

PRIMARY ORAL HEALTH CARE UTILIZATION AND REFERRAL FROM A PRIMARY ORAL HEALTH CARE FACILITY IN A RURAL NIGERIAN LOCAL GOVERNMENT AREA

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ABSTRACT

To highlight the gender differences in oral health care utilization and referral patterns while taking into account the burden of oral diseases in an adult population as observed in a primary oral health care centre. The study was an observational retrospective study. Study participants were selected using a purposive sample of consecutive patients visiting the dental clinic from July 2004 to June 2017. Data collected from the patient records included the patient's demographics (age, sex, and occupation), diagnosis, treatment given, referral and reason(s) for referral. Patients younger than 18 years of age were excluded from the study. The data were analysed using the SPSS version 20.0. A chi-squared test was performed to compare the differences between male and female utilization of the dental clinic. The significance level was set at $P < 0.05$. The records of 1,168 patients were retrieved for the study. There was a slight preponderance of males (51%). The mean age distribution in years was 44.2 (S.D. ± 18.25). Nineteen percent of the patients had visited the dental clinic more than once. Although more males visited the clinic more than once, there was no statistically significant difference in the dental service utilization between both genders ($p > 0.05$). Nearly half (47.9%) of the patients required oral urgent treatment, while 19.3% of the patients were referred for specialized treatments. The role of the Primary Oral Health Care Centres (POHC) in providing oral urgent treatment was considerable. Nevertheless, there was a need to have an efficient and effective system of referral between the POHC Centre and Tertiary Hospital for the holistic management of patients. There was no significant gender difference in the dental service utilization.

INTRODUCTION

Oral health is an integral component of general health, and primary oral health care (POHC) is also an integral part of primary health care (PHC). First contact, continuous, comprehensive and coordinated care provided to populations undifferentiated by gender and disease are the hallmarks of primary care. (1, 2). Globally, it is recognized that the highest rates of oral diseases are found in disadvantaged and impecunious populations. Significant disparities exist in the distribution of oral health services, accessibility, and utilization of health services, particularly between rural and urban areas. (3-5) Oral diseases are still regarded as prevalent in many developing countries, such as Nigeria, where oral health care coverage is inadequate. Oral diseases constitute a public health problem because the social and financial impact on the individual and community is very high. Research on oral health service utilization in south western Nigeria revealed poor health-

seeking behaviour among community dwellers. Furthermore, dental care is mainly sought for the management of pain and the most common treatment received is usually extraction.^(6,7) Primary oral health care facilities offer oral urgent treatment as a component of the basic package of oral health care, which is a downstream intervention and framed to work with minimum resources for maximum effect. ⁽⁸⁾ Adults living in urban areas visit the dental clinic more often than those living in remote areas.⁽⁹⁾ Standard for necessary dental care utilization is two visits per year; however, this concept is being questioned by research. The Cochrane Systematic Review of effectiveness of frequent recall intervals for oral health concluded that there is insufficient evidence to support or refute the practice of persuading patients to visit the dental clinic twice a year. ^(1, 10). In Nigeria, the primary health care system is managed by 774 local government areas (LGAs) with support from their respective state ministries of health.⁽¹¹⁾ According to a Public and Private Development Centre, a non-governmental organization which inspected the PHC facilities in seven states (Osun State inclusive) in Nigeria, the PHCs were described as riddled with non-funding, abandonment and non-existence of facilities at given addresses.⁽¹²⁾ Primary care is only one level of care of a health system, but it is a central one.⁽²⁾ Primary care is the first level of specialty services, and patients are often referred from this level. Referral is defined as "a process by which a health worker transfers the responsibility of care temporarily or permanently to another health professional or social worker or to the community".⁽¹³⁾. It is advocated that a two-way referral system exists from the lowest level of health care to the highest; however, this is hardly the case in many developing countries.^(13, 14). The objective of this study is to highlight the gender differences in oral health care utilization and the referral patterns, taking into account the burden of oral diseases in an adult population as observed in a primary oral health care centre.

METHODOLOGY

This study was carried out at the Primary Health Centre located at Ipetu Modu, which is the headquarters of the Ife North local government area, Osun State. The dental clinic was established in 2004 to facilitate the accessibility and availability of oral health care to a rural Nigerian Local Government Area. Ipetu modu has a population of approximately 135,000 people.⁽¹⁵⁾. The study is an observational retrospective study. Study participants were selected using a convenient sample of consecutive patients visiting the dental clinic from July 2004 to June 2017. Data collected from the patient records included the patient's demographics (age, sex, and occupation), diagnosis, treatment given, referral and reason for referral. Patients younger than 18 years were excluded from the study.

