

Self-reported Treatment Needs and Utilization of Dental Services among Dental Students and Dental Technology Students

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ABSTRACT

Aim: Dental care utilization is an indispensable facilitator of oral health. The aim of this study was to assess the differences between the levels of utilization of dental services and to compare the self-reported treatment needs between dental students and dental technology students.

Materials and methods: This was a cross-sectional study involving dental students and dental technology students. A self-administered questionnaire was used to obtain information of participants. The questionnaire included questions on sociodemographic information, self-reported treatment needs, and utilization of dental services. Data were analyzed using IBM SPSS version 21.

Results: A total of 109 dental students and 110 dental technology students participated in this study. The mean age of participants was 23.3 ± 3.8 years. Whereas 67.0% of dental students had visited a dentist in the past 12 months, only 35.5% of dental technology students had done so. There was no statistically significant difference in the utilization of dental services between males and females. The most commonly reported treatment that had been done in both group of students was scaling and polishing. Reasons attributed for not visiting the dentist included high cost of dental treatment (44.6%), lack of time (23.0%), fear of dental treatment (17.6%), and the belief that they had no dental issues (14.9%).

The majority of dental students rated their oral hygiene as good (67.0%), whereas 45.5% each of dental technology students rated their oral hygiene as either excellent or good. Most (80.7%) dental technology students needed further dental treatment, compared to 48.6% of dental students who did. Scaling and polishing was the treatment more participants (47.9%) felt they needed.

Conclusion: Dental students utilized dental services more frequently than dental technology students. The high cost of dental treatment was the major barrier to seeking dental care.

Clinical significance: Utilization of dental services in Nigeria remains suboptimal; thus, there is need for continuous oral health awareness programs among the populace. In addition, health insurance with broad coverage of dental services is needed.

Keywords: Dental services, Dental students, Treatment needs, Utilization.

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INTRODUCTION

The World Health Organization (WHO) states that most oral health conditions are largely preventable and can be treated in their early stages.¹ Achieving optimal oral health thus requires a great deal of proficiency in oral self-care. Routine dental visits, however, complement this process through reinforcing self-care practices and early detection of pathologies.²

Dental care utilization is an indispensable facilitator of oral health.³ Utilization of dental services is defined as the percentage of the population who accessed dental services over a specified period of time.^{2,4} Various factors have been reported to influence the utilization of dental services. These include sociodemographic characteristics of the individual, the perceived dental needs, health beliefs, dental anxiety, high cost of dental services, and poor access to health facilities.^{2,4}

While routine dental visits every 6 months is highly desirable and is often considered the gold standard, one dental visit a year can be considered a standard measure of appropriate utilization of dental care services, especially in low income or developing countries.^{2,4,5}

Dental students and dental technology students are both under training to become dental healthcare personnel who will treat patients with oral diseases; hence, they are expected to have a high level of knowledge about oral health. More so, they have easy access to dental services, and they will be involved in the provision

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of dental services in the future. As such, it is important for them to have a good attitude toward seeking dental services, since this may influence their future patient care and service delivery.^{6,7} In fact, it is believed that a high awareness of self-oral health and good oral health behavior in dental students may have a direct impact on their attitude toward patient education.⁶ Knowledge, however, is not always reflected in behavior; hence, it is important to access the utilization of dental services vis-à-vis the self-reported treatment needs in this unique population.

A number of Nigerian studies have assessed the utilization of dental services. Many of these have been among children and secondary school students.^{2,4,8-10} Others were conducted among patients seeking dental treatment¹¹ or among university students.^{12,13} There is paucity of data regarding the utilization of dental services among dental students and dental technology students. This subset of the population should serve as a model for the entire population.⁶

The aim of this study, therefore, was to assess the differences between the level of utilization of dental services between dental students and dental technology students, also to determine the factors militating against the utilization of dental services, and to compare the self-reported treatment needs of dental students with those of dental technology students.

MATERIALS AND METHODS

This was a cross-sectional study involving dental students of the University of Port Harcourt, Rivers State, Nigeria, and dental technology students of the Rivers State College of Health Science and Technology, Rumueme, Rivers State, Nigeria. Ethical approval was obtained from the Ethics and Research Committee, University of Port Harcourt Teaching Hospital. Informed consent was obtained from the proposed study participants, and only those who consented were enrolled into the study. A self-administered questionnaire was used to obtain information of participants. The questionnaire included questions on sociodemographic information (age, gender, level of study, marital status), self-reported treatment needs (How do you rate your oral hygiene? Do you need dental treatment? If yes, what kind of dental treatment do you need?), utilization of dental services (Have you visited a dentist for treatment in the last 1 year?), the reason for the visit, and the factor(s) militating against dental visits.

Data obtained from the questionnaires were entered into a spreadsheet and analyzed using IBM SPSS for windows version 21. Strength of associations was tested using Chi-square test, with $p \leq 0.05$ considered statistically significant.

