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Sociodemographic Status of Patients Seeking Routine Scaling and Polishing in a Resource Challenged Environment

Statut Sociodemographique des Patients Cherchant un Detartrage et un Pollisage de Routine dans un Environnement a Ressource Faible

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ABSTRACT

OBJECTIVES: **To assess the sociodemographic profile of patients seeking routine scaling and polishing in a resource challenged setting in Ibadan, Nigeria**

STUDY DESIGN: **A retrospective review of dental records of patients presenting for scaling and polishing at the Periodontology Clinic of a tertiary hospital in Ibadan, Nigeria over a period of one year was done. Two groups were identified; those seeking routine scaling and polishing and those referred as a result of periodontal disease or from other clinics. The age, gender, religion, marital status and socioeconomic status were obtained from the records of each patient. Analysis was done using SPSS version 16. The level of statistical significance was set at 5%.**

RESULTS: **A total of 295 patients with a mean age of 42.5 (±17.7) years had scaling and polishing done over the period; 100 (33.9%) came routinely and 195 (66.1%) were referred. There were 151 (51.2%) males and 144 (48.8%) females. The majority (83.2%) were Christians. Their socioeconomic class ranged from skilled workers (21.4%), through unskilled workers (22.7%) to dependants (55.9%). A higher proportion of Christians than Muslims presented routinely for the procedure, 35.8% vs. 20.4% (p = 0.037). The proportion of skilled workers, unskilled workers and dependants who came for routine scaling and polishing were 46.0%, 25.4% and 32.7% respectively (p = 0.038). Socioeconomic status was found, on multivariate analysis, to significantly predict seeking for routine scaling and polishing.**

CONCLUSION: **Socioeconomic status is a determinant of seeking for routine scaling and polishing in a resource poor country. WAJM 2015; 34(3): 186–189.**

Keywords: Scaling and polishing, sociodemographic factors, characteristics, oral health status.

RÉSUMÉ

OBJECTIFS: Evaluer le profil sociodémographique des patients qui cherchent le détartrage et le polissage de routine dans un milieu à ressource faible à Ibadan, au Nigeria

CONCEPTION DE L'ETUDE: Un examen rétrospectif des dossiers dentaires de patients se présentant pour détartrage et polissage à la Clinique parodontologie d'un hôpital tertiaire à Ibadan, au Nigeria sur une période d'un an a été fait. Deux groupes ont été identifiés; ceux qui cherchent un détartrage et un polissage de routine et ceux qui sont référés à la suite d'une maladie parodontale ou d'autres cliniques. L'âge, le sexe, la religion, l'état matrimonial et le statut socioéconomique ont été obtenus à partir des dossiers de chaque patient. L'analyse a été effectuée à l'aide du logiciel SPSS version 16.

Le niveau de signification statistique a été fixé à 5%.

RESULTATS: Un total de 295 patients avec un âge moyen de 42,5 (± 17,7) ans avaient eu un détartrage et un polissage au cours de cette période; 100 (33,9%) étaient par routine et 195 (66,1%) ont été référé. Il y avait 151 (51,2%) hommes et 144 (48,8%) femmes. La majorité (83,2%) était des chrétiens. Leur classe socio-économique allait de travailleurs qualifiés (21,4%), aux travailleurs non qualifiés (22,7%) à des personnes à charge (55,9%). Une proportion plus élevée de chrétiens que de musulmans se sont présentés régulièrement pour la procédure, 35,8% contre 20,4% (p = 0,037). La proportion de travailleurs qualifiés, de travailleurs non qualifiés et des personnes à charge qui sont venus pour le détartrage et le polissage de routine ont été de 46,0%, 25,4% et 32,7% respectivement (p = 0,038). Le statut socioéconomique a été trouvé, en analyse multi variée, de prédire de façon significative la recherche de détartrage et de polissage de routine.

CONCLUSION: Le statut socio-économique est un déterminant de la recherche de détartrage et de polissage de routine dans un pays pauvre en ressources. **WAJM 2015; 34(3): 186–189.**

Mots-clés: Détartrage et le polissage, les facteurs sociodémographiques, les caractéristiques, l'état de santé bucco-dentaire.