Primary Oral Health Care Utilization and Referral from a Primary Oral Health Care Facility in a Rural Nigerian Local Government Area

Dental service utilization was measured by the number of visits to the primary oral health centre. A visit was defined as only face-to-face contact of the patient with the dentist, dental therapist or the dental nurse when attending the clinic. Participants were thus categorized into two groups, consisting of patients who visited once and patients who had visited more than once. The burden of oral disease was assessed based on the number of cases requiring oral urgent treatment, such as relieving of oral pain, first aid for oral infections and referral of complicated cases. Data were analysed using Statistical Package for Social Sciences (SPSS) version 20.0. (16) The mean and standard deviation was calculated for continuous variables while frequency was stated for the categorical variables. The chi-squared test was performed to compare the differences between male and female utilization of the dental clinic. Logistic regression was adopted to predict the referral pattern. The referral pattern was defined as a YES or NO binary dependent variable, while the independent predictors were age, sex, and number of visits. The significance level was set at $p < 0.05$.

RESULTS

A total of 1,551 patients were observed over the thirteen-year period, and records of 1,168 patients were examined for the study. It was observed that in 2005, the highest number of patient visits was recorded ($n=315$). However, in 2015, an all-time low of only fifteen patient visits was recorded in the entire year.

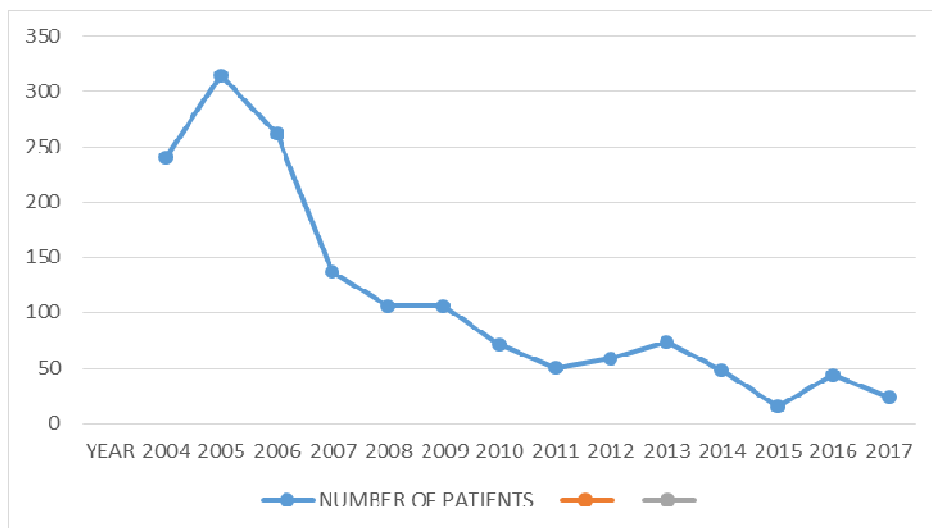


Fig. 1 Decline and undulating pattern of patient visits from July 2005-June 2017. The highest number of patients observed occurred in 2005.

The age range was 85 years, with the oldest study participant being 103 years old. The mean age distribution was 44.2 (S.D. 18.25) years. There was a slight preponderance of males (51%, n=596).

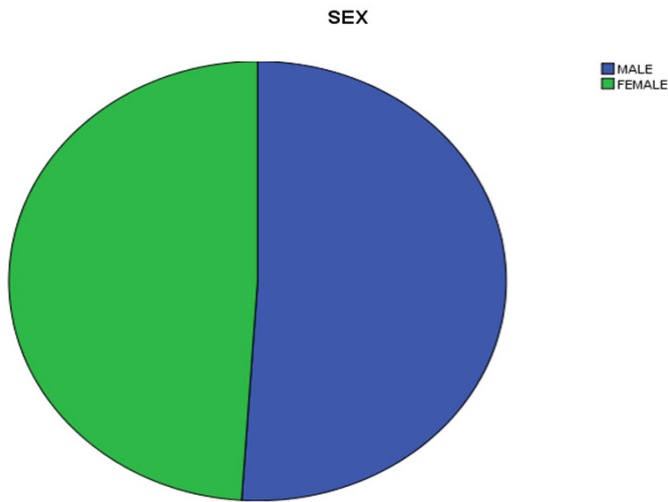


Fig. 2 Male-female distribution of patients seen at the Ipetu Modu Dental Clinic

The participants were traders (28.4%, n=330), civil servants (26.2%, n=305), students (19.9%, n=231), farmers (13.0% n=151), artisans (9.6%, n=111) and retirees (2.9%, n=34). Most patients visited the clinic once, and 19% of the remaining patients visited more than once. Although it was recorded that more males visited the clinic more than once, there was no significant difference in the dental service utilization between males and females ($p=0.902$).

