Original Research Paper

Pediatrics

STUDY OF PAEDIATRIC MORBIDITY IN A TERTIARY CARE CENTER IN EASTERN UTTAR PRADESH

Dr(Col) Om Prakash Singh	Associate Professor Pediatrics, HIMS Varanasi
Dr Neeraj Anand*	Assistant Professor Pediatrics, HIMS Varanasi *Corresponding Author

ABSTRACT

Background: The average life expectancy in India is gradually increasing for both the sexes .The mortality and morbidity rates along with life expectancy at birth, are important indicators of health status of a population. This study was carried out to provide statistical data related to morbidity patterns of common illnesses seen amongst children admitted to one and the only private medical college in eastern UP.

Methods: The study population comprised of children in the age group of 0 to 18 years, admitted during the period 01May 2016 to 31Mar 2019 . A retrospective Patient data record analysis was carried out from the available data in the medical records department.

Results: During the study period, the total no. of admissions was 3253 (M-1665, F- 1588). Nearly 48.80 % (n= 1588) were girls and 51.20 (n=1665) were boys, with an almost equal sex ratio. Study revealed significant gender inequality.

Conclusions : The study highlights that three fourths of the hospitalized children were suffering from morbidity events like acute respiratory infection and gastroenteritis. More care and attention needs to be paid in children of younger age group. Respiratory tract infection including ARI was the leading cause for hospitalization. These condition together with convulsive disorder, consumed significant health resources in terms of bed days utilization were identified .

KEYWORDS : Pediatric hospitalized *Morbidity, mortality, NMR,IMR*

Introduction

Neonatal mortality, infant mortality and under -5 mortality along with life expectancy at birth are very important indicators of health status of a population. Childhood morbidity consumes a substantial portion of health care resources in terms of hospital bed utilization. In India there are huge variations in health across states and districts of the country (1,2). The estimates of morbidity in general and the disease specific incidence rates in particular would serve as valuable information to the health planners and administrators for appropriate and timely measures to monitor , control and eradicate the diseases . It will also enable the administrator to allocate resources for health like. hospitals, physician, medicine etc, and provide basic infrastructure such as sanitation and drinking water. Morris SK , Bassani DG et children are due to infectious disease and nearly half of these deaths are due to diarrheal diseases and pneumonia (1,7). Claeson M et al reported the slowing decline in infant mortality rates in India; a departure from longer term trends (1,8). Studies have found contrasting pattern of evidences about disease burden in rural and urban population with some reporting greater burden among rural population than in urban population (1,10, 11). It has been argued that a better educated population takes more precautions against diseases which in turn reduce their morbidities.

Methods

The study was conducted in admitted children, 0-18 years of age from May 2016 to 30th Apr 2019 in a Medical college hospital at Varanasi in North India. This hospital has 90 Pediatric beds with many pediatricians. In our study, bed occupancy rate has been recorded at 82% throughout the year. The data on morbidity and mortality were collected from the case records of the children or the discharge register kept in medical records department. Relevant information pertaining to socio demographic indicators, diagnosis, treatment prognosis of the disease condition at discharge and cause of death etc as recorded in the case records by the clinicians. Records of the children with missing information of demographic data and diagnosis were excluded from the study. All information collected was cross checked for completeness of the data from the records available at hospital pediatric emergency patients

Results

Table 1 shows distribution of children according to morbidity by age and sex. A total of 6446 children were admitted from 1st May 2016 to 30th Apr 2019. Of these 48.80% (n--3116) were girls and 51.20% (n--3330) were boys with an almost equal sex ratio of boys to girls. In both the sexes highest morbidity belonged to the age group < 1 year (n = 2106 i.e. 32.4%) followed by the 1-- 4 years age group (n -- 2016 i.e. 31%).

Acute respiratory infection was the commonest morbidity in both the sexes (no. -- 1396 (21.65%). This was followed by acute gastroenteritis no. -- 1062 (16.47%) . Anemia was again very common(no.-- 884 , 13.71%) . This included iron deficiency anemia , megaloblastic anemia , hemolytic anemia like thalessemias as well as sickle cell anemia and others .amongst the viral infections the commonest observed was dengue fever. Accidents mainly road traffic accidents and various poisonings are also quite common cause of morbidity no. 1016 (15.76%). There is an alarming rise in accidental poisoning in pediatric age group . The commonest poisonings were kerosene oil, good night solutions used as mosquito repellants along with organophosphorus poisons . Urinary tract infection was another important cause of morbidity, nephrotic syndrome was again found to be very common . The other categories included various congenital anomalies, down's syndrome, skin conditions , ear, nose and throat conditions , various malignancies , and surgical causes

