Original Article

What Health Professionals at the Jos University Teaching Hospital Insert in Their Ears

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ABSTRACT

OBJECTIVE: The aim of this study is to determine if health professionals in our hospital insert objects in their ears and the complications which follow.

METHODOLOGY: In this prospective cross-sectional study, validated questionnaires were filled by health professionals working in our Teaching Hospital and analyzed.

RESULTS: One hundred and forty one questionnaires were analyzed involving subjects aged 25 to 59 years with a mean of 42 years (SD=+/-12.5). There were 94 males and 47 females with a male to female ratio of 2:1. Thirty four (24.1%) nurses participated in the study followed by Resident doctors (n=22, 15.6%) and Intern doctors (n=20, 14.2%). One hundred and twenty nine (91.5%) individuals 'clean' their ears with majority of them (n= 48, 37.2%) doing so occasionally. Multiple objects were inserted into the ears by 32 (24.0%) subjects and single objects by 98 (76%). The commonest object inserted into the ears to effect 'cleaning' was cotton buds in 115 cases. Twelve (9.3%) subjects recorded ear injuries in the process. Seven (53.3%) subjects with injuries inserted objects into their ears daily. Seven subjects recorded injuries with the use of match sticks. Sixty three (44.7%) subjects had accumulation of cerumen. Cotton buds (n=29) were the commonest method for cerumen removal. Complications recorded from the removal of cerumen were otalgia (n=2) and vertigo (n=1).

CONCLUSION: Health professionals in our centre have a practice of inserting various potentially dangerous objects into their ears.

KEY WORDS: Health professionals; Ears; Jos

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INTRODUCTION

The ears are the organs for hearing and the maintenance of balance. The external ear transforms acoustic signals from free field to the tympanic membrane [1]. The cochlear is important for auditory function and the vestibule provides sensory input for balance [2]. These functions are altered by variations in the physical disease of the external ear due to individual differences or because of mechanical obstruction from a blocked external auditory canal due to the placement of hearing aids, cerumen auris, tympanic membrane perforations or the use of insert earphones [1].

Many of our daily life's activities depend on these functions. These daily functions usually go unnoticed except ear pathology develops. This is because to a large extent the ears take care of themselves.

The ears clean and protect themselves by the mechanism of cerumen production. The skin of the external auditory canal constantly renews itself by the process of epithelial migration [3]. Ceruminous glands embedded in the skin lining the outer two thirds of the external auditory canal secret lipids and other substances like glycopeptides, hyaluronic acid, sialic acid, lysosomal enzymes and immunoglobulins which help to lubricate the skin and maintain the protective acidic milieu against bacteria and fungi [4,5].

These secretions mixed with desquamated epithelial cells, hair and trapped dust particles form cerumen [6]. Speaking, chewing and yawning motions helps to push the cerumen to the external auditory meatus which can be removed by using a clean soft cloth or facial tissue.

The amount of cerumen produced varies from one individual to another and does not depend on how much physical 'cleaning' of the ears done by any individual. Older people and men produce a lot of cerumen which distorts the normal epithelial migration and causes accumulation of the cerumen leading to hearing impairment [7, 8]. The method of removal is either by irrigation (with or without the use of ceruminolytics) or manually with curettes or wax hooks.

The subject of ear care is largely unknown to a lot of people. It is common practice for many individuals to insert objects in their ears when the ear itches or when they claim they are 'cleaning' their ears especially the use of cotton buds. It may be a part of the daily hygiene routine for many a people and has become a rampant practice.

This study aims to determine if health professionals working in our hospital insert objects in their ears and the complications which may follow this practice.

METHODS

Validated questionnaires were distributed amongst health professionals in the Jos University Teaching Hospital, Jos, Plateau State, Nigeria after obtaining

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informed consent from them and clearance from the Ethical clearance of our institution.

