Oral health status and service utilization among a group of rural older Nigerians.

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ABSTRACT:

Objectives: To determine oral health status and explore factors associated with use professional oral health care among a Nigerian rural older population.

Methods: Recruitments of 400 participants aged 60 and above done by multi - stage-sampling method. Pretested structured questionnaire administered with oral examination done.

Results: Mean ages of participants were 67.06+/- 8.37 years. Proportion of participants with poor oral hygiene was 49.5%, caries (17.4%), periodontal disease (16.5%), tooth loss (71.3%) and tooth replacement was done by 5.5% of this population. Majority (64.8%) had never used professional oral health care. Main reason for seeking professional care was pain (73.05%). The proportion that went for routine checkup (8.5%) was the least. Proximity to dental service (p = 0.01), presence of oral pain (<0.001), attitude to professional oral care (p = <0.001) and ability to afford professional dental care (p = 0.001) had significant association, with utilization of professional oral care.

Discussion: The poor oral health and elevated tooth loss is at variance with universal access to health and the rural older population is deprived of oral health interventions. There are various factors attributed to these, such as financial constraint and negative attitude. All of these may translates to social exclusion of the rural older population.

Conclusion: Oral health in the older population studied is poor with an increased tendency to tooth loss and poor utilization of professional oral care. Factors influencing professional oral care were proximity to service centre, attitude to oral health, and perception of cost.

Key words: older, care, oral health

INTRODUCTION: The greatest burden of oral disease generally, lies in disadvantaged and poor people including the older age group.[1] There is significant difference in the distribution of oral health services, and their accessibility, utilization, and outcomes between urban and rural areas of both developing and developed countries.[2,3] Care of older people in Africa has traditionally been the responsibility of their children and relatives,[4] however it has been reported that this family support is fast being eroded.[5] In addition to this, social inequality, profound oral health disparities and poor oral health have been documented among the elders.[5] The older people are the most neglected group in the population and are prone to chronic oral diseases such as periodontitis, and root caries culminating tooth loss.[6] These oral diseases have a negative impact on the oral health, general health and quality of life.[6] The burden of oral diseases on the older people, their family, and their community is enormous.[7] The oral disease burden on community poses pressure on the health system of the community in addition to other community challenges such as poverty and basic developmental problems.[7] To prevent further oral disease burden proper oral health care must be instituted by policy makers by translating the knowledge of oral healthcare in the older population into action programme and adopting common risk factor approach.[7] It is therefore necessary to determine the oral health status and oral health care utilization among the older people living in rural area to provide information which will be useful to stakeholders and policy makers in making informed decision and developing measurable goals and targets for oral health especially in the older population.

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METHODS

This was a descriptive cross sectional study

determining oral health status and utilization of professional oral health care among the elders in Ado – Odo / Ota Local Government Area, Ogun State.[8] This is a rural setting and one of the 20 local government in Ogun State, Nigeria. It is bounded in the east and south by Lagos state, in the north by Yewa South and Ifo Local governments and in the west by Ipokia local government.[8] The population was 526,565 at the 2006 population census (4.3% of total Nigerian population aged 65 years and above) and the people are mainly Yoruba, Awori, along with ethnic settlers like Egba, Egun and Yewa. There traditional occupation is farming. [9] The local government has over 16 health centres but has one dental centre owned by the government with no documented cost of dental services nor health insurance coverage for dental services.[10] Eigthy one percent of population depend on ground water (88.4% obtained water from boreholes, 9.2% from covered hand-dug wells and 2.4% from exposed hand-dug wells) while 14.9% receive from public water utilities.[11] Sample size was extrapolated using epidemiological sample size formula (n= z^2pq/d^2 -descriptive study-)[12]. The prevalence of oral health care in the older population from previous study[13] was used. A minimum sample size of 346 was calculated. Ten percent for non response was extrapolated from calculated sample size and added to it bringing total sample size to 380.6. This was rounded up to 400. Multistage sampling method was used. Eight wards(these included Ijoko, Atan, Ilogbo, Ota I, Igbesa, Iju, Sango Ota and Ado Odo I) were selected from existing 16 wards by simple random sampling through balloting. Simple random sampling by balloting was also used to select four streets from each selected ward. House to house visit was done in all selected streets. Households having an elder persons (60 years and above) were selected. Those who consented to the study after the purpose of the study had been explained were selected. For each house where the elders were more than one, simple random selection using balloting was done to select one participant.

An interviewer administered structured questionnaire adapted from WHO oral health questionnaire[14] for adult in conjunction with an adapted questionnaire by Peters et al barriers for utilization of health care[15] was administered to participants to gather information. Consent of patient was obtained before administration of questionnaire and examination. Section one gathered information on socio-demographics (age, sex, educational background), section B gathered information on clinical findings and section C gathered information on use of professional oral care and reason for lack of professional care. The data was cleaned and analyzed using SPSS version 21. Mean and standard deviation of descriptive statistics was computed, categorical variables were presented as frequencies and percentages. Differences between groups were compared using the chi-square test for categorical variables. P values < 0.05 were considered statistically significant.

