



CODEN [USA]: IAJPBB

ISSN: 2349-7750

## INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES

<http://doi.org/10.5281/zenodo.3911746>

Available online at: <http://www.iajps.com>

Research Article

### KNOWLEDGE, ATTITUDE AND PRACTICE OF COTTON BUD USE IN PATIENTS VISITING ENT DEPARTMENT DHQ HOSPITAL RAWALPINDI

<sup>1</sup>Ibrar ul Hassan, <sup>2</sup>Saqlain Ghazanfar, <sup>3</sup>Syed Aizaz Khalid, <sup>4</sup> Adam Umair Ashraf Butt, <sup>5</sup> Abdur Rehman Malik, <sup>6</sup> Muhammad Sarfraz Khan, <sup>7</sup>Areeb Khalid, <sup>8</sup>Zunaira Azam, <sup>9</sup>Syed Muhammad Jawad Zaidi

<sup>1</sup>Medical Officer, Tehsil Head Quarter Hospital Kharian, Pakistan.

<sup>2,4,5,6,7,9</sup> Final year MBBS student, Rawalpindi Medical University, Pakistan.

<sup>3</sup>Medical Officer, Tehsil Head Quarter Hospital Kallar Syedan, Pakistan

<sup>8</sup>Women Medical Officer, Wazirabad Insitute of Cardiology, Wazirabad Pakistan.

E-Mail Id- <sup>1</sup>ibrarrmc@gmail.com, <sup>2</sup> saqlain.ghazanfar1996@gmail.com, <sup>3</sup>aizazs1@gmail.com, ,

<sup>4</sup>adambutt39@gmail.com, <sup>5</sup>dr.malik.ar123@gmail.com, <sup>6</sup>dr.msk098@gmail.com, ,

<sup>7</sup>areebkhalid1996@gmail.com , <sup>8</sup>Aazamzunaira@gmail.com, <sup>9</sup>mjawad927@gmail.com

**Article Received:** April 2020

**Accepted:** May 2020

**Published:** June 2020

**Abstract:**

**Background:** Habitual cotton bud usage can result in cerumen impaction caused by pushing the cerumen deep into the canal, trauma to ear canal by damaging the surrounding epithelium, tympanic membrane perforation and otitis externa due to the infection with bacteria or fungi on already damaged epithelium.

**Objectives:** The main objective of this study is to understand the perception of masses about cotton buds, their attitude towards its usage and also to investigate the factors that increase its usage.

**Methodology:** This is a descriptive cross-sectional study done from August, 2019 to October, 2019. The study was carried out among patients visiting the Out-Patient Department (OPD) of ENT at District Headquarter Hospital, Rawalpindi. A descriptive analysis showing frequencies and percentages of responses was carried out using the Statistical Package for Social Sciences (SPSS) v.23.0 (IBM, Armonk, US).

**Results:** Out of 250 questionnaires distributed, 196 were correctly filled giving us a response rate of 76.8%. The age ranged from 15 to 75 with a mean of 33.6(SD=13.46). The majority was being formed by males (61.5%). A majority of patients 104(54.2%) considered that use of cotton bud is beneficial for the ear while 72(37.5%) had a neutral response. Out of 192 respondents, 82(42.8%) were of the view that usage of cotton buds could be hazardous. Most of the participants 166(86.5%) used cotton buds by themselves without someone else's advice. Using cotton buds after having a bath (42.7%), once a week (58.3%) was a common practice among respondents. Most of participants (69.8%) were using cotton buds for more than one-year.

**Conclusion:** As is evident in the results of our study, the habit of using cotton buds is still prevalent in our community, which signifies a major lack of awareness. Thus, efforts must be made to educate the population regarding the potential harm that this seemingly inconsequential practice can cause in the long run.

