

A Web Based Study on Effect of Psychological Status on Oral Health Quality Of Life of Geriatric Patients Undergoing Complete Denture Treatment

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ABSTRACT

Background: This research investigates the impact of psychological factors on oral health quality of life in geriatric patients undergoing complete denture treatment. **Materials and Methods:** Conducted from July to October 2023, the study involved 55 geriatric participants. Demographics, denture usage, psychological aspects, and satisfaction were assessed via a validated questionnaire. VassarStat analyzed the data with a significance level of $p < 0.005$. **Results:** Diverse denture experiences were noted, with 50.9% reporting anxiety. Communication was highly rated by 34.5%, but 34.5% sought more information. Age and gender showed no impact on satisfaction. Esthetic satisfaction varied, and speech-related challenges were prevalent. **Conclusion:** This study highlights the multifaceted nature of geriatric denture satisfaction, emphasizing the need for personalized communication, psychological consideration, and long-term follow-up.

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1. INTRODUCTION

The aging population presents unique challenges for healthcare professionals, particularly in the field of dentistry. In a country undergoing development such as India, where the population exceeds one billion, and individuals aged 60 and above make up 7.6% of the total population, equating to 76 million people¹. As individuals advance into their geriatric years, the prevalence of edentulism rises, necessitating the implementation of complete denture treatments to restore oral function and aesthetics. Beyond the physical aspects of dental care, the psychological well-being of geriatric patients plays a pivotal role in their overall health and quality of life².

While extensive research has explored the impact of complete denture treatment on oral health outcomes, there is a growing recognition of the interconnectedness between psychological status and oral health-related quality of life in the geriatric population. The transition to edentulism and the adaptation to denture prosthetics can be psychologically challenging, influencing various facets of an individual's mental health and overall satisfaction with life³.

The primary objective of prosthetic treatment is to enhance the well-being of the patient. Unfortunately, the criteria applied in clinical practice often neglect the patient's needs and preferences, which are the key determinants of satisfaction and overall quality of life. This study seeks to delve into the nuanced

relationship between psychological status and the oral health quality of life among geriatric patients undergoing complete denture treatment⁴.

By investigating these interdependencies, we aim to contribute valuable insights that can inform holistic approaches to geriatric dental care, addressing not only the functional and aesthetic aspects but also the psychological factors that significantly contribute to overall well-being. As the global population continues to age, understanding the intricate interplay between psychological factors and oral health quality becomes imperative for tailoring effective and patient-centered dental interventions for the elderly⁵ through the exploration, we aspire to bridge gaps in existing knowledge and pave the way for comprehensive strategies that enhance the overall oral health experience for geriatric individuals undergoing complete denture treatment.

2. MATERIALS AND METHODS

The study, conducted between July 2023 and October 2023, specifically targeted geriatric patients. Approval and validation for the research were obtained from the Department of Prosthodontics, Dr MGR Educational and research institute university. Prior to participation, individuals willingly provided informed consent, ensuring confidentiality and anonymity by refraining from collecting personally identifiable information. Employing a cross-sectional survey approach, the research involves randomly selected 55 geriatric patients in chennai city. The survey, comprising 25 questions, aimed to evaluate the impact of psychological status on the (OHQoL) in geriatric patients undergoing complete denture treatment. Demographic information, such as age group, gender, and the presence of any systemic diseases, was recorded. The questionnaire underwent validation, and data collection occurred through a pen-and-paper method. Administered in English and explained orally in the local language, the gathered data were transferred to Excel and input into VazzarStat for statistical analysis, using a significance level of $p < 0.005$ to determine statistical significance in the analysis.

3. RESULTS

In the study, 55 geriatric participants were involved, with 50.9% being male and 49.1% female. The age distribution included 21.8% in the 31-45 years group, 43.6% in the 46-60 years group, 27.3% above 60 years, and 7.3% above 70 years. Regarding health conditions, 23.6% had hypertension, 20% had diabetes, and 34.6% had both. In terms of denture usage, 40% had been using complete dentures for 6-12 months, 25.5% for 3-6 months, 21.8% for more than 3 years, and the remaining for over a year. When asked about factors influencing satisfaction with denture treatments, 30.9% mentioned expectations, and the same percentage emphasized the dentist's experience. Concerning comfort during daily activities, 38.2% rated their complete dentures as comfortable.

Anxiety or stress related to denture treatments was experienced by 50.9%, and 34.5% considered age a significant factor affecting their willingness to undergo denture treatments. In terms of communication with their doctors, 34.5% rated it as a 4 on a scale of 1 to 4. Self-esteem was reported to influence perception, with 32.7% suggesting it led to unrealistic expectations. Concerning dentist consideration of functional preferences, 36.4% felt this was done to a certain extent. The esthetic outcome was moderately important for 40%, and 34.5% wanted more information about denture treatments. After denture treatments, 23.6% felt very confident about smiling in public, and 29.1% perceived their prosthetic teeth as somewhat natural.