RESULTS

A total of 400 participants were seen. All respondents had routine dental examination and the response rate was 100%. The age ranged from 60 to 100 years. The mean age was 67 ± 7.28 years. Female participants were predominant (56.0%). Mean DMFT was 3.45. Most of the participants either had no formal education (35.5%) or primary education (30.8%). A minority attained tertiary (11.2%) educational level (Table 1). A minority (7%) also lived alone (Table 1). Missing teeth accounted for 66.5% of DMFT. The Prevalence of oral diseases such as caries was 16.2%, periodontal disease was 16.0%, tooth loss was 54.2% (tooth loss of 1-9 teeth being 51.5%) and other oral lesions was seen in only 2 (0.6%) participants. The oral lesion seen in both participants was candidiasis. The median of tooth loss was 3. Majority (64.8%) had never used professional care. Among those who had professional care, 18.5% had professional care 5 years and above. The main reason for seeking professional care was pain (73.05%). The proportion that went for routine check up (8.5%) was the least (Table 3). Proximity to dental service (p = 0.01), presence of oral pain (<0.001), attitude to professional oral care (p = <0.001) and ability to afford professional dental care (p = 0.001) had significant association to professional oral care (Table 4).

Table1: Socio-demographic characteristicsof respondents

Variable	Frequency (n=400)	Percentage(%) Mean+SD=67+7.28
Sex		
Male	176	44.0
Female	224	56.0
Age		
60-70	313	78.3
71-80	68	17.0
81-90	16	4.0
91-100	3	0.8
Education Status		
None	142	35.5
Primary	123	30.8
Secondary	90	22.5
Tertiary	45	11.2

Table 2: Prevalence of oral diseases amongst the older people

DISEASE	FREQUENCY	PERCENT(%)
Oral Hygiene		
Poor	200	50.0
Fair	181	45.2
Good	19	4.8
Caries		
Present	65	16.2
Absent	335	83.8
Period disease		
Present	64	16.0
Absent	336	84.0
Tooth Loss		Median=3
None	183	45.8
10-19 teeth	11	2.7
(2 had lower edentulous arch) 1-9teeth	206	51.5
Dry Mouth		
Yes	33	8.8
No	367	91.7
Oral Lession		
Present	2	0.6
Absent	398	99.4
N=400		

Present Disease means periodontal disease

Table 3 : Use of Professional Care

Professional Care	Frequency	Percent
Never	259	64.8
Less than 6 months	33	8.3
6-12months	19	4.3
1-2 years	15	3.8
5 years	20	5.0
More than 5 years	54	13.8
Reason for Professional Care (n=400-259=141)		
Pain	103	73.1
Routine check up	12	8.5
Treatment	26	18.4
Total	141	100
Use of dentures		
Yes	22	5.5
No	378	94.5
Total	400	100

Table 4: Factors influencing professional care

Factors	No professional care n (%)	Professional care n (%)	Chi square	Df	p value
Close to Dental services			15.05	2	0.01
Yes	116 (44.1)	80 (58.4)			
No	106 (40.3)	52 (37.9)			
Don't know	41 (15.6)	5 (3.6)			
Oral pain			31.6	2	<0.001
Yes	86 (32.7)	80 (58.4)			
No	171 (65.0)	49 (35.8)			
No response	6 (2.3)	8 (5.8)			
Attitude			17.38	2	<0.001
Yes	82 (31.2)	22 (16.1)			
No	50 (19.0)	48 (35.0)			
Indifferent	131 (49.8)	67 (48.9)			
Afford Service			72.53	2	<0.001
Yes	45 (17.1)	79 (57.7)			
No	34 (12.9)	16 (11.7)			
Don't know	184(70)	42 (30.6)			

DISCUSSION

This study had more female participants (56%), mostly within the age group of 60 -70 years (78.3%) and had no formal educational training (35.5%). This gender finding of more female than male is supported by findings in previous studies that noted substantially more older women than older men globally.[16,17,18] This was attributed to older women having higher survival probability in their middle and late life, compared to their male counterpart.[16,17] In the less developed countries like Nigeria, the average is 88 men per hundred women among those aged 60 or over, and 65 men per hundred women among those aged 80 years and above.[19]

The reason for the finding in this study can also be attributed to variation in life expectancy between male and females. In 2012, the life expectancy of females to males varied in Singapore (85.1: 80.2 years), Australia (84.6: 80.5 years), Japan (87 : 80 years)[20] with females having greater life expectancy.[12] Male/ Female life expectancy in Nigeria is 53/56 years.[21] This can explain why the majority of the older population were between ages 60 to 70 years. The finding of majority not having formal education is not surprising since there are documentation that older people in urban area have higher socioeconomic status.[22]

