

Ear Diseases in Elderly Hospital Patients in Nigeria

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Background. Little information is available about the pattern of ear diseases in the elderly population. Therefore, the present study aims to determine the pattern of ear diseases among elderly Nigerians, so as to provide an objective basis for cost-effective health care planning for the emerging geriatric population.

Methods. A retrospective study of 320 patients aged 60 years or older presenting with ear diseases at the University of Ilorin Teaching Hospital, Ilorin, Nigeria, between January 1996 and December 2001 was carried out.

Results. Impacted cerumen was the most common ear disease, occurring in 110 (34.4%) patients of the study population. Chronic suppurative otitis media (CSOM) was the most common infectious disease, affecting 28 (8.8%) patients. Of the 88 patients with hearing loss, 63 (71.6%) had sensorineural, 20 (22.7%) had presbycusis, 1 (1.1%) had conductive, and 4 (4.6%) had mixed hearing loss.

Conclusion. Our data suggest that impacted cerumen, hearing loss, and infections (notably CSOM), are the common ear diseases among elderly Nigerians.

CURRENTLY 580 million people in the world are 60 years or older, with 355 million in developing countries (1). Also, in several developing countries, the population aged 60 years or over is increasing at a faster rate than is the population as a whole. Between 1980 and 2020 the population of the developing world is expected to increase by 95%, whereas the elderly population will probably rise by almost 240% (2). Life expectancy in Nigeria was 36 years in 1960, but now it is 51 years for males and 53 years for females (3,4). Therefore, emphasis on public health, which is currently on maternal and child health, is likely to extend to the health problems of old people.

Unfortunately little information is available in Nigeria and in many developing countries about the disease pattern in the elderly population. Studies on ear diseases in this age group are almost nonexistent. There is need, therefore, to study the pattern of ear diseases among elderly persons in developing countries so as to be able to plan a cost-effective program for the control and prevention of such diseases, which can have significant adverse effects on quality of life (5). The present study is part of a wider effort aimed at achieving this goal.

METHODS

This hospital-based retrospective study was carried out between January 1996 and December 2001 in the Ear, Nose and Throat (ENT) Surgery Department, University of Ilorin Teaching Hospital, Ilorin, Nigeria. The ENT Surgery Department serves about seven constituent states of the middle belt region of Nigeria.

All patients aged 60 years or older presenting with ear diseases to the ENT clinic, Accident and Emergency Section, and hospital wards seen by ENT surgeons were enrolled in the study. The age of 60 years was selected as the dividing line between middle and old age because 60 years is the

compulsory retirement age for most public workers in Nigeria. The age of literate patients was determined by asking for their date of birth. An age calendar, based on historical events, was used to determine the age of illiterate patients, as previously described (3).

The case records of these patients were reviewed. The information obtained includes demographic data: age, sex, occupation, and tribe. History of ear disease was noted, and physical examination, including otoscopy (6-9), of the ear was performed. Results of ear swab for microscopy, culture, and sensitivity (as well as fungal studies) were recorded using standard methods (10-12). Results of pure tone audiometry (using diagnostic audiometer Danplex AS67; GN Otometrics A/S, Taastrup, Denmark), testing of hearing aid, and tympanometry (using Impedance Audiometer AT 235; Interacoustics, Assens, Denmark) using standard procedures (6) were also noted. Patients with inadequate records were excluded from analysis.

RESULTS

A total of 393 patients aged 60 years or older presenting with ear diseases were reviewed. Seventy-three patients were excluded on the basis of inadequate data or misplaced records in the health records department. Consequently, 320 were eligible for evaluation, and this formed the data base of this report.

Almost half of the patients (49.4%) were petty traders, 19.8% each were farmers and retired civil servants, 7.4% were full-time housewives, and others were retired military/policemen and technicians. All patients were Nigerians, and 92.5% were of Yoruba ethnic extraction, the predominant ethnic group in the catchment area of our hospital. About 80% of the study population was less than 75 years old. The male/female ratio was similar, being 1:1.1 (Table 1).

Table 1. Age and Sex Distribution

Age, y	Male (%)	Female (%)	Total (%)
60-64	56 (17.5)	66 (20.6)	122 (38.1)
65-69	38 (11.9)	38 (11.9)	78 (24.4)
70-74	21 (6.6)	28 (8.6)	49 (15.2)
75-79	13 (4.1)	18 (5.6)	31 (9.7)
80-84	14 (4.4)	8 (2.5)	22 (6.9)
85-89	5 (1.6)	5 (1.6)	10 (3.2)
≥90	6 (1.9)	2 (0.6)	8 (2.5)
	153 (47.7)	167 (52.2)	320 (100)

The most common ear disease was impacted cerumen. It was bilateral in 68 (21.3%) and unilateral in 42 (13.1%). The second most common cause of ear disease was hearing loss. Among patients with otitis externa/media, chronic suppurative otitis media (CSOM), was the most common, unilateral in 18 (5.6%) and bilateral in 10 (3.2%). Tinnitus was a common reason for a hospital visit (Table 2).

