

KNOWLEDGE, ATTITUDE, AND AWARENESS OF HAZARDS ASSOCIATED WITH THE USE OF COTTON BUD AMONG HEALTHCARE WORKERS

Mehnaaz Khannam¹, Tejaswini H², Saritha H M³, Raghul G¹, H.K. Nagarathna⁴, S. Poornima⁴, Udayabhanu HN⁵

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Corresponding Author:
Dr. Saritha HM,
Email: sarithahm@gmail.com

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¹Junior Resident, Department of ENT, Akash Institute of Medical Sciences & Research Centre, Bangalore, Karnataka, India

²Professor, Department of ENT, Akash Institute of Medical Sciences & Research Centre, Bangalore, Karnataka, India

³Assistant Professor, Department of ENT, Akash Institute of Medical Sciences & Research Centre, Bangalore, Karnataka, India

⁴Associate Professor, Department of ENT, Akash Institute of Medical Sciences & Research Centre, Bangalore, Karnataka, India

⁵Professor, Department of ENT, Akash Institute of Medical Sciences & Research Centre, Bangalore, Karnataka, India

Abstract

Background: Although using a cotton bud to clean one's ears is a popular practice, there are known risks involved. This study aims to ascertain healthcare workers' knowledge, attitudes, and awareness regarding using cotton buds. **Materials and Methods:** A questionnaire-based study was conducted on healthcare workers at the Akash Institute of Medical Science for 4 weeks. Doctors, Nurses, Paramedics, and Group D workers who use earbuds and give consent to participate were included in the study. Their inference was noted and documented. **Result:** A total of 150 participants were considered for the study. 88 were males and 62 were females. 50 doctors, 40 nurses, 40 paramedics, and 20 group D workers were assessed. From the results, it is observed that Doctors and Nurses had a better knowledge of risks associated with earbuds than the group D workers. **Conclusion:** Group D workers appear to be generally unaware of the dangers of using cotton buds and have a lenient attitude toward them. More extensive research is necessary to assess the level of cotton bud consumption.

INTRODUCTION

The human ear secretes a waxy coating in ears called ear wax which is also called “cerumen”. The cerumen or ear wax delivers protection against germs, fungi, and water that cleanses, hydrates, and, protects the ear canal.^[1] Despite the well-known hazards, many people have a regular habit of using cotton earbuds, or Q-tips, to clean their ears.^[2] Using cotton buds can push cerumen further back into the external auditory canal (EAC), producing wax impaction. However, the EAC has a sufficient self-cleaning system since the ear wax migrates out with the epithelium to the pinna with the help of jaw movements.^[3] In addition to various additional serious adverse effects, using Q-tips might result in eardrum perforation, hearing, otitis externa, cotton bud retention, acute injury to the EAC, and more.^[4]

Leo Gers-ternzang created the cotton swab in 1923 after seeing his wife clean his baby's ear with cotton wads stuck to toothpicks.^[5]

Later on, it was made by a little wad of cotton wrapped around one or both ends of short sticks,

usually made of plastic, rolled paper, or wood, to create cotton buds or cotton swabs. Q-tips are inexpensive and commonly found at pharmacies and grocery stores. Both adults and children utilize them, either on their own or with parental assistance.^[6] However, using cotton buds to clean inner ears has become widespread worldwide, with rates ranging from an alarmingly high 53% to 100%.^[7] These days, they are a common reason to see an ENT (ear, nose, and throat) clinic due to their extensive use and the many injuries associated with them.^[8]

As a result, we decided to conduct this study among healthcare workers to ascertain their knowledge, attitudes, and awareness of the risks associated with utilizing cotton buds.

MATERIALS AND METHODS

The Akash Institute of Medical Sciences conducted a descriptive study among its healthcare workers for a month, from January to February 2024. The study included healthcare workers over 18 years old who had consented to participate. The study excluded

participants under the age of 18 and non-health workers with other comorbidities. Self-administered, pre-tested, semi-structured questionnaires were utilized as data collection instruments. The questionnaires asked questions about respondents' biographical information, knowledge, attitudes, and awareness regarding using cotton buds, among other things. To maintain confidentiality, it was not labeled. Data was collected and analyzed.

