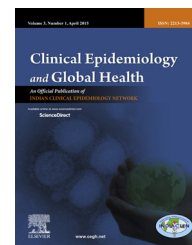


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Original Article

Epidemiology of childhood diseases in an urban resettlement colony in Delhi



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ABSTRACT

Objective: To assess the prevalence and determinants of childhood diseases which are covered under IMNCI in an urban resettlement colony in Delhi.

Materials and methods: A community-based cross-sectional study was carried out in Gokulpuri area in Delhi from January to December 2014 among 550 mothers/caretakers who were residing in the study area and selected by stratified random sampling. Data were collected using a pre-tested semi-structured questionnaire consisting of items on socio-demographic details and history of acute respiratory infections (ARI), diarrhoea, measles and malaria in the past 15 days. Data were analyzed by using SPSS 17. Chi-square test/Fisher's exact test was used for testing any significance of association and “p” value <0.05 was considered statistically significant.

Results: The study showed that 282 (51.2%) children were 1–5 years old and 290 (52.7%) were male. Prevalence of ARI was found to be 16% followed by diarrhoea to be 4.2% in the last 15 days. There was no case of measles in the area. 123 (22.3%) were found to be moderately malnourished. Prevalence of ARI was significantly less in exclusively breastfed children compared to not exclusively breastfed children ($p = 0.002$). For other childhood diseases, the difference was not statistically significant.

Conclusion: The childhood diseases had a considerable burden in the area. Protective factors like colostrum and exclusive breastfeeding should be promoted by raising awareness among caregivers. Intensive health education campaigns should be carried out in the area to prevent childhood diseases.

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1. Introduction

Child mortality rate is often described as the best barometer of social and economic progress of any population.¹ It is defined as the number of deaths of children aged less than 5 years per 1000 live births. In India, it is estimated as 53 per 1000 live births in 2013.² With about 2 million annual deaths of under-fives, India also accounts for 21% of the global child mortality.³ According to United Nations Children's Fund (UNICEF), most child deaths result from one of the following five causes – acute respiratory infections (ARI), diarrhoea, measles, malaria and malnutrition.⁴ Diarrhoea and pneumonia being the leading causes in the post-neonatal period, attention must be given to the management of these two illnesses. Malnutrition is associated with about 50% of all deaths among children.⁵ Infants under two months old who are not breastfed are six times more likely to die from diarrhoea or ARI than those who are breastfed.⁶

India too is not untouched by the burden of these diseases among children. Estimates says that diarrhoea is the third most common cause of death in under-five children, responsible for 13% deaths in this age-group, killing an estimated 300,000 children in India each year.⁷ Million deaths study based on the registrar general of India mortality statistics had reported 369,000 deaths due to pneumonia among children 1–59 months at the rate of 13.5/1000 live births.⁸ Looking at the public health importance of these diseases, it is important that urgent interventions should be taken for their prevention and control. Child mortality can be reduced adequately if timely interventions are planned. Success of any intervention depends on the baseline analysis of epidemiology of disease and related factors at community level because diseases like malaria, pneumonia and diarrhoea can be effectively treated with cheap and widely available first line drugs at the primary care level in early stage of the diseases.⁹ Integrated management of neonatal and childhood illnesses (IMNCI) was launched in India to reduce childhood mortality and morbidity due to diarrhoea, ARI, measles, malaria and malnutrition which have community level interventions where community and front line health workers were trained in detection and first line management of these diseases.¹⁰ This paper presents results of a study conducted with an objective to assess the prevalence and determinants of childhood diseases (ARI, diarrhoea, measles and malaria) and malnutrition which are covered under IMNCI in an urban resettlement colony in Delhi.

2. Materials and methods

2.1. Study setting and participants

This was a cross-sectional community-based study carried out, from January 2014 to December 2014, in Urban Health Centre Gokulpuri, the field practice area under the Department of Community Medicine, Maulana Azad Medical College, Delhi. The study area was a resettlement colony having total population of 26,350 with 3431 under-five children. Mothers/caretakers who were residing in the study area for more than 6

months and gave their voluntary consent to participate were included in the study.

2.2. Sample size and sampling

The period prevalence of childhood disease, diarrhoea, among the children aged less than five years was used to calculate the required sample size of study subjects i.e. mothers/caretakers. A population-adjusted sample size of 527 was calculated using period prevalence of diarrhoea as 25.2%¹¹ after taking type I error of 5%. Finally, 550 mothers/caretakers consented to participate. The study area, that is the re-settlement colony, is divided into four blocks and slum. Study participants were selected proportionate to the population in each block by stratified random sampling.

2.3. Study tool

(1) A pre-tested, semi-structured questionnaire containing items on (a) Identification data of children and their caretakers i.e. age, gender, religion, educational status, area of residence and socio-economic status. (b) Child's health profile: birth weight, birth order, birth history, immunization status, feeding history, complementary feeding. (c) History of four illnesses (ARI, diarrhoea, measles and malaria) in the past 15 days was used. The questionnaire was prepared in English and translated in local language. The tool was pilot tested in a similar setting among 30 subjects for reliability and validity and suitable modifications were done afterwards and questionnaire was finalized. (2) Portable weighing scale with capacity up to 150 kg and which measures weight to the nearest 200 g.

2.4. Definitions of variables

Pneumonia,¹² Diarrhoea,¹³ Measles,¹² Malaria¹² and Malnutrition¹⁴ were defined after through literature review and reference to standard guidelines.

2.5. Study methodology

All the households with under-five children were enlisted by house-to-house survey from all four blocks and the slum of Gokulpuri. Stratified random sampling was used to select the number of study subjects. According to the population in each block and slum, the number of caretakers was selected proportionately from each strata. 110 subjects were taken from block A, 108 from block B, 121 from block C, 117 from block D and 94 from slum area. Each household having under-five children was visited. If there was more than one under-five child in a household, the youngest one was included in the study. If the house was found locked, it was visited three times to contact the caretaker and in case of unavailability of caretaker the next house having an under-five child was selected without disturbing the overall sampling procedure.

Children fulfilling the inclusion criteria were selected from each family. The investigator described the project to the caretakers, and obtained written consent from those willing to participate. Each of the 550 caretakers included were given an identification number with a referral slip, a copy of which was

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