DISCUSSION

Impacted cerumen is one of the most common ear diseases in elderly people in most population groups of the world. The quoted incidence is between 8% and 35% (13-18). Our result is close to the upper limit, similar to some reports on white people (14-16); this similarity suggests that race may not be a strong determinant of cerumen impaction. Bilateral impaction is more common than unilateral impaction (16), as in this study. It is a reversible, frequently overlooked cause of conductive hearing loss in elderly people (13-16,19,20). There may be associated earache, sensation of ear blockage, and tinnitus. These symptoms are particularly distressing to elderly patients who may already have compromised hearing. Risk factors for cerumen impaction include ear canal hair, hearing aids, and bony growths such as osteoma (19). Removal of cerumen significantly improves hearing ability and prevents serious social withdrawal due to hearing loss (13-15,21,22). Cerumen removal must be carefully done by qualified personnel, because removal by an inexperienced person can cause damage to the external auditory meatus, traumatic perforation of the tympanic membrane, and/or otitis media (19,23).

Our study population has a heavy burden of hearing loss. This is a serious health problem among elderly people worldwide (13-15,21,22). Social isolation, depression, acting out inappropriately, and paranoia have been related to impaired hearing (13-16,20), and significantly reduce the quality of life of these individuals and their contribution to society. Hearing loss increases the occurrence of misunderstandings and interpersonal conflicts. Overall, it increases the burden of disability on society. It is significant to note that hearing loss occurs in a relatively younger age group among Africans compared with other groups in the developed world. Two-thirds of our patients were 70 years or younger, and almost 80% were less than 75 years old. Similarly, cancer—also a debilitating disease—occurs in a younger age group among Africans compared with white people (24-27). The exact reasons have not been elucidated. Research into the possibility of premature ageing in Africans may be useful in unraveling this mystery.

Table 2. Pattern of Ear Diseases Among Elderly Nigerians

Disease	Type	No. of Patients	Percentage
Impacted cerumen		110	34.4
Hearing loss	Sensorineural	63	19.7
	Conductive	1	0.3
	Mixed	4	1.3
	Presbycusis	20	6.3
Otitis externa/media	Chronic suppurative otitis media	28	8.8
	Acute suppurative otitis media	11	3.4
	Acute otitis externa	11	3.4
	Otomycosis	8	2.5
	Chronic nonsuppurative otitis media	3	0.9
Miscellaneous	*Tinnitus	39	12.2
	Meniere's Disease	6	1.9
	*Vertigo	4	1.3
	Impacted foreign body	3	0.9
	Traumatic perforation of tympanic membrane	2	0.6
	Ear tumor	2	0.6
	Referred otalgia	2	0.6
	Ototoxicity	2	0.6
	Otosclerosis	1	0.3
Total		320	100

Note: *The etiology was undetermined.

Infection is a significant cause of morbidity among our elderly patients. Of these, CSOM is distinctively most common. Acute otitis media is more rare than the chronic variety in hospital care (7,8). By the time they reach the specialist hospital, many cases have already progressed to CSOM (8,11). Poor socioeconomic circumstances, obvious in our study population, lead to increased prevalence of CSOM compared to that in more affluent population groups (7-9,28). CSOM is known to be a childhood disease with high incidence rates in the first three years of life (8). This suggests that adults with CSOM probably developed it at an early age (8,9,28). Histories obtained from our patients on the duration of ear discharge bear witness to this. Concerted treatment of acute suppurative otitis media in childhood will be beneficial.

The period of old age is associated with increased morbidity (3). Yet, the number of patients in this study is relatively small for the period of the study. Patients older than 60 years are few in hospital attendance in our environment, probably because this age group is disproportionately low in the general population (11,23,29-31). Whereas only 2.82% (i.e., 3.7 million) of the Nigerian population is 65 years or older (3.0% for Africa as a whole), in developed countries people of this age group constitute 11%-18% of the population (2-4). Also, there is reluctance among the older generation to seek orthodox medical treatment (3). They have ardent belief in home remedies, traditional medicine, and spiritual cures (3,11,23,29,30,32,33). Elderly people feel too frail to use available public transportation, and find it difficult to stand in line for long periods to see a doctor in a busy hospital (3). The male/female ratio recorded in this study (1:1.1) is close to the ratio in the general population (1:1.2) (13). Among the elderly there is a greater female preponderance, up to 1:2 (3,13). Our findings may be related to a culture that allows men greater freedom of movement.

In conclusion, impacted cerumen, hearing loss, and infections (notably CSOM) are the common diseases of the ear in elderly Nigerians. Regular otoscopy, audiometry, tympanometry, syringing, and hearing aids as indicated as well as treatment of acute and chronic infections of the external and middle ear will greatly enhance the otological well-being of elderly people in Nigeria and so lighten the burdens of the difficult period of old age.

We recommend the mandatory inclusion of geriatric care as an integral part of our health care system. In view of the low socioeconomic status and poor hospital attendance of the elderly population, we advocate a government- (and nongovernmental organization-) funded medical home visits program to elderly people as an extension of primary health care.

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