

Nuisance Called Earbuds

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Received: August 23, 2022

Published: September 27, 2022

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Introduction

Cotton Ear buds or Q-Tips are fairly commonly available over the counter instruments known for their versatility for various uses including self hygiene practices. However, otorhinolaryngologists all over the world keep seeing patients with ear complaints arising from use of ear buds including trauma to external ear canal, secondary otitis externa, otomycosis, trauma and perforation of tympanic membrane etc. Research suggests insufficient emphasis on safety warnings by manufacturers, patients' lack of information regarding self cleansing mechanism of external ear , predilection to self hygiene measures of ear and even wilful ignorance to safety guidelines as major causes for rampant use of cotton ear buds for cleaning of external auditory canal.

History

Leo Gerstenzang was a Polish-American inventor who, in 1923, created the first cotton swab or Q-Tips [1]. He observed his wife applying wads of cotton on toothpicks to clean his baby's ears, which inspired him to develop one piece cotton-tipped swab that according to him was safer. This product was named Q-tips Baby Gays (Q abbreviated for quality) and the name Q-tips survives till date. It was 1972, when first concerning reports from medical point of view came into light regarding use of cotton buds with cases of tympanic membrane perforation, otitis externa [2] and cerumen impaction were reported [3].

In 1977, J Siegler , in his letter to the editor, British Medical Journal quoted "I have also had to deal with ear drums that have been damaged when the patient had been cleaning the ear with such a "bud", while he answered a telephone call without removing the

"bud" and then pushed the probe against the wall and consequently through the drum" [4]. After such reports became common, cotton bud manufacturing companies began to issue advisories against use of cotton buds in the external ear canal. Even so, cotton-bud-related injuries of ear are a prevalent cause for attendances at ear, nose and throat (ENT) out patient departments [5].

Stigma called ear wax

Ear wax or Cerumen is formed by amalgamation of ceruminous gland secretions, epithelial squames, dust and other foreign debris [6]. It is naturally expelled by the process of epithelial migration from the tympanic membrane, which is aided by movements of the temporomandibular joint during chewing and swallowing [7].

This process actually makes the ear a 'self-cleaning' organ. However for generations , patients follow advice passed on of the importance of cleaning the ears thoroughly. This advice has been given without the knowledge that the meatal skin has the natural tendency to extrude the wax as part of the self-cleansing mechanism [4].

Research suggests that most individuals consider ear wax as dirt with no useful function and deem it harmful to the human body [8,9].

A study researching the community-based prevalence of the habit of self-ear-cleaning with sociodemographic factors in educated young adults in Nigeria, comprising 1280 subjects, highlighted that the most significant association of self-ear-cleaning practice was found with history of self-ear-cleaning in parents and siblings.

It suggested that family influences are an important factor in the initiation of this habit. Self ear cleaning is of benefit, is a commonly prevalent misconception [10].

Educating the patient of the risks

Amongst the Otorhinolaryngology fraternity the risks of earbud use are well known. However, passing on the same information to the patients and hence forward to their family and friends, until it becomes a known entity amongst the masses is much needed.

Astonishingly, a cross-sectional study on common knowledge about ear wax and the possible effects of ear self-cleaning among health workers in Nigeria, showed that 51.3% of the health workers had poor knowledge of the functions of ear wax and complications of ear self-cleaning. Higher job categories were significantly associated with higher knowledge scores; doctors showing the highest knowledge score. For all the other categories, in spite of being health workers, substandard understanding about ear cerumen and its function, directly implicated that they would not advise patients against regular ear cleaning [11].

In the study by Hobson and Lavy, 15-20% of respondents marked disagreement with the statements suggesting earbuds can cause infections of the ear, impaction of wax in deep meatus or perforations of the ear drum. The survey also indicated that warnings issued against use of earbuds in the ear canal are quite commonly disregarded or overlooked. Majority of earbud users, responded to the question why they did it, merely as 'it seems like a good idea' or since is used by family or friends [9]. This is a clear indication that Ear Bud manufacturers' warnings need to be fortified along with regular education of the patients (especially with ear symptoms) by General Practitioners, Physicians and ENT Specialists.

Conclusion

Use of earbuds for Self-ear-cleaning is a worldwide phenomenon. Thus, a significant proportion of the population is at risk of dangerous repercussions. The medical advice against cleaning the ears is not widely known. Instead, the incorrect perception that self-ear-cleaning is of benefit, is common. Education of the public regarding this issue is much needed.

Health education programs at community level by all means including social media to correct the wrong perceptions about self-

ear-cleaning are needed. ENT specialists together with primary care physicians, and community health physicians can contribute to this immensely with minimal efforts.

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