

Prevalence of chronic suppurative otitis media in school children of Kathmandu district

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Background: Chronic suppurative otitis media is a major health problem throughout the world in developing countries including Nepal. This study was carried out to find the prevalence of chronic suppurative otitis media (CSOM) among school going children of Kathmandu district.

Methods: This is a prospective cross sectional study among 1070 school children aged between 5 - 12 years. Students were randomly selected from four different schools of Kathmandu district. All these students were interviewed and examined otoscopically from November 2006 to January 2007. Data were analyzed statistically.

Results: Results showed that 5.4% of the children had CSOM. Unilateral disease was seen in 79.3% and 96.5% had a tubotympanic disease. Around 24.1% had active disease, 65.4% used unhygienic and risky materials to clean their ears. There were 10.3% students having CSOM who did not receive any treatment. More than half were treated by paramedics.

Conclusion:

The prevalence of CSOM among school children in Kathmandu district is lower as compared to rural areas of Nepal. This might be due to the improvement of health care facilities or due to increase in the use of antimicrobials in Kathmandu. Awareness for school children as well as parents through health education is in need to reduce the prevalence of CSOM.

Key words: Chronic suppurative otitis media (CSOM), tubotympanic disease, health education.

Introduction

Chronic suppurative otitis media (CSOM) is one of the most common ear diseases in many of the developing countries. It is the commonest cause of persistent mild to moderate hearing impairment in children and young adults.¹ During the recent decades the incidence of CSOM has dramatically declined due to improvement in housing, hygiene and antimicrobial therapy.² Still ignorance and poverty and traditional beliefs are the major risk factors for not attending hospital.

Materials and Methods

This study was conducted in four randomly selected schools of Kathmandu district. There were 1070 students aged

between 5 -12 years. The study was conducted from November 2006- January 2007. CSOM was diagnosed by proper history and otoscopic examination. Discharging ears of more than 3 months duration were only included in the study. Although there were other diseases beside CSOM, impacted wax, otitis media with effusion, acute suppurative otitis media and other ear diseases, their prevalence were not calculated in this study. Treatment patterns as well as cleansing habits of ears were studied. Data was analyzed statistically using frequency and percentage.

Results

A total of 1070 students were examined and included in this study. There were 590 male and 480 female children. It was found that a total of 58 (5.4 %) of the children suffered

CSOM in children

from CSOM. Tubotympanic disease was found in 56(96.5%) and CSOM atticoantral type was found in only 2(3.5%) Unilateral CSOM was found in (79.3%) cases. (Table-1). Nearly 24.1% had active disease. On analyzing the ear cleaning habits it was found that 6.0% of students used cotton buds for cleaning ear while 65.4% used unhygienic and risky materials. (Table-2). However 53.5% of students having CSOM were treated by paramedics, 32.7% were treated in hospital or by doctors and 10.3% did not receive any treatment. (Table-3).

Table: 1 Types and side of CSOM

Types of CSOM	No. (%)
CSOM-Tubotympanic	
Right	26 (44.8)
Left	18 (31.0)
Both	12 (20.7)
CSOM-Tubotympanic (Total)	56 (96.5)
CSOM- Atticoantral	
Right	2 (3.5)
Left	—
Both	—
CSOM- Atticoantral (Total)	2 (3.5)
CSOM (Total)	58 (100.0)

Table: 2 Ear cleaning habits of school students

Ear Cleaning habits	No. (%)
Cotton Bud	64 (6.0)
Feathers	117 (10.9)
Match sticks	154 (14.4)
Metallic sticks	429 (40.1)
Don't know	306 (28.6)
Total	1070 (100.0)

Table: 3 Treatment patterns of students having CSOM

Treatment Pattern	No. (%)
Not received	6 (10.3)
Received	
Doctors/Hospitals	19 (32.7)
Paramedics	31 (53.5)
Dhamis (traditional healers)	2 (3.5)

Discussion

Chronic suppurative otitis media (CSOM) is a major health problem throughout the world in developing countries. It is also one of the common health problems of Nepal. CSOM

with and without complication continues to affect a large number of patients.³ Studies in Bangladesh, India, various countries in Africa and among some disadvantaged ethnic groups have shown that CSOM may have a prevalence between 2 and 17 % among children.⁴ In Nepal, the prevalence of CSOM as quoted by Little et al study is 7.2%.⁵

The prevalence of CSOM in our study was found to be 5.4% which was similar to the prevalence quoted by Rupa et al (6%)⁶ and Ologe et al (6%)⁷ but lower than the study done by Maharjan et al (13.2%)⁸, Biswas et al (12.4%)¹ and Morris et (15.0%).⁹ The prevalence of CSOM in our study was quite lower than other studies done before in eastern part of Nepal. This lower incidence of CSOM in our study could be attributed to the fact that Kathmandu is an urban area where children have better access to hospital and specialists as compared from rural areas of eastern Nepal.

Study by Kamal et al found the prevalence of CSOM to be 7.3% which was slightly higher than our study.¹⁰ However, study done by Ologe et al⁷ and Minja et al¹¹ among the rural school children were 6% and 9.4% while among the urban school children it was 0% and 1.3% respectively. Almost all of our school children (96.5%) had a tubotympanic type of disease which correlates with the finding of Ologe et al (99.0%)⁷ and Kamal et al (93%).¹⁰ Unilateral diseases is most prevalent finding in many studies.^{7,10} Our study also revealed unilateral CSOM (79.3%) as a common entity. However, active disease was found in 24.1% of school children. Only few (6.0 %) use cotton buds to clean their ears while majority of school children use unhygienic and risky materials. These materials can cause habit of ear itching, introduce infections and can also cause traumatic perforation of the intact tympanic membrane.

CSOM is generally found to be more prevalent in lower socioeconomic age groups. Probably the habit of swimming in polluted water in a pond or river regularly may be a factor responsible for discharging ear. This habit is more common among rural population in the Terai region of Nepal, especially during summer and monsoon, which also explains why study done by Maharjan et al⁸ had higher prevalence of CSOM as compared to ours. Untreated acute suppurative otitis media can also be factors which persist as CSOM. Earlier study done in Nepal by Little et al showed that 61.0% of patients having ear disease never attended a health post.⁵ However; our recent study had shown that only 10.3% of students having CSOM did not receive any treatment. Almost half of them were treated by paramedics while one third of children were treated in hospitals or by doctors. This difference could be because this study was done in schools located close to city.

Conclusion

The prevalence of CSOM among school children in Kathmandu district is lower as compared to rural areas of Nepal. This might be due to the improvement of health care facilities or due to increase in the use of antimicrobials in Kathmandu. Still there is an emerging need to develop awareness for school children as well as parents and guardians through health education so that the prevalence of CSOM further declines.

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