**Keywords:** Cotton bud use, Ear pain, Tertiary care Hospital, wax removal.

**Corresponding author:**

**Muhammad Sarfraz Khan,**

Final year MBBS student,

Rawalpindi Medical University, Pakistan

Contact No: +923157337707, E-Mail Id: dr.msk098@gmail.com

QR code



Please cite this article in press Muhammad Sarfraz Khan et al., Knowledge, Attitude And Practice Of Cotton Bud Use In Patients Visiting Ent Department DHQ Hospital Rawalpindi, Indo Am. J. P. Sci, 2020; 07(06).

**INTRODUCTION:**

Ear, an important organ of hearing, needs care of its external auditory canal for proper functioning. Ill-advised attempts to clean it may consequently result in hearing loss. Hearing is an important component of human personality and in pediatric population it is related with learning and development [1].

In order to clean ears cotton buds are commonly used. Leo Gerstenzang, after observing his wife using wads of cotton on toothpicks to clean his baby's ears, developed cotton-tipped swabs that are also known as cotton buds. Not only adults but also children either by themselves or with help of their parents use cotton buds so as to clean their ears, remove wax, relieve itching and on occasions, as a habit. However, using cotton buds is quite possibly a dangerous and needless act [2,3].

According to a study 92% of the respondents used cotton bud to clean their ear. Out of these, 74% used them to clear out wax. Various harmful effects of cotton bud usage include cerumen impaction caused by pushing the cerumen deep into the canal, trauma to ear canal by damaging the surrounding epithelium, tympanic membrane perforation and otitis externa due to the infection with bacteria or fungi on already damaged epithelium. The first cases of medical concern regarding the harmful effects of cotton bud usage were reported in 1972. In accordance with a survey in 2005, 15-20% of the subjects didn't consider cotton bud usage as a cause of tympanic membrane perforation, impacted wax or external ear infection [4,5]. Cotton bud usage is considered an undesirable habit by otolaryngologists worldwide owing to its harmful implications. Most common motive to use cotton bud is to clean ear wax. Ear wax, which is a mixture of gland secretions, epithelial debris, dust and foreign bodies, is self-cleaned by the ear with the help of epithelial movement towards pinna and temporo-mandibular joint movement. So, the use of cotton bud for that purpose is completely illogical and can hurt more than help. Therefore, it is advised to use cotton bud having loose tip that does not traumatize the ear canal and clean the water or discharge out of ear canal only. A loose tip cotton bud is not used for wax removal or to relieve itch.

A study noted a complication rate of 2% caused by cotton bud usage. According to a survey conducted in England, cotton bud users are conscious of only 52% of the complications as compared to non-cotton bud users who know 59% of all the complications caused by cotton bud usage. There is quite a large portion of the general population that is under the impression that ears require regular cleaning and they can only be cleaned by inserting something into the ears [4,6].

Keeping in view all what we have discussed above it has now become certain that cotton-bud use related problems are not to be taken lightly because of its wide spread applications and various misconceptions and misuses. A large number of people visit doctors daily with complaints of itching in the ear and majority of them use cotton buds to relieve their itching [2]. Measures should be taken in order to educate people regarding the harmful effects and a proper way to use cotton buds with loose tip only if necessary. In spite of its various harmful effects on hearing, there is still a considerable gap in literature regarding this topic. Therefore, the main objective of this study is to understand the perception of masses about cotton buds, their attitude towards its usage and also to investigate the factors that increase its usage. By this study we may be able to find out the reason behind the use of cotton bud and the need for conveying the message to cede its use. Thus, clearing the misconceptions that the population has may help to reduce this practice and help solve this problem.

**MATERIALS AND METHODS:****Ethical Statement:**

Approval to carry out the study was given by the ethical and research committee of Rawalpindi Medical University. Each participant signed an informed consent form before filling the questionnaire. All participants were informed about the survey aim. The confidentiality and anonymity of all participants was fully maintained. The participants' personal information (names, identity numbers, and addresses) were not collected.