Doctor addressing concerns about esthetic outcomes was reported by 41.8%, and 34.5% stated that their complete dentures fit well. Satisfaction with chewing ability was reported by 38.2%, and 36.4% sometimes used adhesive products. Stability during speaking was satisfactory for 43.6%, and 45.5% were satisfied with the appearance of their complete dentures. Concerning information provided by dentists, 45.5% felt it was somewhat clear about potential complications. Dissatisfaction with denture treatment was expressed by 16.4%, while 67.3% received adequate post-treatment instructions. About 69.1% reported difficulties or changes in their ability to pronounce certain words, and 74.5% noticed changes in articulation or speech clarity with their complete dentures.

DEMOGRAPHIC DETAILS

		FREQUENCY [N]	PERCENTAGE [%]
AGE GROUP	31-46 YEARS OLD	12	21.8
	46-60 YEARS OLD	24	43.6

	ABOVE 60 YEARS OLD	15	27.3
	ABOVE 70 YEARS OLD	4	7.3
		FREQUENCY (N)	PERCENTAGE (%)
GENDER	MALES	28	50.9
	FEMALES	27	49.1
SYSTEMIC DISEASE	NONE	5	13.0
	DIABETES	13	20.0
	HYPERTENSION	11	23.6
	BOTH	19	34.5
	OTHERS	7	20.0
DURATION OF WEARING COMPLETE DENTURE	3 TO 6 MONTHS	14	25.5
	6 TO 12 MONTHS	22	40.0
	1 TO 3 YEARS	7	12.7
	FOR THAN 3 YEARS	12	21.8
INFLUENCE YOUR SATISFACTION AND TREATMENT OUTCOMES IN REPLACING THE MISSING TEETH	DENTURE MATERIALS	14	25.5
	DENTIST'S EXPERIENCE	17	30.9
	PATIENT'S EXPECTATIONS	17	30.9
	NONE	7	12.7
	TOTAL	55	100.0

COMFORT

QUESTION	OPTIONS	N	%	CHI - SQUARE	P-VALUE
How would you rate the comfort of your complete denture during normal daily activities?	A) Uncomfortable B) Neutral C) Comfortable D) Very Comfortable	10 16 21 8	18.2 29.1 38.2 14.5	8.37	0.039

How often did you experience anxiety or stress related to the denture treatment?	A) Never B) Sometimes C) Often D) Always	9 28 13 5	16.4 50.9 23.6 9.1	5.9	0.1166
On a scale of 1 to 4 , how would you rate the quality of the communication between you and the doctor ?	A) 1(poor) B) 2 C) 3 D) 4 (excellent)	9 15 12 19	16.4 27.3 21.8 34.5	13.24	0.0041
Which factor is likely to influence your willingness to undergo denture treatment?	A) Age B) Gender C) Anxiety D) Socioeconomic status	19 13 8 15	34.5 23.6 14.5 27.3	6.73	0.081

FUNCTION

How will your self-esteem influence your perception of Denture treatment effectiveness?	A) It has no influence on perception B) It leads to higher pain tolerance C) It can lead to unrealistic expectations D) It is related to better oral hygiene	15 16 18 6	27.3 29.1 32.7 10.9	3.54	0.3156
Did your dentist consider your functional preferences and concerns when planning your denture treatment?	A) Yes, my preferences and concerns were fully considered B) Yes, to some extent C) No, my preferences and concerns were not considered D)No, I was not asked about my preferences and concerns	18 20 11 6	32.7 36.4 20.0 10.9	4.99	0.1725

ESTHETICS

How important was the esthetic outcome of your denture treatment to you?	A) Not important at all B) Moderately important C) Very important D) Extremely important	13 22 11 9	23.6 40.0 20.0 16.4	2.77	0.4285
Did your dentist provide adequate information about the denture treatment?	A) Yes, I received all the necessary information B) Yes, but I would have liked more information C) No, I did not receive enough information D) No, I did not receive any information	19 19 13 4	34.5 34.5 23.6 7.3	0.55	0.9078
How confident do you feel about smiling and showing your teeth in public after your denture treatment?	A) Extremely confident B) Neutral C) Somewhat less confident D) Extremely less confident	13 24 11 7	23.6 43.6 20.0 12.7	2.23	0.5261
Do you feel that your new prosthetic teeth look natural?	A) Yes, they look very natural B) They look somewhat natural C) They look somewhat unnatural D) No, they do not look natural at all	11 16 15 13	20.0 29.1 27.3 23.6	7.61	0.0548
Did your doctor address any concerns or questions you had regarding the esthetic outcome of your treatment?	A) Yes, all concerns and questions are thoroughly addressed B) Yes, but not all concerns and questions were adequately addressed C) No, my concerns and questions werenot addressed	23 18 14	41.8 32.7 25.5	1.86	0.3946

