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The relationship between patient motivation and compliance with removable denture treatment at the Rumah Sakit Gigi dan Mulut Pendidikan (RSGMP), University of Jember

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Abstract
Introduction: Oral and dental health is an essential component of overall health, as it plays a vital role in speech, mastication, and aesthetics. One of the common issues, particularly among the elderly, is tooth loss, which can significantly reduce quality of life. The use of removable dentures, such as complete dentures and removable partial dentures, serves as a solution to restore oral function and aesthetics. However, their utilization remains low. Patient motivation, both intrinsic and extrinsic, plays a key role in shaping treatment adherence, which is a determining factor in treatment success. Therefore, it is important to examine the extent to which motivation influences patient adherence to removable denture treatment.
Methods: This study employed an observational analytic design with a cross-sectional approach. A total of 77 patients undergoing removable denture treatment at the Teaching Dental and Oral Hospital of Universitas Jember during May–June 2025 were selected using purposive sampling. The instruments used included a questionnaire to assess motivation and a checklist to measure adherence. Data were analyzed using the Spearman rank correlation test with the assistance of IBM SPSS Statistics version 29.
Results: The analysis showed a significant correlation between motivation and patient adherence in undergoing removable denture treatment, with a moderate level of association.
Conclusion: There is a significant correlation between the motivation for removable denture treatment and patient adherence at the Teaching Dental and Oral Hospital of University of Jember.

Keywords: Motivation, patient adherence, removable denture

Introduction

Oral and dental health is an essential component of overall health, as it plays a role in speech, mastication, and aesthetics [1]. The prevalence of oral health problems in Indonesia remains relatively high, with the Ministry of Health reporting a rate of 57.6%. One of the main issues is the high incidence of tooth loss, particularly among the elderly, which can lead to a decreased quality of life and impaired well-being [2].

A common treatment to address tooth loss is the use of removable dentures, including both complete dentures (CDs) and removable partial dentures (RPDs). The purpose of this treatment is to restore aesthetic, masticatory, and phonetic functions, as well as to prevent complications such as tooth displacement, temporomandibular joint disorders, and alterations in jaw relationships [3]. One of the advantages of removable dentures is that users can easily insert and remove the prosthesis themselves [4]. Unfortunately, despite the high rate of tooth loss, the use of removable dentures remains low, which may be influenced by factors such as poor oral hygiene practices, neglectful behavior, and a lack of awareness about the importance of maintaining oral health. These behaviors are often associated with the patient's level of knowledge and motivation [5].

One of the key factors affecting the use of dentures is the patient's motivation to undergo treatment. Motivation influences compliance and may stem from intrinsic sources within the individual or extrinsic factors from the surrounding environment [6, 8]. Motivation is essential for making decisions related to treatment [9, 10]. Patient compliance can be assessed by evaluating how well they follow each stage of treatment, including follow-up visits. Compliance is critical to the success of removable denture treatment, as it ensures that the patient completes each planned treatment phase. Non-compliance can result in incomplete treatment and may even lead to treatment failure [11, 13].

This study aims to examine the relationship between motivation and patient compliance in undergoing removable denture treatment. It is expected that this study will provide insights into the extent to which patients' motivation levels are associated with their compliance throughout the treatment process.

Material and Methods

This research is an analytical observational study with a cross-sectional design. The study was conducted at the Prosthodontic Integrated Clinic of the Teaching Dental and Oral Hospital, University of Jember. Subject selection was carried out using purposive sampling. The study was conducted from May to June 2025. The study population consisted of 340 patients at the prosthodontic integrated clinic who underwent complete denture and removable partial denture treatments at the Teaching Dental and Oral Hospital, Universitas Jember, in 2024. This study was conducted with ethical clearance (No/3006/UN25.8/KEPK/DL/2025) obtained from the Ethical Committee of Medical Research, Faculty of Dentistry, University of Jember. The sample was selected using purposive sampling and Slovin's formula, with the inclusion criteria being complete denture (CD) and removable partial denture (RPD) patients who were willing to participate in the study. The exclusion criteria were CD and RPD patients who were not present at the location.