**Study Design:**

This is a descriptive cross-sectional study done from August, 2019 to October, 2019. The study was carried out among patients visiting the Out-Patient Department (OPD) of ENT at District Headquarter Hospital, Rawalpindi. Data collection was done by distributing self-administered, semi-structured, paper-based questionnaire through simple random sampling. Subjects of 15 years or above and already using cotton buds were included in this study. The questionnaire contained consent form and information about socio-demographic characteristics, knowledge, attitude and practice of cotton bud use. who agreed to participate in the study were included in this study. Each participant signed an informed consent form before filling the questionnaire. All participants were informed about the survey aim. The confidentiality and anonymity of all participants was fully maintained. The participants' personal information (names, identity numbers, and addresses) were not collected.

**Statistical Analysis:**

Socio-demographic characteristics were described in terms of frequencies and percentages between

males and females. A descriptive analysis showing frequencies and percentages of responses was carried out using the Statistical Package for Social Sciences (SPSS) v.23.0 (IBM, Armonk, US). A two-tailed  $p < .05$  was considered statistically significant. Percentage responses in terms of knowledge regarding hazards of cotton bud usage were described using a pie-chart. Duration of cotton bud usage distributed by gender was illustrated using a clustered column chart.

### RESULTS:

Out of 250 questionnaires distributed, 192 were correctly filled giving us a response rate of 76.8%. The age ranged from 15 to 75 with a mean of 33.6(SD=13.46). The majority was being formed by males (61.5%). The percentage of the participants getting any kind of formal education was 82.3% while 17.7% were illiterate. Table no. 1 shows the gender wise distribution of socio-demographic details.

**Table 1.**  
*Socio-demographic characteristics of participants*

Characteristics	Total		Males		Females		P values
	N	%	n	%	n	%	
<b>Age</b>							<b>.008*</b>
15-25	60	31.3	40	33.9	20	27	
26-35	28	30.2	26	22	32	43.2	
36-45	38	19.8	28	23.7	1	13.5	
46-55	14	7.3	6	5.1	08	10.8	
56-65	10	5.2	8	6.8	2	2.7	
66-75	12	6.3	10	8.5	2	2.7	
<b>Education status</b>							<b>.001*</b>
Uneducated	34	17.7	14	11.9	20	27	
Primary	28	14.6	10	8.5	18	24.3	
Middle	32	16.7	24	20.3	8	10.8	
Secondary	48	25	34	28.8	14	18.9	
Higher secondary	30	15.6	20	16.9	10	13.5	
Graduate	20	10.4	16	13.6	4	5.4	
<b>Residence</b>							<b>.007*</b>
Rural	34	17.7	14	11.9	27	27	
Urban	158	82.3	104	88.1	73	73	

*Note.* \* $p < .01$

**Knowledge of Cotton bud use:** A majority of patients 104(54.2%) considered that use of cotton bud is beneficial for the ear while 72(37.5%) had a neutral response. Out of 192 respondents, 82(42.8%) were of the view that usage of cotton buds could be hazardous. Fig 1 shows the knowledge of participants regarding hazards of cotton bud usage