RESULTS

A total of 150 study subjects were studied. Of them, 88 were males, and 62 were females. The distribution of participants based on age is depicted below in [Figure 1].

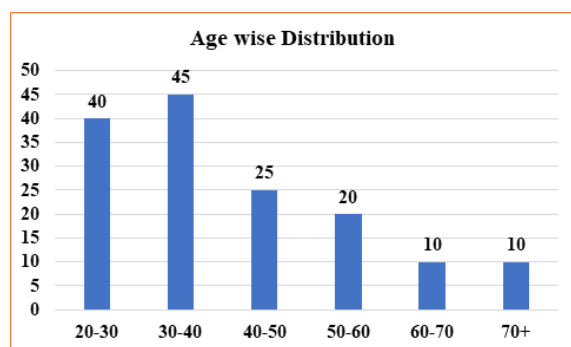


Figure 1: Distribution of participants based on age

30-40 age group is more in the study population.

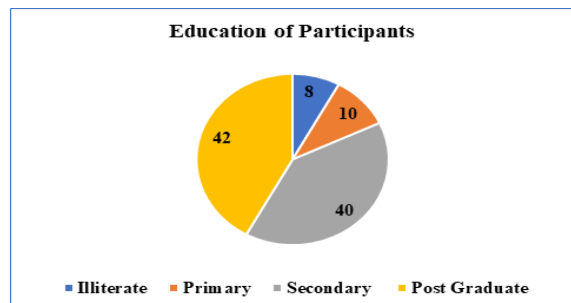


Figure 2: Participants Education

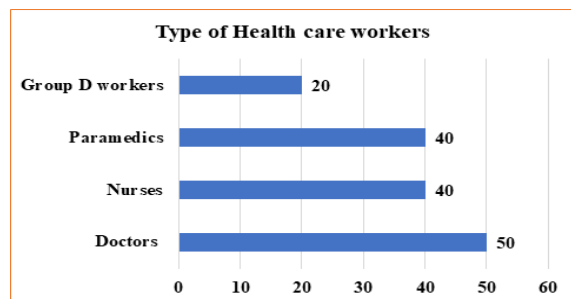


Figure 3: Type of Health care workers

From [Table 1] results, all the healthcare workers used earbuds for the wax removal. The frequency of usage was more in group D workers than in doctors and nurses.

Among healthcare workers, doctors have better knowledge of the risks associated with using earbuds for cleaning.

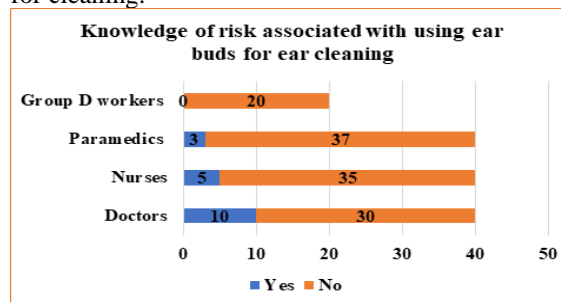


Figure 4: Risk associated with using earbuds

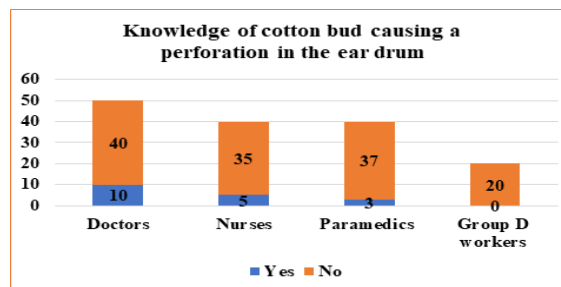


Figure 5: Knowledge of cotton buds that can cause perforation in the eardrum

Doctors, nurses, and then followed by paramedics have a better understanding of the use of cotton bud can cause perforation.

