



Knowledge Attitude and Practice of self-ear Cleaning Among Medical Students at KIST Medical College Teaching Hospital

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Introduction

Cerumen (wax) production occurs naturally in the ear. Composition of wax is secretion from the pilosebaceous gland and ceruminous gland plus desquamated epithelium. Ear wax is produced from the outer third of the cartilaginous portion of the human external auditory canal. It is composed of desquamated cells with 60% keratin, 12–20% saturated and unsaturated longchain fatty acids, alcohols, squalene, and 6–9% cholesterol.^{1,2} Cerumen lubricates the skin of the external auditory canal and protects it from infection. External auditory canal cleans itself by conveyer belt process of epithelial migration, which is aided by jaw movement. Cerumen impaction is defined as excessive collection of cerumen which cause symptoms like pain and fullness. It is the one of the most common reasons for which people need

Abstract

Introduction: Cerumen (wax) production occurs naturally in the ear. External auditory canal cleans itself by conveyer belt process of epithelial migration, which is aided by jaw movement. There is practice of using various materials to clean the ear. Cerumen is considered as dirt by majority. This study was conducted to find about knowledge, attitude, and practice of self-ear cleaning among medical students.

Methods: The cross-sectional study carried out among undergraduate medical students in KIST Medical College and Teaching Hospital. Total 377 students were enrolled after getting written informed consent. The questionnaire was used to assess knowledge, attitude and practice of self-ear cleaning. Data was analyzed using SPSS version 25.

Results: We found 84.6% believes wax is normal substance present in ear canal. There were 66.8% of students who believed that the cotton buds use could cause ear injury but 47.5% thinks that self-ear cleaning is beneficial. Regarding reason for ear cleaning, 60.5% reported hygiene. The most common object used for self-ear clean was cotton bud 91.5%. Almost 50.9 % reported to have no history of any complications following ear cleaning. Regarding the attitude of students toward ear cleaning 59.9 % agreed self-ear cleaning can cause complication. When asked about whether ear cleaning aids should be used to clean ears 56.5% agreed.

Conclusion: There is an erroneous belief that there is benefit to its use. There is a need to increase awareness about the harmful effects of self-ear cleaning

Keywords: Attitude, Cotton bud, Knowledge, Practice, Self-ear cleaning

medical consultation for ear related problems.³ There is practice of using various materials to clean the ear which includes cotton bud, loose cotton swabs, feathers, stick and different other objects.^{4–6} Cerumen is considered as dirt by majority of the people, which is one of the commonest reasons for practicing self-ear cleaning. The complications from use of cotton buds were first reported in 1972.^{2,7} Self ear cleaning is condemned worldwide by otolaryngologist and insertion of cotton buds is considered potentially dangerous. Self-ear cleaning has multiple complications like trauma of ear auditory canal, impacted ear wax, tympanic membrane perforation, otitis externa from bacterial and fungal infection and retention of foreign body.^{8–10} This study was conducted to find about knowledge, attitude, and practice of self-ear cleaning among medical students.

Methods

The cross-sectional study carried out among undergraduate medical students from 1st year to 5th year in KIST Medical College and Teaching Hospital. This study was carried out in the month of July 2022. Total 377 students were enrolled in bachelor of medicine and surgery participated in the study. The written informed consent was taken from the students. The questionnaire was used to assess knowledge, attitude and practice of self-ear cleaning. The questionnaire included personal information and questions to evaluate knowledge, attitude and practice regarding self-ear cleaning. Data was analyzed using SPSS version 25. The approval was taken from institutional review committee for the study with IRC number 2079/80/02.

Results

A total of 377 students had participated in this study, out of which 197 (52.2%) were from the age group 21-23, 90 (23.8%) were in 24-26, 78 (20.6%) were in 18-20 and only 6 were more than 27 (Table 1). We found 212 (56.2%) were male and 165 (43.8%) were female.