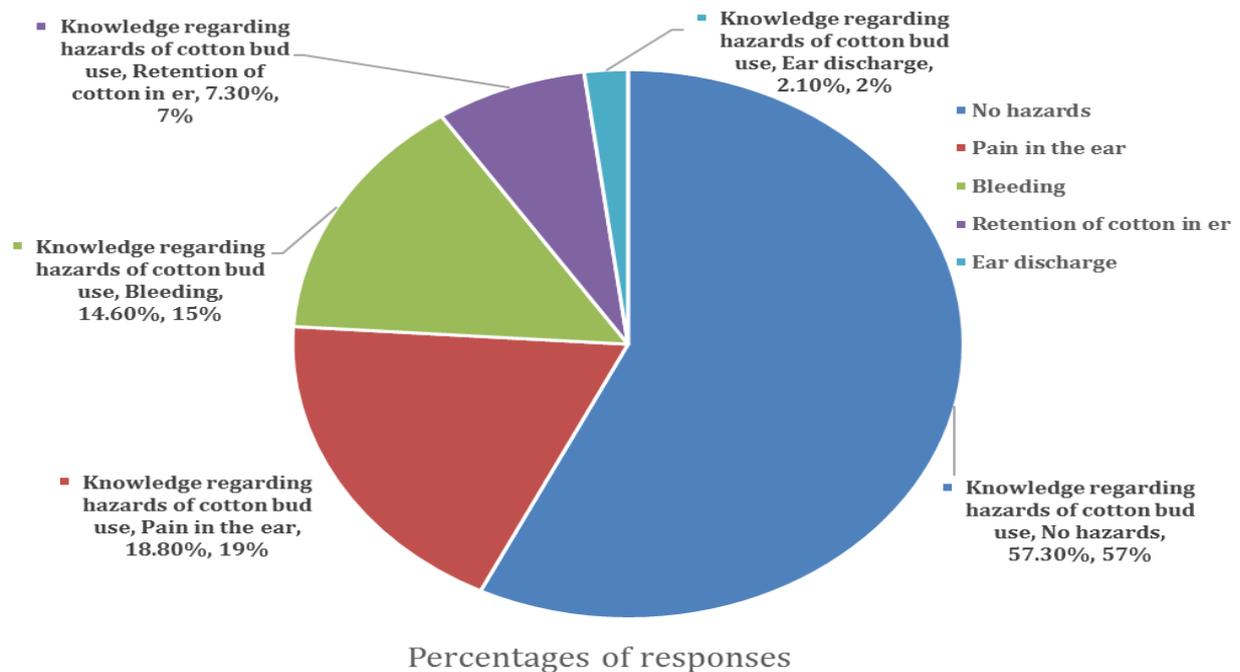


Figure 1. Knowledge regarding hazards of cotton bud use.

**Attitude towards Cotton Bud Usage:** Most of the participants 166(86.5%) used cotton buds by themselves without someone else's advice. Forty-five (46.9%) out of 96 patients used cotton buds with the sole purpose of wax removal. Only 58(30.2%) suggested others to use cotton buds. The details of attitude of cotton bud use are shown in table no.2.

Table 2.

*Attitude of respondents towards cotton bud usage(n=192)*

Variables	Frequency (%)
<b>Purpose of cotton bud use</b>	
Itching	74(38.5%)
To remove wax	90(46.9%)
Habitual	16(8.3%)
Blockage in ear	12(6.3%)
<b>Cotton bud use advised by:</b>	
Parents	4(2.1%)
Siblings	8(4.2%)
Friends	8(4.2%)
Doctor	6(3.1%)
No one (self)	166(86.5%)
<b>Suggestion for use of cotton buds</b>	
Yes	58(30.2%)
No	84(43.8%)
No comments/No idea	50(26%)

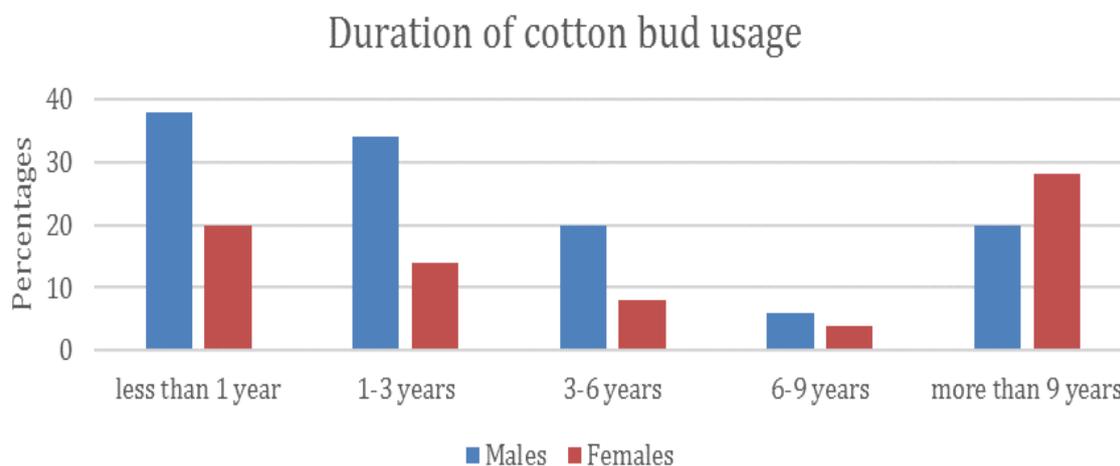
**Practices towards Cotton Bud Usage:** Using cotton buds after having a bath (42.7%), once a week (58.3%) was a common practice among respondents. Table no. 3 shows cotton bud usage and associated practices.

