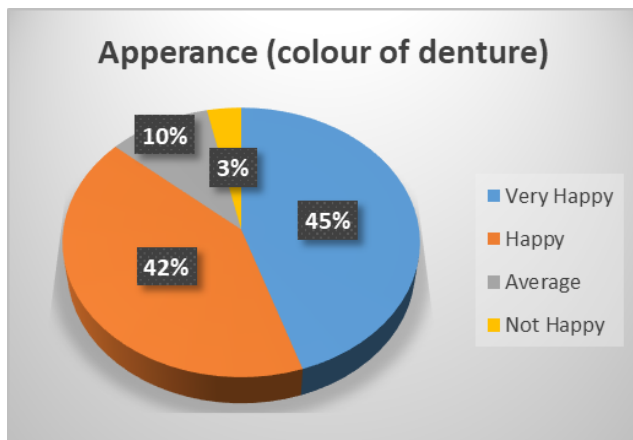


Chart 4: Patient satisfaction regarding the colour of the denture

3.4. Patient satisfaction regarding the colour of the teeth

Out of 118 patients:

1. 57 (50%) were very happy with the color of their teeth.
2. 52 (45%) were happy with the color of their teeth.
3. 5 (4%) had average satisfaction with the color of their teeth.
4. 4 (1%) were not happy with the color of their teeth.

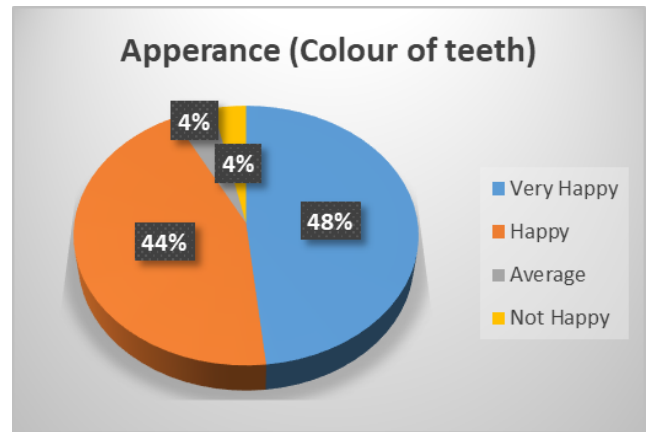


Chart 5: Patient satisfaction regarding the colour of the teeth used in denture

3.5. Patient satisfaction regarding the appearance of the face after receiving the denture

Out of 118 patients:(Chart 6)

1. 61 (52%) were very happy with the appearance of their face.
2. 54 (46%) were happy with the appearance of their face.
3. 3 (2%) had average satisfaction with the appearance of their face.

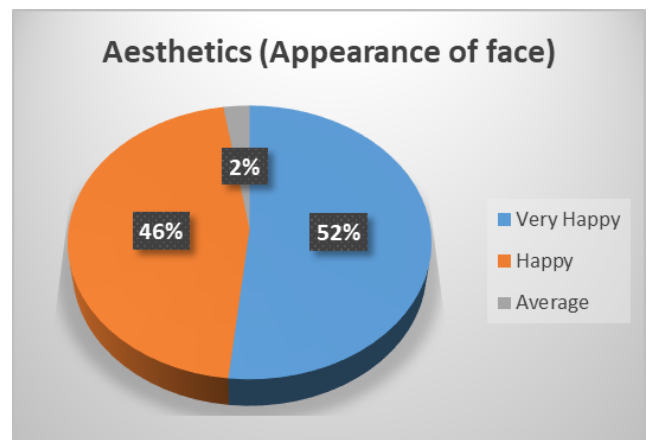


Chart 6: Patient satisfaction regarding the appearance of the face after receiving the denture

3.6. Patient satisfaction regarding pronunciation

Out of 118 patients: (Chart 7)

1. 43 (36%) were very happy with their pronunciation.
2. 61 (52%) were happy with their pronunciation.

3. 13 (11%) had average satisfaction with their pronunciation.
4. 1 (1%) was not happy with their pronunciation.

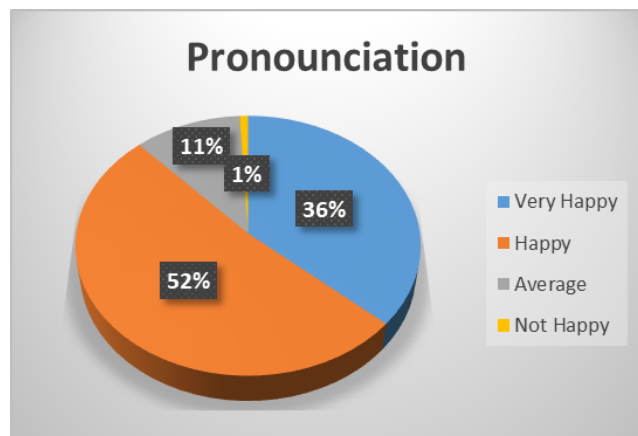


Chart 7: Patient satisfaction regarding pronunciation

3. 6 (5%) had average satisfaction with the denture finishing.