Table 1. Age distribution

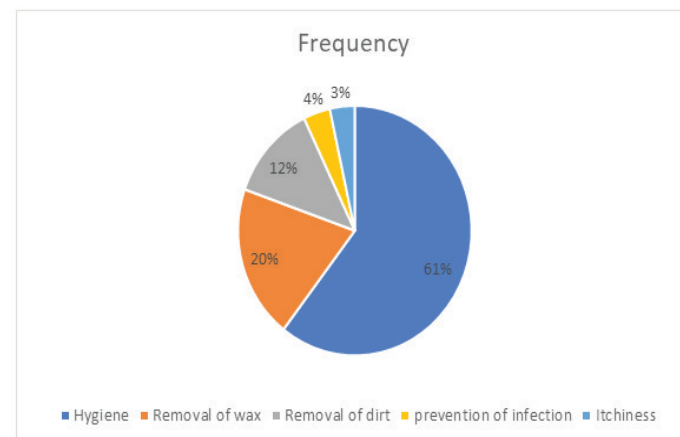
Age	Frequency	Percent
18-20	78	20.6
21-23	197	52.2
24-26	90	23.8
27<	6	0.01

There were 252(66.8%) of students who believed that the cotton buds use could cause ear injury, but 19.4% students were against it while 13.8% students were not sure. We found 179 (47.5%) thinks that self-ear cleaning is beneficial, 96 (25.5%) denied it and 102 (27.1%) were not sure. When asked about what do you think ear wax is, 51 (13.5%) reported Dirt substance, 319 (84.6%) reported normal substance present in ear canal, 7(1.9%) reported not sure. (Table 2) Regarding reason for ear cleaning, 228 (60.5%) for hygiene, 75 (19.9%) for removal of wax, 47 (12.5%) for removal of dirt, 14 (3.7%) for prevention of infection and 13 (3.4%) for itchiness (Fig. 1).

Table 2. Knowledge regarding ear cleaning

	Frequency (N)	Percent (%)
Can cotton bud cause ear damage		
Yes	252	66.8
No	73	19.4
Not sure	52	13.8
Is there benefit of self-ear cleaning		
Yes	179	47.5
No	96	25.5
Not sure	102	27.1
What do you think ear wax is		
Dirt substance	51	13.5
Normal substance	319	84.6
Not sure	7	1.9

Figure 1. Reasons for self-ear cleaning.



They mentioned that 185(49.1%) were practicing self-ear cleaning for more than 10 years and 181 (48%) reported duration of less than 10 years. When asked about frequency of self-ear cleaning, 350(92.8%) reported occasionally, 19(5%) reported once daily, 8(2.1%) reported twice daily. The 341 (90.5%) respondents reported practice of cleaning bilateral ears at same time, while 32 (8.5%) preferred to clean right and 4 (1.1%) preferred left. We found the most common object used for self-ear clean was cotton bud which was 345 (91.5%) other objects were key, match stick and feathers. The participants mentioned to have suffered complications following self-ear cleaning like ear pain 35%, followed by bleeding, fullness of ear. But 50.9 % reported to have no history of any complications following ear cleaning. (Table 3)

Table 3. Practice of self-ear cleaning

	Frequency	Percent
Duration of self-ear cleaning		
years 10>	181	48
10years<	185	49.1
Frequency of self-ear cleaning		
Occasionally	350	92.8
Once daily	19	5
Twice daily	8	2.1
Which ear frequently cleaned		
Clean both ears equally	341	90.5
Clean right ear more	32	8.5
Clean left ear more	4	1.1
Object used for self-ear cleaning		
Cotton bud	345	91.5
Key	14	3.7
Match stick	7	1.9
Feathers	9	2.4
None	2	0.5
Complication of self-ear cleaning		
Pain	132	35
Bleeding	17	4.5
Fullness of ear	20	5.3
Otitis externa	16	4.2
No complication	192	50.9

