

Acceptance of Removable Partial Denture for Replacement of Missing Teeth among Partially Edentulous

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ABSTRACT

Objective: To assess the acceptance of removable partial denture among partially edentulous undergraduates.

Methods: This was a descriptive cross-sectional study. Data for the study was collected by means of a self-administered questionnaire. The questionnaire consisted of 2 sections: the first section sought demographic information (age, gender and marital status) while the second section consisted of 10 questions that tried to find out the prosthetic status of the respondents' missing teeth, awareness of options for replacing missing teeth, preferred treatment options, acceptance of RPD as a treatment option and perception towards the use of RPD for replacement of missing teeth.

Results: More than half (56.1%) of the participants had missing anterior teeth while the remaining 43.9% had their posterior teeth missing. Most (60.5%) of the participants had a form of replacement for their missing teeth. More than half (51.6%) of the respondents stated that RPD was the more common treatment options for replacing missing teeth while 23.6% and 24.8% felt RPD was not common and were indifferent respectively.

There was statistically significant association between gender and preferred treatment modality for replacing missing teeth ($p=0.02$) with a higher proportion (66.1%) of male respondents preferring RPD while 32.6% of female respondents preferred implants. There was statistically significant association between preferred treatment modality for missing teeth and perception of RPD as a form of treatment ($p=0.0001$) with 66.3% of those who preferred RPD having the perception that RPD was a good form of treatment for missing teeth.

Conclusion: Undergraduate students seem to accept removable partial denture as a viable treatment option for replacing missing teeth. The low cost and less time associated with removable partial denture are reasons adduced for its acceptance. More male undergraduates accepted removable partial denture compared to females who preferred implants.

Keywords: Undergraduates, Removable partial denture, Missing teeth

Citation: Omo JO, Enabulele JE. Acceptance of removable partial denture for replacement of missing teeth among partially edentulous undergraduate students. *Nig J Dent Res* 2019; 4(1):19-24.

INTRODUCTION

Tooth loss can have negative impact on appearance and general dental health such as speech, mastication as well as quality of life. Several options exist for the replacement of missing teeth and these include dental implants, fixed and removable partial dentures. The option of dental implants can sometimes be difficult to

implement due to general and/or oral limitations, financial issues, and patient preferences.¹ Also, implant-supported denture is very expensive and requires a surgical procedure and a longer treatment time compared to treatment with RPD.^{2,3}

Removable partial denture (RPD) tends to still be the primary treatment option from the patients'

view and remains a mainstay of prosthodontic care for partially dentate patients especially if appropriately designed, as they can restore masticatory efficiency, improve aesthetics and speech, and help secure overall oral health.⁴ From a professional perspective, potential benefits of partial dentures include: adjacent and opposing natural teeth are prevented from drifting; the burden of occlusal loading on remaining natural teeth is reduced; and oral comfort and function is enhanced.⁵

Giving the high prevalence of unmet prosthodontic treatment need among Nigerians⁶ and the high cost and inequality in oral health care⁷, removable partial dentures remain the more affordable option because they are cheap and easy to fabricate.⁸ This study was designed to assess the acceptance of removable partial denture among partially edentulous undergraduates.

MATERIALS AND METHODS

This was a descriptive cross-sectional study of undergraduate students of the University of Benin, Benin City. The population for the study was drawn from students in the university hostel of residence. A multistage sampling technique was employed to pick the study population. The first stage involved selection of the students' hostel. Four hostels were selected out of the eight undergraduate hostels using simple ballot. The second stage involved selection of hostel rooms. The hostels had on the average 240 rooms, 30 rooms each were picked from each hostel with every 8th room selected. The third stage involved the use of convenient sampling technique to pick participants for the study from the 120 rooms selected. All students in the selected rooms who had at least one missing tooth and gave informed consent participated in the study.

Data for the study was collected by means of a self-administered questionnaire. The questionnaire consisted of 2 sections: the first section sought demographic information (age, gender and marital status) while the second section consisted of 10 questions that tried to find out the prosthetic status of the respondents' missing teeth, awareness of options for replacing missing teeth, preferred treatment options, acceptance of RPD as a treatment option and perception towards the use of RPD for replacement of missing teeth.

Data obtained was analyzed using IBM SPSS version 21.0. Descriptive statistics (frequencies and counts), cross-tabulations as well as Chi square were used to analyze the data.

RESULTS

The study participants consisted of 157 undergraduate students. A higher proportion were females (60.5%) and almost all (91.7%) were single. Most of the respondents belonged to the 16-21 age group (Table 1). More than half (56.1%) of the participants had missing anterior teeth while the remaining 43.9% had their posterior teeth missing. Most (60.5%) of the participants had a form of replacement for their missing teeth. With regards to treatment for replacement of missing teeth 52.9% preferred RPD to other forms of teeth replacement (Figure 1). Of those who preferred RPD 30.1% reported that the low cost of RPD compared to the cost of other treatment modalities influenced their choice while 32.5% opined that treatment with RPD was less time consuming compared to other treatment forms. The remaining 37.3% had no specific reasons for their preference of RPD. Less than half of the respondents (44.6%) perceived RPD to be a good form of treatment for replacing missing teeth, 27.4% felt RPD was a fair treatment option, 24.8% were indifferent and 3.2% felt RPD was the worst treatment option for replacing missing teeth. Close to half (48.4%) thought that RPD served same purpose as other forms of treatment of missing teeth, 26.8% were of the opinion that RPD did not serve same purpose as other treatment modalities for replacing missing teeth while 24.8% were indifferent.