Table 3.

*Practices Cotton bud usage(n=192)*

Variables	Frequency (%)
<b>Specific timing of use</b>	
After Having a bath	82(42.7%)
Early morning	6(3.1%)
No specific timing	104(54.2%)
<b>Frequency of use</b>	
Once Daily	30(15.6%)
Once Weekly	112(58.3%)
Twice a month	28(14.6%)
Once a month	22(11.5%)

Most of participants (69.8%) were using cotton buds for more than one-year. Figure. 2 shows the duration of cotton bud usage distributed by gender.



**Figure 2. Duration of cotton bud usage distributed by gender**

### DISCUSSION:

Despite there being extensive evidence of the hazards of using cotton buds, it is still an important risk factor for the development of complications in our society today [7]. In our study, the mean age of the participants was 33, similar to a study by Amutta and Afolabi et al. which reported a mean age of 30.29 and 30.37 years respectively [8,9]. However,

the study by Hobson and Lee et.al reported an average age of 41 and 40.7 years respectively [4,5]. Furthermore, the largest number of participants was from the 15-25 years age group, similar to other studies [4,8]. Our results also showed a male predominance (61.5%) which is in line with the results of separate studies conducted by both Hobson and Kumar et.al [3,5]. However, the study

by Gabriel as well as by Olaosun et.al in Nigeria showed almost no gender difference [10,11]. The majority (82.3%) of the participants in our study had received some kind of formal education. This is in line with a majority of the studies that were conducted in this regard [8,10–12]. Despite this big figure, a large portion of the participants (54.2%) still believed the use of cotton buds to be beneficial, similar to the results obtained by different studies [9–11]. This is an alarming situation as it shows that a lack of awareness, and not simply illiteracy, is the culprit behind the continued use of cotton buds in our society. On the other hand, only 42.8 % of the participants were aware of the complications, if any, that could be caused by the improper use of cotton buds similar to the figure reported by Gabriel et.al [10]. The study by Alrajhi et.al also determined that the majority was unsure about this particular aspect, again emphasizing the lack of awareness among the general population [12]. This is important as complications from the improper use of cotton buds are as frequent; yet they can be avoided if proper awareness is present.

In our study, the main reason for the use of cotton buds was cited to be the removal of wax, which coincides with different studies conducted by various authors [4,11,12]. However, there were some outliers such as the study by Gabriel et.al [10] which showed the major reason was to relieve itching. On the other hand, Amutta et.al found the most frequent reason to be the removal of dirt [8]. Of particular interest is the number of participants who use cotton buds habitually (8.3%) which is in contrast to the results of Afolabi et.al which show a considerably higher number of people who developed it as a habit over several years [9].

Of all the participants that were using cotton buds, only 3.1 % had been advised by medical professionals which is a number similar to that reported by Hobson et.al [5]. However, despite such a low number the use of cotton buds is still too high, again pointing to a glaring lack of awareness. Regarding the frequency of usage, the majority (58.3%) used cotton buds once weekly similar to the results found by Alrajhi et.al and Afridi MI et. al [12,13] while Amutta et.al reported contrasting results where all of the participants were shown to be cleaning their ears at least once per day [8]. This, along with the major reason for removal (dirt removal), is possibly attributable to the hot semi-arid climate of Sokoto where the study was conducted.