Regarding the attitude of students toward ear cleaning 59.9 % agreed self-ear cleaning can cause complication and 21% strongly agree whereas 4 (1.1%) strongly disagree. When asked about whether ear cleaning aids should be used to clean ears, 40 (10.6%) out of total 377 participants strongly agree, 213 (56.5%) agreed followed by 121 (32.1%) disagreed. On inquiring about if ear cleaning aid is good for wax removal, 42 (11.1%) strongly agreed followed by 202 (53.6%) agreed, but 113 (30%) disagreed and 18(4.8%) strongly disagreed. When asked about if it is best not to clean ears, 32 (8.5%) Strongly agree, 164 (43.5%) agreed, whereas 156 (41.4%) disagree and 24(6.4%) strongly disagreed. (Table 4).

Table 4. Attitude Towards Self-Ear Cleaning.

	Frequency	Percent
Self-ear cleaning can cause a lot of complications		
Strongly agree	79	21
Agreed	226	59.9
Disagree	67	17.8
Strongly disagree	4	1.1
Ear cleaning aids should be used to clean the ears		
Strongly agree	40	10.6
Agreed	213	56.5
Disagree	121	32.1
Strongly disagree	3	0.8
Ear cleaning aid are good for removing ear wax		
Strongly agree	42	11.1
Agreed	202	53.6
Disagree	113	30
Strongly disagree	18	4.8
It is best not to clean the ears using a cleaning aid		
Strongly agree	32	8.5
Agreed	164	43.5
Disagree	156	41.4
Strongly Disagree	24	6.4

Discussion

The ear wax is normally produced in the ear canal. It has many functions like cleaning, lubricating and protecting the lining of ears.¹ The self-ear cleaning is practiced worldwide and its effect has been condemned everywhere.¹¹

A cross sectional study was done among 1st to final year medical students at KIST medical college. Almost everyone was engaged in some sort of self-ear cleaning practice. We tried to assess knowledge, attitude, and practice regarding self-ear cleaning.

In present study regarding knowledge of students, 84.6% think ear wax is normal substance and 66.8% knew that cotton buds could damage the ear however 47.5% reported that using of cotton buds had benefits. Similarly, a study at Majmaah University reported 55.8% of participants knew that cotton buds could damage the ear and 58.1% of participants thought that using cotton buds had benefits.³ Also Alshehri et al found 55.1% and Hassen et al 47.14% of participants perceived ear cleaning to be beneficial.^{12,13}

Regarding practice most of the participants were found to practice self-ear cleaning occasionally 92.8%. In contrast, Tobih et al. found 98% practiced it regularly.¹⁴ They reported cotton buds 91.5% as most common objects used to clean ear. Almost half of them didn't have any complications following ear cleaning. And most common reason for ear cleaning was to maintain hygiene 60.5%. Similar were the findings in other studies.^{11,12} In contrast, Alruwaili et al. found the most common reason for ear cleaning was to remove ear wax (41.55%) but similar to our study he found cotton buds were the most common tools used by students (77.7%) similar to this study.¹⁶ Most of the students (90.5%) cleaned both ears equally similar to findings reported by Gadanya et al.⁷

Almost half of the respondents didn't recall having any complications. And pain was the common complication noticed by our respondents followed by bleeding, fullness and otitis externa. A study in Nigeria reported 75% without any complication but those who had complication otitis externa was the most common.⁸

In our study, when we assessed attitude of students towards self-ear cleaning most agreed that ear cleaning can cause complications. But their attitude towards practice of self-ear cleaning aids was quite the opposite. 56.5% agreed ear cleaning aids should be used and 53.6% agreed cleaning aid is good for removing wax. Olajide et al also found there is poor attitude about harmful effects of self-ear cleaning.¹⁷

Conclusion

In this study, almost every student responded to indulged in some sort of self-ear cleaning. And the commonest reason for self-ear cleaning is to maintain hygiene. There is an erroneous belief that there is benefit to its use even in medical students. There is a need to increase awareness through public enlightenment and health education about the harmful effects of self-ear cleaning.

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