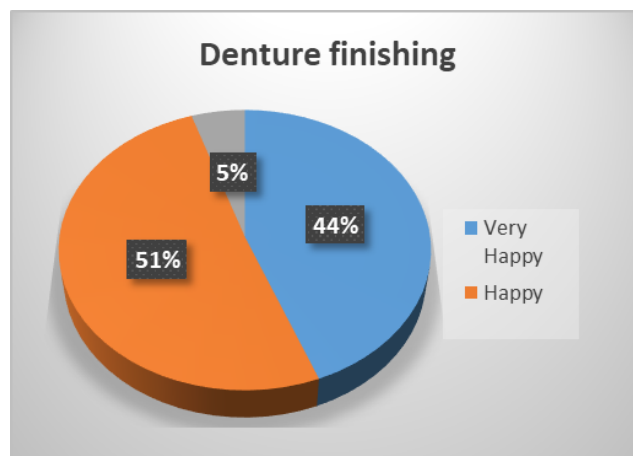


Chart 9: Patient satisfaction regarding the denture finishing

3.7. Patient satisfaction regarding chewing

Out of 118 patients:

1. 33 (29%) were very happy with chewing.
2. 51 (44%) were happy with chewing.
3. 30 (26%) had average satisfaction with chewing.
4. 4 (1%) were not happy with chewing.

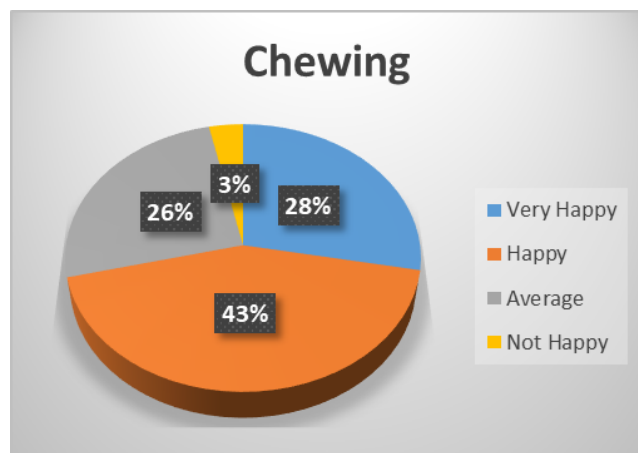


Chart 8: Patient satisfaction regarding chewing

3.9. Overall satisfaction

Out of 118 patients:(Chart 10)

1. 72 (61%) were very happy with the denture.
2. 37 (31%) were happy with the denture.
3. 8 (7%) had average satisfaction with the denture.
4. 1 (1%) was not happy with the denture.

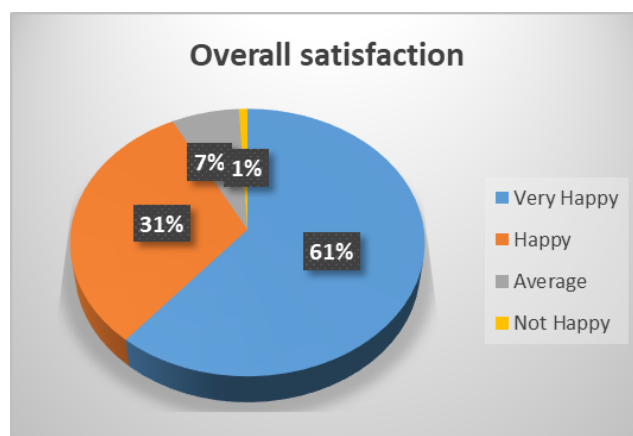


Chart 10: Overall satisfaction regarding the complete denture

3.8. Patient satisfaction regarding denture finishing

Out of 118 patients (Chart 9)

1. 52 (44%) were very happy with the denture finishing.
2. 60 (51%) were happy with the denture finishing.

