

Evaluation Of Anxiety in Patients Undergoing Complete Denture Treatment At Two Tertiary Care Hospitals In Rawalpindi And Islamabad

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Abstract

Objective: The objective of the article is to assess anxiety in patients undergoing complete denture treatment.

Method: A valid pre-structured questionnaire was presented to the patients desirous of receiving complete dentures after obtaining informed consent. The questionnaire for the survey was filled out and collected from 500 patients receiving complete denture treatment.

Results: Of the 500 patients, 61.1% had prior denture experience, and 38.1% were undergoing denture placement for the first time. While 84.4% felt comfortable with the idea of complete dentures, 15.4% found it repulsive. Reasons inducing anxiety in a dental setting, include materials (28.3%), instruments (8.2%), the dentist's chair (28%), and other reasons (60.5%). Specific concerns related to complete denture use included fear of breakage (16.6%), ill-fitting prosthesis (43.3%), and discomfort with wearing and removing dentures (25%). Patients overwhelmingly appreciated having the entire procedure described beforehand (99.2%) and considered language understanding by the doctor as crucial for good treatment (97.8%).

Conclusion: There is a greater need for the patient's expectations to be understood and their doubts, concerns and fears to be narrowed by effective communication. A good understanding of patients' mental attitudes will help us improve the technique of dentists towards complete denture treatment in a more patient-friendly way.

Keywords: Anxiety, attitude, communication, complete dentures.

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1. Introduction

The predominant method for addressing edentulism in Pakistan is through complete denture therapy. Conventional complete dentures are widely favoured for their affordability, aesthetic acceptability, and ease of maintenance compared to alternative treatments.^{1,2} Edentulism, characterized by the absence of remaining teeth, poses a notable public health concern among the elderly, significantly impacting primary care delivery. Various characteristics, including old age, health conditions, and socioeconomic factors, contribute to edentulism.³ Despite the era of dental implantology, a substantial number of edentulous individuals opt for removable complete dentures to improve their oral health-related quality of life. However, with advancing age, patients' adaptation to dentures tends to decrease, leading to psychological and social adjustments.⁵ Dental anxiety ranked as the fifth most common source of anxiety, contributes to the avoidance of dental care and can have serious repercussions on oral health, leading to poor attendance.⁶⁻⁸ Recognizing the psychosocial impact of

tooth loss, Dr. Milus M. House classified complete denture patients into psychological categories, emphasizing the need for dentists to be perceptive to patients' needs and preferences before initiating treatment.^{9,10}

The risk of patients struggling to adapt to dentures involves anatomical, physiological, and psychological factors, with the psychological aspect often being underestimated. Prosthetic treatments, including the use of various tools and materials, can induce anxiety, highlighting the importance of considering patient psychology in prosthodontic care.

In light of these considerations, the rationale of our study is to assess factors contributing to patient anxiety during complete denture treatment through a survey. The study sought to gauge the extent of patient anxiety, identify sources of anxiety during and after treatment, and understand patient attitudes.

2. Materials & Methods

This cross-sectional, survey-based clinical study was conducted in the Department of Prosthodontics at two tertiary care hospitals of Rawalpindi and Islamabad,

Islamic International Dental Hospital, Islamabad and Rawal General and Dental Hospital. The study was carried out using convenience sampling among 500 patients receiving complete denture treatment, 250 from each institute. Ethical approval was taken from the Ethical Committee of Islamic International Hospital.

The questionnaire comprised ten questions, centered around four key themes; patient comfort, past dental experiences, reasons for dental anxiety during treatment, and additional factors such as financial considerations, commute, and time. Before participation, informed consent was obtained from all patients. This questionnaire was adapted from sources.^{10,11} The reliability of the questionnaire was assessed through Cronbach's alpha, yielding a highly reliable result of $\alpha = 0.83$.¹⁰

Inclusion and Exclusion Criteria:

Inclusion criteria comprised patients undergoing complete denture therapy, those interested in such therapy, and patients classified as "philosophical" according to House. Exclusion criteria included partially edentulous patients, those categorized as "exacting," "hysterical," or "indifferent" by House,⁹ participants who declined to participate, those requiring an interpreter due to a language barrier, and individuals with a history of psychiatric issues. Conducting a study to evaluate anxiety in patients undergoing complete denture treatment is essential for prioritizing patient well-being and optimizing treatment outcomes.