Based on Slovin's formula, the minimum required number of subjects was 77 (43 RPD and 34 CD patients). The independent variable was the patients' motivation to undergo removable denture treatment at the Teaching Dental and Oral Hospital, Universitas Jember. The instrument used was the Treatment Motivation Questionnaire (TMQ). The scale used was an ordinal scale with a 4-point Likert scale: Strongly Agree, Agree, Disagree, Strongly Disagree. The results were categorized into three levels: Motivated (68–100%), Moderately Motivated (34–67%), and Less Motivated (0–33%). The dependent variable in this study was the patients' adherence to removable denture treatment at the Teaching Dental and Oral Hospital, Universitas Jember. The instrument used was a checklist. The scale used was ordinal, employing a semantic differential scale with two options (Performed/Not Performed). The observation results were categorized into three groups: Adherent – completed the entire treatment and follow-up; Moderately Adherent – completed treatment up to the insertion stage but did not attend follow-up; Non-Adherent – did not complete one or more stages of the treatment. Bivariate data analysis was conducted using IBM SPSS Statistics version 29. The analysis was performed to determine the relationship between the two variables using the Spearman rank correlation test.

Results

The results of the study can be seen from the characteristics of the research subjects based on gender, type of treatment, and age classification according to the Central Bureau of Statistics (2023), as presented in the tables below.

Table 1: Gender Distribution

Gender	n	Percentage (%)
Male	34	44%
Female	43	56%
Total	77	100%

Table 2: Type of Treatment Distribution

Type of Treatment	n	Percentage (%)
Complete Denture (CD)	34	44%
Removable Partial Denture (RPD)	43	56%
Total	77	100%

Table 3: Age Group Distribution

Age Group	n	Percentage (%)
15-24	0	0%
25-34	2	3%
35-44	6	8%
45-54	27	35%
55-64	27	35%
65+	15	19%
Total	77	100%

Frequency distribution of treatment motivation for removable dentures in patients currently undergoing removable denture treatment at the Teaching Dental and Oral Hospital, Universitas Jember.

Table 4: Frequency distribution of treatment motivation for removable dentures

Motivation Level	n	Percentage (%)
Motivated	57	74%
Moderately Motivated	11	14%
Less Motivated	9	12%
Total	77	100%

Frequency distribution of treatment adherence for removable dentures in patients currently undergoing removable denture treatment at the Teaching Dental and Oral Hospital, Universitas Jember.

Table 5: Frequency distribution of treatment Adherence for removable dentures

Adherence Level	n	Percentage (%)
Adherent	53	69%
Moderately Adherent	19	25%
Non-Adherent	5	6%
Total	77	100%

The results of the data analysis using the Spearman Rank correlation test showed a significance value of <0.001 (p<0.050) and a correlation coefficient of 0.420 (0.400–0.599), indicating a significant relationship with a moderate level of correlation between motivation and adherence to removable denture treatment at the Teaching Dental and Oral Hospital, Universitas Jember

Discussion

The characteristics of the subjects involved in this study were categorized based on gender, age group, and type of treatment. The number of female patients undergoing removable denture treatment was higher than that of male patients. This is in line with the study by Listiana *et al*. (2020) [14], which stated that female patients tend to have higher motivation as they generally pay more attention to aesthetics and personal hygiene. They are also more receptive to health education and more compliant with medical recommendations, including denture treatment [14]. Based on the results, the largest distribution of subjects was in the 45–54 and 55–64 age groups. This is consistent with the findings of Sondang *et al*. (2023) [15], which showed that the 40–65 age group is considered late productive age, a period when structural changes in the oral cavity begin due to degenerative processes. Tooth loss is a major oral health problem common in individuals aged 40–65, usually caused by untreated dental caries and periodontal disease, as well as physiological changes with aging. Based on the distribution of treatment types, the majority of subjects in this study were removable partial denture (RPD) users (43 patients or 56%), while complete denture (CD) users accounted for 34 patients (44%). According to Gozali & Teguh (2022) [16], patients tend to postpone complete denture use and prefer RPDs as long as remaining teeth can still serve as abutments, allowing them to preserve part of their natural dentition. This indicates that most elderly patients still have remaining natural teeth and tend to choose RPDs to maintain oral function. Based on Table 4, the highest number of respondents fell into the 'motivated' category, totaling 57 patients (74%). High motivation can serve as a strong foundation for patients to complete the treatment process. Motivated patients are more likely to comply with scheduled visits through to the control phase [17]. Based on Table 5, the distribution of adherence to removable denture treatment showed that most patients (53 or 69%) were categorized as adherent. Patient adherence is a positive behavior directed toward achieving predetermined treatment goals and is a key factor in the success of denture treatment [18].

