

## Original Article

# Prevalence Specific childhood Disease Pattern from February to July 2022 at the Dept. of Pediatric, Saheed Sayed Nazrul Islam Medical College Hospital, Kishoreganj

\*Rahat Bin Habib,<sup>1</sup> Sujit Das,<sup>2</sup> Mohammad Monirul Islam Khan,<sup>3</sup> Mohammad Didarul Islam,<sup>4</sup> Sabbir Ahmed Tarik,<sup>5</sup> Mohammad Sakhawat Hossain,<sup>6</sup> Md. Jahirul Haque,<sup>7</sup> Muhammad Aatur Rahman,<sup>8</sup> AKM Masudul Gani Bhuiyan,<sup>9</sup> Tania Islam<sup>10</sup>

### Abstract

**Introduction:** To understand of the epidemiological trend in the inpatient department (IPD), it is important for health care planning, appropriate management allocation & improving existing services facilities. Therefore, this study was done to evaluate the disease pattern of children in IPD of the Pediatric unit at Shaheed Sayed Nazrul Islam Medical College & Hospital, where children came from grass root level at Kishoreganj, Bangladesh.

**Methods & Materials:** This was a descriptive type of observational study. The patient came to the pediatric IPD from February 1 to July 31, 2022, six months were analyzed. Face to face interview was done through a semi structured questionnaire.

**Results:** A total of 724 children were enrolled during this study period. Infant 67%, total under five 83% and more than five years old was 17% of all children. Acute Respiratory tract infection was 59% and among them Pneumonia was 24%, Bronchiolitis 65%. Acute watery diarrhea was most common (8%) within GIT morbidities and eenteric fever (4%). Forty-three (6%) children suffered from Central Nervous System (CNS) diseases. Most children (n-29) suffered from Nephrotic syndrome and Acute Glomerulo Nephritis was only 03 in count.

It is important to mention that some patients had no disease whereas they admitted on the interest of their parents. Female (14%) were less than the male baby and 82% were Muslim.

**Conclusion:** Most were preventable diseases. Children suffered mostly respiratory problems and among them Bronchiolitis was the number one illness. Prevalence of AWD was more in GIT problems. The disease frequency of this study will help to understand the depth and pattern of the problem.

**Keywords:** Children, Childhood disease, Prevalence, Pediatric

*The Journal of Ad-din Women's Medical College; Vol. 10 (2), July 2022; p 21-24*

**DOI:** <https://doi.org/10.3329/jawmc.v10i2.67498>

1. \*Assistant Professor (Pediatrics), Saheed Sayed Nazrul Islam Medical College, Kishoreganj, Bangladesh
2. Assistant Professor (Pediatrics), Saheed Sayed Nazrul Islam Medical College, Kishoreganj
3. Assistant, Professor (Pediatrics), Shaheed Syed Nazrul, Islam Medical College, Kishoreganj
4. Assistant, Professor (Pediatrics) Shaheed Syed Nazrul, Islam Medical College, Kishoreganj
5. Assistant, Professor (Pediatrics) Shaheed Syed Nazrul, Islam Medical College, Kishoreganj
6. Junior Consultant (Pediatrics) Shaheed Syed Nazrul, Islam Medical College, Kishoreganj
7. Associate Professor (Medicine), Saheed Sayed Nazrul Islam Medical College, Kishoreganj
8. Assistant Professor (Medicine), Saheed Sayed Nazrul Islam Medical College, Kishoreganj
9. Junior Consultant (Pediatrics) Shaheed Syed Nazrul, Islam Medical College, Kishoreganj
10. Assistant Professor (Pediatrics), Institute of Child and Mother Health (ICMH), Dhaka

**Correspondence:** Dr. Rahat Bin Habib, Assistant Professor (Pediatrics), Saheed Sayed Nazrul Islam Medical College, Kishoreganj, Bangladesh

**Received Date :** 15 October, 2022

**Accepted Date :** 20 December, 2022

## Background

Child health in Bangladesh has faced significant challenges largely as a result of poverty, over-burdened healthcare services related to huge pediatric population.