We sought to find out participants' age, gender, occupation/specialty, if they 'clean' their ears, the frequency of 'cleaning' their ears, what they insert in their ears doing so and if they recorded injuries in the process. Other questions asked were the experience of the accumulation of cerumen, the methods employed in removal and the presence of complications from cerumen removal.

Otorhinolaryngologists, otorhinolaryngologists in training, otorhinolaryngology trained nurses, audiologists and audiometricians were excluded from this study to avoid bias.

Improperly filled questionnaires were discarded and all data were entered into the EPI info database and statistics software version 3.3.5 and analyzed.

RESULTS

One hundred and eighty questionnaires were administered of which 141 were correctly filled and analyzed.

The age range of subjects studied was 25 to 59 years with a mean of 42 years (SD=+/-12.5). Subjects aged 35 to 39 years constituted the majority (Table 1).

Table 1: Age distribution of subjects studied

Age	Frequency		Percentage
	Male	Female	
25- 29	14	3	12.1
30- 34	17	6	16.3
35- 39	19	21	28.4
40- 44	14	11	17.7
45- 49	15	3	12.8
50- 54	10	2	8.5
55- 59	5	1	4.2
TOTAL	**94**	**47**	**100**

There were 94 males and 47 females with a male to female ratio of 2:1.

Thirty four (24.1%) nurses participated in the study followed by Resident doctors (n=22, 15.6%) and Intern doctors (n=20, 14.2%). The other participants are as shown in Table 2.

One hundred and twenty nine (91.5%) individuals 'clean' their ears with majority of them (n= 48, 37.2%) doing so occasionally (Figure 1) and 25 (19.4%) subjects do so weekly. Others were twice weekly (n=5), daily (n=17), fortnightly (n=16), monthly (n=10) and once in 3 months (n=8).

Multiple objects were inserted into the ears by 32 (24.0%) subjects and single objects by 98 (76%). The commonest object inserted into the ears to effect 'cleaning' was cotton buds in 115 cases. Other objects inserted into the ears were the covers of ball-point pens (26 cases), match sticks (18 cases), fingers (7 cases), car keys (2 cases), ball-point pen tips (2 cases), chicken feather (2 cases), bobby pin (1 case) and spatula (1 case)- Figure 2. Twelve (9.3%) subjects recorded injuries to the ears while 'cleaning' and 117 (90.7%) did not record injuries. Injuries recorded were abrasion of the external auditory canal skin (n=10), perforation of the ear drum (n=1) and cerumen impaction (n=1). Seven (53.3%) subjects with injuries inserted objects into their ears daily. Seven subjects recorded injuries with the use of match sticks. Others were following insertion of cotton buds (n= 4) and 1 subject who had tympanic membrane perforation from inserting a ball-point pen tip.

Table 2: Frequency distribution of professionals studied

Occupation	Frequency	Percentage
Anaesthesiologist	6	4.3
Chemical pathologist	1	0.7
Family physician	2	1.4
Haematologist	1	0.7
Intern doctors	20	14.2
Intern physiotherapist	1	0.7
Medical laboratory scientist	1	0.7
Medical officer	12	8.5
Nephrologist	2	1.4
Nursing	34	24.1
Obstetrician and gynaecologist	4	2.8
Ophthalmologist	6	4.3
Optician	2	1.4
Optometrist	2	1.4
Pathologist	1	0.7
Paediatric surgeon	1	0.7
Paediatrician	3	2.1
Pharmacist	2	1.4
Physician	9	6.4
Physiotherapist	1	0.7
Psychiatrist	1	0.7
Radiographer	1	0.7
Radiologist	2	1.4
Resident doctors	22	15.6
General surgeon	2	1.4
Urologist	2	1.4
Total	**141**	**100**

Sixty three (44.7%) subjects had accumulation of cerumen at one time or the other while 78 (55.3%) had never experienced it. Various methods were used for the removal of cerumen with most subjects using two or more methods. The use of the cotton buds (n=29) was the

commonest method. Others are ear syringing (n=20), ball-point pen covers (n=10), ball-point pen tip (n=1), olive oil (n=2) and warm palm oil (n=1). Complications recorded from the removal of cerumen were otalgia (n=2) and vertigo (n=1).

