

**Pattern Of Ear Diseases Among Older People****O.A. Afolabi<sup>1</sup>, G.T.A. Ijaduola<sup>2</sup>**<sup>1</sup>Senior Registrar, <sup>2</sup>Professor and Consultant Otorhinolaryngologist

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**Background:** The ageing process and the last stage of life is fulfilling for some and disappointing for others there is scarcity of information about the pattern of ear diseases in the older black African people, especially in Nigeria being the largest black African nation. This study aims to highlight the pattern of ear diseases among the older people to provide an objective basis for cost-effective health care planning for the increasing geriatric population in a developing country.

**Methods:** A ten year hospital-based retrospective study at the ENT Department of University College Hospital, Ibadan. All patients aged 65 years or older were enrolled into the study. The biodata, clinical history and examination findings were retrieved.

**Results:** A total of 507 older patients were included in the study. The male to female sex ratio was 1.1:1. Traders accounted for 200 (39.5%) of cases, 167 (32.9%) were pensioners, 100 (19.7%) were farmers and 40 (7.9%) being full-time housewives. The commonest ear disease was impacted cerumen with bilateral less than unilateral hearing loss (Presbycusis) in 93 (18.2%) of the patients. Among cases with infective ear diseases, chronic suppurative otitis media was diagnosed in 33 (6.5%) of which 26 (78.8%) were unilateral and 7 (21.2%) were bilateral. Other conditions included otomycosis in 27 (5.4%), Tinnitus in 58 (11.5%) and foreign body impaction in 2 (0.4%) of the cases

**Conclusion:** Impacted cerumen, hearing loss, and CSOM are the common diseases of the ear in elderly, thus regular Otoscopy should be part of general medical check up. Continuing medical education is recommended for the general practitioners for early recognition and referral.

**Introduction**

We live in an ageing world with the population of older people rising steadily. While the impact of the increase in numbers has been well appreciated in the developed countries for a long time, it is only recently that geriatric population has been fully acknowledged as category of people that need special attention in Nigeria. The steady increase of older groups in national population, both in absolute and relative terms to the working-age population has a direct bearing on the inter-generational and intra-generational equity and solidarity that are the foundation of society which is reflected in the NEEDS ( National Economic Empowerment Development Strategy) document<sup>1</sup>. The ageing process and the last stage of life is satisfying for some and disappointing for others<sup>1</sup>, age 65 years, according to the WHO, is regarded as the margin between the older people and middle age and in Nigeria about 5% (12.3million) of the population falls in this category. It is estimated that 4.7% of these population is found in sub-saharan Africa while in developed countries people of this age group constitute 11%-18 % of the population<sup>2</sup>. Zwaardemaker<sup>3</sup> in 1891 is documented the reduction of high-frequency hearing associated with increased age. His interest, however, involved determining the highest frequency heard at various ages rather than acuity at a given frequency<sup>3</sup>. Bunch<sup>4</sup> in 1929 documented not only the ageing pattern - Presbycusis - but also the fact that females tend to retain hearing acuity more than their age-matched males. Many researchers have examined the prevalence of hearing loss in older populations<sup>5</sup>. Therefore, emphasis on public health, which is currently on maternal and child health, is likely to extend to the health problems of old people<sup>5</sup>.

Unfortunately little information is available in Nigeria and in many developing countries about ear disease pattern in the older population. Studies on ear diseases in this age group are almost nonexistent<sup>5</sup>. There is need, therefore, to study the pattern of ear diseases among older people 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<sup>[5]</sup> As the Life expectancy in Nigeria was 36 years in 1960, but now it is 51 years for males and 53 years for females<sup>6,7</sup>.

## Patients and Methods

This hospital-based retrospective study was carried out between January 1997 and December 2006 in the Ear, Nose and Throat (ENT) Department, University College Hospital, Ibadan, Nigeria. The university college hospital is a referral centre from all over Africa. All case notes of patients aged 65 years or older presenting with ear diseases to the ENT clinic of the hospital seen by ENT surgeons were enrolled into the study. The age of 65 years was selected as the dividing line between middle and older age according to the WHO current age classification. The information retrieved included demographic data: age, sex, occupation, and tribe, history of ear disease was noted, duration of complaint and physical examination. Results of ear swab for bacteriology and fungal studies were recorded using standard methods also the results of pure tone audiometry (using diagnostic audiometer Danplex AS67; GN Otometrics NS, Taastrup, Denmark), and tympanometry (using Impedance Audiometer AT 235; Interacoustics, Assens, Denmark) using standard procedures were also noted from their case notes. Patients with inadequate records were excluded from analysis.

## Results

During the study period 527 patients aged 65 years or older presented with ear diseases. Twenty patients were excluded from the study on the basis of inadequate data or misplaced records. The remaining 507 formed the data base of this report. Two hundred and sixty six (52.5%) were males. The male to female sex ratio was 1.1: 1. Table 1 shows the age distribution. The majority (78.7%) of the study population were 75 years old or less. A total of 200 of the patients were traders, 167 were pensioners and 100 were farmers (Table 2).

All patients were Nigerians with 480 (94.7%) of them being of Yorubas, the predominant ethnic group. Most common ear disease was impacted cerumen in 125 (24.7%). It was bilateral in 45 (36%) and unilateral in 80 (64%). The second most common cause of ear disease was hearing loss due to old age (Presbycusis) observed in 93 (18.2%) of the patients. Among patients with infective ear disease otitis externa/media, chronic suppurative otitis media (CSOM), was the most common 33 (6.5%). CSOM was unilateral in 26 (78.8%) and bilateral in 7 (21.2%). Otomycosis accounted for 27 (5.4%) of the cases. Tinnitus was a major reason for hospital visit in 11.5% (Table 3).