Pneumonia, diarrhea, measles, malnutrition, injuries, drowning and the high number of neonatal deaths, and poor care-seeking behaviour, all contribute to the high level of child mortality.<sup>1</sup> But in the last few years, Bangladesh has made significant improvements in child health, to reduce child mortality. The status of child health which is reflected by under-five, infant, and neonatal mortality rate in children declined dramatically.

Mortality declines are associated with improved coverage of effective interventions to prevent or treat the most important causes of child mortality and with improvements in socio-economic conditions. Programs to ensure high coverage of vaccine preventable diseases, treatment of diarrhea and ARIs, implementation of IMCI, and delivery of newborn health interventions, have been crucial to these reductions. Moreover, Bangladesh has been reduced disparities in under 5 mortalities across different regions of the country.<sup>2</sup>

During the last decades, medical recordings have increased dramatically, leading to more awareness of the diseases commonly affecting pediatric age groups, opening a wide entrance to the prevention of possible complications and decrease its incidence. Routinely collected patient information has the potential to yield valuable information about health systems.

Hospital morbidity records statistics are considered reliable and used all over the world. Moreover, evaluation of characteristics of children who come in hospitals gives an insight into main medical illness in children and helps us to plan measures to overcome those.

Therefore, a review of such information helps to draw attention to the pattern of childhood illness in the community.<sup>3</sup> Despite different limitations, the information from this type of study may be useful to formulate the guidelines of disease profile and management in health set-ups.

This study was done to identify the prevalence of disease pattern in a tertiary care hospital where children came from grass root levels at Kishoreganj in Bangladesh.

## Methods & Materials

This descriptive study was done at In Patient Department (IPD), Pediatrics of Shaheed Syed Nazrul Islam Medical College, Kishoreganj, Bangladesh from 1st February 2022 to 31st July 2022. All the children aged 2<sup>nd</sup> month to 18 years attending the IPD for 6 months

were included in the study.

**Exclusion criteria:** Neonate and whose parents were not interested.

**Inclusion criteria:** i) All the IPD children aged 2<sup>nd</sup> month to 18 years.

**Sample size calculation:** The sample size was 1066 by  $n = Z^2 pq/d^2$  ( $Z=1.96$ ,  $p=50\%$ ,  $q=50\%$  and degree of precision was 3%) and in the point estimation 95% Confidence Interval (CI) were measured. Analyzed by SPSS 26 version. I

Data were collected from a face-to-face interview, a semi structured questionnaire, and a checklist. Data extracted on age, gender, duration, locality, and provisional diagnosis. The final diagnosis was based on the presenting clinical features, clinical examinations and with or without the results of laboratory tests.

## Results

A total of 724 children were enrolled during this study period. Among them infant was 42%, under five 47% (other than infants) and above five years old was 11% of all children. Female (14%) were less than the male baby and 82% were Muslim.

Most children (59%) suffered from a respiratory problem of the hundred's children. GIT problem was the 2<sup>nd</sup> highest (15%) suffered illness. Among all cases, 425 children came to IPD with respiratory morbidities. Among them almost all are LRTI. Bronchiolitis (n-276) was common than Pneumonia (n- 127).

One hundred eight babies suffered from GIT problem and it was the 2<sup>nd</sup> highest. Forty-two of babies suffered from AWD and enteric fever was 19% of total GIT problem. Children suffered (n-7) through acute abdomen and six babies from acute appendicitis. In nutritional problem almost all suffered by SAM (n-14) and one was overweight. Three percent children came with PUO. Thirty-six child admit with congenital anomalies, among them heart failure with congenital anomalies were most (n-6) and cleft palate was 14 in number.

In the Central Nervous System (CNS), 24 (3%) children suffered from Cerebral Palsy, Developmental delay, epilepsy and in combined number it was 43 children (6%). Most children (n-29) suffered from Nephrotic syndrome and AGN was 3 in count. Some parents came with child due to treatment for drowning, poisoning and snake bite. It is important to mentioned that some patients had no diseases whereas they admitted on the interest of their parents.

