

An Epidemiological study on the morbidities of ear among children near a rural practicing field area of a tertiary medical institute**Prakash Chandra Gupta, Sharmistha Chakravarty ****Assistant Professor, Dept of ENT /Otorhinolaryngology , Raipur Institute of Medical Sciences, Raipur, CG, India*

Received: 10-08-2019 / Revised: 10-10-2019 / Accepted: 20-10-2019

ABSTRACT

Introduction: Paediatric population forms a considerable proportion of the total world's population. Ear diseases in children are a major public health problem in developing countries. If left unattended, it may result in complications with various social and psychological problems for affected children and their families. Looking at the serious consequences of ear diseases among children, it is important to know the burden of the problem with its correlates. This will help in formulating interventions for prevention and control. Prevention of ear diseases is possible only if the risk factors are known. **Methods:** Primary caregivers (mother/father/ guardians) of 100 ill children aged 2–10 years who came to seek medical care in out-patient department (OPD) for their children were interviewed. Study subjects fulfilling the inclusion criteria were selected by simple random sampling method. The study was conducted over a period of 4 months. Detailed Clinical Examination was done. A pre-designed semi-structured questionnaire schedule was prepared in local language. A thorough history and detailed general, otolaryngological, neurological, ophthalmological examination was done apart from Demographic profile. **Results:** 30 % children reported to OPD with ear complaints. 14 cases out of 30 belonged to age group of less than 5 years while 16 were more than 5 years of age. There was no statistically significant difference between age groups with respect to current ear complaints. Most common complaints were ear discharge (16%), foreign body (10%) and hearing loss (4%). About the practices of ear cleaning, 34 % caregivers reported that they do not clean the ear of the child while 66% reportedly used to clean the ear of the child. Significant difference existed between Educated and Non Educated group. **Conclusion:** This study presents important insight into the burden of ear morbidities in rural children. These findings can be used to plan future strategies for health education interventions about ear care in the community. The overall awareness regarding problems was poor in patients. There is a need to take immediate measures for prevention and control of common ear diseases in children. Ear care practices are associated with maternal education. Awareness campaigns about the common causes, complications and correct practices for ear care are recommended.

Keywords: Otorrhoea , Ear Morbidities , Rural , Paediatric Cases , CSOM

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INTRODUCTION

Paediatric population forms a considerable proportion of the total world's population. 35% of India's population, which is the world's second most populous country, are children.^[1] Ear diseases in children are a major public health problem in developing countries. If left unattended, it may result in various social and psychological problems for affected children and their families.^[2]

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Among all ear diseases, ear infections are a common but treatable cause of morbidity in children. Long-term consequences of persistent severe ear infection can arise in untreated cases like speech development disorders, poor academic and educational development and lower overall quality of life.^[3] Around 42 million people have hearing loss worldwide. The major cause for hearing impairment is otitis media, which is second only to common cold as a cause of infection in childhood. Respiratory tract symptoms such as cough, sore throat, and earache are also frequently seen in children.^[4,5] Chronic Suppurative Otitis Media (CSOM) is one of the most common diseases in clinical practice. In our country burden of the disease is too high considering the huge population. Prevalence of CSOM in the world is around 65-330 million/year. Majority of world CSOM burden is attributed by Southeast Asia,

Western pacific and African countries. India falls into countries with highest prevalence (prevalence > 4%).Hearing impairment and preventable ear diseases are important Public health problems among children in India. A number of studies have been conducted to find the risk factors of ear diseases in children. Knowledge of the risk factors associated with ear diseases is important in identifying children at risk for recurrent and persistent episodes.^[6] Among the risk factors of ear morbidities, socio-demographic factors, Gender, aboriginal status and mother's age also plays an important role. Some studies also showed that the strongest risk factors for ear infection were poor living conditions, exposure to cigarette smoke and lack of access to medical care.^[7,8] The treatment itself of ear diseases in childhood is associated with significant morbidity and mortality due to surgery and also puts a significant financial burden on family and health care services.^[9] Looking at the serious consequences of ear diseases among children, it is important to know the burden of the problem with its correlates. This will help in formulating interventions for prevention and control. Prevention of ear diseases is possible only if the risk factors are known. Socio-demographic determinants are also important to understand since they could be the major factors playing a crucial role in disease development. There is paucity of literature about the burden of ear morbidities in children and its determinants in this part of the country . This study presents results of a study conducted with objective to determine common morbidities of ear and its socio-demographic determinants in children 2–10 years around rural practice field area of a tertiary medical care Institute

METHODOLOGY

This Cross Sectional study involved Prior Consent & was found to be within ethical standards. Patients and Caregivers Presented in the Department OPD , rural health centre of Raipur Institute of Medical Sciences , Raipur . A total of 100 Children were chosen for this study. The study was conducted over a period of 4 months from Feb to June. In the study, primary caregivers (mother/father/ guardians) of 100 ill children aged 2–10 years who came to seek medical care in out-patient department (OPD) for their children were interviewed. Study subjects fulfilling the inclusion criteria were selected by simple random sampling method.

Detailed Clinical Examination was done.Data was filled in Microsoft Excel & analysed using a computer software Epi Info version 6.2 (Atlanta, Georgia, USA).P value of 0.05 and less was considered as

statistically significant. Results were presented in simple proportions and means (\pm SD). Chi-square test was used to observe any difference between proportions. The results were considered statistically significant if "p" value was less than 0.05.