Formal education is an indicator in epidemiology, it has been in use as a socioeconomic status indicator for years and it has historical origins in the status domain of Weberian theory.[23] It attempts to capture the knowledge related assets of a person[23] and ensures access to high skill jobs which carries high socioeconomic status.[24] A study noted low literacy level in the aged population with the male, female literacy ratio stated as 2 to 1.[25] Literacy level determines access to services (such as education, communication, social care, health, civil society associations) which are often geographically defined, and connected with educational characteristics of an area.[26] Residents in rural area are believed to be disadvantaged, often deprived of access to these services.[26] Socio economic status is often assessed using other factors such as education, income, and occupation.[27] There has also been report of interconnection between socioeconomic status and health outcomes. It is believed that those with higher income and higher education are better able to take advantage of health care systems.[22] The implication is that the proportion of those without formal education will be at a disadvantage of utilizing oral care system and this translates to poor oral health. This means they are excluded from getting adequate health. This is at variance with the Sustainable developmental goal (SDG) that aims at universal access to health.[27]

This study, the mean DMFT is higher than reported DMFT for Ghana (1.4) and lower than Tanzania (3.7), Zimbabwe (4.5), Madagascar (20.9 -24.6).[28] Missing teeth was the highest component of DMFT in this study. This indicates high tooth loss, which is the end result of oral disease. This further emphasizes the need for oral care in the older population. The commonest oral health problem in this study is tooth loss (54.2%). Incremental tooth loss was most common; only two participants had fully edentulous arches [29,30] Tooth loss results in prosthodontic challenges; and in this case it raises concern when most of the participants are not replacing lost teeth (due to not seeking professional care). Non-replacement of missing teeth often cause further progress of tooth loss sequelae: drifting or over eruption of remaining teeth resulting in food stagnation, increase risk of caries, periodontitis and further tooth loss. Further tooth loss is one of the major predictors of poor quality of oral health care (QHRO0L) [31] and this is likely to affect their daily activities. Majority (64.8%) of participants in this study had never had professional care. The finding is similar to previous studies done in Tanzania,[32]Burkina Faso[33] and Nigeria[34] The poor utilization of professional oral care could be due to the economic standard of these countries as well as their as their national health policy. This will affect the resources available for oral health and the factors related to illness and health; and oral health attitudes and traditions among older people.[35] These factors manifest differently in developed and developing countries respectively.[35] In many countries, the problem of oral diseases is high in deprived population such as the older people; as little or no attention is given to oral health interventions. As observed in this study, the older population experiences financial hardship following retirement, financial constraint in accessing traditional dental treatment[35] and negative attitude to oral health. All these factors are contributory to their poor utilization of professional care.

Despite poor oral health being a major public health issue, there is still a wide gap between allocation of resources to the older people in rural area and their needs.[28] Policies for oral health are not formulated in

many countries and there are no targeted oral health service devoted to emergency care of pain and symptoms in addition to the out of pocket payment of dental services.[28] In Nigeria, previous attempt in formulating oral health policy had failed but in November 2012 an oral health policy was developed successfully.[36] However, there is lack of adequate resources for the proper implementation of this national oral health policy.[37] Older people living in rural and remote areas in particular are left without any oral health care, as health care providers here are scarce. Even simple dental care is not affordable to the poor older people of the developing countries where third party payment is extremely rare. This results in late presentation of patients such that tooth extraction is the only treatment option.[38] In this study, over 50% of the participants did not live close to the dental care centre and factors influencing use of professional care were proximity to dental service centres, attitude, perception to affordability of services. All these factors had significant association to use of professional oral care. Most participants think dental service is expensive and majority were neither willing to have professional oral care nor indifferent to having professional care. Transportation is also serious barrier to oral health care of older people. Availability and access to professional oral care is limited to major urban centres. Older people living in rural area are left without oral health care and oral health service providers are not available.[35] The distribution of the oral health care force is in such a way that a large proportion are located in the cities.[38] There is also disparity in the ratio of dentist to patient in most countries including Nigeria. The ratio of dentist to patient in most countries is about 1 dentist to about 4,000 population.[37] In Nigeria presently, 2,598 licensed dentists serves the country's population of 123 million with a vast majority of these dentists working in urban centers, and only about 20 percent working in the rural areas where over 70 percent of Nigerians reside.[3]

Another factor affecting professional oral care is perception of cost of treatment.[28]This is demonstrated in this finding with majority not willing to seek professional care due to perceived cost of treatment. Lack of dental awareness contributes to the perception of treatment cost. Another reason is that traditional healers are known to be the first line of contact for the management of oral diseases in rural areas. It is reported that 80% of rural African population rely on this traditional healers.[39] It is also reported that the population of this traditional healers is more than the population of orthodox medicine practitioners.[39] In rural areas, the traditional healers with the use of herbs play an important role in the relief of dental pain.[40] In Nigeria, health care was solely the responsibility of traditional healers prior to the advent of orthodox medical practice. Presently, the traditional healers are still thriving both in rural and urban areas of the country.[40] It is imperative that dental awareness should be created and sustained amongst the older age group.

CONCLUSION.

Oral health in the older population studied is poor with an increased tendency to tooth loss and poor access to professional oral care. Factors influencing professional oral care were proximity to dental service centre, attitude to oral health, and perception of cost. It is recommended that Oral health care education for older people should be instituted to improve oral health attitudes and health lifestyle. Community outreach and oral care education on available treatment option of common dental disease such as caries, periodontitis, tooth loss should be made available to older people living in rural area.

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