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Original Article

Burden of ear morbidities among children in primary care setting in Delhi



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ABSTRACT

Introduction: Ear diseases in children are a major public health problem in developing countries. Among the risk factors of ear morbidities, socio-demographic factors play an important role.

Objective: To determine prevalence of ear morbidities and its socio-demographic determinants in children 1–10 years in an urban primary health center in Delhi.

Materials and methods: A cross-sectional study was conducted among 160 children aged 1–10 years in an urban primary health center situated in Delhi over a period of 3 months from January to March 2015. Primary caregivers (mother/father) of ill children aged 1–10 years who came to seek medical care for their children were interviewed using pre-tested, predesigned, semi-structured questionnaire schedule. Data was analyzed using SPSS software (version 17). Chi-square test was used to observe the differences between proportions. The results were considered statistically significant if "p" value was less than 0.05.

Results: The study was conducted among 160 children of which 87 (54.4%) were males and 73 (45.6%) were females. Majority of families were Hindu (90.6%) and nuclear (53.8%) residing in same community. 30 (18.8%) children reported with ear complaints to out-patient department. 50 (31.2%) caregivers reported history of ear complaints in the child. Most common complaints were foreign body (14.37%), hearing loss (11.24%) and ear discharge (5.62%). No association was seen with age, gender and education of caregivers.

Conclusion and recommendations: There is a need to take immediate measures for prevention and control of common ear diseases in children.

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1. Introduction

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.¹ Among all ear diseases, ear infections are a common but treatable cause of morbidity in children. Long-term consequences of persistent severe ear

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infection can arise in untreated cases like speech development disorders, poor academic and educational development and lower overall quality of life.²⁻⁴ Estimates say that 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.^{5,6}

Hearing impairment and preventable ear diseases are important health problems among children in India as well with prevalence of ear diseases to be 11.3%.7 A number of studies have been conducted to find the risk factors of ear diseases in children. Increased knowledge of the risk factors associated with ear diseases is important in identifying children at risk for recurrent and persistent episodes.⁸ Among the risk factors of ear morbidities, socio-demographic factors play an important role. In a study conducted in Canada, various risk factors were studied for ear morbidities. It showed that the strongest risk factors for ear infection were being male, aboriginal status and mother age.⁹ Another study done in Australia revealed factors like poor living conditions, exposure to cigarette smoke and lack of access to medical care are all major risk factors for ear infections.¹⁰ 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.11

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 Delhi. This paper presents results of a study conducted with objective to determine prevalence of ear morbidities and its sociodemographic determinants in children 1–10 years in an urban primary health center in Delhi.

2. Materials and methods

2.1. Study design, participants and sampling technique

This was a cross-sectional study conducted among 160 children aged 1–10 years in an urban primary health center situated in Delhi. The study was conducted over a period of 3 months from January to March 2015. In the study, primary caregivers (mother/father) of 160 ill children aged 1–10 years who came to seek medical care in out-patient department (OPD) for their children were interviewed. Sample size was calculated on the basis of previous study by Srivastava et al.⁷ in which prevalence of ear morbidities was 11.3%. Taking 95% confidence interval with 5% absolute error, sample size came out to be 156. A total of 160 subjects were included in the study. Study subjects fulfilling the inclusion criteria were selected by simple random sampling method.

2.2. Study tool

A pre-tested, 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. Questionnaire was pilot tested in a different setting for assessing its feasibility and reliability. Suitable modifications were done afterwards. Cronbach's alpha which is a coefficient of internal consistency was calculated which came out to be 0.82. Average time duration of each interview was approximately 5–10 min.

2.3. Inclusion and exclusion criteria

Caregivers of all patients aged 1–10 years coming out from the consultation rooms were included. Caregivers of seriously ill patients were excluded from the study.

2.4. Statistical analysis

Data was analyzed using SPSS software (version 17). Results were presented in simple proportions and means (\pm SD). Chisquare test was used to observe any difference between proportions. The results were considered statistically significant if "p" value was less than 0.05.

2.5. Ethical issues

All caregivers were explained the purpose of the study and confidentiality was assured to them before taking interview. A written informed consent was taken from the participants before start of interview.

3. Results

3.1. Socio-demographic profile

The study was conducted among 160 children of which 87 (54.4%) were males and 73 (45.6%) were females. 48 (30%) children were less than 2 years of age, 66 (41.2%) were between 2 and 5 years of age and 46 (28.8%) were more than 5 years of age. Majority of families were Hindu (90.6%) and nuclear type (53.8%) residing in same community. Mother was literate of 135 (84.4%) children while father was literate of 146 (91.2%) children as shown in Table 1. Mean (\pm SD) monthly family income was INR 7637.5 \pm 1155.30.

3.2. Ear morbidities

30 (18.8%) children reported to OPD with ear complaints. 14 (46.7%) cases out of 30 belonged to age group of 2–5 years while 9 (30%) were more than 5 years of age. There was no statistically significant difference between age groups with respect to current ear complaints with $\chi^2 = 0.82$, df = 2, *p* value = 0.66. Out of 30 children who reported with current

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