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Abbreviations:

INTRODUCTION

Resource challenged countries experience poor oral health and high level of common oral disease like periodontal disease, which is easily preventable.[1,2] The main methods for the prevention of periodontal disease is by the elimination of bacterial plaque; the primary aetiological factor responsible for its initiation.[3,4] Bacteria plaque can be removed by self or by professional methods, which are further subdivided into mechanical and chemical methods. The mechanical means of plaque removal remains the primary method of preventing periodontal disease, and this can be achieved with the use of toothbrushes and inter dental cleaning agents such as dental floss in self home care while the professional method, which is clinic based is by scaling and polishing. Scaling and polishing of the teeth is a common preventive treatment received in the dental clinic and a component of good oral health behaviour that is important in the maintenance of oral health and prevention of oral diseases. Oral health behaviour is, however, influenced by an array of factors such as the sociodemographic characteristics, socio-cultural milieu and peer influence.[5,6]

Sociodemographic characteristics are known to determine the health and illness behaviour as well as the health seeking behaviour of an individual.[7] Although, the sociodemographic characteristics of an individual or population such as age, gender, marital status, educational qualification and socioeconomic status have been studied in relation to other oral health behaviour, with the more affluent found behaving more healthily,[5,8] information about its association with routine scaling and polishing is sparse. Furthermore, a good understanding of how sociodemographic characteristics influence the oral health behaviour of people in terms of seeking for routine scaling and polishing, an important plaque elimination procedure will be beneficial as this will enable any oral health intervention programme to promote oral health to be directed at the appropriate group of people in resource poor communities. This study therefore aimed to describe the sociodemographic characteristics of patients seeking routine scaling and polishing and compare it with those who are referred for the procedure in a tertiary health institution in a developing country.

Study Population and Methodology

A retrospective review of dental records of patients presenting for scaling and polishing at the Periodontology Clinic of the University College Hospital, Ibadan, Nigeria over a 12-month period was done. Data retrieved included the sociodemographic characteristics of the patients; age, gender, marital status and socioeconomic class. Data was also obtained on whether they sought for scaling and polishing or were referred for the procedure.

The age was dichotomized according to the mean for the purpose of cross tabulation. Gender was considered as male or female, marital status was charted as single, married or widowed. Socioeconomic class stratification based on occupational strata as devised by Esan *et al.*[9] was employed. This classification is made up of three classes: Class I – skilled workers e.g. professionals, civil servants, teachers; Class II – unskilled workers e.g. traders, artisans; and Class III – dependants e.g. students, housewives. The patients presenting for scaling and polishing at the Periodontology Clinic were grouped into two: Group I made up of those who sought routine scaling and polishing and Group II were those referred to the clinic because of periodontal disease or those referred from other clinics to have scaling and polishing as a means of pre or post therapy treatment.

Data retrieved was collated and analysed using SPSS version 16. Categorical variables; gender, marital status and socioeconomic class were summarised by frequencies, percentages and proportions while continuous variables such as age were summarised using means and standard deviation. Test of association was done using chi square statistics for categorical variables and the student t-test for comparison of means between groups. The p-value for statistical significance was set as < 0.05. Multinomial logistic regression was used with variables selected in a single block to identify determinants of routinely seeking for scaling and polishing among variables that were significant at 10% level on bivariate analysis.

RESULTS

A total of 295 patients were seen in the clinic for scaling and polishing during the study period, of which 151 (51.2%) were males and 144 (48.8%) were females. The mean age of the study participants was 42.5 (± 17.7) years, with a range from 16 to 84 years. The majority (168, 60%) were married; 116 (39.3%) were single and 11 (3.7%) were widowed. A total of 243 (83.2%) patients were Christians and 49 (16.8%) were Muslims. Regarding their socioeconomic class; 63 (21.4%) belonged to Class I, 67 (22.7%) were in Class II, and 165 (55.9%) were in Class III.

According to the reason for the scaling and polishing; 100 (33.9%) patients presented for routine scaling and polishing, i.e. in Group I, and 195 (66.1%) were in Group II (those who were referred for scaling and polishing).

There was no difference between the mean ages of the patients who sought routine scaling and polishing and those who were referred for the procedure, 42.3 ± 17.6 years vs. 42.8 ± 17.8 years ($p = 0.814$). Similarly, there was no association between the gender and marital status of respondents and whether they were referred for or routinely sought scaling and polishing (Table 1).

A greater proportion of the patients who were Christians (35.8%) presented for routine scaling and polishing than the patients who were Muslims (20.4%), $p = 0.037$ (Table 1).

The proportion of skilled workers (46.0%) who came to the clinic for routine scaling and polishing was higher than those of unskilled workers (25.4%) or dependants (32.7%) with a similar reason for presentation, $p = 0.038$ (Table 1).

On multivariate logistic regression analysis; religion and socioeconomic classes were entered into a model. Those who were Christians were twice more likely to seek for scaling and polishing routinely than Muslims (OR 2.10, 95% CI 1.00 – 4.42, $p = 0.051$). The patients who were skilled workers were about 1.8 times more likely to present for routine scaling and polishing than those who were unskilled or dependants (OR 1.82, 95% CI 1.02 – 3.25, $p = 0.042$).

