



## ORIGINAL ARTICLE

### PATTERN OF DISEASES AMONG PEDIATRIC PATIENTS, A RETROSPECTIVE STUDY OF IMRAN IDREES TEACHING HOSPITAL IN THE LAST ONE YEAR

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#### Abstract:

**Objectives:** To assess the pattern and occurrence of disease among patients of age one month to 15 years of age.

**Method:** A Retrospective Observational study was conducted at Imran Idrees Teaching Hospital, Sialkot, Punjab, Pakistan in which last year record of paediatric department of Imran Idrees Teaching Hospital, Sialkot was examined from June, 2022 to May, 2023.

**Results:** Enteric Fever, Acute Respiratory Tract Infections and Nephrotic Syndrome were the most common ailments found from the record.

**Conclusion:** Preventable diseases are more commonly seen in our set up.

**Key Words:** Enteric Fever, Respiratory Tract Infections, Nephrotic Syndrome

**Cite this Article as:** Junaid M., Sabah .N., Warraich I.B., Salam A., et al.,; *Pattern of Diseases among Pediatric Patients, A Retrospective Study of Imran Idrees Teaching Hospital in the Last One Year; SIAL J Med. Sci. March-2024 V-2 (Issue-07):33-36*

**Submission completed:** April, 2024

**Review began:** April, 2024

**Review ended:** May, 2024,

**Accepted:** June, 2024

**Published:** September, 2024

#### Introduction

Pediatrics is a branch that covers medical care and treatment of children from birth to adolescence. The 34% population of Pakistan is under the age of 15. Of Pakistan population of 212 million nearly 45% are children under the age of 18 years. This is the group of concern in the research

of pediatrics. Fertility rate- number of live births/ 1000 females of child bearing age (15 – 44 years).<sup>1</sup>

The average number of live births rate in Pakistan is 4599.4. The average number of deaths rate in Pakistan is about 1329. The current crude birth rate of Pakistan in 2023 is 26.042 births per 1000 persons with 1.87

**Frequency of New Onset Atrial Fibrillation in critically ill patients admitted to intensive care unit of a tertiary care hospital.**



decline from 2022. The birthrate in 2022 was 26.538 births per 1000 persons with 1.83% decline from 2021 which was 27.034/1000 and decline of 1.8% from 2020. The Crude Birth rate according to data from survey in 2012 is 25.7 and the crude death rate according to it is 7.<sup>2</sup>

Pediatric health care is becoming also a critical issue due to their heightened exposure to pollutants within any given environment and limited access to social protection mechanisms such as environmental and healthcare services; children are particularly susceptible to the risks posed by environmental hazards hence increased illness.<sup>3</sup>

The crude death rate in Pakistan was 7/1000 in 2022 which was 13.2/1000 in 1973.<sup>4</sup> An estimated 6-7 deaths/ 1000 live birth, 5 million children under the age of five are expected to pass away in 2020, the majority from preventable and treatable conditions. In the first 28 days of life, neonates accounted for 2.4 million of those deaths (41/1000, 41 deaths / 1000 live births), or over half of all fatalities. Preterm birth problems, birth asphyxia/trauma, pneumonia, diarrhea, and malaria are the top causes of death in children under the age of five. All of these conditions can be avoided or managed with access to reasonable health and sanitation initiatives.<sup>5</sup>

The base of our research is to understand the occurrence of diseases and their patterns their distribution according to age, seasons, gender, nutrition, environment and factors that are associated with health of children. Infant mortality rate (I.M.R) 55.777 deaths / 1000 live births which is 1.95% decline from 2022 which was 56.888 and 1.91% decline to 2021.<sup>6</sup>

A study was conducted stating that Pakistan's children are in need of enhanced protection and support from the healthcare system. While a large population of children facing various health challenges, it is crucial to prioritize their well-being and ensure

access to quality healthcare services. Strengthening the healthcare system through improved infrastructure, increased healthcare funding, and comprehensive policies can contribute to better health outcomes for Pakistani children, safeguarding their future and promoting a healthier nation.<sup>7</sup>

A study was conducted at the pediatric ward of Al-Tibri Medical College and Hospital Karachi, Pakistan from May 2018 to April 2019, to determine the frequency of patients' admissions to ascertain the most common disease presentation. A total of 734 pediatric patients were selected for the study. It was found that the majority of patients admitted (48.6%) were diagnosed with acute gastroenteritis. Other diseases that accounted for a significant number of admissions were respiratory illness (14.2%), viral fever (11.7%), urinary tract infections (9.1%), neurological illness (4.9%), protein calorie malnutrition (4%), enteric fever (3.4%), hematological illness (2.7%), and sepsis (1.4%). The study highlights the need for further research in the area to combat the diseases, improve prevention strategies, and better understand the issues at hand.<sup>8</sup>

A study on childhood diseases in Pakistan between 2005 to 2013 showed seasonal patterns for different ailments. The study found acute gastroenteritis peaked in the spring and summer seasons, while enteric fever mostly affected children during spring and summer. Asthma peaked by the end of the spring season and continued into early summer, with another spike in winter. In comparison, diarrhoea was present in a more erratic pattern, with two peaks occurring during the summer. Whilst Hepatitis-A did not have any distinct seasonal variation, there was a slight drop in cases each year. Seasonal changes in temperature, rain, and resource availability can have a strong influence on the dynamics of population health. The study highlights the importance of understanding



these patterns in order to prevent and treat childhood illnesses.<sup>9</sup>

Yet another cross-sectional descriptive study aimed to determine demographic characteristics, causes of hospitalization, duration of hospital stay, and outcomes of hospital admissions for 3107 children aged 0-18 years at the Pediatric Medical Unit of Nishtar Hospital in Multan. The study found that respiratory, neurological, and infectious illnesses were the most common causes of admission.

