

Removable partial denture use among a selected group of Nigerian undergraduates

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ABSTRACT

Objective: To determine the self-reported prevalence of removable partial denture use among a selected group of Nigerian undergraduates. **Materials and Methods:** Four hundred non-dental undergraduates of University of Benin recruited over four week's period were studied. **Results:** The prevalence of removable partial denture use among the respondents was 1.8%. Denture use was more among those aged 17-25 years, females and right handed individuals. Removable partial denture users were less likely to have received professional instruction on tooth brushing and brush their teeth more than once-daily than non-denture users. Removable partial denture users were more likely to be cigarette smokers, regular soft drink consumer and report perceived efficacy in oral self-care and prevention of gingivodental diseases than non-denture users. Removable partial denture users were also more likely to have opened bottled drink with their teeth and experienced shocking sensation from their teeth than non-denture users. **Conclusion:** The prevalence of removable partial denture use was low among the respondents. The denture wearer were more likely to report higher perceived efficacy in oral self-care and prevention of gingivodental disease despite indulgence in unhealthy oral health practices and lower receipt of professional instruction on tooth brushing. The implication of this study is that dental practitioner should endeavor to give oral health instruction to removable partial denture users to improve their oral health practices and decrease the risk of preventable oral diseases.

Key words

Oral health practices, removable denture, undergraduates

INTRODUCTION

Tooth loss due to dental caries has been on the increase in Nigeria due to dietary changes, poor oral health awareness and practices.^[1,2] The lost teeth are usually replaced by fixed or removable prosthesis. Removable dentures are the most commonly used prosthesis in developing countries because they are cheaper and easier to fabricate. The replacement of principally anterior teeth even when posterior teeth are missing is the established pattern of replacement of missing teeth among patient population in Nigeria implying that most individuals seeking denture replacement

may do so, more for aesthetic than masticatory reasons.^[3]

Studies in Nigeria among young individuals revealed that the decayed component is the dominant contributor to the Decayed Missing Filled Teeth (DMFT) index while the missing component contributes a small proportion.^[4,5] However it is expected that the replacement of missing teeth among young individuals will be motivated by aesthetic and phonation reasons in order to facilitate their social interaction at work and school, and coping with daily living. The studies on removable dentures in Nigeria have been predominantly conducted in the dental clinic neglecting field based studies thus this is a pioneering study. The objective of the study was to determine the self-reported prevalence of removable denture use among a selected group of Nigerian undergraduates.

MATERIALS AND METHODS

A total of four hundred (400) non-dental undergraduates of University of Benin recruited at three entry and exit

Access this article online	
Quick Response Code:	Website: www.ejgd.org
	DOI: 10.4103/2278-9626.101353

points of the Ugbowo campus of the University over four weeks period were studied with interviewer-administered questionnaire. The questionnaire elicited information on demography, self-reported denture use, daily tooth brushing frequency, receipt of professional instruction on tooth brushing, cigarette smoking, soft drink consumption, the use of teeth to open bottled drinks, shocking sensation from teeth, perceived self-efficacy in oral self-care and preventing gingivodental diseases. Those undergraduates in a hurry, almost late to lecture and refused to be interviewed were excluded from this survey. The objective of the study was explained to the participants and informed consent obtained before the interview. The obtained data were subjected to descriptive statistics (frequency, percentages and cross tabulation) using Statistical Package for Social Sciences (SPSS) Version 17.0. For the purpose of analysis the responses on age, the daily tooth brushing frequency and soft drink consumption were categorised into two namely 17-25 years and 26-35 years, \leq once-daily and $>$ once-daily, regular and non-regular consumers respectively.

RESULTS

Age, gender and ethnicity distribution of the respondents were 17-25 years-233 (58.3%) and 26-35 years-167 (41.7%), male-201 (50.3%) and female-199 (49.8%) respectively. The majority 382 (95.5%) of the respondents reported their dominant hand as right hand [Table 1]. The prevalence of removable partial denture use among the respondents was 1.8% [Table 2]. Denture use was more among those aged 17-25 years, females and right handed individuals [Table 3]. Removable partial denture users were less likely to have received professional instruction on tooth brushing and indulge in more than once-daily tooth brushing than non-denture users. Removable partial denture users were more likely to be cigarette smokers, consume soft drink regularly and report perceived efficacy in oral self-care and prevention of gingivodental diseases than non-denture users [Table 4]. Denture users were also more likely to have opened bottled drink with their teeth and experienced shocking sensation than non-denture users [Table 4].