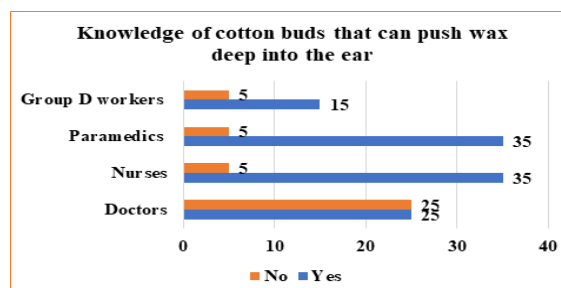


Figure 6: Knowledge of cotton buds that can push wax deep into the ear

From the [Table 2] inference, it is proved that discomfort is the predominant risk noticed in the study population followed by pain and injury. The safe alternatives for ear cleaning by syringing were known by all the health care workers.

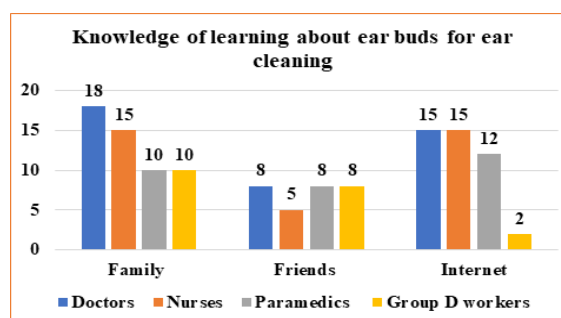


Figure 7: Learning cleaning by using earbuds

In the study participants, family members played a better role in giving the understanding of cleaning by using earbuds.

Table 1: Knowledge of Healthcare workers regarding the use of earbuds.

Parameters	Type of Health Care workers	Responders	Response
Use/Purpose of Earbud for cleaning	Doctors	Yes (wax removal)	40
		No	10
	Nurses	Yes (wax removal)	35
		No	5
	Paramedics	Yes (wax removal)	37
		No	3
	Group D workers	Yes (wax removal)	20
		No	0
Frequency of Earbud usage	Doctors	Once daily	0
		Once a week	5
		Once a month	10
		Occasionally	25
		Never	10
	Nurses	Once daily	0
		Once a week	5
		Once a month	10
		Occasionally	20
		Never	5
	Paramedics	Once daily	2
		Once a week	10
		Once a month	15
		Occasionally	10
		Never	3
	Group D workers	Once daily	2
		Once a week	8
		Once a month	5
		Occasionally	5
		Never	0

Table 2: Knowledge of factors connected with cotton buds

Parameter	Type of Healthcare workers	Responders	Response
Experience of risk from using earbuds	Doctors	Discomfort	20
		Pain	10
		Injury	10
	Nurses	Discomfort	17
		Pain	10
		Injury	8
	Paramedics	Discomfort	20
		Pain	10
		Injury	7
	Group D workers	Discomfort	10
		Pain	8
		Injury	2
Familiar with safe alternatives for ear cleaning	Doctors	Syringing	30
		Suctioning	10
		Moping	10
	Nurses	Syringing	20
		Suctioning	8
		Moping	12
	Paramedics	Syringing	23
		Suctioning	12
		Moping	5
	Group D workers	Syringing	10
		Suctioning	5
		Moping	5

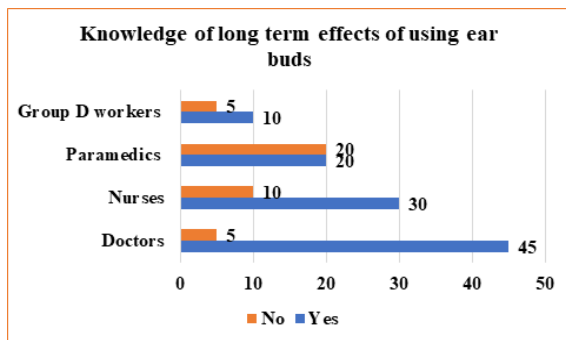


Figure 8: Long-term effects of earbuds usage

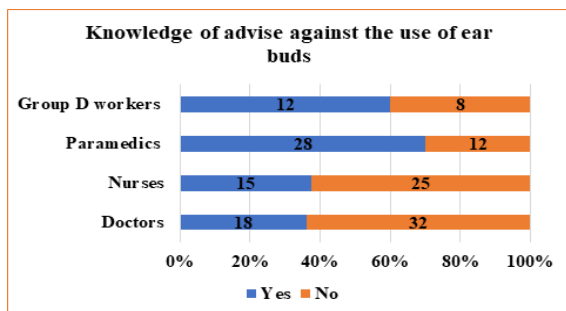


Figure 9: Knowledge of advice against the use of earbuds

From the results, it is proven that 90% of the doctors and 60% of the nurses have the appropriate knowledge of the long-term effects of using earbuds when compared to paramedics and group D workers.

