
Community Knowledge and Interest in the Use of Removable Partial Dentures: A Study of Patients with Partial Tooth Loss

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Abstract

Partial tooth loss can lead to impaired chewing function, speech, and aesthetics, which negatively impact quality of life. One commonly recommended solution is the use of removable partial dentures (RPDs) due to their affordability and practicality. However, the use of RPDs remains low in the community, likely due to limited knowledge and low interest among the population. This study aims to determine the relationship between knowledge and interest in the use of RPDs among patients with partial tooth loss at BLUD UPTD Puskesmas Purwaharja 2, Banjar City. This is a descriptive observational study using a cross-sectional approach. The sample consisted of 96 respondents aged 45–59 years, selected through purposive sampling and meeting the inclusion criteria. Data were collected through a structured questionnaire assessing the level of knowledge and interest in RPDs. The results showed that most respondents had low knowledge (43.2%) but still demonstrated high interest (50.0%). Bivariate analysis using the Chi-Square test showed a significant relationship between knowledge and interest in the use of RPDs ($p=0.000$). These findings highlight the importance of dental health education as a strategic measure to improve acceptance and use of removable partial dentures in the community.

Keywords: Knowledge, Interest, Removable Partial Dentures.

INTRODUCTION

Oral cavity diseases, particularly among adults and the elderly, can have a negative impact on general health and overall quality of life. Several commonly encountered conditions include tooth loss, periodontal disease, xerostomia, and periodontitis. Tooth loss is a prevalent oral health problem in the community, especially among the elderly, and represents one of the leading causes of decreased masticatory function.^{1,2} This condition not only impairs chewing ability but also affects phonetics, aesthetics/appearance, and even social interactions, thereby reducing an individual's quality of life.^{2,3,6}

One solution to address functional problems of the oral cavity resulting from tooth loss is the use of removable partial dentures, which are considered more affordable and easier to fabricate than other prosthodontic treatment options, and are effective in cases of partial tooth loss.^{4,5} Unfortunately, the utilization of removable partial dentures in the community remains suboptimal. Ideally, missing teeth should be replaced with dentures in order to restore and maintain oral function and aesthetics. However, many individuals are reluctant to use dentures due to various influencing factors and limitations, including insufficient knowledge regarding their benefits and low interest stemming from concerns about comfort, as well as economic and sociocultural factors.^{6,7,9}

The 2018 Basic Health Research (Riskesdas) report indicated that 19% of the Indonesian population experienced tooth loss due to extraction or spontaneous loss. Only 1.4% of the total population used dentures, with the majority of tooth loss cases occurring in individuals aged 45 years and above (23%).⁸ A study conducted by Cahyani RR et al. on denture use among 266 residents of Mayang Pongkai Village reported that only 46 individuals (17.3%) used dentures, while 220 individuals (82.7%) did not. In addition, a low level of community knowledge regarding denture use was identified among 80 residents (30%).⁷

Based on the above background concerning the lack of community knowledge and interest in denture use, the author was motivated to conduct this study to collect data on community knowledge and interest in the use of removable partial dentures among patients with partial tooth loss at BLUD UPTD Puskesmas Purwaharja 2 during the period of 28 April to 28 May 2025. This study is expected

to help address barriers in the development of effective prosthodontic education and care programs. The findings are anticipated to serve as a basis and guideline for the health center in delivering more targeted oral health services and in enhancing community awareness through education on the importance of using removable partial dentures for patients with partial tooth loss, thereby improving overall quality of life.

RESEARCH METHODS

This study utilized research tools and materials including stationery, disposable mouth mirrors or ice cream sticks, gloves and masks, a small flashlight, informed consent forms, and questionnaires. The study subjects were patients aged 45–59 years who visited BLUD UPTD Puskesmas Purwaharja 2 during the period of 28 April to 28 May 2025, with a total population of 1,941 individuals from Raharja Village and Mekarharja Village. The sample size was determined using the Slovin formula with a 10% margin of error, resulting in an initial sample of 96 respondents, which was subsequently adjusted for an estimated 10% dropout rate to 107 respondents. The sampling technique employed was purposive sampling based on specific criteria, namely patients aged 45–59 years with the loss of 1–5 teeth and who were not using dentures. The inclusion criteria comprised willingness to participate as respondents by signing informed consent, while the exclusion criteria included patients with complete tooth loss, complete dentition, loss of more than five teeth, or those already using dentures.