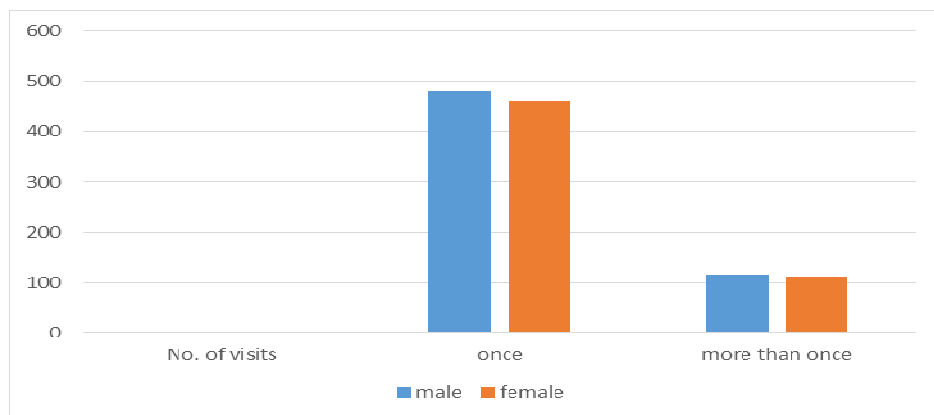


Fig. 3 Male-female pattern of dental service utilization

Primary Oral Health Care Utilization and Referral from a Primary Oral Health Care Facility in a Rural Nigerian Local Government Area

The majority of the diagnoses made were chronic conditions (chronic periodontitis, chronic marginal gingivitis, chronic apical periodontitis, partial or complete edentulism and halitosis). Thirty-two percent of the cases observed were acute conditions, such as acute pulpitis, acute or chronic apical periodontitis, reversible pulpitis. Approximately 48% of the patients observed required oral urgent treatment (consisting of mainly extractions), while 19.3% of the patients were referred for specialized dental care or due to the absence of a dentist at the time of visit. The most important predictor for the referral pattern was the number of visits, with individuals who visited more than once being more likely to be referred for specialized treatment. A patient who visited more than once had higher odds of being referred (O.R.: 1.638; C.I.: 1.164-2.305; p-value=0.005); visiting more than once was more effective than other independent variable predictors, such as age (O.R.: 0.994; C.I.: 0.986-1.002; p-value=0.149), as shown in table 2.

DISCUSSION

A total of 1,168 adult patients observed over the entire study period depicted a downward trend in dental service utilization. (Figure 1) This trend exists despite the occasional community outreach programmes, the location of the dental clinic within the primary health centre and the routine visits by dental public health specialists to the clinic. Notably, the dental clinic was co-located at the Primary Health Center to facilitate the integration of dental care and existing primary health care services. This increases the effectiveness and efficiency of the health team in the prevention of many dental conditions, which are avoidable, but when ignored, end up being treated as emergencies.(17) In 2015, there was an all-time low record of patient visits (see Figure 1), a far cry from the year 2005 with approximately 315 adult patients observed. Thus, the implication is multidimensional. However, this difference suggests poor health-seeking behaviour by members of the community(6), which was worsened by the economic down turn (resulting in unpaid salaries) in that year. This result also implied that there are mitigating factors against a successful integration of oral health care with the PHC. Some of these factors include logistics, transportation and administrative challenges, as identified in some studies. (6,18). The study population represents approximately 75.3% of all patient visits to the dental clinic. This percentage (patients 18 years and older) suggests that a majority of the dental service utilization is by the adult population. The mean age in this study group is 44.2 years, which is close to the upper limit (20-40 years) in the mean age group as stated by Okeigbemen et al., (6). However, other studies reported that the elderly constituted the smallest proportion of those requesting oral health (19), and an overwhelming proportion of dental service utilization belonging to the younger age group (20). It is important to note that these related studies were carried out at

tertiary and secondary health care facilities, and these centres are located in urban settlements. Migration to urban centres is age selective; the search for jobs in urban areas is a strong reason for young people to dwell in urban areas. Thus, rural areas may have a higher concentration of older adults compared with urban areas.(21)

Ipetu Modu is known for its flourishing trading activities. Ipetu Modu hosts a popular Akinola market that is strategically located along the Ibadan-Ife expressway. (22) Thus, among the varying socioeconomic strata that utilize the dental clinic, traders were the highest proportion, with a frequency of 28.4%.