4. Discussion

Patient contentment has always been the primary objective in dental treatments. When it comes to patients obtaining complete denture fabrication, several factors play a crucial role in ensuring their satisfaction. Dentists

prioritize efficient chewing ability, pleasing aesthetics, clear pronunciation, and overall comfort for the patient. Achieving harmony in the patient-dentist relationship and treatment outcomes often involves a psychological assessment focused on satisfaction.²

The relationship between the patient and the dentist was assessed after treatment in a study headed by Marinus A. J et al.³ A standardised questionnaire was used to collect the patients' ideas, attitudes, and expectations about the new dentures as well as their feedback on their treatment experience.^{3,4}

For treatment to be considered successful, it is essential to fulfil not only the objectives set by the operators but, more importantly, to ensure patient satisfaction.⁵ However, the patient's personality is also a significant factor that influences the criteria for their satisfaction.

The results of another study by Marinus A. J. on the causes of denture dissatisfaction showed that most patients' satisfaction levels differ from one another, making it frequently unpredictable for both the patient and the dentist.⁶

Michael Robert Fenlon et al. emphasized that the quality of mandibular residual alveolar ridges, the retention and stability of mandibular dentures, the accuracy in reproducing the retruded jaw relationship, and patient adaptability significantly influence patients' satisfaction with new complete dentures.⁷

This study was carried out at SDCH with a cohort of 118 patients who had recently been fitted with complete denture prostheses. Satisfaction with the dentures was assessed based on criteria such as retention, aesthetics (including tooth color, denture appearance), pronunciation, chewing, denture finishing, and overall satisfaction. Patients rated their satisfaction using a scale that ranged from "very happy" to "not at all happy."

According to the findings, 53% of the patients expressed high satisfaction with the fit of their upper denture, whereas 40% were similarly satisfied with the fit of their lower denture. This difference in satisfaction levels is likely influenced by the fact that the effectiveness of adhesion and retention is directly related to the surface area covered by the denture. Mandibular dentures, which cover less surface area compared to maxillary prosthesis, typically experience lower levels of adhesive and retentive forces.⁸

In this study, 46% of patients expressed being very happy with the denture colour, 50% were very happy with the tooth colour, and 52% were very happy with the overall appearance of their facial features. Ellis J et al., in a pilot study, noted increased patient happiness with improved appearance, highlighting the direct impact of aesthetics on initial patient happiness.^{9,10} The colour of the denture base and artificial teeth is crucial in achieving a satisfactory appearance for denture patients.

Pronouncing different sounds with a prosthesis on has always been a posed challenge. Even well-adapted denture prostheses experience slight movement on such a base, which can affect speech satisfaction, especially initially. In this study, only 36% of patients felt comfortable with their pronunciation. E Berg, in an assessment of 74 denture patients, also identified speech as a major prosthodontic challenge during the adaptation period.¹¹ However, with continued wear and practice, all patients typically adjust to speaking comfortably with their dentures.¹²

Mastication, is another crucial function performed by teeth. Natural teeth, with their roots embedded in bone, execute this task effortlessly. However, for patients with new prostheses that rest on unstable mucosa, chewing becomes a challenging task. Patients transitioning from having teeth to being edentulous struggle with the movement of prostheses on a shifting foundation. Edentulous individuals are significantly impaired in their ability to chew, and even clinically satisfactory complete dentures are considered a poor substitute for natural teeth.^{8,13}

In this study, it was noted that only 29% of patients were satisfied with their ability to chew. However, this aspect heavily depends on the condition of the oral tissues, and the patient's motivation also plays a crucial role in improving chewing efficiency.

Smoothness is closely associated with the comfort of wearing a prosthesis. 44% of patients expressed being very happy with the smoothness of their dentures, indicating comfort in wearing them.

The denture wearer's overall level of pleasure is greatly influenced by how comfortable the denture is to wear. Sixty-one percent of the patients said they were very happy with their dentures. The majority of patients in Alfadda et al.'s study reported being between "somewhat satisfied" and "very satisfied," with the majority citing things like using dentures in both the upper and lower jaws and having stability and sufficient retention of the lower jaw denture as the main causes of their pleasure.¹⁴ The majority of patient's issues in another study by Celebiu et al. assessing patient satisfaction with complete dentures were speaking and chewing solid and hard foods.¹⁵

5. Conclusion

The study highlights the crucial role of complete denture prostheses in enhancing patient satisfaction across various aspects. While satisfaction levels with denture fit, aesthetics, and overall experience are notably high, opportunities for improvement exist in speech clarity and mastication effectiveness. These findings underscore the importance of continual refinement in prosthetic techniques to better meet patient expectations and enhance quality of life. Future efforts should focus on integrating these insights to advance prosthetic care and improve patient-centred outcomes in dental practice.

6. Source of Funding

None.

7. Conflict of Interest

None.

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