RESULTS AND DISCUSSION

Patient Demographic Data

The demographic characteristics of the respondents in this study include gender, age, highest educational attainment, occupation, and income, as presented in Table 1.

Table 1. Frequency Distribution of Respondents' Characteristics

Demographics	Frequency (n=118)	Percentage
Gender		
Male	29	24.6%
Female	89	75.4%
Age		
45-55 years old	67	56.8%
56-65 years old	42	35.6%
>65 years old	9	7.6%
Last Education		
No School	11	9.3%
Elementary School	51	43.2%
Junior High School	18	15.3%
Senior High School	26	22.0%
College	12	10.2%
Job		
Doesn't Work	71	60.2%
Work	47	39.8%
Income		
<Rp1.000.000	90	76.3%
Rp1000.0000 - Rp3.0000.000	16	13.6%
Rp3.000.000 - Rp5.000.00000	2	1.7%
>Rp5.000.000	10	8.5%

Source: Processed Research Data

Based on Table 1, the majority of respondents were female, totaling 89 individuals (75.4%), while male respondents accounted for 29 individuals (24.6%). In terms of age, most respondents were in the 45–55 year age group, comprising 67 individuals (56.8%), followed by the 56–65 year age group with 42 individuals (35.6%). Regarding educational background, respondents with elementary school education dominated the sample, totaling 51 individuals (43.2%). The second largest group consisted of respondents with a senior high school education, numbering 26 individuals (22.2%), while those with higher education accounted for 12 respondents (10.2%). In terms of occupation, the majority of respondents were unemployed, totaling 71 individuals (60.2%). Correspondingly, most respondents reported a monthly income of less than IDR 1,000,000, as the majority were housewives who did not have paid employment.

Description of Knowledge Regarding the Use of Removable Partial Dentures

Table 2 presents a summary of respondents’ knowledge regarding the use of removable partial dentures among visiting patients.

Table 2. Distribution of Knowledge Regarding the Use of Removable Partial Dentures

Knowledge Level	Frequency (n=118)	Percentage
Good	48	40.7%
Sufficient	19	16.1%
Poor	51	43.2%
Total	118	100.0%

Source: Processed Research Data

Based on Table 2, most respondents had poor knowledge of the use of removable partial dentures (43.3%). Meanwhile, 48 respondents (40.7%) were categorized as having good knowledge, and 19 respondents (16.1%) had a moderate level of knowledge.

Description of Interest in the Use of Removable Partial Dentures

Table 3 presents a summary of respondents’ interest in the use of removable partial dentures among visiting patients.

Table 3. Distribution of Interest in the Use of Removable Partial Dentures

Interest	Frequency (n=118)	Percentage
High	59	50.0%
Medium	21	17.8%
Low	38	32.2%
Total	118	100.0%

Source: Processed Research Data

As shown in Table 3, respondents’ interest in the use of removable partial dentures was predominantly categorized as high, with 59 respondents (50.0%). Furthermore, 21 respondents (17.8%) were classified as having moderate interest, while the remaining 38 respondents (32.2%) exhibited low interest. These findings indicate that although the majority of respondents demonstrated high interest, a considerable proportion still showed limited or low interest in the use of removable partial dentures.

Bivariate Analysis

Bivariate analysis was conducted to determine the relationship between demographic factors and the outcome variables. The statistical test used for the bivariate analysis was the chi-square (χ^2) test. However, when the assumptions for the chi-square test were not met, Fisher’s exact test was applied as an alternative. The assumption for the chi-square test is that no more than 20% of the expected cell counts are less than five.

Analysis of the Relationship between Knowledge and Interest in the Use of Removable Partial Dentures

Table 4 presents the results of the statistical analysis examining the relationship between knowledge and interest in the use of removable partial dentures.