POST-OPERATIVE CARE

How well do your complete denture fit your mouth?	A) Loose B) Neutral C) Well- fitting D) Perfect fit	10 19 19 7	18.2 34.5 34.5 12.7	7.07	0.0697
How satisfied are you with the chewing ability provided by your complete denture?	A) Dissatisfied B) Neutral C) satisfied D) Very satisfied	8 17 21 9	14.5 30.9 38.2 16.4	10.43	0.0152
How often do you use adhesive products (if applicable) for your complete denture ?	A) Always B) Often C) Sometimes D) Rarely	10 12 13 20	18.2 21.8 36.4 23.6	12.22	0.0067
How satisfied are you with the	A) Very satisfied B) Satisfied	7 24	12.7 43.6	8.77	0.0325

stability of your complete denture while speaking?	C) Neutral D) Dissatisfied	15 9	27.3 16.4		
How satisfied are you with the appearance of your complete denture ?	A) Very satisfied B) Satisfied C) Neutra ID) Dissatisfied	11 25 14 5	20.0 45.5 25.5 9.1	3.84	0.2793
Did your dentist explain the potential complications or challenges associated with wearing complete denture ?	A) Yes, very clearly B) Yes, somewhat clear C) No, not very clear D) No, not clear at all	8 25 12 10	14.5 45.5 21.8 18.2	7.55	0.0563
How satisfied are you with the denture treatment you received?	A) Satisfied B) Neutral C) Dissatisfied D) Very satisfied	18 19 9 9	32.7 34.5 16.4 16.4	1.33	0.722
Did you receive adequate post-treatment instructions and guidance for maintaining your denture treatment?	A) Yes B) No	37 18	67.3 32.7	1.37	0.2418
Do you feel any difficulties or changes in your ability to pronounce certain words since getting your complete denture ?	A) Yes B) No	38 17	69.1 30.9	0.16	0.6892
Have you noticed any changes in your articulation or clarity of speech with your complete denture ?	A) Yes B) No	41 14	74.5 25.5	1.06	0.3032

4. DISCUSSION

In our research, participants had varied experiences with denture use, spanning from 6-12 months to over 3 years. This diverse duration of denture use allows for an exploration of how satisfaction and psychological aspects may evolve over time. Notably, a significant percentage (50.9%) reported experiencing anxiety or stress related to denture treatments, a figure that aligns with the findings of Dhande et al., who observed a 61% prevalence of such psychological challenges in prosthodontic interventions⁶. A substantial portion of participants (34.5%) rated their communication with dentists as highly satisfactory. Nevertheless, there were discrepancies in the adequacy of information received, with 34.5% expressing a desire for more details about denture treatments. Our study revealed that factors like expectations and the dentist's experience significantly influenced satisfaction and treatment outcomes.

Interestingly, age and gender were not found to impact denture satisfaction, a result consistent with Baer et al.'s findings⁷. Participants in our study expressed varying levels of satisfaction with the aesthetic outcomes of their denture treatments, with 41.8% noting that doctors addressed concerns about aesthetics. This is comparable to Singh G et al.'s study, where 62% found their dentures satisfactory.

Satisfaction across various aspects like comfort during daily activities, chewing ability, stability while speaking, and overall appearance provided insights into the multifaceted nature of oral health quality of life⁸.

While a majority received sufficient post-treatment instructions (67.3%), a notable percentage (16.4%) expressed dissatisfaction with their denture treatment. Limpuangthip et al. reported common oral impacts due to functional limitations, pain, and discomfort from ill-fitting dentures⁹. In our study, about 69.1% reported difficulties or changes in their ability to pronounce certain words, and 74.5% noticed changes in articulation or speech clarity with complete dentures. This aligns with Shigli et al.'s findings, where speech deteriorated after treatment, and Rad et al.^{10,11} study, which observed difficulty in pronunciation after complete denture delivery.

These findings underscore the necessity for comprehensive post-treatment support. Al Quran et al.¹² noted a significant association of personality with denture satisfaction, consistent with the study by Shrestha et al.¹³, supporting the idea that properly fitting dentures benefit patients. Garret et al. reported similar results, with nearly all patients perceiving improvements in masticatory function, speech, and security¹⁴. As aptly stated by Jamieson, "Fitting the personality of the elderly patient is often more challenging than fitting the denture to the mouth." These findings emphasize the importance of considering psychological factors in prosthodontic treatments for geriatric patients.

Tailoring communication and information dissemination to individual patient needs can enhance satisfaction and overall treatment outcomes. Addressing anxiety and stress related to denture treatments should be integrated into holistic geriatric dental care approaches. Long-term follow-up is essential to monitor changes in satisfaction and oral health quality over time.

5. CONCLUSION

In conclusion, the study provides valuable insights into the nuanced relationship between psychological status and (OHQoL) in geriatric patients undergoing complete denture treatment, offering a foundation for future research and patient-centered approaches in prosthodontic care for the elderly.

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