More than half (51.6%) of the respondents stated that RPD was the more common treatment options for replacing missing teeth while 23.6% and 24.8% felt RPD was not common and were indifferent respectively.

Table 2 shows a statistically significant association between gender and preferred treatment modality for replacing missing teeth ($p=0.02$) with a higher proportion (66.1%) of male respondents preferring RPD while 32.6% of female respondents preferred implants. However, there was no statistically significant association between age of the respondents and preferred treatment modality for replacing missing teeth ($p=0.23$)

Table 1: Demographic characteristics of the respondents

Characteristics	Frequency (n)	Percentage (%)
Gender		
Male	62	39.5
Female	95	60.5
Marital status		
Single	144	91.7
Married	13	8.3
Age group		
16-21	114	72.6
22-27	40	25.5
28-33	3	1.9
Total	157	100.0

Mean age=20.76±2.98

Table 2: Association between gender and age group of the respondents and preferred treatment modality for replacing missing teeth

Characteristics	Preferred RPD	Appliance FPD	n(%) Implant	Undecided	Total	P-value
Gender						0.02
Male	41(66.1)	5(8.1)	11(17.7)	5(8.1)	62(100.0)	
Female	42(44.2)	5(5.3)	31(32.6)	17(17.9)	95(100.0)	
Age group						0.23
16-21	56(49.1)	8(7.0)	30(26.3)	20(17.5)	20(17.5)	
22-27	25(62.5)	2(5.0)	12(30.0)	1(2.5)	40(100.0)	
28-33	2(66.7)	0(0.0)	0(0.0)	1(33.3)	3(100.0)	
Total	83(52.9)	10(6.4)	42(26.8)	22(14.0)	157(100.0)	

Table 3: Association between preferred treatment modality for missing teeth and perception of RPD as a treatment option for missing teeth

Preferred treatment option	Perception of RPD as a Treatment option	Total	P-value
	Good n(%) Fair n(%) Worse n(%) Indifferent n(%)		0.0001
RPD	55(66.3) 26(31.3) 2(2.4) 0(0.0)	83(100.0)	
FPD	2(20.0) 4(40.0) 2(20.0) 2(20.0)	10(100.0)	
Implant	13(31.0) 13(31.0) 1(2.4) 15(35.7)	92(100.0)	
No preference	0(0.0) 0(0.0) 0(0.0) 22(100.0)	22(100.0)	
Total	70(44.6) 43(27.4) 5(3.2) 39(24.8)	157(100.0)	

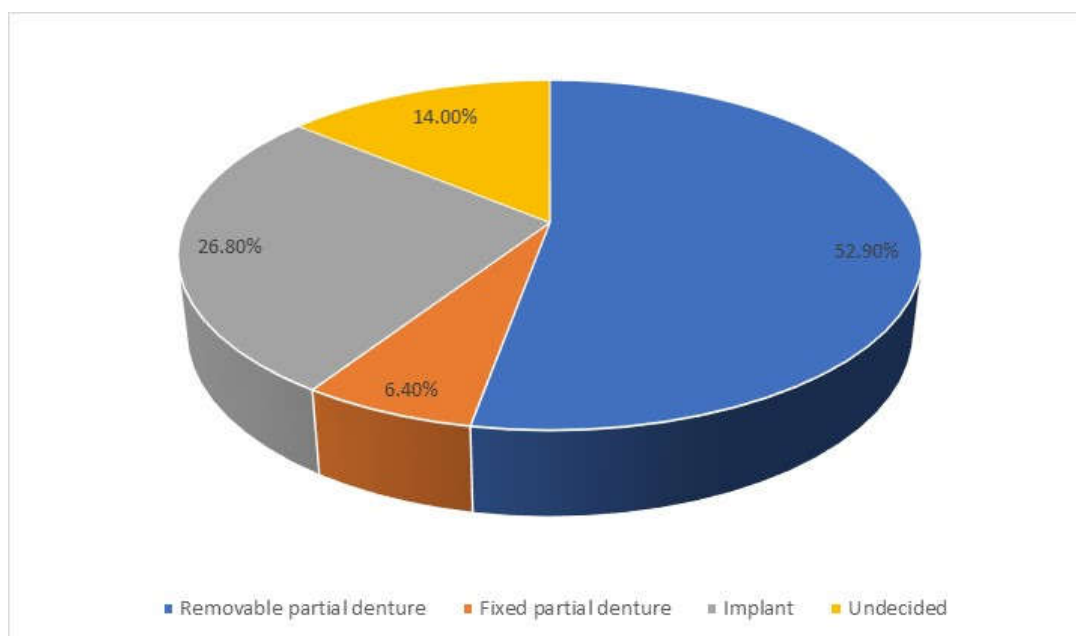


Fig 1: Preferred mode of replacement of missing teeth

Table 3 showed that there was statistically significant association between preferred treatment modality for missing teeth and perception of RPD as a form of treatment ($p=0.0001$) with 66.3% of those who preferred RPD