Table 1: Relationship between Marital Status, Religion and Socioeconomic Class, and the Patient's Reason for Scaling and Polishing

Variable	Reason for Scaling and Polishing			χ^2	p value
	Routine No (%)	Referral No (%)	Total No (%)		
Marital status					
Single	40(34.5)	76(65.5)	116(100.0)	0.071	0.965
Married	56 (33.3)	112 (66.7)	168(100.0)		
Widowed	4 (36.4)	7(63.6)	11(100.0)		
Total	**100(33.9)**	**195(66.1)**	**295(100.0)**		
Gender					
Male	54(35.8)	97(64.2)	151(100.0)	0.667	0.414
Female	46(31.9)	98(68.1)	144(100.0)		
Total	**100(33.9)**	**195(66.1)**	**295(100.0)**		
Religion					
Christianity	87(35.8)	156(64.2)	243(100.0)	4.356	0.037*
Islam	10 (20.4)	39(79.6)	49(100.0)		
Total	**97 (33.2)**	**195(66.8)**	**292(100.0)****		
Socioeconomic Class					
Skilled Workers	29 (46.0)	34 (54.0)	63 (100.0)	6.560	0.038*
Unskilled Workers	17 (25.4)	50 (74.6)	67 (100.0)		
Dependants	54 (32.7)	111 (67.3)	165 (100.0)		
Total	**100 (33.9)**	**195 (66.1)**	**295 (100.0)**		

**Statistically significant, **the religious beliefs of three patients were missing*

DISCUSSION

It is of paramount importance to the oral health promoting dentist to understand the relationship that exists between preventive oral health seeking behaviour and sociodemographic characteristics of the populace in order to reduce inequalities in oral health and ensure proper oral health intervention programmes to the appropriate groups of people in communities.

From this study, no significant association was found between the sociodemographic characteristics of gender, age, marital status; and patients seeking routine scaling and polishing although males presented more often for routine scaling and polishing than females. This finding of non-significant association between gender and seeking for routine scaling and polishing contrasts with reports from other authors on preventive oral health behaviour in which females were found to exhibit better oral health behaviour; engaging more often in twice daily brushing of their teeth and utilizing dental services better than their male counterparts.[6,8,10–12] The slightly higher proportion of men presenting for routine scaling and polishing in this study, as had been reported among Tanzanian adults,[13] may be because quite a number of them might have been managed for periodontal diseases in the past. The male gender is a documented risk factor for periodontal disease,[14,15] so through the process of this management they become motivated to make regular oral prophylaxis a routine oral health behaviour, thus seeking routine scaling and polishing. Another explanation for this difference may be that the more of the females than males in this study belonged to the older age group in whom periodontal disease is commoner. Furthermore, the socioeconomic classification system used in this study, which grouped housewives with dependants (the unemployed) in Class III, thus creating a larger proportion of the women in lower socioeconomic classes could have blunted any significant association between gender and seeking for scaling and polishing.

Significantly noted in this study is the association between religion and seeking for routine scaling and polishing with the Christians seeking this preventive oral health practice more often than other religious groups such as Muslims. When subjected to logistic regression, however, religious belief was not a significant predictor of routinely seeking for scaling and polishing in the study. This is in contrast to the finding from another study where good oral hygiene measures were exhibited by the Muslims in Somalia who were found to be more likely than adherents of other faiths to engage in twice daily brushing of their teeth, a practice attributed to the Islamic faith.[16] However, noted in that study was the fact that those Somalians did not go for preventive oral health care at orthodox dental clinics, which concurs with the findings from the present study.

Consistent with other studies on oral health behaviour and socioeconomic status, where members of higher social classes were found to be regular attendees to the dentist, the socio-economic class of the study participants in this study was significantly associated with seeking for routine scaling and polishing as those in the higher occupational class, that is, skilled workers, sought routine scaling and polishing more often than others.[8,11,17,18] Similar reports on the association between socioeconomic classes and oral diseases have also been documented.[19–21] In a UK birth cohort, children of members of the low socioeconomic class at age five were found with higher mean DFS and DS by age 26 years, more likely to have a missing tooth in adulthood and had greater prevalence and severity of periodontal disease than those in the higher socioeconomic class.[21] Likewise, in Jordanian children, children attending kindergartens where low tuition fees were paid had more dental caries experience and gingivitis than those attending kindergartens charging higher tuition fees.[20] Furthermore, also documented in studies are higher prevalence of periodontal diseases in the lower social classes.[22–24] All these can be attributed to the suboptimal standard of living in the lower social classes, which may predispose to the development of oral diseases. Additionally, since they are less likely to afford preventive treatment,

adults from lower socioeconomic classes tend to utilize dental services when symptoms such as pain occur and when there is significant impact on their quality of life. Another reason could be that people of high socioeconomic classes tend to be knowledgeable and thus are conversant with the need for the prevention rather than treatment of oral diseases.

In conclusion, this study showed that socioeconomic status is a significant determinant of seeking for routine scaling and polishing in a resource poor country. It is therefore important to improve awareness and promote oral health behaviour among those in lower socioeconomic classes to reduce oral health inequalities in resource challenged settings.