Data analysis in this study showed a significant result (p<0.001), indicating a relationship between motivation and

patient adherence to removable denture treatment. Motivation drives individuals to pursue desired goals [19]. This aligns with the findings of Tulandi *et al*. (2017) [19], who emphasized the importance of self-perception in the decision to use dentures. Patients who perceive tooth loss as negatively impacting mastication tend to have higher motivation to use dentures. This suggests that intrinsic drive plays a key role in shaping treatment adherence. Moreover, the patient's need for functional teeth in daily activities, such as eating, is an essential part of internal motivation. The hope that dentures will address functional and aesthetic limitations also encourages patients to persist with treatment. Patients with a strong internal drive are more likely to adhere to the treatment plan. This is supported by the study of Khomkham & Kaewmanee (2024) [20], which found that motivated patients are better able to endure discomfort during treatment, remain consistent with follow-up appointments, and maintain a positive outlook on treatment outcomes. In denture use, intrinsic motivation arises when patients choose treatment not due to external pressure but because of personal awareness of oral health importance. Intrinsically motivated patients are driven by comfort, self-confidence, and improved quality of life. When patients feel in control of their treatment decisions, they are more likely to be committed, active, and consistent throughout each phase of denture care. Extrinsic motivation includes external influences such as family support, environmental factors, perceived consequences of not using dentures, and expectations of treatment outcomes [21].

This is consistent with Iksan *et al*. (2018) [17], who stated that extrinsic motivations like family pressure, work demands, or the desire for social acceptance can strongly encourage patients to initiate and continue treatment. In such cases, the motivation arises not solely from personal needs but also from the desire to meet expectations or avoid negative consequences imposed by the environment. Family encouragement, particularly from spouses, is a reinforcing factor influencing individual behavior [22]. The analysis showed a moderate correlation between motivation and adherence, as evidenced by a correlation coefficient in the moderate category (0.420). Bidulang *et al*. (2021) [23] stated that patient adherence is not only driven by internal motivation but also by satisfaction or dissatisfaction with the quality of denture care, service quality, effective communication with clinical interns, availability of information, and the professionalism of healthcare personnel. Additionally, patient motivation and adherence to removable denture use at the Teaching Dental and Oral Hospital, Universitas Jember, are influenced by other factors such as incentives, adequate healthcare services, ease of access, and fee waivers [17, 24]. Incentives are considered effective in encouraging specific actions to achieve desired result [7, 13]. These combined factors contribute to a positive patient perception, which enhances satisfaction. Emotional satisfaction, in particular, has been shown to improve patient adherence and motivate them to recommend the service to others. Therefore, efforts to increase adherence to removable denture treatment should involve strengthening patient motivation alongside improvements in service quality and patient satisfaction.

Limitations of this study include the fact that patient compliance was not measured based on adherence to the scheduled appointments set by the operator, but rather on the sequence of treatment stages completed up to the follow-up visit. Therefore, it did not reflect punctuality in following the designated schedule. Moreover, this study was limited to patients receiving treatment at the Teaching Dental and Oral Hospital, University of Jember, so the findings may not be generalizable to a broader population or to other dental and oral healthcare facilities.

It is recommended that future research assess patient compliance more comprehensively, not only based on the completion of treatment stages, but also in terms of adherence to scheduled follow-up appointments as determined by the operator or healthcare provider. This would allow for a more accurate depiction of patient compliance patterns. To obtain more representative and generalizable results, further studies should be conducted across various dental and oral healthcare facilities, both within and outside academic institutions, involving a larger and more diverse population.

Conclusion

Based on the research conducted on the relationship between motivation and adherence to removable denture treatment at the Teaching Dental and Oral Hospital, Universitas Jember, it can be concluded that there is a relationship between treatment motivation and adherence to removable denture treatment at the Teaching Dental and Oral Hospital, Universitas Jember.

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