

Dental Attendance Among the Elderly in Benin-city, Edo state

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Key words: Dental clinic, attendance, elderly

ABSTRACT

Background:

There appears to be little or no focus on the dental clinic attendance by the elderly despite the global increase in the elderly population. This study therefore aimed to determine the pattern of dental clinic attendance among the elderly in Benin-city.

Materials and Methods:

This was a six-month multi-centre, cross-sectional study. The study was conducted among dental patients at the outpatient departments of two tertiary health facilities in Benin-city. Data comprised of participants' sex, age, level of education, marital status, religion, and ethnicity were collected using a questionnaire. Other data collected included co-morbidities, previous dental clinic visits, time of last visit, reason

for last visit, intention to visit the clinic again, presenting complaints, and barriers to dental attendance. Both descriptive and inferential statistics were performed.

Results:

Four hundred and one elderly patients were seen, giving a prevalence of 27.7%. The mean age of the patients was 70.4 ± 5.7 years with an age range of 65–97 years. The female elderly were more (52.9%) than their male counterparts. More than half (56.9%) of the elderly patients had never visited the dental clinic. Toothache was the most common (18.5%) presenting complaints. More than half (53.6%) of the respondents were hypertensive. Less than a third (30.2%) rated their dental health as good. The cost of transportation and long distance were the barriers to attendance to the dental clinic reported by majority (71.3%) of the patients.

Conclusion:

There was a poor pattern of dental clinic attendance among the elderly in Benin City, mainly due to cost of transportation and long distance.

INTRODUCTION

Regular attendance at the dental clinic helps to improve and maintain good oral health, quality of life and general well-being.¹ However, good oral health depends on the availability of dental services and care.⁵ Poor oral health is often linked with limited to dental care with negative outcomes on an individual's general health such as diabetes, hypertension, ulcers and malnutrition.^{6,7} The elderly, individuals aged or older than 65 years⁸, are particularly vulnerable to barriers to regular dental attendance often resulting in unmet dental needs.⁹ Despite being more vulnerable to dental conditions

such as tooth loss, dental caries and periodontal diseases¹⁰, older patients seldom utilise dental services. ¹¹However, educated elderly patients report regular dental attendance^{12,13}.

A study by the London National Health Service (NHS) showed that the use of dental services is prevalent amongst middle-aged adults and decreases with the aged, with the rate of registration dropping from 56% in those aged 45-54 years or lower to 29% in older persons 75 years and above.¹³ Similarly, in spite of the necessity of oral care for the elderly, the utilisation of dental service is limited and the rate of dental attendance is less determined in sub-Saharan populations like Nigeria's. Some barriers such as cost of dental services, rigorous nature of getting dental appointments, phobia for dentists, scarcity of dental services, and accessibility to dental services affect the utilisation of dental services by the elderly¹⁵⁻¹⁷.

Attaining and maintaining optimal oral health in older persons is a common knowledge among health care providers¹⁸. Life expectancy around the world, in both developing and developed countries, is increasing^{19,20}, so the elderly constitute an increasingly significant proportion of the population with oral health problems. Hence, there is a need for specialized care in relation to their oral health morbidities after ascertaining their health problems and their rate of dental clinic attendance, hence this study. More so, the global increase in the elderly population^{13,21} and the paucity of studies^{22,23} relating to the dental clinic attendance, further justify this study.

MATERIALS AND METHODS

Ethical consideration:

Ethical approval for this study was granted by the Research and Ethics Committee of the University of Benin Teaching Hospital with protocol number: ADM/E/A/VOL.VII148311670. This study was conducted between December 2022 and June 2023 at the dental outpatient department of University of Benin Teaching Hospital, Benin city, and Central Hospital, Benin city. Both hospitals are tertiary health facilities with a high population of dental

patients.

Study design:

This was a multi-centre, cross-sectional study conducted over a six -month period, involving 401 respondents recruited following sample size estimation using the statistical formula of Cochrane²⁴. Included in the study were all consenting elderly dental patients older than 64 years who attended the study centres for treatment and were capable of answering the questions either in writing or by interview. All consecutive patients that met the inclusion criteria were recruited. . Those who did not give consent to participate in the study were excluded.

Study instrument:

The tool used in this study was a self- and interviewer-administered pre-tested and pre-validated structured, close-ended questionnaire. The questionnaire was written in English and consisted of three sections. The first section elicited demographics, the second, dental clinic attendance, while the third identified barriers to dental attendance. The questionnaire was pilot-tested among ten respondents who were not included in the study. The questionnaire had a good reliability score (Cronbach's Alpha = 0.8)

Data analysis:

Data were analysed using the statistical package for the social sciences (SPSS), version 26 (IBM, Armonk, NY, United States of America). The information collected included sex, age, level of education, marital status, occupational level, religion, and ethnicity. Other collected data were comorbidities, previous visit to dental clinic, time of last visit, reason for last visit, intention to visit the clinic again, presenting complaints and barriers to dental attendance. Both descriptive and inferential statistics were performed. In the descriptive statistics, categorical variables were presented in frequency and percentages. Numerical variables were expressed as mean and standard deviation. Significance was set at 95% confidence level.