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REFERENCES

1. Agbelusi GA, Jeboda SO. Oral health status of 12-year-old Nigerian children. *West Afr J Med.* 2006; **25:** 195–198.
2. Taiwo JO, Jeboda SO, Motayo TO, Obiechina AE. Periodontal health of the elderly people in South East local government area in Ibadan, Nigeria. *Afr J Med Med Sci.* 2004; **33:** 285–291.
3. Choo A, Delac DM, Messer LB. Oral hygiene measures and promotion: review and considerations. *Aust Dent J.* 2001; **46:** 166–173.
4. Westfelt E. Rationale of mechanical plaque control. *J Clin Periodontol.* 1996; **23:** 263–267.
5. Masalu JR, Astrom AN. Predicting Intended and Self-perceived Sugar Restriction among Tanzanian Students using the Theory of Planned Behavior. *J Health Psychol.* 2001; **6:** 435–445.
6. Masalu JR, Kikwilu EN, Kahabuka FK, Senkoro AR, Kida IA. Oral health related behaviors among adult Tanzanians: a national pathfinder survey. *BMC Oral Health.* 2009; **9:** 22.
7. Lang WP, Farghaly MM, Ronis DL. The relation of preventive dental behaviors to periodontal health status. *J Clin Periodontol.* 1994; **21:** 194–198.
8. Blay D, Astrom AN, Haugejorden O. Oral hygiene and sugar consumption among urban and rural adolescents in Ghana. *Community Dent Oral Epidemiol.* 2000; **28:** 443–450.
9. Esan TA, Olusile AO, Akeredolu PA, Esan AO. Socio-demographic factors and edentulism: the Nigerian experience. *BMC Oral Health.* 2004; **4:** 3.
10. Al-Wahadni AM, AL-Omiri MK, Kawamura M. Differences in self-reported oral health behavior between dental students and dental technology/dental hygiene students in Jordan. *J Oral Sci.* 2004; **46:** 191–197.
11. Astrom AN, Masalu JR. Oral health behavior patterns among Tanzanian university students: a repeat cross-sectional survey. *BMC Oral Health.* 2001; **1:** 2.
12. Zhu L, Petersen PE, Wang HY, Bian JY, Zhang BX. Oral health knowledge, attitudes and behaviour of adults in China. *Int Dent J.* 2005; **55:** 231–241.
13. Mosha HJ, Scheutz F. Perceived need and use of oral health services among adolescents and adults in Tanzania. *Community Dent Oral Epidemiol.* 1993; **21:** 129–132.
14. Bouchard P, Boutouyrie P, Mattout C, Bourgeois D. Risk assessment for severe clinical attachment loss in an adult population. *J Periodontol.* 2006; **77:** 479–489.
15. Hyman JJ, Reid BC. Epidemiologic risk factors for periodontal attachment loss among adults in the United States. *J Clin Periodontol.* 2003; **30:** 230–237.
16. Beveridge S. Oral health beliefs, traditions, and practices in the Somali culture. 2006. Retrieved November 12, 2012 from: http://ethnomed.org/clinical/oral-health/som-oral-health
17. Idris F. Periodontal disease prevalence and some related factors among 15 years old school children in Khartoum State, Sudan. *Sudan J Public Health.* 2010; **5:** 187–192.
18. Lopez R, Baelum V. Factors associated with dental attendance among adolescents in Santiago, Chile. *BMC Oral Health.* 2007; **7:** 4.
19. Gillcrist JA, Brumley DE, Blackford JU. Community socioeconomic status and children's dental health. *J Am Dent Assoc.* 2001; **132:** 216–222.
20. Sayegh A, Dini EL, Holt RD, Bedi R. Food and drink consumption, socio-demographic factors and dental caries in 4-5-year-old children in Amman, Jordan. *Br Dent J.* 13 2002; **193:** 37–42.
21. Thomson WM, Poulton R, Milne BJ, Caspi A, Broughton JR, Ayers KM. Socioeconomic inequalities in oral health in childhood and adulthood in a birth cohort. *Community Dent Oral Epidemiol.* 2004; **32:** 345–353.
22. Bourgeois DM, Doury J, Hescot P. Periodontal conditions in 65–74-year-old adults in France, 1995. *Int Dent J.* 1999; **49:** 182–186.
23. Brodeur JM, Payette M, Beniger M, Charbonneau A, Olivier M, Chabot D. Periodontal diseases among Quebec adults aged 35 to 44 years. *J Can Dent Assoc.* 2001; **67:** 34.
24. Bullock C, Boath E, Lewis M, Gardam K, Croft P. A case-control study of differences between regular and causal adult attenders in general dental practice. *Prim Dent Care.* 2001; **8:** 35–40.