**Table 1.** Age Distribution

Age in Yrs	Frequency	Percentage
65-70	282	55.6
71-75	117	23.1
76-80	71	14.0
81-85	24	4.7
86-90	11	2.2
91-95	02	0.4
<b>Total</b>	<b>507</b>	<b>100</b>

Male: Female Ratio = 1.1: 1.0

**Table 2.** Occupation Distribution

Occupation	Frequency	Percentage
<i>Trading</i>	200	39.5
<i>Pensioner</i>	167	32.9
<i>Farmer</i>	100	19.7
<i>Housewife</i>	40	7.9
<b>Total</b>	<b>507</b>	<b>100</b>

**Table 3.** Disease Pattern in the Older Patients

Grouped condition	Diagnosis	Frequency	Bilateral	Unilateral	Percentage
<i>Hearing loss</i>	Impacted cerumen	125	45	80	24.7
	SNHL	64	64	-	12.5
	Conductive hearing loss	9	7	2	1.8
	Mixed hearing loss	2	2	-	0.7
<i>Infective</i>	Prebycusis	93	93	-	18.2
	CSOM	33	7	26	6.5
	ASOM	13	-	13	2.5
	Otomycosis	27	2	25	5.4
<i>Miscellaneous</i>	Otitis External	22	9	13	4.3
	Tinnitus	58	52	6	11.5
	Menniere's	9	-	9	1.8
	Vertigo	31	8	23	6.0
	Impacted foreign body	2	-	2	0.4
	Otalgia	4	-	4	0.7
	Otosclerosis	2	2	-	0.4
	Ototoxicity	5	5	-	1.1
	Ear tumor	3	-	3	0.6
	Eustachian tube dysfunction	5	3	2	1.1
<b>Total</b>		<b>507</b>			<b>100</b>

## Discussion

Ear disease and hearing loss associated with ageing is common among older people<sup>9</sup>. The male/female ratio found in this study is 1.1:1.0 which differ from the ratio found by Ologe et al<sup>5</sup> this may be associated to the difference in regional coverage as our center is a referral centre from all over Africa. There are a number of patho-physiological processes underlying age-related changes to functional components in the inner ear<sup>9</sup>. Ageing in US this is the commonest cause of hearing impairment among the older people<sup>9</sup> compared to our environment where impacted cerumen was the leading problem encountered among the older people. In UK the incidence ranges between 30% and 65%<sup>5,10,11</sup>. In our study an incidence of 24.7% was found which is high compared to 14.4% found in the population studies done in Thailand<sup>12</sup> and low compared to UK but similar to reports by Ologe et al<sup>5</sup>. The difference in the incidence may support the racial difference in wax component between the which may encourage impaction<sup>13</sup>. Unilateral impaction is more common than bilateral impaction as against other studies where

bilateral is more common than unilateral<sup>14</sup>. Impacted cerumen can cause a variety of symptoms<sup>15</sup> including itching, pain, hearing loss, tinnitus, dizziness and increased infection risk<sup>10</sup>. Furthermore, untreated impacted wax can lead to 'hearing loss, social withdrawal, poor work function and even mild paranoia<sup>12,14,19</sup>. Some patients with impacted wax present with perforated eardrums<sup>16</sup> which is usually self induced. It is a reversible, frequently overlooked cause of conductive hearing loss in older people<sup>17-20</sup>. Risk factors for cerumen impaction include anatomical nature of ear canal, ear canal hair, self repeated ear cleaning, hearing aids, and bony growths such as osteoma<sup>20</sup>. Removal of cerumen significantly improves hearing ability by about 5dB<sup>21</sup> but the cerumen removal must be carefully done by qualified personnel, because removal by an inexperienced person can cause damage to the wall of the external auditory meatus, traumatic perforation of the tympanic membrane, and/or otitis media<sup>18</sup>. High level of hearing loss increases the burden of disability on society<sup>20</sup>. 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 75 years or younger.

Infection is a significant cause of morbidity among the older people and otitis media is the most common, many cases have already progressed to CSOM<sup>17,18</sup> before presentation. Poor socioeconomic circumstances, obvious in our study population lead to increased prevalence of CSOM compared to that in more affluent population groups<sup>20</sup>. CSOM is known to be a childhood disease with high incidence rates in the first three years of life<sup>20, 23</sup>. This suggests that adults with CSOM probably developed it at an early age<sup>[20, 23]</sup>. Histories obtained from our patients on the duration of ear discharge bear witness to this. Also the number seen is small as there is reluctance among the older people to seek -orthodox medical treatment<sup>2</sup>. They have ardent belief in home remedies, traditional medicine, and spiritual cures<sup>2,20,24,25</sup>. Older 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<sup>8</sup>.

## Conclusion

Impacted cerumen, hearing loss, CSOM are the common diseases of the ear affecting the older people leading to hearing impairment which is one of the three chronic conditions encountered in old age<sup>26</sup>. It can have devastating effects on an individual's social life, independence, and emotional health. Unfortunately, older people often fail to seek help, believing it is an inevitable part of aging or fearing stigmatisation<sup>27</sup>. Age-adjusted policies and Programme that encourage workplace flexibility, lifelong learning and healthy lifestyles, especially during transitional periods should be put in place<sup>1</sup>. Regular Otoscopy as part of general medical check up, audiometry, tympanometry, and hearing aids when indicated as well as public health education on the need for early presentation, also the need for continue medical education for the general practitioner for early referral of patients as early intervention will greatly enhance the otological wellbeing of older people in Nigeria and so lighten the burdens of the difficult period of old age.

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