Figure 1: Frequency of ear cleaning amongst subjects

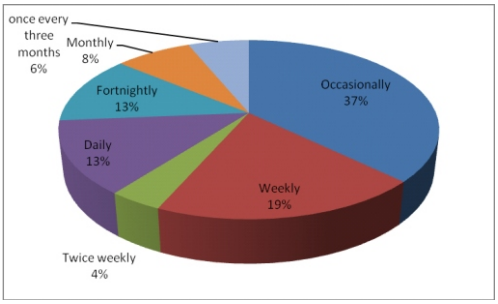

Figure 2: Types of objects inserted in the ears

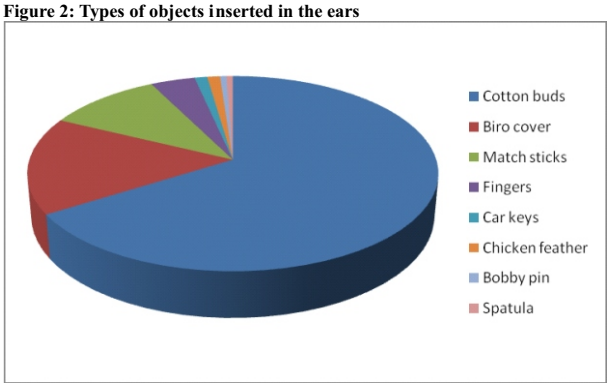

Figure 3: Complications following insertion of objects in the ears

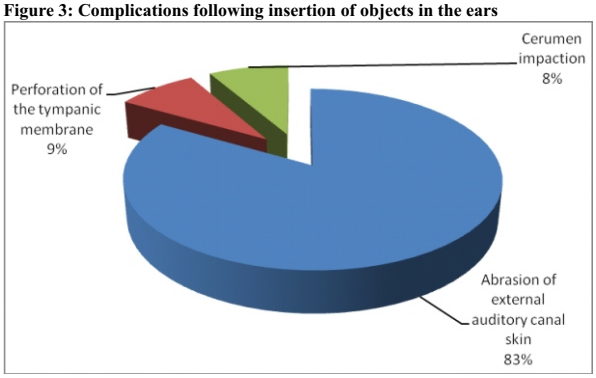

Figure 4: Methods employed in the removal of cerumen

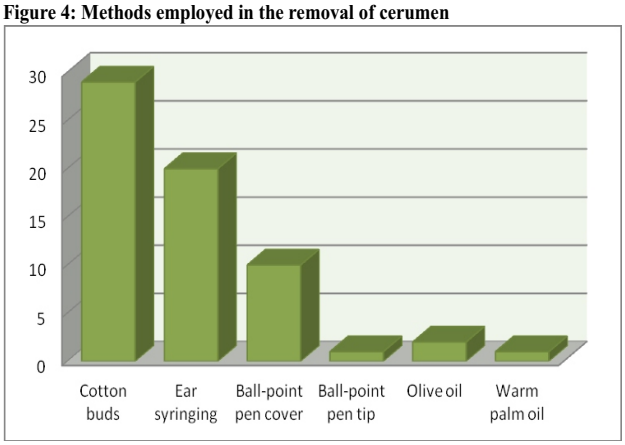

Figure legends

Figure 1- Frequency of ear cleaning amongst subjects
Figure 2- Types of objects inserted into the ears
Figure 3- Complications following insertion of objects in the ears
Figure 4- Methods employed in the removal of cerumen

DISCUSSION

Nature has designed the ears to be both self cleaning and self protective. Invariably meaning that we do not need to insert any object into our ears for cleaning or when they itch. The practice of inserting various objects into the ears has become rampant as a part of the daily hygiene routine of many individuals, health professionals alike [9]. This is shown by the findings from our study which we highlight thus;

The objects inserted into the ears by our subjects are capable of causing injuries to the ears what is surprising in this study is the low incidence of injuries recorded by patients who used sharp objects in their ears. Studies have shown that inserting cotton buds into the ears for example are associated with an increased incidence of otitis externa and the accumulation of cerumen in individuals [10, 11, 12].

