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A study to assess the prevalence of respiratory tract infections among under-five children in Chemudugunta Village at Nellore, A.P

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Abstract
Background: Respiratory infections account for the majority of acute illness in children. Infections are influenced by the age of the child, the season, living conditions, and preexisting medical problem. Infections often spread from one structure to another because of the contiguous nature of the mucous membrane lining the entire tract.
Aim: The aim of the study was to assess the high risk of diabetic foot among diabetic patients.
Objectives: 1. To assess the prevalence respiratory tract infections among under five children. 2. To identify the risk factors of respiratory tract infections among under five children. 3. To find out association between the prevalence respiratory infections and the selected demographic variables.
Methodology: 100 under five children from rural area, Chemudugunta at Nellore were selected by using convenient sampling method.
Results: Regarding the among 100 samples 50%(50) have no respiratory tract infection, 1%(1) have mild respiratory tract infection, 15%(15) have moderate respiratory tract infection and 34%(34) have severe respiratory tract infection.

Keywords: Prevalence, respiratory tract infections, under-five children

Introduction
Respiratory infections account for the majority of acute illness in children. Infections are influenced by the age of the child, the season, living conditions, and preexisting medical problem. Infections often spread from one structure to another because of the contiguous nature of the mucous membrane lining the entire tract [1].
Respiratory tract infections are the disorders characterized by the acute inflammations of nose, pharynx, tonsils and sinus. It is the most common complaints in world wide .it objects children and adult also it is the most common in under five children [2].
Rhinitis is a group of disorder characterized by inflammation and irritations of mucous membrane of the nose. It may be allergic or non-allergic. It is estimated that 10-15% of the population of United States has allergic rhinitis. Rhinitis may be acute or chronic condition symptoms may be seasonal. [Hay fever] [3].
Respiratory tract infection so wide spread in the general population that is impossible to prevent children are more susceptible because they have not yet develop resistance of many viruses. Very young infants are subjected to serious complication such as pneumonia and attempt should be made to protect them from exposure. The respiratory tract is the frequent site of illness in infants and children. The respiratory system changes during infancy and early childhood. As a new lung tissue continues to an existing structure and functional changes [4].
Jon couniel (2019) conducted a longitudinal study to assess the epidemiology and clinical characteristics of community acquired pneumonia in hospitalized children consecutive immune competent children hospitalized with radio graphically confirmed lower respiratory tract infection. 154 children were selected Median age was 55 months for the study. The findings in 79% of children typical respiratory bacteria were identified in 60% virus in 45%, Mycoplasma pneumonia in 14%, Chlamydia pneumonia in 90% and mixed bacterial on virus infection is 23% [5].

Need for the study
The incidence of respiratory tract infection in developing countries as comparable to those of developing countries.

But cause specified mortality due to respiratory tract infections is 10-15 times high in developed countries. And the epidemiological data of the problem and the risk factors of respiratory tract infection in rural area is high [6].

The risk of Indian child dying due to respiratory tract infection is 32-75 times more than that of his counter in developed world. In India RTI account for 14.3% deaths during injury and 15.9% of deaths during age of 1-5 years in urban and 2.3 episodes per year rural [7].

Every year due to RTI is under five children is responsible for an estimated 11 million of death among worldwide. It is estimated that Bangladesh, India, Indonesia and Nepal together amount for 14% of the mortality due to respiratory infection according to 2010 censes. According to WHO, RTI causes 10000 deaths in India [8].

Statement of Problem

A study to assess the prevalence of respiratory tract infections among under-five children in Chemudugunta at Nellore, A.P.

Objectives

- To assess the prevalence respiratory tract infections among under-five children.
- To identify the risk factors of respiratory tract infections among under-five children.
- To find out association between prevalence of respiratory infections with socio demographic variables.

Delimitations

- Under-five children aged 0-5 years living in Chemudugunta Village at Nellore.
- Sample size of 100 children.

Methodology

Research Approach

A quantitative approach was adopted to determine the research study.

Research Design

The present study was conducted by using descriptive research design.

Setting of The Study

The study was conducted in a rural area, Chemudugunta at Nellore.

Target Population

The target population for the present study includes under five children.

Population

Target Population

The target population for this present study includes all under five children.

Accessible Population

The accessible population for the present study includes under five children living in rural area, Chemudugunta at Nellore and who fulfilled the inclusion criteria.