Table:

Systemic	Diagnosis	Frequency	Total
Respiratory	Pneumonia	127	425 (59%)
	Bronchiolitis	276	
	Bronchial Asthma	21	
GIT	AWD	42	108 (15%)
	Constipation		
	Dysentery	05	
	Enteric fever	21	
	Gastroenteritis	08	
	Oral Candidiasis	05	
	Hepatitis	07	
	Anal excoriation	09	
	Chronic Indigestion	05	
CNS	CP+ DD	15	43 (6%)
	CP+DD+Epilepsy	24	
	Developmental delay	02	
	Epilepsy	02	
Renal	NS	22	29 (4%)
	AGN	03	
	UTI	04	
Congenital Problems	CHD	06	36 (5%)
	Cleft Lip (CL)	02	
	Cleft Palate (CP)	14	
	CL and CP	13	
Nutrition	Club foot	01	
	SAM	14	15 (2%)
Surgery	Over weight	01	
	Appendicitis	06	17 (2%)
	Acute abdomen	07	
Abscess	04		
Pyrexia of Unknown Origin	PUO	22	22 (3%)
Others	Drowning (survived), Kerone poisoning, snake bite etc	29	29 (4%)
Total		724	724 (100%)

GIT- Gastro-Intestinal Tract, AWD- Acute Watery Diarrhea, CNS- Central Nervous System, CP- Cerebral Palsy, DD- Developmental Delay, NS- Nephrotic Syndrome, AGN- Acute Glomerulonephritis, UTI- Urinary Tract Infection, CHD- Congenital Heart Disease, CL- Cleft Lip, CP- Cleft Palate, SAM- Severe Acute Malnutrition, PUO- Pyrexia of Unknown Origin

## Discussion

Within 180 days there 724 patients were enrolled. All the patients were distributed into three age groups. Infant, under five and more than five age groups, constitute 42%, 47%, and 11% respectively. The majority of the children were under 5 years which is also similar to what has been found in Port Harcourt, Benin, Ilorin, and Abuja.<sup>5-7</sup> This could be due to the vulnerability of this age group as a result of incomplete immunity against infections.

Male babies were found 82 times more than female babies in this study. Male preponderance was found in other studies done in Nigeria.<sup>8,9</sup> This finding may reflect a gender bias in health-seeking behavior regarding their children.<sup>10</sup>

But that was not found in this study. Enrolled patients came from 21 Upazilla which are 13 remaining in the Kishoreganj districts and other 08 are remaining surrounding and outside of the Kishoreganj district. Six hundred seventy (93%) of the enrolled patient were due to top ten common diseases like Acute Respiratory tract infection 59%, Pneumonia (18%), Bronchiolitis (38%). Acute watery diarrhea (6%), GIT problem other than AWD was 09%, and enteric fever (3%), constipation, hepatitis, oral candidiasis, anal excoriation, dyspepsia.

The majority of admissions from AWD and Respiratory illness are also common findings in other hospitals of this country. We have ORT corner, after primary management which patients were severe of them got admitted to the hospital. Diarrheal disease, sepsis, pneumonia, and protein-energy malnutrition were the commonest diseases seen in another study. These are similar to what was observed in the Port Harcourt, Benin, Owerri, Imo, Abuja, and Kenya.<sup>4-7</sup>

Pneumonia, diarrhea for 41% of annual death globally and 49% in Africa.<sup>5,7,10-13</sup> The bulk of childhood morbidity and mortality affects mainly children under 5 years of age.<sup>13,14</sup> Several studies in Africa reported infectious diseases as the leading causes of childhood death.<sup>15</sup> ARI accounts for about 20% or more than two million deaths, making it the leading cause of death in children aged less than five years.<sup>16</sup> In Bangladesh, 90,000 children >1 month die from pneumonia each year. In our study patient from diarrhea is less than the usual number. It is due to awareness development of various anti diarrheal programs and home treatment is established in the rural area of Bangladesh.

