



**Research Article**

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## Dental Service Utilization of a Rural Population in Nigeria

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### Abstract

**Background:** Dental health is often neglected by a vast majority of the population and has contributed to the global burden of oral diseases. Prevention of disease, disability and suffering should be a primary goal of any society that hopes to provide a decent quality of life for its people. Dental care/service utilization is an indispensable facilitator of oral health, as dental caries and gingivitis are preventable with regular access to preventive dental services. Several reasons have been attributed to use and non-use of dental services and include socio-demographic factors such as age, sex, educational attainment, and household income. **Objective:** To determine dental service utilization of a rural population in South-east Nigeria. **Methodology:** A cross sectional study of 268 participants was carried out at Ozalla Model Primary Health Centre, Ozalla Health Centre and Umueze Awkunanaw Health Centre located in Ozalla community and Umueze Awkunanaw community respectively. Ethical clearance for this study was sought and obtained. Permission was sought from the head of each health centre, while individual verbal consent was obtained from the respondents before giving out the pre-tested questionnaire which was interviewer-administered. Data was analysed using Statistical Package for Social Sciences (SPSS) Version 20. **Results:** 126(47 %) males and 142(53%) females were seen. The age of the participants ranged from 18 - 86 years with a mean age of 32.4 ± 13.3 years. 131(48.9%) were married, 133(49.6%) were single and 4(1.5%) were divorced. 39(14.6%) had only primary level of education, 142(52.6%) secondary, 67(25.0%) tertiary and 21(7.8%) had no formal education. 64(23.9%) had utilized dental service, while 204(76.1%) had not visited a dental clinic (had not utilized dental service). The common reason for dental service utilization was dental pain. The predominant occupation was farming and small scale business/trading. P= 0.038. **Conclusion:** Dental health was neglected by a vast majority of the participants, The poor utilization of dental service by the respondents could be due to poor awareness, absence of dental insurance, financial constraints, lack of perceived need for dental care, economic difficulties, socio-demographic factors such as age, sex, educational attainment, and household income. Effort needs to be applied to create better awareness and possibly increase dental clinic attendance. Emphasis should be placed on benefits of utilizing preventive dental services rather than only curative through dental awareness programmes.

**Keywords:** Dental service, Service utilization, Rural, Population.

### INTRODUCTION

Dental health is often neglected by a vast majority of the population, and has contributed to the global burden of oral diseases. This burden is more severe in poor and disadvantaged population groups [1-2]. Oral diseases such as dental caries, periodontitis, halitosis, orofacial tumours and oral cancers are serious public health problems in both developed and developing countries [2-7]. Oral diseases restrict activities in school, at work and at home causing millions of school and work hours to be lost each year. Moreover, the psychosocial impact of these diseases often significantly diminishes quality of life [8]. Prevention of disease, disability and suffering should be a primary goal of any society that hopes to provide a decent quality of life for its people. The availability and accessibility of dental/oral health services in rural areas are limited, and the provision of oral health care is also very limited. Limited availability and accessibility of oral/dental health services are possible risk factors for poor oral health and diseases, especially in sub-Saharan Africa [9-10].

Dental care/service utilization is an indispensable facilitator of oral health [2,11-12]. as dental caries and gingivitis are preventable with regular access to preventive dental services. Dental service/care utilization can be defined as the percentage of the population who access dental services over a specified period of time [13]. Measures of actual dental care/service utilization describe the percentage of the population who have seen a dentist at different time intervals [14]. Access to dental/oral health services is critical, as it not only provides opportunities for early diagnosis and treatment of diseases and conditions, but is also

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beneficial for maintenance of good oral health, health promotion and educational awareness [15-16]. It is unfortunate that in a developing country such as Nigeria, the awareness about oral health issues in different population groups is still low [17-19]. This poor awareness may have a direct effect on the illness seeking behavior of the population including their access to oral health facilities [20-22]. Access to oral health facilities could be in terms of cost, distance, availability of qualified personnel, functioning oral health facilities and location [23]. Several reasons have been attributed to use and non-use of dental services and include socio-demographic factors such as age, sex, educational attainment, and household income [24]. Perceptions and oral health behaviors [1,25-27], access to health facility, dwindling health funding, dental insurance, and cost of treatment have also been cited. There is a need for people to visit dentists regularly even in absence of dental problems so that disease initiation can be recognized and prompt dental treatment can be rendered [28].

Studies from the African continent highlight poor utilization of dental care across urban and rural populations because of economic difficulties, dwindling health funding, poor perceived oral needs, competing demand, misconceptions about oral health, inadequate facilities, and shortage of dental workforce [29-35]. A Turkish study showed that women and individuals with higher levels of education use dental services more than others [36]. Another study had suggested that some individual factors, such as having a higher income, having access to preventive oral health information and having better educated parents could explain the reasons for seeking dental health/care services [37]. Oral health care in rural areas are often limited due to shortage of dental manpower, financial constraints, and the lack of perceived need for dental care among rural masses [38].

The utilization of dental services was reported low and varied between 15.5% and 56.5% in Enugu, [39] and 14.9% in Lagos [40]. In some Nigerian studies, 25% of medical students [41] and 80% of dental auxiliaries in training, [42] utilized dental services. Utilization of dental services is often motivated by pain and need for emergency care [43-47]. Utilization is the actual attendance by the members of the public at oral health care facilities to receive care. Gill *et al.*, from a study conducted in India in 2014 [48] reported that 60% of the respondents had never visited a dental clinic and was common among rural respondents. Studies in Nigeria, reported that between 52% and 80% of the respondents had never been to a dentist [20,49], while Gupta *et al.*, [28] from a study conducted in India in 2014 reported 54.85% of the respondents had not visited a dentist.

