

ORIGINAL ARTICLE

Upper Respiratory Infections among Under-Five Age Group Children at Urban Slum, Islamabad

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ABSTRACT

Objective: The objective of this study was to identify the prevalence of Upper respiratory infection (URIs) in children less than five years of age.

Methodology: This cross-sectional study was carried, in 360 children living in 115 houses of urban community of several socio-economic settings at, Burma Town, Tarlai Kalan, an Urban slum, in Islamabad. 110 children under 5 years were found with URIs out of a total of 360 children. A Questionnaire about Socio-demographic distribution of the sample population having, information of their parents, housing conditions, type of using cooking fuel, and general clinical examination was done.

Results: 41.9% of the 110 children were 0 to 1 years old, 45.36% were 1 to 4 years old, and 12.96% were 4 to 5 years old. The gender distribution was 48 % girls and 62 % boys. About 40% children looked malnourished. According to symptoms, about 82% of children were having cough, 75% nasal discharge, 32% fever, 3% with fast breathing.

Conclusion: In this study, it was observed that all children were having cough, nasal discharge, fever, sour throat, muscle aches, causing in severity of URI.

Keywords: Children, Upper respiratory infections, Socioeconomic & Environmental risk factors, Burden of disease, Incidence, Awareness.

INTRODUCTION

Upper respiratory tract infections (counting otitis media) are the leading sources of poor health, especially in children less than five years¹⁻². Mostly, children experience approximately 6-8 episodes of URIs every year³⁻⁴. The WHO approximates that the URIs that cause ARI cause a tragic 1.3 million deaths each year, 2/3 of which occur in children under the age of one. It is supposed that approximately 25-35% of demises in children less than five years in Pakistan are due to infections of the respiratory tract⁵⁻⁶. The upper airways include the nasal passages, paranasal sinuses, larynx and pharynx which act as entrance portals to the alveoli, bronchi and trachea. The rhinitis (runny nose), common cold, sinusitis, pharyngitis, laryngitis, epiglottitis, otitis media and tracheitis are definite symptoms of URIs⁷.

Common cold (Coryza) is a complex symptom, mostly occurred due to various families of viruses; but it could be a bacterium. These are: viral: adenovirus, enterovirus, coronavirus, respiratory syncytial virus, parainfluenza; and bacterial: Staphylococcus aureus and Streptococcus pneumoniae⁸⁻⁹. Cold symptoms in infants include sleep problems, congestion, nasal congestion, low grade fever, occasional vomiting, watery eyes, headache, runny nose, pain in the throat, mild dry cough, sneezing, sore throat, muscle and bone pain and chills¹⁰⁻¹¹. The objective of this study was to identify the prevalence of Upper respiratory infection (URIs) in children less than five years of age.

METHODOLOGY

This cross-sectional study was carried, in 360 children living in 115 houses of urban community of several socio-economic settings at, Burma Town, Tarlai Kalan, an urban slum, in Islamabad for four-months duration from December 2017 to March 2018. The parents of the children have given the Informed consent. The clinical, environmental and sociodemographic data was recorded on structured questionnaire from children to assess the condition of the home, the type of fuel used for cooking, environmental exposure to tobacco smoke, respiratory symptoms of the children and parental smoking. A house-to-house review was conducted to collect the data. The history of ARI in the last month was questioned to calculate the URI prevalence in children under 5 years of age. Families expanded their relationships with the help of a local health worker and local lady health visitor living in the area.

The study involved 110 children with sneezing and coughing the communal symptoms were runny nose, sore throat, earache, cold and cough, congestion and bronchiolitis with wheezing as the chief symptom, croup with hoarseness as the classic symptom with cough sounds like the dog or seal which usually gets worse at night. Mothers were asked about their children who developed colds, coughs, SOB or rapid breathing. Children with cough having rapid breathing or shortness of breath due to chest congestion within 2 weeks prior to the study were considered ARI. They were asked if they wanted advice or treatment for the disease.

RESULTS

41.9% of the 110 children were 0 to 1 years old, 45.36% were 1 to 4 years old, and 12.96% were 4 to 5 years old. The gender distribution was 62 boys and 48 girls (Table -1). 30% (34) of children come from the middle social class, and the remaining 76 (70%) from the lower social class (Table-2). Based on symptoms, the children experienced hoarseness and cough, runny nose/ cold, sneezing, low-grade fever, sore throat, muscle aches and nausea. (Table 3).

Table 1: Socio Demographic Distribution of URI children according to Age and Sex.

Age Group	Males	Females	Total
	No	No %	No %
0-1 years	26-41.9	18-37.5	44-40.0
1-4 years	28-45.36	24-50.0	52-57.28
4-5 years	08-12.9	6-12.5	14-12.72
Total	62-100	48-100	110-100

Table 2: Socio Demographic Distribution of URI Children according to Social Class.

Social Class	No	%
Middle income	34	31
Low income	76	69
Total	110	100

In the observation, overcrowding occurred in 65% of the houses and 42% have cross ventilation only in the houses. 75% of mothers and 25% of children's fathers were uneducated. By parents' professional status, 54.6% are in the service and 74% of mothers are housewives. Parents smoked cigarettes in 65% of households. About 40% of the children appeared to be

malnourished. Overall, the incidence of URTI was higher in children with a history of smoking from parents living in overcrowded homes than in children with a history of non-smoking parents. The current analysis institute no correlation between parental literacy with URI.

Table 3: Symptoms of URI among under Five Children (N-110)

Symptoms	No of Children
Gender (M/F)	62-48
Hoarseness and Cough	90
Nasal discharge/ Cold	66
Mild Fever	46
Sore throat	62
Sneeze	16
Muscle aches	6
Nausea	6

DISCUSSION

Upper respiratory tract infections (URTIs), counting otitis media, are the communal diseases that affect children⁹⁻¹⁰. In our analysis, it was pragmatic that URI was advanced in low-income families, low literacy levels, overcrowded housing, lack of cross-ventilation, poor housing conditions, large numbers of households, indoor pollution, inadequate breastfeeding and malnutrition¹¹. Other characteristic we examined was that low-birth-weight infants suffered more from the prevalence and severity of URTIs¹²⁻¹³. There was a robust relationship between good parental education and a low UTIs incidence, and this analysis found that children of parents with asthma positive history had more UTIs. Also, more frequent colds in the cold season can be caused by having more children at home and close together¹⁴.

Based on symptoms, children under the age of 5 in this study had hoarseness and cough, runny nose/ cold, low-grade fever, sore throat, nausea, muscle aches, sneezing and shortness of breath. A respiratory morbidity study in children under 5 in Tunisia, Egypt and China showed almost the same symptoms as this study¹⁵.

In our analysis, URIs were found in 80% of children in comparison to LRIs in only 20%; A population based Indian study found that URTIs accounted for 87.5% of the total ARI incidence and 12.5% of lower respiratory tract infections. This study showed a close relationship between URI and social class, and a similar relationship was found in a study of acute respiratory disease in children in Tripura, India¹⁴⁻¹⁵. Our results were comparable to the Bangladesh study on URI prevalence and overpopulation.

CONCLUSION

In this study, childhood, low birth weight, no immunization, no breastfeeding in the first six months, poor parental education, severe or chronic postnatal illness, living in overcrowded homes, parental smoking possible, family history of chronic respiratory

problems are significant risk factors for both the progression and severity of UTIs. Strengthen the programs of ARI through massive campaigns of health education, ensuring its message reaches most Pakistani families living in suburban and rural areas.

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