RESULTS

Sociodemographic of Participants

A total of 109 dental students (58 males and 51 females) and 110 dental technology students (16 males and 94 females) participated in this study. The participants' age ranged from 16 to 42 years, with a mean age of 23.3 ± 3.8 years (Table 1).

Utilization of Dental Services of Participants

A total of 51.1% of study participants had previously been to a dentist for treatment in the past 12 months. Whereas 67.0% of

dental students had visited a dentist for treatment in the past 12 months, only 35.5% of dental technology students had done so ($p = 0.000$). Although more females had previously sought dental treatment, there was no statistically significant difference in the utilization of dental services between males and females. The most commonly reported treatment that had been done in both group of students was scaling and polishing (Table 2). Among those who had not sought dental treatment, reasons attributed for not visiting the dentist included high cost of dental treatment (44.6%), lack of time (23.0%), fear of dental treatment (17.6%), and the belief that they had no dental issues (14.9%) (Fig. 1). High cost of dental treatment was the most important reason for not seeking dental care in both dental (41.2%) and dental technology (45.6%) students.

Oral Health Practices and Treatment Needs of Participants

About 26.9% of study participants rated their oral hygiene as excellent, whereas 56.2 and 15.5% rated their oral hygiene as good and fair, respectively. Only 0.5% rated their oral hygiene as poor. The majority of dental students rated their oral hygiene as good (67.0%), whereas 45.5% each of dental technology students rated their oral hygiene as either excellent or good.

Most (80.7%) dental technology students admitted to needing further dental treatment. On the other hand, only 48.6% of dental students felt they needed further dental treatment. Scaling and polishing was the treatment more participants (47.9%) felt they needed. While 68.2% of dental technology students felt they needed scaling and polishing, only 27.5% of dental students felt they required scaling and polishing (Table 2).

DISCUSSION

Dental healthcare providers are saddled with the responsibility of instilling good oral habits in their patients.⁶ One such habit is regular utilization of dental services, even when there may be no perceived needs. Routine dental visits are highly encouraged because not only do they afford an opportunity for reinforcing good oral habits and carrying out preventive treatments, they also enable pathologies to be detected at an early stage, thus facilitating optimal oral health.²

In this study, 51.1% of participants had been to a dentist in the last 1 year. This figure is much higher than that in previous Nigerian studies. Bamise et al.¹³ reported a figure of 7.8% among university students. Eigbogbo and Obianjunwa² found a utilization rate of 21% among secondary school students in Port Harcourt. The high utilization of dental services observed in this study can be attributed to the fact that the study population comprised dental students and dental technology students who are expected to have a high level of oral health awareness and easy access to dental services. Although dental service utilization in this study was higher than previous Nigerian studies, it is however less than European and American figures which have ranged between 59 and 75%.¹⁴⁻¹⁶ A greater percentage of dental students in this study utilized dental services compared to the dental technology students. This may be attributed to a higher level of oral health awareness in dental students. Al-Batayneh et al.¹⁷ found dental students to have higher oral health knowledge and better oral health practices compared to other disciplines of university students in Jordan. Additionally, dental students may have better access to dental services compared to dental technology students.

Table 1: Sociodemographic characteristics of the participants

	Dental students	Dental technology students	Total
Age (years)			
Minimum	16.0	18.0	16.0
Maximum	32.0	42.0	42.0
Mean \pm S.D	24.1 \pm 3.6	22.5 \pm 3.8	23.3 \pm 3.8
Gender			
Male	58 (53.2%)	16 (14.5%)	74 (33.8%)
Female	51 (46.8%)	94 (85.5%)	145 (66.2%)
Marital status			
Single	103 (94.5%)	97 (88.2%)	200 (91.3%)
Married	6 (5.5%)	13 (11.8%)	19 (8.7%)

Table 2: Comparison of utilization of dental services, self-reported oral hygiene status, and treatment needs between dental and dental technology students

	Dental students (%)	Dental technology students (%)	Total (%)	<i>p</i> value*
Previous dental visit				
Yes	73 (67.0)	39 (35.5)	112 (51.1)	0.00
No	36 (33.0)	71 (64.5)	107 (49.8)	
Dental treatment received				
Scaling and polishing	56 (51.4)	33 (30.0)	89 (40.6)	0.00
Extraction	12 (11.0)	3 (2.7)	15 (6.9)	
Filling	1 (0.9)	3 (2.7)	4 (1.8)	
Orthodontic treatment	2 (1.8)	0 (0.0)	2 (0.9)	
Bridge/implant	3 (2.7)	0 (0.0)	3 (1.4)	
Self-reported oral hygiene status				
Excellent	9 (8.3)	50 (45.5)	59 (26.9)	0.04
Good	73 (67.0)	50 (45.5)	123 (56.2)	
Fair	26 (23.9)	8 (7.3)	34 (15.5)	
Poor	1 (0.9)	2 (1.8)	3 (1.4)	
Need for further dental treatment				
Yes	53 (48.6)	88 (80.7)	141 (64.7)	0.03
No	56 (51.3)	21 (19.2)	77 (35.3)	
Treatment needed				
Scaling and polishing	30 (27.5)	75 (68.2)	105 (47.9)	0.12
Root canal treatment	5 (4.6)	5 (4.5)	10 (4.6)	
Orthodontic treatment	7 (6.4)	3 (2.7)	10 (4.6)	
Extraction	2 (1.8)	0 (0.0)	2 (0.9)	
Filling	6 (5.5)	3 (2.7)	9 (4.1)	
Partial dentures	2 (1.8)	0 (0.0)	2 (0.9)	
Bridge/implant	0 (0.0)	1 (0.9)	1 (0.5)	