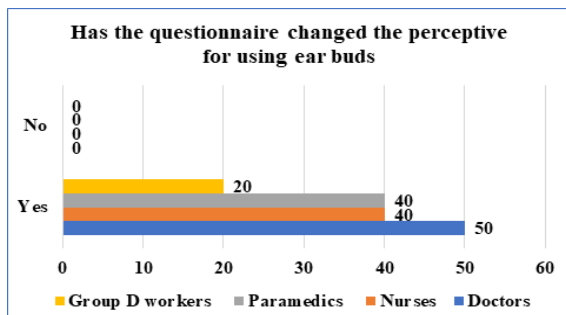


Figure 10: Impact of the questionnaire on the perceptiveness using earbuds

The applied questionnaire on the healthcare workers showed a good impact on the perception of the use of earbuds.

DISCUSSION

Cleaning the auricle is the sole purpose of using cotton buds in the ears. However, a multitude of issues in the ears have resulted from the prevalent practice of using them improperly. The purpose of the current hospital-based cross-sectional observational study (questionnaire-based survey) is to ascertain the healthcare workers' knowledge, attitudes, and prevalence of the use of cotton buds.

The participants used cotton buds, with roughly comparable usage rates for both genders. Adults between the ages of 30 and 40 were the most common users of cotton buds. In comparison to two studies

conducted in the Aminu Kano Hospital,^[9] and Sokoto metropolis,^[10] the distribution of sex is consistent. Male participants are higher in number than female participants.

The majority of participants disagreed with inserting things into the ear canal when it came to their knowledge of cleaning ears.^[11]

The majority of participants were also aware of the possible harm that Q-tips could do, including puncturing the eardrum, causing ear infections, and forcing ear wax inside the ear. Their understanding is tainted with some false beliefs, though. Within the current study, Doctors, nurses, and paramedics know that Q-tips may penetrate the eardrum, induce ear infections, and push the ear wax further.

The frequency of earbud usage is higher in Group D workers than in doctors, nurses, and paramedics. The risk experienced in using earbuds is discomfort, pain, and injury noted in the study group.

Participants who were younger and/or had less education were less likely to use Q-tips alone, but they were more aware of the risks involved in using them. Previous studies have demonstrated a substantial correlation between self-ear cleaning behaviour and gender, Q-tip ownership, and the belief in the practice's advantages.^[12] Regarding the negative effects of utilizing Q-tips, the majority of participants were cognizant of the possible harm they could do and the prospective issues their kids would face. Nearly half, nevertheless, also thought that using Q-tips to clean ears had advantages. Raising awareness and educating people about health issues are therefore necessary to solve this uneven awareness.^[13]

The findings of this study highlight the necessity of focused interventions and public health campaigns to encourage safer methods of cleaning ears and debunk myths about the usage of Q-tips. It is imperative that medical professionals—especially paediatricians, otolaryngologists, and primary care physicians—inform parents and other caregivers about the possible dangers of using Q-tips and suggest safer alternatives for cleaning their ears. Overall, we anticipate that the study's conclusions will contribute to the creation and execution of suitable, focused interventions that will enhance community members' ear hygiene habits.

CONCLUSION

Doctors and Nurses knew a fair amount about how to clean their ears. However, we discovered a low degree of awareness regarding the use of cotton buds in Group D workers. Notably, Group D respondents were aware that using cotton buds could harm the ear and believed that using cotton buds would result in problems. The public has traditionally been cautioned by otolaryngologists about the usage of Q-tips and the potential difficulties they may create. People continue to be irresponsible and uneducated about these truths, nevertheless. An in-depth

understanding of the subject will come from additional research with a wider range of societal segments. Additionally, authorities ought to launch campaigns to educate people about safe ear-cleaning procedures.

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