Table 4. Results of the Analysis of the Relationship between Knowledge and Interest in the Use of Removable Partial Dentures

Knowledge	Minat			Total	p Value*
	High	Medium	Low		
Good	37 (77.1%)	7 (14.6%)	4 (8.3%)	48 (100.0%)	0.000
Sufficient	10 (52.6%)	5 (26.3%)	4 (21.1%)	19 (100.0%)	
Poor	12 (23.5%)	9 (17.6%)	30 (58.8%)	51 (100.0%)	

*) *Chi Square Test*

Source: Processed Research Data

Table 4 presents the relationship between the level of knowledge (good, moderate, poor) and the level of interest (high, moderate, low) in the use of removable partial dentures. The data indicate that respondents with good knowledge tended to have a high level of interest in using dentures (77.1%). Respondents with a moderate level of knowledge demonstrated more varied levels of interest, with 52.6% reporting high interest, 26.3% moderate interest, and 21.1% low interest. In contrast, respondents with poor knowledge predominantly exhibited low interest (58.8%). These findings are consistent with previous research conducted at Gamping Sleman Primary Health Center, Yogyakarta, which reported that 79.9% of respondents with good knowledge of dentures had a high level of interest in their use.²⁸

The Chi-square statistical test yielded a p-value of 0.000, indicating a statistically significant relationship between the level of knowledge and interest in the use of removable partial dentures.

Discussion

These findings confirm that knowledge is a key factor in shaping individuals' interest in health-related behaviors, particularly the use of removable partial dentures.²⁸ Several important points can be discussed:

Direct Relationship between Knowledge and Interest

Good knowledge enables individuals to understand the benefits, functions, and procedures involved in the use of dentures. This understanding plays a role in increasing psychological comfort and confidence in using dentures, which ultimately enhances interest.

Lack of Knowledge as a Barrier

Among groups with low levels of knowledge, a lack of information or misconceptions regarding dentures (such as perceptions of discomfort, difficulty of use, high cost, or side effects) may lead to hesitation or rejection, which in turn results in low interest.

Importance of Oral Health Education

These data emphasize the importance of educational and counseling programs related to dental care and the use of assistive devices such as dentures. Improving oral health literacy can serve as an effective preventive and promotive strategy.

High Interest Despite Uneven Knowledge Levels (Tables 2 & 3)

Interestingly, although the majority of respondents had low levels of knowledge (43.2%), 50% of all respondents still demonstrated high interest. This finding indicates substantial potential; with appropriate education, this interest could be further enhanced and translated into actual behavior.

Knowledge is one of the important determinants in shaping an individual's health attitudes and behaviors. In the context of removable partial denture use, the level of individual knowledge greatly influences interest in using such devices. The results of this study show a very significant relationship between knowledge level and community interest in the use of removable partial dentures ($p = 0.000$).

Most respondents with good knowledge levels demonstrated high interest in using dentures. This suggests that adequate understanding of the benefits, fitting process, maintenance, and positive impacts of denture use can encourage individuals to be more open and willing to use them.²⁸ Good

knowledge is also usually accompanied by accurate and reliable information, which can reduce doubts, fears, and stigma associated with denture use.²⁸

In contrast, among respondents with low knowledge levels, the majority showed low interest. Limited knowledge causes individuals to lack sufficient information to consider the benefits of denture use. In many cases, a lack of information can lead to misconceptions, such as the belief that dentures are uncomfortable, not durable, or unnecessary. This ultimately forms negative perceptions that hinder interest in engaging in behaviors that would be beneficial to health.²⁸

Furthermore, respondents with moderate knowledge levels showed a more even distribution of interest across high, moderate, and low categories. This indicates that this group remains highly amenable to improvement through educational interventions. They possess some understanding, but it is not yet strong enough to consistently generate high interest.

These findings reinforce the theory that knowledge serves as the initial foundation in an individual's decision-making process regarding health behaviors. Good knowledge enables individuals to evaluate information, weigh benefits and risks, and make rational decisions regarding health interventions.

In the context of oral and dental health, counseling and dental health education play a crucial role. Information delivered by health professionals whether through direct consultation, printed media, or digital platforms can enhance public understanding of the importance of replacing missing teeth with dentures, not only for aesthetic reasons but also for mastication, speech, and overall quality of life.

Therefore, improving community knowledge should be a primary focus of promotive and preventive oral health efforts. By increasing public understanding, interest can be indirectly enhanced and, ultimately, the effective use of removable partial dentures can be increased.

CONCLUSIONS

Based on the results of the research and discussion presented in the previous chapter, the majority of respondents demonstrated a low level of knowledge regarding the use of removable partial dentures. However, most respondents showed a high level of interest in their use. Furthermore, the statistical analysis revealed a significant relationship between the level of knowledge and interest, indicating that respondents with better knowledge tend to have a higher level of interest.

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