Sample

The sample for the present study was under five children.

Sample Size

The sample for the present selected from 100 under five children.

Sampling Technique

Non probability convenient sampling technique was adapted for the study.

Criteria for Sampling Selection

Inclusion criteria

- The children with age group of 0-5 years living in Chemudugunta Village.
- Children who are present in the village at the time of data collection.
- Children of both male and female.

Exclusion criteria

- Children above five years of age.
- Mothers of children who are not willing to participate in the study.
- Children who are acutely ill.

Variables of The Study

Research variable: The prevalence of respiratory tract infection and its risk factors.

Demographic variables: Includes age of a child, sex of child, weight of the child. Developmental stage, history of previous illness, history of exposure to passive smoking, immunization status, general body built, any nutritional disorder/deficiency and family history of bronchial asthma.

Description of The tool

Part-I: It deals with socio demographic variables.

Part-II: An observational checklist to assess the symptoms of respiratory tract infections and its risk factors.

Data Analysis and discussion

Table 1: Shows the prevalence of respiratory tract infection among under five children. (N=100)

S. No	Prevalence of respiratory tract infection	F	P
1.	No infection	50	50%
2.	Mild infection	1	1%
3.	Moderate infection	15	15%
4.	Severe infection	34	34%

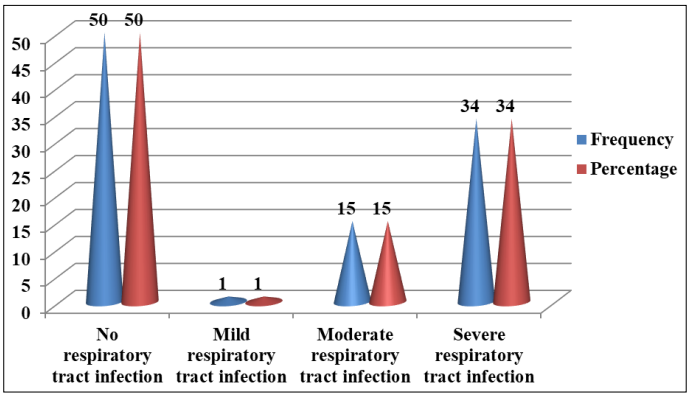

Fig 1: Percentage distribution of prevalence of respiratory tract infection among under five children.

Table 2: Mean and standard deviation of respiratory tract infection among under-five children. (N=100)

Category	Mean	SD
Under-five children	14.49	5.5

Table 3: Association between prevalence of respiratory tract infection with demographic variables. (N=100)

S. No	Demographic Variables	No RTI		Mild RTI		Moderate RTI		Severe RTI		Chi-Square
		F	%	F	%	F	%	F	%	
1.	**Age of child**									C=16.74 Df=3 T=11.81 *P*<0.05 S*
	a) 0-1 yrs.	9	9	1	1	8	8	10	10	
	b) 1-2 yrs.	26	26	-	-	5	5	15	15	
	c) 3-4 yrs.	13	13	-	-	2	2	9	9	
	d) 3-4 yrs.	-	-	-	-	-	-	-	-	
2.	**Developmental stage**									C=17.71 Df=4 T=14.12 *P*<0.05 S*
	a) Infant	11	11	1	1	8	8	10	10	
	b) Toddler	39	39	-	-	7	7	24	24	
	c) Preschooler	-	-	-	-	-	-	-	-	
3.	**Sex of child**									C=21.33 Df=5 T=19.65 *P*<0.05 S*
	a) Male	29	29	1	1	7	7	14	14	
	b) Female	21	21	-	-	8	8	20	20	

Major findings of the study

- Regarding the among 100 samples 50% (50) have no respiratory tract infection, 1% (1) have mild respiratory tract infection, 15%(15) have moderate respiratory tract infection and 34%(34) have severe respiratory tract infection.
- The mean score of respiratory tract infection of under-five children was 14.49 and standard deviation was 5.5.
- Regarding association between level of risk score and demographic variables, age of child, developmental stage and sex of the child had significant association at *P*<0.05 level.

Conclusion

The study concluded that almost half of the under-five children (50%) had no respiratory tract infection and 34% of them had severe respiratory tract infection. So the mothers of under-five children should take the necessary action to take early and prompt treatment in order to avoid the complications associated with respiratory tract infection.

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