



ORIGINAL RESEARCH ARTICLE

EAR DISEASES IN SCHOOL GOING CHILDREN OF SUNSARI AND MORANG DISTRICTS OF NEPAL

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ABSTRACT

This study was carried out to find the prevalence of ear diseases in school-going children of the Sunsari and Morang district of Eastern Nepal. This is a prospective, cross sectional, clinical study in 3729 school going children of up to 15 years of the Sunsari and Morang district of eastern Nepal done in year 2014 and 2015 AD. Informed consent was obtained. 1346 (36.09%) children had different ear ailments. Ear wax 616 (45.76%) and otitis media with effusion 226 (16.79%) were the commonest diseases found. Chronic otitis media mucosal type was found in 104 (7.73%) children. Chronic otitis media squamous 6 (0.45%), Otomycolysis 155 (11.51%), otitis externa 16 (1.19%), acute Otitis media 119 (8.84%), Eustachian tube dysfunction 92 (6.84%), Perichondritis 4(0.29%), Foreign body in the ear 2 (0.15%), Preauricular sinus 2 (0.15%) and sensorineural hearing loss 4 (0.29%) were the other diseases found. Ear diseases are important health problems among school-going children of the Sunsari and Morang district of eastern Nepal. Health education, nutrition, improvement of socioeconomic status and health care facilities should be helpful in reducing the prevalence of ear diseases.

Key words: Children, Ear diseases, Nepal, Otitis media.

INTRODUCTION

Prevalence of ENT diseases is high among pediatric age group.¹ Preventable ear diseases are important health problem among children.² Even mild degrees of hearing impairment can affect proper learning that can have significant impact on the scholastic performance and overall development.³ Estimation of the magnitude and distribution of ear related problems in school age children can be helpful in proper planning and implementation of health care measures for enabling them a better future.

Disease of ear can be diagnosed by taking proper history and otoscopy.⁴ In Nepal, approximately 16% of the population above the age of 5 years suffers from otitis media.⁵ A study by B P Koirala institute of health sciences in the Sunsari district showed the prevalence of otitis media to be 10.3%.⁶ Maharjan et al reported a 13.2% prevalence of otitis media in the Morang district of Eastern Nepal in 2006.⁷

Prevalence of otitis media was found to be 12.13% in school-age Bhutanese refugees in Eastern Nepal.⁸

In point of view of a high prevalence of ear diseases, this study was carried out to find out the prevalence of ear diseases in school-going children of the Sunsari and Morang district of Eastern Nepal.

METHOD

This is a prospective, cross sectional study in 3729 children of school-going age up to 15 years of the Sunsari and Morang districts of eastern Nepal done in year 2014 and 2015 AD. All the students who attended the school during the study period were subjected to clinical examination and otoscopy after proper history regarding ear diseases. Informed consent was obtained from the parents. Statistical analysis was done using frequency and percentage.

RESULTS

Out of 3729 children screened for ear problems, 1346 (36.09%) had different kinds of ear ailments. Ear wax 616 (45.76%) and otitis media with effusion 226 (16.79%) were the commonest diseases found. Chronic otitis media mucosal type was found in 104 (7.73%) children. Chronic otitis media squamous 6 (0.45%), Otomycosis 155 (11.51%), otitis externa 16 (1.19%), acute Otitis media 119 (8.84%), Eustachian tube dysfunction 92 (6.84%), Perichondritis 4 (0.29%), Foreign body in the ear 2 (0.15%), Preauricular sinus 2 (0.15%) and sensorineural hearing loss 4 (0.29%) were the other diseases found.