Only patients meeting inclusion criteria received and returned the questionnaire at the commencement and conclusion of their appointments. The study objectives were explained in the participants' preferred language, accompanied by an information page and the survey questionnaire.

Statistical analysis utilized IBM SPSS version 23, employing descriptive statistics to present frequencies and percentages. A significance level of $p < 0.05$ was considered statistically significant.

3. Results

The questionnaire (Table 1.) revealed that out of 500 patients, 50.7% were females and 49% were male. The patients were divided into three age groups, 50-60-year-olds, 61-70-year-olds and above 70 years, with respective proportions of 40.3%, 53.9%, and 5.6%. The majority of patients 88.6% expressed comfort, while 11.2% reported discomfort with the idea of visiting the

dentist. Anxiety levels, measured using the Visual Analog Scale-Anxiety (VAS-A), varied with 20.0% feeling at ease, 34.7% apprehensive, and 27.1% anxious.

Table 1: The questionnaire evaluating anxiety in patients undergoing complete denture treatment

Questions	Options	Total Number of Patients (500)	Percentage
Are you comfortable visiting a dentist?	a) Yes	444	88.6%
	b) No	56	11.4%
Have you ever got a set of complete dentures fabricated before?	a) Yes	306	61.1%
	b) No	191	38.1%
Are you comfortable using a complete denture?	a) Yes	423	84.4%
	b) No	77	15.4%
Which of the following things makes you uncomfortable?	a) Materials used	142	28.3%
	b) Sight of instrument	41	8.2%
	c) Dental Chair	14	2.8%
	d) Others	303	60.5%
Which of the following options makes you uncomfortable?	a) Fear of swallowing the denture	17	3.4%
	b) Fear of ill-fitting denture	217	43.3%
	c) Breakage denture	83	16.6%
	d) Idea of wearing and removing again and again	125	25%
	e) Breakage and ill-fitting denture	29	5.8%
	f) Other	19	3.8%
While taking measurements what do you fear?	a) Fear of vomiting	175	34.9%
	b) Fullness of mouth	184	36.7%
	c) Swallowing of impression material	41	8.2%
	d) Breathlessness	25	5%
What might stop you from undergoing complete denture treatment?	e) Other	75	15%
	a) Number of visits	149	29.7%
	b) Time	88	17.6%
	c) Cost	162	32.3%
	d) Visits and time	7	1.4%
Will you be more comfortable if the dentist explains you the entire treatment/procedure beforehand?	e) Other	94	18.8%
	a) Yes	497	99.2%
Do you feel it is important that the doctor should understand your language?	b) No	3	0.6%
	a) Yes	490	97.8%
	b) No	10	2%

ANOVA test and Independent samples test were used for statistical analysis. The age of the patient was compared to their comfort level. ANOVA tests indicated significant p values for factors causing discomfort during complete denture treatment, factors exacerbating anxiety during impression-making, and factors

hindering patients from undergoing complete denture treatment. (Table 2.)

Independent samples test was found significant for factors aggravating anxiety while making complete dentures and the patient is comfortable if the dentist explains the entire treatment beforehand were both significant.

Table 2: ANOVA Test results.

		Sum of Squares	df	Mean Squares	F	Sig.
things uncomfortable	Between Groups	14.346	2	7.173	3.976	.019
	Within Groups	896.686	497	1.804		
	Total	911.032	499			
options uncomfortable	Between Groups	59.752	2	29.876	20.471	.000
	Within Groups	725.326	497	1.459		
	Total	785.078	499			
factors aggravating anxiety while making impressions	Between Groups	68.705	2	34.352	12.902	.000
	Within Groups	1323.253	497	2.662		
	Total	1391.958	499			
factors preventing patient from undergoing complete denture treatment	Between Groups	41.784	2	20.892	17.032	.000
	Within Groups	609.648	497	1.227		
	Total	651.432	499			

Of the 500 patients, 61.1% had prior denture experience, and 38.1% were undergoing denture placement for the first time. While 84.4% felt comfortable with the idea of complete dentures, 15.4% found it repulsive. Patients identified various sources of anxiety in a dental setting, including materials (28.3%), instruments (8.2%), the dentist's chair (28%), and other reasons (60.5%). Specific concerns related to complete denture use included fear of breakage (16.6%), ill-fitting prosthesis (43.3%), and discomfort with wearing and removing dentures (25%).

