

SELF CLEANING OF EARS BY VARIOUS OBJECTS CAUSES MULTIPLE DISEASES OF EXTERNAL EAR

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ABSTRACT

Objective: To find out the association of multiple diseases of external ear with the use of various objects and cotton buds.

Study Design: Case control study.

Place and Duration of Study: Ear Nose Throat Department, Pakistan Naval Ship Shifa Karachi, from Jan to Oct 2020.

Methodology: All the patients having multiple diseases of external ear were included as cases. Controls were selected from the healthy volunteers from general populations.

Results: Total number of subjects in this study was 140 with the mean age 25.11 ± 11.21 years (2-55 years of age range). Out of them, 82 were male and 58 were female. Odds ratio was 16.07.

Conclusion: There is a solid relationship of illnesses of external ear with the utilization of cotton buds. This detrimental practice should be incapacitated by featuring the notice by brands owners of cotton bud and safety instructions at different instructive levels.

Keywords: Cotton buds, Diseases of ear, Odds ratio, Self-ear cleaning.

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INTRODUCTION

Cleaning is good habit and care of the body is the basic right of a human being. Knowledge regarding the cleaning of ears with various objects like cotton bud, match sticks, fingers and hair pins, should be communicated to masses for quality care of ears. Various objects as mentioned are very injurious to the external ears. These objects include cotton buds which were used for quality care of ears initially but the harmful effects were observed in 1972 in New Zealand.¹ The medical professionals in general and otolaryngologist in particularly are writing articles and advising patients to stop self-cleaning of ears with any object. Cotton buds are utilized by grown-ups as well as are generally applied in pediatric populace either by kids themselves or by guardians. Ear wounds started by cotton buds are regularly seen in ENT outdoor facilities.^{2,3} Cotton bud and different articles utilization in ear propensity is having solid relationship with neurodermatitis and contact dermatitis of the outer ear.⁴ Cotton bud is additionally connected with intense otitis externa, impaction of wax, burst of tympanic membrane and perichondritis in couple of patients.⁵⁻⁷

This study was done to find out the association of multiple diseases of external ear with the use of

various objects and cotton buds.

METHODOLOGY

This case control study was conducted at Ear Nose Throat Department, Pakistan Naval Ship Shifa Karachi, from January to October 2020. Acceptance from Hospital Ethical Committee was acquired on a certificate. Consent from the examination subjects were taken prior to filling the questionnaire for study. Non probability convenience sampling technique was used.

Inclusion Criteria: All the patients having multiple diseases of external ear were included as cases after being examined and diagnosed by the otolaryngologist. Controls were chosen from the sound volunteers from all-inclusive communities for same number of patients in span of study.

Exclusion Criteria: Patients having other diseases of head & neck region, were debarred from the study.

Odds ratio of the risk (using of various objects and cotton buds to clean the ears) was calculated. Occurrences of the variables were determined by utilizing enlightening measurements of SPSS version 20.

RESULTS

Number of subjects in this research were 140 with the mean age 25.11 ± 11.21 years. Minimum age was 2 years and maximum age was 55 years. Out of

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them, 82 (59%) were male and 58 (41%) were female. The gender distribution by percentage was presented in Figure. Seventy patients were cases and 70 were the

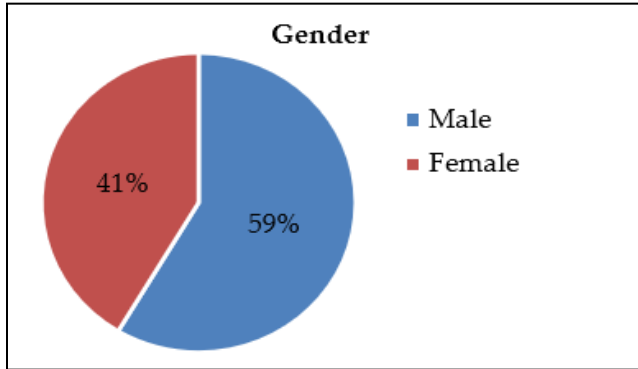


Figure: Gender distribution of study.

controls. Among the cases, 55 were cotton bud/ different article consumers and among the controls it was 13. Odd ratio was 16.07. Table-I is showing the computation and chances proportion. Table-II is showing categories of illnesses of outer ear of the cases (n=70). Out of 70 cases,²² were of acute otitis externa,¹⁸ of wax

Table-I: Risk of use of cotton buds/various objects of external ear.

Risk	Disease Outcome		Total
	Disease of External Ear (Cases)	No Disease of External Ear (Controls)	
Cotton bud users (Exposed)	55	13	68
Cotton buds non-use (Non-exposed)	15	57	72
Total	70	70	140
Odds Ratio	55x57/13x5=16.07		

Table-II: Types of diseases of external ear of the cases (n=70).