Furthermore, 42.7% of subjects used cotton buds after a bath in order to clean ear of water and wax. This is extremely dangerous as the ear canal skin is moist at that time and is more vulnerable to injury by any instrumentation. Also, as most of the

participants of our study are young, they will continue to use cotton buds for the foreseeable future as well as possibly inculcate this practice in the next generation as well. Thus, prompt action to raise awareness and eradicate this practice at the grass root level is required.

However, this study is not free of limitations. First and foremost, as this is a cross-sectional study, all of the limitations that come with them are applicable here as well. Furthermore, the relatively small sample size coupled with the collection of data from a single hospital hinders the generalization of our results. Going one step further, the selection of patients from an ENT department instead of the general population could have caused biased results. However, our study serves as a stepping stone for future authors to whom we recommend using larger sample sizes and to conduct the study on the general population instead of a particular sub-section.

#### **Conclusion:**

As is evident in the results of our study, the habit of using cotton buds is still prevalent in our community, which signifies a major lack of awareness. Thus, efforts must be made to educate the population regarding the potential harm that this seemingly inconsequential practice can cause in the long run. The government can collaborate with NGOs and use several different routes, such as print or electronic media as well as awareness campaigns etc., to attain this goal.

**Conflicts of Interest:** Nil

#### **REFERENCES:**

- [1]. Bhat A, Ray T, Sahni J. Aural hygiene practices among underprivileged children of Delhi. *Natl Med J India*. 2015 Nov 1;28:280–1.
- [2]. Ahmed S, Zaheer SAI, Shabbir SMA, Rao S, Islam T, Ahmed B. Association of Dermatological Conditions of External Ear with the Use of Cotton Buds. *J Enam Med Coll*. 2014;4(3):174–6.
- [3]. Kumar S, Ahmed S. Use of cotton buds and its complications. *J Surg Pakistan*. 2008;13(3):137–8.
- [4]. Lee LM, Govindaraju R, Hon SK. Cotton bud and ear cleaning - A loose tip cotton bud? *Med J Malaysia*. 2005;60(1):85–8.
- [5]. Hobson JC, Lavy JA. Use and abuse of cotton buds. *J R Soc Med*. 2005;98(8):360–1.
- [6]. Nagala S, Singh P, Tostevin P. Extent of cotton-bud use in ears. *Br J Gen Pract [Internet]*. 2011 Nov;61(592):662–3. Available from: <https://pubmed.ncbi.nlm.nih.gov/22054319>
- [7]. Dosemane D, Ganapathi K, Kanthila J. Knowledge, attitude and practice of ear care in coastal Karnataka. *J Clin Diagnostic Res*. 2015;9(12):MC01–4.
- [8]. Amutta SB, Yunusa MA, Iseh KR, Obembe A,

- Egili E, Aliyu D, et al. Sociodemographic Characteristics and Prevalence of Self Ear Cleaning in Sokoto Metropolis. *Int J Otolaryngol Head & Neck Surg.* 2013;02(06):276–9.
- [9]. Afolabi AO, Kodiya AM, Bakari A, Ahmad BM. Attitude of self ear cleaning in black Africans: any benefit? *East Afr J Public Health.* 2009;6(1):43–6.
- [10]. Gabriel OT, Mohammed UA, Paul EA. Knowledge, Attitude and Awareness of Hazards Associated with Use of Cotton Bud in a Nigerian Community. *Int J Otolaryngol Head & Neck Surg.* 2015;04(03):248–53.
- [11]. Oloosun A. Self-ear-cleaning among educated young adults in Nigeria. *J Fam Med Prim Care.* 2014;3(1):17.
- [12]. Alrajhi M, Alim B, Aldokhayel S, Zeitouni L, Al Tawil L, Alzahrani F. Knowledge, attitudes, and practices pertaining to cotton-bud usages and the complications related to their misuse among outpatients in an ear, nose, and throat clinic. *J Nat Sci Med.* 2019;2(4):220.
- [13]. Afridi MI, Babar A, Mehmood L, Sajjad Y, Ahmad Z, Khan N, et al. Awareness of cotton bud use among students of Rehman Medical College. *J Med Stud.* 2016;2(3):30-3.