DISCUSSION

The provision of removable prostheses constitutes a significant part of most dental practices.^[6] In this study, the self-reported prevalence of removable partial denture use among the respondents was 1.8%. This is low in comparison with few studies that revealed the prevalence of denture wear and usage.^[7,8] This substantiated the fact that denture wearers are majorly in the older age groups.^[9] The low contribution of missing component to DMFT in Nigeria is a contributory explanation.^[1,4,5] Removable partial denture use was more among those aged 17-25 years, females and right handed individuals

Table 1: Survey respondents' characteristics

Characteristics	n (%)
Age (Years)	
17-25	233 (58.3)
26-35	167 (41.7)
Sex	
Male	201 (50.3)
Female	199 (49.8)
Dominant hand	
Right	382 (95.5)
Left	18 (4.5)
Total	400 (100.0)

Table 2: Prevalence of denture use among the respondents

Denture use	n (%)
Yes	7 (1.8)
No	393 (98.3)
Total	400 (100.0)

Table 3: The relationship between demographic characteristics and prevalence of denture use among the respondents

Characteristics	Use of denture		Total n (%)
	Yes n (%)	No n (%)	
Age (Years)			
17-25	4 (57.1)	229 (58.3)	233 (58.3)
26-35	3 (42.9)	164 (41.7)	167 (41.7)
Sex			
Male	3 (42.9)	198 (50.4)	201 (50.3)
Female	4 (57.1)	195 (49.6)	199 (49.8)
Ethnicity			
Edo state indigenous tribe	3 (42.9)	185 (47.1)	188 (47.0)
Non Edo State indigenous tribe	4 (57.1)	208 (52.9)	212 (53.0)
Dominant hand			
Right	7 (100.0)	375 (95.7)	382 (95.5)
Left	0 (0.0)	18 (4.3)	18 (4.5)
Total	7 (100.0)	393 (100.0)	400 (100.0)

in this study. This reflects the fact that younger people and females are more conscious of their appearance and would replace their missing teeth with the most commonly cost-effective prosthesis available. Our finding is consistent with reports of more removable denture use among females than males among patients that attended Aracatuba Dental School and adults in Sweden.^[10,11]

The dominant hand is increasing found to be a factor in oral conditions like traumatic injuries and recurrent aphthous stomatitis^[12,13] and this result should be archived amongst them but further investigation to ascertain any relationship between edentulism and dominant hand among individual is recommended.

Table 4: The relationship between denture use and oral health practices among the respondents

Characteristics	Use of denture		Total n (%)
	Yes n (%)	No n (%)	
Receipt of professional instruction on tooth brushing			
Yes	3 (42.9)	246 (63.9)	249 (62.3)
No	4 (57.1)	147 (37.4)	151 (37.8)
Daily tooth brushing frequency			
≤ Once	4 (57.1)	211 (53.7)	215 (53.8)
> Once	3 (42.9)	182 (46.3)	185 (46.3)
Ever used your teeth to open bottled drink			
Yes	7 (100.0)	267 (69.4)	274 (69.9)
No	0 (0.0)	126 (32.1)	126 (5.1)
Cigarette smoking			
Yes	3 (42.9)	17 (4.3)	20 (5.0)
No	4 (57.1)	376 (95.7)	380 (95.0)
Soft drink consumption			
Regularly	5 (71.4)	78 (19.8)	83 (20.8)
Non regular	2 (28.6)	315 (80.2)	317 (79.3)
Ever felt shocking sensation from teeth			
Yes	4 (57.1)	207 (53.7)	211 (53.8)
No	3 (42.9)	186 (47.3)	189 (47.3)
Perceived efficacy in oral self-care			
Yes	7 (100.0)	373 (94.9)	380 (95.0)
No	0 (0.0)	20 (5.1)	20 (5.0)
Perceived efficacy in preventing gingivodental disease			
Yes	7 (100.0)	369 (93.9)	376 (94.0)
No	0 (0.0)	24 (6.1)	24 (6.0)
Total	7 (100.0)	393 (100.0)	400 (100.0)

Removable partial denture users were less likely to brush their teeth more than once-daily than non-denture users. This could be explained by the fact that denture users in comparison non denture users in this study were lesser likely to have received professional instruction on tooth brushing. Removable partial denture users were more likely to be regular soft drink consumer, smoke cigarette and open bottled drink with their teeth which have adverse effect on soft and hard tissue of the mouth suggesting the increased chances of having oral health complaints as exemplified by higher report of dentinal sensitivity. These findings confirm Murtomaa *et al*,^[14] assertion that denture wearers should be a special target group for dental health education.