Diseases	Frequencies	Percentage
Acute otitis externa	22	31.4
Wax impaction	18	25.7
Neurodermatitis	13	18.6
Contact dermatitis	11	15.7
Lacerations of external auditory meatus	4	5.7
Foreign body external ear	2	2.9

impaction,¹³ of neurodermatitis,¹¹ of contact dermatitis,⁴ of lacerations of external auditory meatus and 2 foreign bodies of external ear. Table-III is showing the questionnaire for exposed population of study (n=68). Table-IV is depicting answers to questionnaire by exposed population (n=68). Answers of exposed population used 100% cotton buds, 76.5% for more than 1 year and 100% without knowing the adverse effects. Various objects like fingers, match sticks & hair pins were also used. Out of 46.5% of adults used to clean their children's ears with cotton buds.

Table-III: Questionnaire for exposed population of study.

Questions
Are you cleaning your ears with some cotton bud?
How long are you using for ears?
Are you having knowledge of adverse effects of cotton bud use?
Are you cleaning your ears with fingers, matchstick, hair pin etc.?
Are you cleaning your children's ear with cotton buds?

Table-IV: Answers to questionnaire by exposed population (n=68).

Answers	Numbers	Percentage
Yes	68	100
>1 year	52	76.5
<1 year	16	23.5
No	68	100
Cotton buds	68	100
Fingers	35	51.5
Match sticks	15	22.0
Hair pins	10	14.7
Yes	31	45.6

DISCUSSION

This study showed that a person with diseases of external ear was 16.07 times more likely to have been exposed to the risk factor (using the cotton buds) than a person without ear disease. The case control concentrate on this subject was completed by Ahmed *et al* in Darfur, Sudan 4 few years back and odd proportion determined was.¹² Our study is not only supporting the previous study and showing more association with exposure of cotton buds with ear diseases. All other studies are descriptive and observational studies showing the importance of risk factor and guiding the masses to stop cleaning ears with any object. Gadanya *et al*, observed that there was a high prevalence of cotton bud use for self-ear cleaning at Aminu Kano Teaching Hospital. This finding had wider implications as doctors 8 were looked upon by the non-professional community and other health workers as role models. Khan *et al*, observed 79.6% use of cotton buds in undergraduate university students for self-ear cleaning.⁹ Alshehri *et al*, conducted study in medical and non-medical students,¹⁰ and the majority (75%) of the participants practiced self-ear cleaning. These studies are different from our study as we performed on patients and control group. We did not include doctors and medical students in our study. For medical professionals, there was a need to plan and guide out wellbeing instruction and advancement procedures that would spread crucial messages to doctors and other health workers in the local area hospitals, that ear cleaning is vital done via able staffs. Adegbiji *et al* noticed the commonest object,¹¹ utilized in ear cleaning was cotton bud in 44.5%. Different articles were

digit of hand, plume and key. In our investigation the commonest object was cotton bud, then finger and match stick. Adegbiyi *et al*, additionally led concentrate on children,¹² and noticed the most well-known justification ear cleaning was because of individual cleanliness. Ear cleaning was done in 57.1% of the children by their mothers and cotton bud was the most well-known article. In our investigation, 45.6% of youngsters were cleaned by their guardians by cotton buds.

There is an overall conviction that there isn't anything incorrect with utilizing cotton buds, and this disintegrates the propensity for utilizing cotton buds essentially to reduce manifestations, for example, itching,¹³ expulsion of filth and maybe even with statements of noticed advantages. Tingling ears were the commonest reason, from neurodermatitis and otitis externa of the ear by different investigations.^{4,14} The wax evacuation was the main justification utilizing cotton buds revealed from different studies.^{15,16} Our research did not endorse tingling and wax expulsion as the significant reasons of cotton bud use in our results as in previous studies.

A survey revealed that majority of cotton bud users was uninformed about its harmful influences on ear.¹⁷ In our investigation, 100% of uncovered populace was uninformed of the harmful impacts of self-cleaning of ears with cotton buds. Consciousness of cotton-bud related entanglements is a significant general medical problem. Safer strategy for aural toileting and suction may likewise require promoting.¹⁸

Public mindfulness by all sort of media must be carried out to save people from preventable ear diseases. A few examinations uncovered that neurodermatitis, contact dermatitis, wax impaction, perichondritis and otitis externa 19 are connected with the propensity for self-cleaning of ears with cotton buds. Our investigation results showed these diseases along with lacerations of external auditory meatus and foreign bodies' external ear.

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LIMITATION OF STUDY

The study is case control on the topic and second in the world. More case control studies and cohort studies should be done to highlight the bad ear cleaning habit.

CONCLUSION

There is a solid relationship of illnesses of external ear with the utilization of cotton buds on the basis of odd ratio. This detrimental practice should be incapacitated by featuring

the notice by brands' owners of cotton bud, safety instruction at different instructive levels and short community mindfulness talks of otolaryngologists at electronic media and web-based media.

Conflict of Interest: None.

Authors' Contribution

SMASB: Conception of work, wrting of introduction, SA: Critical revision, MA: Literature review, NR: Data collection, AA: Data analysis, JAA: Writing of discussion, MFWK: Writing of results.

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