* *p* <0.05 is statistically significant

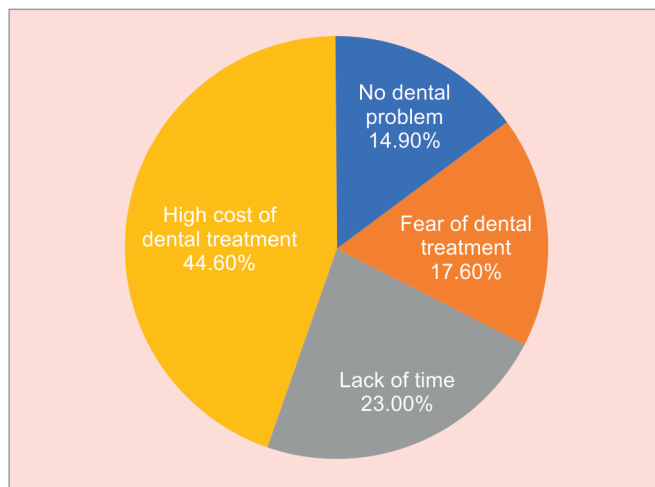


Fig. 1: Chart showing the reasons for not visiting the dentist

There was no statistically significant difference between males and females in terms of their utilization of dental services. This is similar to the findings of Bamise et al.,¹³ Venta et al.,¹⁶ however, reported better utilization of dental services by females in a study on university students in Helsinki.

Scaling and polishing was the most frequently utilized dental treatment in this study. This contrasts with the findings of Taiwo et al.,³ who found that tooth extraction and amalgam filling were the major dental treatments utilized. Our findings may have been influenced by the study population, since dental students and dental technology students have a higher level of oral health awareness and easier access to dental services, when compared

with the general population, also confirmed by Al-Ansari et al.¹⁸ who reported that health science students seemed to have appropriate knowledge on some oral health topics.

The major barriers to seeking dental treatment in this study were high cost of dental treatment (44.6%), lack of time (23.0%), fear of dental treatment (17.6%), and the belief that they had no dental issues (14.9%). Similar findings have been reported by other Nigerian authors^{2,4,12} although in all these studies, no perceived needs (a belief that they had no dental issues) was the major reason for not seeking care in as much as 77.3% of study participants, unlike in our study in which only 14.9% of participants did not seek care for this reason. Another Nigerian study reported that fear of pain/injection was the most common reason why people did not seek dental care,¹⁹ also in a Jordanian study among university students, fear was the main reason for not seeking dental care.¹⁷ Our findings may be attributed to a high level of oral health awareness among dental and dental technology students.

Most of the study participants rated their oral hygiene as either excellent (26.9%) or good (56.2%). This is similar to the findings of Al-Batayneh et al.¹⁷ Sixty-seven percent (67.0%) of dental students in this study rated their oral hygiene as good, with only 8.3% considering their oral hygiene to be excellent. This contrasts with the study done by Al-Batayneh et al.¹⁷ in which 68.9 and 33.2% of dental students rated their oral hygiene as excellent and good, respectively. Fewer dental students (8.3%) rated their oral hygiene as excellent, compared with dental technology students (45.5%). This may be the result of a greater awareness by dental students of the nature of plaque accumulation and the high prevalence of gingivitis and other periodontal diseases.

Ironically, while 48.6% of dental students felt they needed further dental treatment, with 27.5% specifically requiring scaling

and polishing, 80.7% of dental technology students had self-reported dental treatment needs, with 68.2% requiring scaling and polishing. This goes to show that self-reported oral hygiene status and treatment needs may not be very reliable.

CONCLUSION

This study found that dental students utilized dental services more frequently than dental technology students. The high cost of dental treatment was the major barrier to seeking dental care. Better health insurance, with less out-of-pocket expenses, will go a long way in improving the utilization of dental services.

CLINICAL SIGNIFICANCE

Utilization of dental services in Nigeria remains suboptimal; thus, there is need for continuous oral health awareness programs among the populace. In addition, health insurance with broad coverage of dental services is needed.

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