## Conclusion and Recommendation

Children suffered mostly respiratory problems and among them Bronchiolitis was the number one illness. Prevalence of AWD was more in GIT problems. The disease frequency of this study will help to understand the depth and pattern of the problem. Multicentric and comparative studies at rural and urban level are important to develop more effective child management strategy. Preventable diseases still constitute the major cause of morbidity and mortality in our facility and children and their impact on the health of children.

Health education on preventive strategies such as exclusive breastfeeding, provision of safe water, completing immunization, improvement in personal hygiene, and environmental sanitation should be disseminated regularly by the media.

### References

1. Bangladesh Population and Housing Census 2011, Socio-economic and Demographic Report, National Series, Volume - 4, December 2012 Bangladesh Bureau of Statistics (BBS) Statistics and Informatics Division (SID) Ministry of Planning.
2. Anonymous. Housing condition of Bangladesh, Population monograph, Bangladesh Bureau of Statistics and Informatics Division, Ministry of Planning.
3. Kabir ARML, Amin MR, Mollah MAH, Khanam S, Mridha AA, Ahmed S, Rokonuddin K, Mohammad Chisti J. Et al. Respiratory disorders in under-five children attending different hospitals of Bangladesh: a cross sectional survey. *Journal of Respiratory Medicine Research and Treatment*. 2016;
4. Mumu SJ, Shahjahan M, Flora MS, Hafez MA. Prevalence of Bronchial Asthma among secondary school students in Dhaka City, Bangladesh *Medical Journal* 2012; 4(1): 28- 31.
5. Haque F, Siddaque AK, Sack RB. Patterns and risk factors for helminthiasis in rural children aged under 2 in Bangladesh. *South Asian Journal of Child Health*. 2011; 5(3):1-8.
6. Anonymous. ICDDR, UNICEF, Bangladesh, GAIN, Institute of Public Health Nutrition, National Micronutrients status survey 2011- 2012, Final report, Summary Findings: 12-13.
7. Roy E, Rahman MH, Roy R. Urinary tract infection in children: An update, *Bangladesh J Child Health* 2012, 36 (2): 90-97.
8. Navsria D, Joseph F, Hagan Jr. Maximizing Children's Health. In: Kliegman RM, Behrman RE, Geme JWS, Blum NJ, Shah SS, Tasker RC, Wilson KM. eds. *Nelson Textbook of Pediatrics*, 21st South Asian Edition. Elsevier, India. New Delhi. 2019:912-925.
9. UNICEF, WHO. Countdown to 2015 Decade Report (2000.2010): Taking Stock of Maternal, Newborn and Child Survival. Last accessed on 2012 July 20.
10. World Health Organization. Children: Reducing mortality. Fact sheet number 178. Last accessed on 2013 Dec 10.
11. Odubanjo MO. Reducing child mortality in Nigeria. Lagos The Nigerian Academy of Sciences, West African Book Publishers. 2009
12. Okolo AA. Morbidity and mortality of childhood illnesses at the emergency paediatric unit of the University of Benin Teaching Hospital, Benin City. *Niger J Paediatr*. 2012; 39:71-74.
13. Onyiriuka AN. Morbidity and mortality patterns of post neonatal paediatric medical admissions in a large mission hospital in Benin City, Nigeria. *J Med Biomed Res*. 2005; 4:49- 58.
14. Abacassamo F, Sacoor CN. A 10-year study of the cause of death in children under 15 years in Manhica, Mozambique. *BMC Public Health*. 2009; 9:67-72.
15. Salam AKA. Common causes of Child mortality in Sana'a. *Saudi Medical Journal*. 2005; 26:1112-1115.
16. Frank-Briggs A.I. et al. Mortality Pattern in Children: A Hospital Based Study in Nigeria. *Int J Biomed Sci*. 2009; 5:369-372