RESULTS

Four hundred and one elderly patients were

seen giving a prevalence of 27%. All elderly patients willingly filled or were assisted to fill the questionnaires and returned them, giving a response rate of 100%. The mean age of the patients was 70.4 ± 5.7 years with an age range of 65–97 years. Table 1 shows the demographic characteristics of the participants. The female elderly were more (52.9%) than their male counterparts. The highest (57.9%) proportions of them were in the age group of 65–69 years. Just a little over half (50.4%) had just primary school leaving certificates and almost (86.8%) all of them were married. The occupation level of slightly more than half (57.4%) of the elderly sampled was ISCO level 11. Almost (95.5%) all respondents were Christians, as just (50.1%) more than half were Binis.

Table 1: Demographic characteristics of the study respondents (n = 401)

Variable	Frequency (%)
Sex	
Male	189(47.1%)
Female	212(52.9%)
Age category	
65-69	232(57.9%)
70-74	67(16.7%)
75-79	61(15.2%)
≥ 80	41(10.2%)
Highest level of educational qualification	
No formal	93(23.2%)
Primary	202(50.4%)
Secondary	52(13%)
Tertiary	54(13.5%)
Marital status	
Married	348(86.8%)
Widow/Widowed	53(13.2%)
Highest occupational level	
ISCO Level I	139(34.7%)
ISCO Level II	230(57.4%)
ISCO Level III	32(8%)
Religion	
Christianity	383(95.5%)
Islam	13(3.2%)
Others	5(1.2%)
Ethnic group	
Binis	201(50.1%)
Esan	124(30.9%)
Etsako	0(0%)
Others	76(18.9%)

Table 2 shows the morbidities among the elderly patients. More than half (53.6%) had

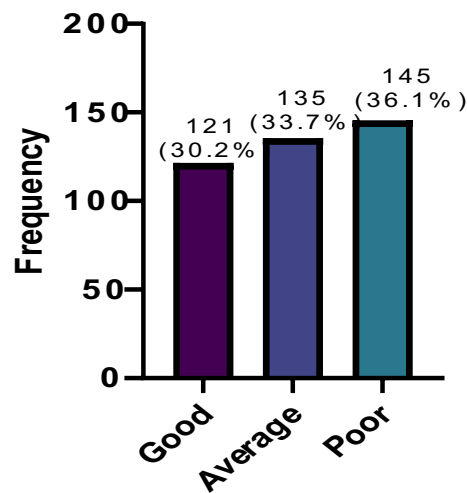
hypertension which was followed (42.4%) by diabetes mellitus, while the least morbidity was hepatic diseases.

Table 2: Co-morbidities in the elderly patients (n = 401)

Co-morbidities*	Frequency (n%)
Hypertension	215(53.6%)
Diabetes mellitus	170(42.4%)
Musculoskeletal disorders	86(21.4%)
Hepatic disorders	18(4.5%)
Urological disorders	39(9.7%)
Respiratory disorders	34(8.5%)
Cardiac disorder	157(39.2%)

*The co-morbidities had multiple entries

Figure 2 showed the self-rating of dental health by the elders. Less than half (30.2%) rate their dental health as good.



Self Rating of Dental Health

Figure 2: Self-rating of Dental health

Table 3 shows the attendance of elderly patients in the dental clinics. More than half (56.9%) had never visited the dental clinic. The mean time since last visits for those that had ever-visited was 12.67±4.76 years and the highest number of participants visited for tooth extraction. Interestingly, close to two-thirds (60.8%) agreed to visit again. The highest (18.5%) presenting complaint was

toothache.

Table 3: Dental clinical attendance parameters among respondents (n = 401)

Parameters	Frequency (n %)
Previous visit to dental clinic	
Within 1 year	51(12.7%)
1-3 years	110(27.4%)
4-6	12(3%)
Never	228(56.9%)
Mean time to last visit	12.67±4.76 years
Reason for last visit:	
Cleaning	21(12.1%)
Filling	24(13.9%)
Denature installation	24(13.9%)
Inflammation	15(8.7%)
Extractions	67(38.7%)
Mobile teeth	22(12.7%)
Intention to visit the clinic again	
Yes	244(60.8%)
No	3(0.7%)
I don't know	164(40.9%)
Presenting complaints	
Halitosis	33(8.2%)
Facial pain	63(15.7%)
Dry mouth	51(12.7%)
Filling	30(7.5%)
Tooth ache	74(18.5%)
Extractions	49(12.2%)
TMJ pain	27(6.7%)
Gingival bleeding	42(10.5%)
Inflammation	32(8%)

Table 4 shows the perceived barrier to dental clinical attendance among the respondents. Majority (71.3%) of the respondents affirmed that cost of transportation and long distance were major barriers hindering them from attending dental clinic, while the least (5.5%) barrier was bad previous experience.