Impression-making anxiety was reported by 34.9% due to a fear of vomiting, 36.7% due to mouth fullness, and 8.2% due to swallowing impression material.

Barriers to complete denture therapy included cost (32.3%), the number of visits (29.7%), time constraints (17.6%), and other factors (18.8%). Patients

overwhelmingly appreciated having the entire procedure described beforehand (99.2%) and considered language understanding by the doctor as crucial for good treatment (97.8%). In comparison to existing studies, our findings align with common trends in age distribution and factors contributing to patient anxiety, contributing valuable insights to the broader understanding of patient experiences in dental care.

4. Discussion

Understanding the psychological dimensions and patient attitudes in dental treatment is imperative for effective care and patient satisfaction.^{12,13} Our study, conducted at the Islamic International Dental Hospital and Rawal General and Dental Hospital on 500 prosthodontic patients seeking complete removable dentures, aimed to study the mental aptitude of individuals undergoing or desiring dental treatment.

Within the dentist-patient relationship, anxiety emerges as a significant limiting factor and a prevalent concern among those facing dental procedures. Dr. Milus M. House's classification system offers a thorough understanding, categorizing patients into philosophical, exacting, hysterical, and indifferent groups based on mental makeup and past experiences.^{14,15} Our cross-sectional study selectively focused on philosophical patients, refining the cohort for more targeted insights.

Global dental anxiety is a prevalent issue affecting dental attendance and oral health.¹⁶ Our results paralleled this trend, with 88.6% expressing apprehension and 11.4% manifesting outright anxiety toward complete denture treatment.

Identified anxiety triggers, including material sight and instrument perception, resonate with a similar study reporting 71.8% anxiety due to materials and 14.2% due to instruments in a study by Ankita Kirti Prasad, et.al 2021.¹⁰ Creating an anxiety-free environment is crucial, necessitating informed communication about sterilized instruments. Patient discomfort post-prosthesis was predominantly linked to ill-fitting dentures, removal challenges and breakage.

Concerns related to past unpleasant dental experiences echo findings in the literature.¹⁷ Anxiety during impression-making, particularly fear of a full mouth and vomiting, highlights the multifaceted nature of patient apprehension. Addressing language barriers is paramount, with 97.8% of patients emphasizing the importance of understanding their language.

Patient compliance significantly improves with pre-procedural explanations, showcasing the vital role of effective communication in dental care.¹⁸ Awareness of the financial aspect emerged as a substantial barrier,

emphasizing the need for communication about treatment plans, costs, and visit details. These findings offer valuable insights for a patient-centred approach and emphasize the importance of effective communication in prosthodontic care.

5. Conclusion

There is a strong correlation between denture satisfaction and dental anxiety. The geriatric patients become anxious at some point either during or after completion of their prosthodontic treatment. The knowledge of the reason for their anxiety is critical for the dentist to diagnose, manage and reduce problems. It's a key tool for successful dental care. A complete denture is not only the replacement of the teeth but also a person's ability of mastication, improvement of aesthetics, a better speech and uprising his self-esteem.

CONFLICTS OF INTEREST- None

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Contributions:

M.A.G.C, M.K, R.U.K, M.F.K - Conception of study

M.K, R.A, S.U - Experimentation/Study Conduction

R.A, S.U - Analysis/Interpretation/Discussion

R.A, S.U - Manuscript Writing

M.A.G.C, M.K, R.A, S.U, R.U.K, M.F.K - Critical

Review

M.A.G.C, M.K, R.A, S.U, R.U.K, M.F.K - Facilitation and Material analysis

All authors approved the final version to be published & agreed to be accountable for all aspects of the work.

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