DISCUSSION

Of all the various modalities employed in the management of missing teeth removable partial denture appears to be the most readily available and cheap option. This study was done among undergraduate students to ascertain their acceptance of RPD as a treatment option for missing teeth.

Marriage comes with responsibilities and as students who still depend on others for their daily needs it was not out of place to notice that majority of the respondents in this study were singles. The most prevalent age group observed was 16-21 years. A finding similar to that obtained from a previous study⁶ a pointer that this is the usual age of most undergraduates in Nigeria. A female predominance was observed in this study corroborating the findings of a previous study.⁸

It was observed in this study that more than half of the respondents had missing anterior teeth. This group of people fall into the category of young adults who are predisposed to trauma leading to loss of anterior teeth,⁹ while the remaining had posterior teeth missing. Caries has been implicated as a cause of posterior teeth extraction in young adults and this could be as a result of dietary

having the perception that RPD was a good form of treatment for missing teeth and all those who had no preferred treatment choice being indifferent to RPD as a treatment modality for missing teeth

changes, poor oral health awareness and practices.¹⁰

Most of the respondents had a form of replacement treatment for their missing teeth. This study corroborates an earlier study conducted on a group of patients,¹¹ however, it is at variance with a study conducted on a group of undergraduate students where the use of replacement treatment was very low. It is possible that the close proximity of the study location to a tertiary health facility that provides oral health care inclusive of management of missing teeth may have influenced the finding in this study. Furthermore, this also demonstrates a high rate of awareness and a positive attitude to oral health practices among the respondents.

It was observed that more than half of the respondents preferred removable partial dentures as a form of treatment compared to the other options for replacement of missing teeth. The various reasons they gave included the low cost of RPD compared to other forms of replacement treatment and less chairside time. Being students, the respondents are still fully dependent on their parents and guardians for financial assistance. Hence, their choice of RPD. Also, students tend to be burdened with academic responsibilities and have limited time for extracurricular activities.

Therefore, RPD may be more convenient for them as it requires less chair side time.

A little less than half of the respondents perceived RPD treatment as good. A finding which is not surprising, as RPD has been reported to serve as a good option for replacing missing teeth. Removable partial denture has the advantages of being less invasive, cheaper, can be used for long span saddle and additional teeth may be added to the existing denture over time.

On the average, the perception of undergraduate students towards the use of RPD as a replacement treatment for missing teeth was fair. This may not be surprising with the present era which is an internet age where one is able to get whatever information so desired. Also, it is a tertiary institution with a tertiary health facility in proximity. However, the place of education and awareness of RPD as a form of replacement treatment cannot be over emphasized.

Community enlightenment and education about the various forms and options in the replacement treatment of missing teeth, the advantages and disadvantages are highly suggested. In this study, it was observed that the respondents had mixed reaction about the various options of replacement treatment of missing teeth. Some felt RPD served same purpose as other forms of treatment of missing teeth, others were of the opinion that RPD did not serve same purpose as other treatment modalities for replacing missing teeth and some indifferent. This study was carried out in a tertiary institution with a tertiary health facility, hence, the need for the respondents to have a more enlightened view. Also, patient's knowledge and awareness about dental prosthesis is one of the key factors in selection of any particular dental prosthesis.¹² The observations in this study was different from an earlier study,¹² which was conducted among patients attending a university dental hospital.

More of the respondents reported RPDs as the commonest form of treatment. In this clime due to the economic condition being a low-income country. Removable partial denture is the more preferred form of replacement treatment because it is cheaper and easy to fabricate.⁸ Hence, the awareness. Furthermore, the study participants are students, majority are dependents and can readily afford RPD.

There was an association between gender and preferred treatment modality for replacing missing teeth. The males tend to prefer RPD while the females rather prefer the implant option. The females tend to be more concerned about their

aesthetics and would tend to favour implants as a form of replacement.

A greater number of the respondents who preferred RPD had the perception that RPD was a good form of treatment for missing teeth. This observation showed that perception and acceptance go together. A reason for this notion could be as a result of the limited knowledge displayed by the respondents on the other treatment modalities of missing teeth. This is however, also not surprising as it was observed in this study that the perception of RPD as a form of replacement treatment was fair.

CONCLUSION

Undergraduate students seem to accept removable partial denture as a viable treatment option for replacing missing teeth. The low cost and less time associated with removable partial denture are reasons adduced for its acceptance. More male undergraduates accepted removable partial denture compared to females who preferred implants.

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