This study showed a slight preponderance of males in terms of utilization, although there was no significant difference, in contrast to a similar study,(6) which showed a significantly higher rate of female utilization. However, the results of the present study are similar to the findings of Taiwo et al., (20) and Oginni et al., (23). Perhaps these results are due to the findings of Ajayi and Fotedar (18,24), in which anxiety and fear of dental treatment were more common amongst women particularly from low socioeconomic backgrounds, which have also been identified as barriers to those seeking oral health care.

“A favourable dental visiting pattern is where regular visits (1 or more in 12 months) are made to dentists, for the purpose of a check-up and having a usual dental provider who is familiar with the patient’s oral health history.” An unfavourable visiting pattern is where irregular dental visits are made, usually for a dental problem and without having a regular dental provider.” (9) Visits to the dental clinic were categorized in this study into visits that occurred once and more than once. Nineteen percent of the study participants had visited the clinic more than once. It was observed that more of the male gender had visited more than once; however, with no significant difference compared to females. It has been recognized that people in the urban areas make more visits than those in remote areas on average, although a higher proportion of women are known to have a favourable visiting pattern compared to men.(9). A majority (66.8%) of the diagnoses made were chronic dental conditions (chronic periodontitis, chronic marginal gingivitis, chronic apical periodontitis edentulism, halitosis) are indicative of the age group of majority of the patients observed in this study because the risk of chronic conditions increases with age. (25) Furthermore, the odds of having a chronic non-communicable condition in a rural area is said to be twice as high as that in an urban area. (21) Pain is the major motivating factor for visiting the clinic; however, this only follows self-medication, whether westernized or traditional before their presentation and explains the chronicity of most cases seen(20). Although a significant proportion of patients also present with acute conditions (acute pulpitis, acute or chronic apical periodontitis, traumatic dental injuries), warranting oral urgent treatments, extraction was still

Primary Oral Health Care Utilization and Referral from a Primary Oral Health Care Facility in a Rural Nigerian Local Government Area

the major treatment option given to patients, which is consistent with findings obtained in similar studies. (6, 20) Extraction is viewed as a relatively cheaper and simpler treatment option since most patients are seen at the late symptomatic stages of caries sequelae or periodontal disease and can easily opt for it. This study revealed that 19.3% of the patients visiting the dental clinic were referred for specialized treatments. Notably, a proper referral system is influenced by the knowledge of the health care workers and practice at the dental clinic. The materials for referrals, such as referral forms and registers may not always be available at the clinic to use, which can limit the good practice of a referral system. (26). The strongest predictor for referral from the dental clinic was the number of visits to the clinic (O.R.: 1.638; C.I.: 1.164-2.305; p-value=0.005). It is suggested that individuals who had visited the clinic more than once had a higher awareness of their oral health and an improved knowledge due to more contacts with the health professional. This may potentially be responsible for the increased likelihood for referral to a tertiary hospital for more specialized treatments.

CONCLUSION/RECOMMENDATION

The role of the primary oral health care centres in providing oral urgent treatment is considerable, despite the downward trend of dental service utilization. Furthermore, there is a need to have an efficient and effective system of referral between the POHC and the tertiary hospital for a holistic management of patients. This study showed no significant gender difference in the dental service utilization. The concept of PHC needs a more robust structure that hinges on and is developed by the health promotion approach. Strategies have been promulgated, which call for global implementation. These strategies include building healthy public policies, creating supportive environments, strengthening community action, developing personal skills and reorientation of health services. Health professionals have an important role in nurturing and enabling this approach. Health promotion offers more possibilities for health, such as equality in health. An increased financial and workforce investment in the Primary Oral Health Care is needed. There is a call for state governments to take charge of primary health care in their domains due to the constrained Federal might. Rather than engage in building new primary health centres, much energy should be directed at revamping the existing centres. There is a need for more consistent community outreaches, which are aimed at increasing the oral health awareness through the integration of dental health education with general health education, as well as providing periodic screening in rural areas with a focus on the prevention of oral diseases.

Table 1 Comparison of male-female dental visits

Sex	Visits		Total	P-value
Male	1 visit	>1 visit	596	0.902
Female	481	115		
Total	460	112		
	941	227	1168	

Table 2 Predictors of Referral. * Statistically significant at P<0.05

Variable	O.R. (Exp (B))	95% C.I.		P-Value
		lower	upper	
Age	0.994	0.986	1.002	0.149
Sex	1.122	0.838	1.501	0.440
Number of Visits	1.638	1.164	2.305	0.005*

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Primary Oral Health Care Utilization and Referral from a Primary Oral Health Care Facility in a Rural Nigerian Local Government Area

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