A pre-designed semi-structured questionnaire schedule was prepared in local language consisting of items on demographic profile including age and sex of the child, religion, type of family, education and occupation of parents, etc. Questionnaire included items to assess common ear morbidities and ear care practices followed. Health seeking behavior about health system and health care provider preference were also asked. Suitable modifications were done afterwards. Caregivers of all patients aged 2–10 years coming out from the consultation rooms were included. Caregivers of seriously ill patients, seriously ill and who were not interested to take part were excluded from the study. A thorough history and detailed general, otolaryngological, neurological, ophthalmological examination was done.

RESULTS

The study was conducted among 100 children of which 57 were males and 43 were females. 30% children were less than 5 years of age, 70 % were more than 5 years of age. Majority of families were Hindu (98%) and nuclear type residing in same community. Mother was literate of 79% children while father was literate of 94% children . Mean (\pm SD) monthly family income was INR 7837.5 \pm 1255.30.

30 % children reported to OPD with ear complaints. 14 cases out of 30 belonged to age group of less than 5 years while 16 were more than 5 years of age. There was no statistically significant difference between age groups with respect to current ear complaints with p value = 0.66. Out of 30 children who reported with current ear complaints, 17 were males and 13 were females but this difference was not significant (p value = 0.34). There was no significant difference with education status of father or mother. Data was analyzed to see any difference in school age group and non-school age group & it was significant difference in two groups with p value = 0.001. i.e non school age group was having more infections. Data was collected for any history of ear complaints in last 3 months. 28 % caregivers reported history of ear complaints in the child. Most common complaints were ear discharge (16%), foreign body (10%) and hearing loss (4%) .About the practices of ear cleaning, 34 % caregivers reported that they do not clean the ear of the child while 66% reportedly used to clean the ear of the child. Most common method used for ear cleaning was cotton

buds. 31% reported use of matchstick or pin with/without cotton while only 3 % used to go to doctor for ear cleaning. Out of these 66 caregivers reported that they used to put oil inside the ear of the child for cleaning purpose. The practice of cleaning of ear and putting oil was significantly associated with mother's education status. Among illiterate mothers cleaning was less than among literate mothers (p value = 0.02).The Magnitude of ear morbidities among children was 30%

DISCUSSION

A cross-sectional study was conducted among 100 children aged 2–10 years presenting in the Department OPD & rural health centre of Raipur Institute of Medical Sciences, Raipur Data was collected from primary caregivers of children using semi-structured questionnaire to assess burden of ear morbidities and their determinants. The magnitude of ear morbidities among children was 30%. There was no significant association seen with age, gender of child and education status of parents. This is similar to findings of another study carried out by Shah et al.^[10] Some studies have shown significant association with age, gender, education of parents and income.^[11] The reason could be difference in the study population and study area. A significant proportion of children gave history of ear complaints in the past 3 months. Common complaints were Otorrhoea /ear discharge, foreign body and hearing loss. Recall bias can be a source of error. Similar findings were shown by another study where foreign bodies and ear infections were main complaints in children.^[12] Ear care practices play an important role in development and progression of disease in children. About 66% of caregivers reported cleaning of ears of children. Most common was use of cotton bud or match stick. Putting oil in ear was also a common practice. Similar practices like cleaning ears with sharps, putting neem or garlic with mustard oil or snake oil in the ear have been reported earlier also by other authors.^[13,14] These practices not only leads to injuries like perforation but also predispose to infections. Use of cotton tips applicators has been reported to be a leading cause of otitis externa in children by Nussinovitch et al^[15] Kravitz et al^[16] also reported use of cotton applicator as cause of injury in ear. Thus use of cotton tip applicator is always discouraged but is a very common practice among masses. Important finding was that these harmful practices were associated with maternal education which emphasizes crucial role of female literacy. About the health seeking practices Seeking consultation from pharmacy shops were important

findings since it can lead to misdiagnosis and treatment. This may lead to complications later on. Home remedies were also reported as stated by other studies as well^[17].To address the issue of ear morbidities, government of India has launched National Program for Prevention and Control of Deafness which has core components of prevention, early diagnosis and treatment with rehabilitation of those who cannot be cured.The majority of cases were presented with unilateral involvement of ear. The reason for this difference is not clear. The prevalence of unilateral disease is believe to be good as it proffers a better prognosis in limiting the risk of disability from accompany hearing loss than for bilateral disease. The most common symptom was a long standing otorrhoea followed by descending order of frequency were headache, decreased hearing. The overall awareness regarding problems was poor in patients.

CONCLUSION

This study presents important insight into the burden of ear morbidities in rural children. These findings can be used to plan future strategies for health education interventions about ear care in the community. There is a need to take immediate measures for prevention and control of common ear diseases in children. Ear care practices are associated with maternal education. Awareness campaigns about the common causes, complications and correct practices for ear care are recommended. This study and its results are applicable to the geographical and socioeconomic status around our hospital. As we could not compare these results with another setup, we cannot ascertain the prevalence in other areas. As many patients do not always come to the hospital for Ear disorders and prefer to be treated over the counter or with alternate medicines, the morbidity could be much higher than predicted.

ACKNOWLEDGEMENT

We would like to thank all the participants and Dean for his always available guidance.

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Conflict of Interest: None

Source of Support: Nil