Table.1.Morbidity by Age and Sex

Age group in years	Boys 3330	51.20%	Girls 3116	48.80	Total 6446	100
	Number	Percentage	Number	Percentage	Number	Percentage
< 01 yr	1378	21.37	1332	20.66	2710	42. 04%
1--5 yrs	876	13.5	791	12.27	1667	25.86%
6-10 yrs	632	9.80	602	9. 33	1234	19.13
11-18yrs	582	9.02	574	8.90	1156	17.76

Table-2. Distribution of Pediatric Morbidity. Total no - 6446

Disease	No of patients	Proportion of morbidity(%)
Acute respiratory infection	1396	21.65
Gastroenteritis	1062	16.47
Viral infections	644	9.99
Nutritional disorders	784	12.16
Accident and poisoning	1016	15.76
Anemia	884	13.71
Tubercular infection	312	4.84
Urinary tract infection	508	7.88
Seizure disorder	644	9.99
Nephrotic syndrome	156	2.42
Encephalitis	78	1.21
Others	1950	30.25

Discussion

The morbidity pattern in children in a hospital setting helps us to understand the health care needs of the pediatric population in a

community and judge the adequacy of health care resources which help in planning and efficient bed management in a hospital . A total of 6446 children were admitted from 1st May 2016 to 30th Apr 2019. Of these 48.80% (n--3116) were girls and 51.20% (n--3330) were boys with an almost equal sex ratio of boys to girls. In both the sexes highest morbidity belonged to the age group < 1 year (n= 2710 i.e. 42.04%) followed by the 1-- 4 years age group (n -- 1667 i.e. 25.86%).

Acute respiratory infection was the commonest morbidity in both the sexes (no. -- 1396 (21.65%). This was followed by acute gastroenteritis no. -- 1062 (16.47%) . Anemia was again very common(no.-- 884 , 13.71%) . This included iron deficiency anemia , megaloblastic anemia , hemolytic anemia like thalessemias as well as sickle cell anemia and others . Accidents mainly road traffic accidents and various poisonings are also quite common cause of morbidity no. 1016 (15.76%) There is an alarming rise in accidental poisoning in pediatric age group . The commonest poisonings were kerosene oil, good night solutions used as mosquito repellants along with organophosphorus poisons . Urinary tract infection was another important cause of morbidity, nephrotic syndrome was again found to be very common . The others category included various congenital anomalies, skin conditions , ear, nose and throat conditions , various malignancies , and surgical causes. Singh (1,18) observed a comparatively higher rate of admission by male children in tertiary care institutes. This could be related to preferential care to male child in the society along with the biological vulnerability of male to infection. the gender bias was not found in our study with male to female ratio being almost equal. In the present study , infants accounted for relatively higher proportion of the total bed days of admission .

This study only analyzed hospital admissions, which did not include children seen in emergency and outpatient department (OPD). The gastrointestinal disorders were because of lack of safe water and poor sanitation in the homes as well as unhygienic handling of the infants feed . Similar results were reported by Ogbeide MI and Feacham RG (1,12,13) . Gastroenteritis, acute lower respiratory infection and severe anemia were the most important causes of childhood morbidity and mortality in Benin City, Nigeria(1,14, 15). Reports from other African countries also confirm the leading role of these preventable diseases as causes of childhood morbidity and mortality. (1,14, 15, 16, 17). This underlies the need to strengthen preventive pediatrics. This difference in morbidity pattern may be explained by the improvement in immunization coverage against the target diseases as covered by the expanded programme on immunization and the current breast feeding practices . It should be noted that although hospital admission data are inevitably referral and access biased, they can provide useful information on morbidity and mortality in the community. It is clear from the analysis that respiratory tract infection was the leading cause both in terms of number of cases and utilization of bed days.

Conclusions

There is lot to be done to improve the Perinatal morbidity and mortality , *Neonatal* morbidity and *mortality, infant* morbidity and *mortality and under -5* morbidity and *mortality* rates in this part of the country. The study highlights that three fourths of the hospitalized children were suffering from morbidity events like acute respiratory infection and gastroenteritis. More care and attention needs to be paid in children of younger age group. Respiratory tract infection including ARI was the leading cause for hospitalization. These condition together with convulsive disorder, consumed significant health resources in terms of bed days utilization were identified .

A major limitation in this study was the small sample size when compared to the other studies from India and abroad. In addition all data used in this study is from single medical college.

This being a retrospective study permission from the ethical committee was not required.

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