Table 4: Barriers to dental clinic attendance among the respondents (n = 401)

Barriers to dental clinic utilisation	(n %)
Cost of transportation/ long distance	286(71.3%)
Cost of dental services	197 (49.1%)
Awareness of dental services	67(16.7%)
Previous bad experience	22(5.5%)
Pain of procedure	121(30.2%)

DISCUSSION

A total of 401 geriatric patients were recruited from the outpatient dental clinics in two major tertiary health institutions in Benin City. The socio-demographic characteristics of the participants are indicative as recognized in the literature. Demographic, social, economic and political factors influence the demand and availability of dental care services.²⁷ As such, there were more females, with a ratio of 1.2:1. This is similar to a similar study by Molete et al²⁶ in South Africa where almost two thirds (65.2%) were females. This finding is in contrast to the study by Saleh et al¹⁴, where males constituted 54.1% of the study subjects. The slight preponderance of females may indicate a slightly higher dental health seeking behaviour among the females than males. The population in this study was older than the cohort of dental elderly patients in the study conducted in South-East Asia where the mean age was 67.91±6.56 years.¹² The low dental attendance rate may be attributed to the older age distribution of our study subjects as studies have shown that the utilization of dental services is prevalent in middle-aged adults while it decreases with increasing age. However, the mean age in this study was lower than the mean age of the population in the study among the elderly in Johannesburg²⁷.

Majority of respondents in the study had at most, primary school education. This finding

is similar to that observed in Asia where most of the participants had a reduced level of education as 46.3 % of the study subjects were illiterate, and 24.6% only had basic education⁹. The South African study²⁷, however, reported a higher level of educational attainment among the elderly as majority (56.8%) had secondary school education as highest level of educational status. This indicates that education has a powerful effect on the health status of the individuals through awareness of health benefits which in turn enables them to take positive decisions regarding their health problems. It is interesting to note that a great majority of the study respondents were not living alone. This is in contrast to the study conducted in London by Borreani et al²⁸ where most of the elderly participants lived alone without social support from friends and family. The evidence of family support system observed in this study could be due to the traditional nature of society in Africa. Most of the study respondents were Christian Bini, which reflects the socio-demographic and socio-cultural background of the study area.

Regular dental visits encourage prevention and early diagnosis of oral/dental diseases. Results in this current study indicate that only 51(12.7%) of the elderly patients had previous visits to the dental clinic within the preceding year. Thus, it is clear that most of the study participants rarely visited the dentist while just a handful of them maintained dental visits very often. This result is in agreement with a US study conducted by Manski et al²⁸ which reported an inverse relationship between increasing age and the uptake of dental services and consultations. Another study in Ibadan, South West, Nigeria, was also in line with the present study findings.²⁹ In contrast, another study¹⁰ done in the US demonstrated that two-fifths of older persons responded that they present for dental care regularly and over half of them reported visiting the dentist when there is a dental issue. Differences in circumstances of the patients and dental insurance in the affluent world may partly explain the differences. Our study also revealed toothache as the major reason for dental clinic

attendance. This is highlighted by the fact that elderly persons have higher pain threshold which may be the explanation for not using dental services except when the pain becomes severe and unbearable. Findings from this study are in agreement with another study carried out in Mansoura, Egypt. Salehet al¹⁴ who reported that most of the study participants cited tooth extraction for the relief of toothache as the reason for their last dental visit. Zhu et al³⁰ in another study revealed that prosthetics and dental extraction were the most common reasons for dental visits, as opposed to Nagarjuna et al³¹ who reported pain or dental emergency as the most common objective for uptake of dental services.

The cost of transportation was the most frequent barrier of dental clinic attendance recorded in this study, which corroborates the findings of reported in Saleh et al.¹⁴ Saleh and coworkers showed that most of the elderly respondents reported difficulty of transportation and traversing long distances to access dental services as part of the barriers to seeking dental checkup, a finding corroborated by several studies.^{31,32,33} This trend, as observed in this study, may be attributable to the recent economic downturn in the country which was further compounded by the cash swap and fuel shortages. This study also revealed that about 197 (49.1%) of the respondents stated the high cost of dental care as an important challenge that affected their uptake of dental care. This may also have been compounded by the low socioeconomic status and earning opportunities of the respondents.^{34,35,36} Moreover, this study demonstrated that the relatively significant number of the respondents [121(30.2%)] indicated that phobia of dental pain is among the barriers responsible for their under-utilization of dental services thus corroborating several previous studies^{12,30,37} but is at variance with Nitschke et al³⁸ but the reasons for the difference are not clear! Finally, we found a significant difference in the mean time of last visit between the geriatric and younger patients, indicating that geriatric patients seen in this study took a long time to visit the dental

clinics, coupled with low dental service utilization.

In conclusion, there was poor attendance to dental clinic by elderly in Benin City due, mainly, to the cost of transportation and the long distance. Age was related to poor attendance and time of visitation for attendance.

Limitations:

This study is limited by its short duration of six months. In addition, current events like the currency shortages and restriction of movement due to election issues as well as fuel scarcity may have hindered the patients from attending the dental clinics, which, in turn, may have affected the study outcomes.

Acknowledgement:

We want to thank all consultants in the dental clinics that allowed us recruit their patients in this study.

Conflict of interest: None

Funding: None

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