There are various studies and reports of dental service utilization in other parts of the country, in Africa and the World. The aim of this study is to determine dental service utilization of a rural population in South-east Nigeria and contribute to the existing data on dental service utilization in Nigeria and the West African sub-region. It will also compare findings with published reports from Nigeria and other countries of the World.

## MATERIALS AND METHODS

The study was conducted on participants who presented at Ozalla Model Primary Health Centre, Ozalla Health Centre and Umueze Awkunanaw Health Centre, located in Ozalla community and Umueze Awkunanaw community respectively, at the time of the study. [December 2018 – April 2019]. The three (3) centres are the primary health centre offering primary health care services to Ozalla and Umueze Awkunanaw community respectively.

Umueze Awkunanaw town and Ozalla town are part of the thirty- three (33) towns that make up Nkanu -West local Government Area of Enugu State, Nigeria [50]. The area is largely rural and its inhabitants are primarily farmers, small-scale business people and traders. Nkanu-West Local Government area of Enugu State is one of the seventeen (17) local government areas of Enugu State and has its headquarters at Agbani [50].

Ethical clearance for this study was sought from Ethical Committee of University of Nigeria Teaching Hospital, (HREC, UNTH) Enugu, and obtained. Permission was sought from the head of each health centre, while individual verbal consent was obtained from the respondents before giving out the pre-tested questionnaire which was interviewer-administered. Participants were equally selected from each community. Data were analysed using a computer software programme, Statistical Package for Social Sciences (SPSS) Version 20. P values < 0.05 were accepted as being statistically significant.

## RESULTS

A total of 268 participants were seen, 126(47 %) were males and 142(53%) females (**Table 1**). The age of the participants ranged from 18 years - 86 years with a mean age of 32.4 ± 13.3 years. 131(48.9%) were married, 133(49.6%) were single and 4(1.5%) were divorced. 39(14.6%) had only primary level of education, 142(52.6%) had secondary, 67(25.0%) had tertiary and 21(7.8%) had no formal education (**Table 1**). 64(23.9%) had utilized dental service, while 204(76.1%) had not visited a dental clinic (had not utilized dental service) (**Table 2**). The common reason for dental service utilization was dental pain. The predominant occupation was farming and small scale business/trading. There was a statistically significant association of marital status and dental service utilization. P= 0.038

**Table 1:** Socio-Demographic Characteristics of Respondents

Variable	Number	Percent
Gender		
Male	126	47
Female	142	53
	268	100
Age group(yrs)		
Less than 30	138	51.5
30-49	99	36.9
50-69	23	8.6
70 and above	8	3
	268	100
Level of education		
Primary	39	14.6
Secondary	141	52.6
Tertiary	67	25.0
None	21	7.8
	268	100
Marital status		
Married	131	48.9
Single	133	49.6
Divorced	4	1.5
	268	100

**Table 2:** Dental service utilization by the respondents

	Number	Percent
Had utilized dental service	64	23.9
Had not utilized dental service	204	76.1
Total	268	100.0

*P-value* = 0.038

## DISCUSSION

Utilization of dental services is important for the wellbeing of an individual because underutilization can lead to poor oral health, with its attendant impact on the individual's quality of life [51]. Poor oral health reflects social inequalities. Hence, the prevention of oral diseases should be a priority in developed and underdeveloped countries in the world [52-53]. Early diagnosis, early intervention and preventive treatments can prevent or decrease the progress of most oral diseases/conditions that, when left untreated, can have painful, functional, psychological and negative health consequences. Several factors have been identified which have direct and indirect impact on the utilization of dental health services. These factors include age, sex, ethnicity, education, language, perception of need, anxiety states, and feeling of vulnerability [28]. Others may include disability, cost of treatment, transportation, health status of the individual, residence, attitude of dental workforce, and beliefs and charisma of dental health care personnel [54-55].

In this study, 23.9% of the respondents had utilized dental service, this was low and consistent with findings of previous reports of 14.9% - 25% [39-41]. The common reason for dental service utilization was symptomatic reason and was similar with previous reports [43-47]. There is a tertiary health institution offering dental services around the vicinity of the community, to other communities within the state, towns and neighbouring states. The poor utilization of dental service by the respondents could be due to poor awareness, absence of dental insurance, financial constraints, lack of perceived need for dental care, economic difficulties, socio-demographic factors such as age, sex, educational attainment, and household income. 76.1% of the respondents had not visited a dental clinic as in previous Nigerian reports of between 52% and 80% [20]. Prevention of disease, disability and suffering should be a primary goal of any society that hopes to provide a decent quality of life for its people.

## CONCLUSION

Dental health was neglected by a vast majority of the participants. The poor utilization of dental service by the respondents could be due to poor awareness, absence of dental insurance, financial constraints, lack of perceived need for dental care, economic difficulties, socio-demographic factors such as age, sex, educational attainment, and household income. Effort needs to be applied to create better awareness and possibly increase dental clinic attendance. Emphasis should be placed on benefits of utilizing preventive dental services rather than only curative through dental awareness programmes.

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### Conflicts of interest

There are no conflicts of interest.

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