Table 1. Ear Diseases in school going children of Sunsari and Morang Districts

Ear Diseases	Number	%
Wax	616	45.76
Otomycosis	155	11.51
Otitis Externa	16	1.19
Perichondritis	4	0.29
Eustachian tube dysfunction	92	6.84
Acute otitis media	119	8.84
Chronic otitis media mucosal	104	7.73
Chronic otitis media squamous	6	0.45
Otitis media with effusion	226	16.79
Foreign bodies in the ear	2	0.15
Preauricular sinus	2	0.15
Sensorineural hearing loss	4	0.29
Total	1346	100

DISCUSSION

Ear diseases in children are a major public health problem in developing countries. The World Health Organization (WHO) suggests that, in developing countries, children should be screened at school entry using a simple audiometer and inspection of the ear for the presence of discharge, to study the extent of the problem in the community.⁹ This study indicates that ear diseases in school-going children of the Sunsari and Morang district is a major social burden.

Ear wax is the most common problem in our study amounting to 45.76%. In the majority of cases

it is asymptomatic and receives no attention to treatment. Adhikari et al reported a high (60.6%) prevalence of ear wax in their study in school-going children in Kathmandu valley.¹⁰ In a study done in northern India, the prevalence of impacted wax was 7.93% in school-going children aged 5-12 years.¹¹ Impacted wax is mostly a silent condition but could have an influence on hearing capacity. Sharma et al reported ear wax to be the most common cause of hearing impairment.¹²

Otitis media with effusion (OME) is the commonest cause of hearing impairment and one of the most frequent reasons for elective admission to hospital for surgery during childhood. OME frequently persists for a short time following episodes of acute otitis media, although 90% of such effusions resolve within 3 months.¹³

Our study showed 16.79% prevalence of OME. A high point prevalence of OME (12.9%) was reported in a study by Mark et al in Nepal.¹⁴ A study done in 2006 by Yadav S et al in a school health survey reported overall prevalence of secretory otitis media of 20.75%. It was higher in the lower socioeconomic group.¹⁵ However, Adhikari in a study in 2008 reported 3.7% prevalence of OME.¹⁰

Chronic Suppurative Otitis Media (CSOM) is a major health problem throughout the world in developing countries including Nepal.¹⁶ It is the most common cause of persistent mild to moderate hearing impairment.

7.73% of children in our study suffered from CSOM mucosal type and 0.45% suffered of CSOM squamous type. Adhikari et al reported a 5.7% prevalence of CSOM in school-going children in Kathmandu valley.¹⁰ In another study by Adhikari, a 7.6 % prevalence of CSOM was reported¹⁷. However, a low prevalence of CSOM (0.16%) was reported by Ebenezer et al.¹⁸ Chronic suppurative otitis media is more commonly found in children of government school and rural areas.¹⁶

Acute otitis media or acute suppurative otitis media (AOM/ASOM) is an episode of inflammation of the middle ear associated with pain, fever, hearing loss, and sometimes discharges. 65 to 95% of children will have suffered one or more attacks before the age of 7.¹⁹ Our study found a 8.84% prevalence

of AOM. Adhikari in 2008 reported AOM in 1.4% of children in Kathmandu city.¹⁰ Our high prevalence could be because most of our children were from rural areas.¹⁶

Eustachian tube dysfunction was found in 6.84% of children in our study. Ebenezer et al found Eustachian tube dysfunction in 2.8% children in South Kerala.¹⁸

Otomycosis, otitis externa, perichondritis, sensorineural hearing loss were other disorders found in our study.

Overall 36.09% of the children were suffering from various kinds of ear problems in our study. Ebenezer et al reported overall prevalence of ear diseases of the magnitude of 44.54%.¹⁸ Although, this may not be the true prevalence of ear diseases in school age children of up to 15 years, the results reflect an estimate of the magnitude of the problem to be addressed. It may still be higher, because children with ear diseases and thus hearing impairment may be attending school less likely compared to healthy children.

CONCLUSION

Ear diseases are important health problems among school-going children of the Sunsari and Morang districts of Eastern Nepal. Wax followed by otitis media with effusion, acute suppurative otitis media and chronic suppurative otitis media, were the common ear problems found. Health education, nutrition, improvement of socioeconomic status and health care facilities are the necessary steps to be taken to reduce the prevalence of ear diseases in the community.

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