In this study, denture users reported higher perceived efficacy in oral self-care and prevention of gingivodental diseases than non-denture users. This perceived belief may unfortunately trigger the denture user into the continuation of poor health practices, lessening their receipt of professional instruction on tooth brushing and attendant consequences of further tooth loss.

CONCLUSION

The prevalence of removable denture use was low among the respondents. Removable denture wearers

were more likely report higher perceived efficacy in oral self-care and prevention of gingivodental disease despite indulgence in unhealthy oral health practices and lower receipt of professional instruction on tooth brushing. The implication of this study is that dental practitioner should endeavour to give oral health instruction to denture users to improve their oral health practices and decrease the risk of preventable oral diseases.

REFERENCES

- Oginni FO. Tooth loss in a sub-urban Nigerian population: Causes and pattern of mortality revisited. *Int Dent J* 2005;55:17-23.
- Adeyemo WL, Oderinu HO, Oluseye SB, Taiwo OA, Akinwande JA. Indications for extraction of permanent teeth in a Nigerian teaching hospital: A 16-year follow-up study. *NigQ J Hosp Med* 2008; 18:128-32.
- Ehikhamenor EE, Oboro HO, Onuora OI, Umanah AU, Chukwumah NM, Aivboraye IA. Types of removable prostheses requested by patients who were presented to the University of Benin Teaching Hospital Dental Clinic. *J Dent Oral Hyg* 2010;2:15-8.
- Okeigbemen SA. The prevalence of dental caries among 12 to 15-year-old school children in Nigeria: Report of a local survey and campaign. *Oral Health Prev Dent* 2004;2:27-31.
- Adekoya-Sofowora CA, Nasir WO, Oginni AO, Taiwo M. Dental caries in 12-year-old suburban Nigerian school children. *Afr Health Sci* 2006;6:145-50.
- Coates AJ, Moore KR, Richards LC. Removable prosthodontics: A survey of practices and attitudes among South Australian dentists.

- Aust Dent J 1996;41:151-8.
7. Hummel SK, Wilson MA, Marker VA, Nunn ME. Quality of removable partial dentures worn by the adult U.S. population. *J Prosthet Dent* 2002;88:37-43.
 8. Zitzmann NU, Hagmann E, Weiger R. What is the prevalence of various types of prosthetic dental restorations in Europe? *Clin Oral Implants Res* 2007;18:20-33.
 9. Ettinger RL, Beck JD, Jakobsen J. Removable prosthodontic treatment needs: A survey. *J Prosthet Dent* 1984;51:419-27.
 10. Axéll T, Öwall B. Prevalences of removable dentures and edentulousness in an adult Swedish population. *Swed Dent J* 1979;3:129-37.
 11. Pellizzer EP, Almeida DA, Falcón-Antenucci RM, Sánchez DM, Zuim PR, Verri FR. Prevalence of removable partial dentures users treated at the Aracatuba Dental School - UNESP Gerodontol 2012;29:140-4.
 12. Canakci V, Akgul HM, Akgul N, Canakci CF. Prevalence and handedness correlates of traumatic injuries to the permanent incisors in 13-17-year-old adolescents in Erzurum, Turkey. *Dent Traumatol* 2003;19:248-54.
 13. Cicek Y, Canakci V, Ozgoz M, Ertas U, Canakci E. Prevalence and handedness correlates of recurrent aphthous stomatitis in the Turkish population. *J Public Health Dent* 2004;64:151-6.
 14. Murtooma H, Könönen M, Laine P. Age and maintenance of removable dentures in Finland. *J Oral Rehabil* 1992;19:123-8.

How to cite this article: Azodo CC, Akinboboye B. Removable partial denture use among a selected group of Nigerian undergraduates. *Eur J Gen Dent* 2012;1:30-3.

Source of Support: Nil, **Conflict of Interest:** None declared.

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