Most of the objects the health professionals in our study inserted into their ears for various reasons have not been mentioned in literature from this part of the world. Insertion into the ears of unhygienic objects like the chicken feather and match sticks for the purpose of scratching has been in existence in this part of the world for a very long time, though not mentioned but their use has been reported from Bangladesh [13]. Car keys, ball-point pen covers, ball-point pen tips, bobby pins and spatulas to the best of our knowledge have not been mentioned in literature as objects people insert in their ears but these and many more may be objects people insert in their ears and we will most probably never know. However, it is important to embark on a research in this regard to determine the various types of objects people insert in their ears with the aim of educating the populace on the attendant dangers this portends and discouraging such practice.

Interestingly, only 12 (9.3%) subjects recorded injuries in the process of inserting these objects in their ears ranging from abrasion of the external auditory canal skin to tympanic membrane perforation and cerumen impaction. This could probably be as a result of a developed level of dexterity by our subjects in the art of cleaning their ears or because they were simply lucky in not encountering complications from the insertion of these objects in their ears. Our finding however conforms to studies that recorded cerumen accumulation, tympanic membrane perforation and otitis externa as complications which may follow

insertion of objects into the ears [10, 11, 12].

Most of the injuries in our series were as a result of using match sticks in the ears with more injuries occurring in individuals who 'clean' their ears daily. One subject used a ball-point pen and had perforation of his tympanic membrane in the process which resolved without evidence of any major sequel. Insertion of these objects into the ears is therefore demonstrated here to be a dangerous practice capable of causing injury to the ears and must be avoided.

The production of cerumen is the means by which the ear cleans and protects itself. It is composed of lipids and other substances produced by ceruminous glands mixed with desquamated cells, hair and trapped dust particles [4, 5]. Its accumulation in the ear can give rise to symptoms such as hearing loss, tinnitus, otalgia and dizziness [14]. Removal of the cerumen is the treatment choice either by means of ear syringing (with or without the aid of a ceruminolytic agent) or by using wax hooks and these maybe fraught with complications such as otalgia, tinnitus, vertigo, and tympanic membrane perforation [15, 16].

Almost half (44.7%) of the subjects in our study had experienced cerumen auris with a large percentage of them using cotton buds to remove the cerumen. This misguided use of cotton buds and various other objects such as ball-point pens in removing cerumen from the ears not only results in injuries to the external auditory canal skin but can also cause an increase in the accumulation of cerumen. Constant use of cotton buds can also result in injuries to the external auditory canal skin and can further push cerumen deep into the canal close to the tympanic membrane making it susceptible to damage during attempts at removal.

Some subjects used ear syringing employing the use ceruminolytics such as olive oil and interestingly warm palm oil which has not been documented in literature. Insertion of objects like ball-point pen covers and ball-point pen tips into the ears to remove cerumen is highly discouraged because they can cause injuries to the ears as demonstrated in this study. It is commonplace to see cotton buds been sold by even street hawkers. These are purchased by individuals for the purpose of 'cleaning' their ears, a high risk factor for distorting epithelial migration with the resultant accumulation of cerumen.

Individuals experiencing symptoms of cerumen accumulation should seek the assistance of an otolaryngologist or a general practitioner in order to get it removed. Our study has revealed that health professionals in our centre have a practice of inserting various potentially dangerous objects into their ears, a practice which may well apply to even individuals who are not health professionals.

CONCLUSION

We therefore recommend an awareness campaign by way of health talks to health professionals in our institution during seminars on the dangers of inserting objects into the ears. It is an unwholesome practice which must be discouraged.

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