Malnutrition was an important associated factor for hospitalization, and a peak in admissions occurred in November due to respiratory illnesses. Mortality was 7.7%, with the most common cause being neurological disorders.<sup>10</sup>

Another retrospective study of pediatric emergency department (ED) visits of patients at the largest tertiary care hospital in Karachi, Pakistan found that respiratory and gastrointestinal emergencies were the most common diagnoses. The study included 188,303 patients who were registered and managed in 2017, with neonates accounting for 9% of the cohort and older children accounting for 91%. Patients were most commonly seen during evening shifts and on weekends, with Sunday being the busiest day in the ED. Respiratory system diseases were the most common (37.3%), and upper and lower respiratory tract infections and acute gastroenteritis were seasonal, with respiratory infections most common in the last quarter of the year and gastroenteritis most common in the second quarter.<sup>11</sup>

A recent study investigated the prevalence of pneumonia and its impact on healthcare utilization in low-income settlements of Karachi, Pakistan. The study focused on understanding how caretakers recognized and responded to signs and symptoms of pneumonia in 1,152 children aged 2-59 months.

The research explored various factors including household demographics, occurrence of pneumonia symptoms, seeking healthcare services, air quality, and knowledge about preventive measures for pneumonia. The findings highlighted the significant health issue posed by pneumonia and emphasized the importance of timely identification and appropriate care-seeking behaviors by caretakers.<sup>12</sup>

Significance of this research paper aims to provide an overview of the epidemiology, clinical characteristics, and management strategies for various diseases that are prevalent in pediatric patients in Sialkot.. Furthermore, by shedding light on the impact of different diseases on pediatric patients in Sialkot, this study hopes to raise awareness and promote advocacy for the rights of children affected by this global pandemic.

## Objective

This study aimed to evaluate prevalence of diseases among the paediatric patients according to age and seasons in our locality.

## Methodology

Our retrospective study was conducted in June 2023 in Imran Idrees Teaching Hospital, Sialkot. We collected data from the record of pediatrics patients in last one year i.e. June, 2022 to May, 2023. We noted prevalence of age specific and weather specific diseases in 138 medical patients.

## Results

June-December,2022						
Diseases	Jun	July	Aug	Sept.	Nov.	Dec.
ARI	11	14	1	8	8	15
Nephrotic Syndrome		7				
TB			2			
Enteric Fever			8			
Diarrhea/Dehydration			1			
Dysentery			1			
Meningitis			3			
Inguinal hernia			1		1	
Abscess			1			
CCF						
Appendicitis						



**Table-1; Frequency of patients of different diseases seen from June-December, 2022**

January-May, 2023					
Diseases	Jan	Feb	Mar	Apr	May
ARI	8	8			
Nephrotic Syndrome	7		1		1
TB					
Enteric Fever			2	2	2
Diarrhea/ Dehydration			1	1	1
Dysentery					
Menigitis					
Inguinal hernia	1	1	5	5	5
Abscess					
CCF			1		1
Appendicitis			1	1	1

**Table-2; Frequency of patients of different diseases seen from January-May, 2023**

## Discussion

This retrospective study was conducted among 138 patients to evaluate the diseases among the pediatric patients of Imran Idrees Teaching Hospital with reference to their diseases pattern and seasonal varieties.

The findings reveal that majority cases were of ARI followed by E.F. which figure is suspected by the researchers of multi-center and multi-national research.<sup>10</sup> There was also high frequency of inguinal hernia, respiratory tract infections and nephrotic syndrome. We have compared our research with medical patients of hospital in Tanzania due to similar life standards and had similar results due in case on inguinal hernia.<sup>11</sup>

We have compared our study with medical studies in Arabian countries regarding nephrotic syndrome where our research differs. The reason may be less data and less registration of patients.<sup>12</sup>

The findings of the study revealed a significant increase in the occurrence of A.R.I among the pediatric patients, which is consistent with previous research conducted on enteric fever patterns in Asia.<sup>13</sup> This suggests a possible correlation between air pollution in Pakistan and Asia.<sup>13</sup>

Overall, this analytical assessment of the study highlights an increased tendency towards ARI among pediatric patients, along with a high frequency of inguinal hernia and nephrotic syndrome. Comparisons with other studies provide valuable insights into the frequency of these conditions and possible variations across different regions.

## Conclusion

Common preventable diseases are more commonly seen in our set up.

**Disclaimer:** None

**Conflict of Interest:** None

**Source of Funding:** None

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