Epidemiological analysis of paediatric morbidities in Cuttack city of Odisha, India

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Abstract: *Globally child mortality has reduced due to development of health care management, but developing countries have been facing problems with childhood morbidities. A country should progress through the socioeconomic and health status of its locality. In India, Odisha is enlisted as one of the leading state among the high level of child mortality rate. Odisha has the third highest infant mortality rate with 53 per 1000 after Madhya Pradesh and Assam. The present study has included 78 number of children who were treated in different hospitals. From this study, it was found that more number of children was treated with 23% pneumonia under the age of five years. Besides pneumonia other diseases like jaundice, diarrhoea and congenital anomalies like anorectal malformations, beta thalasemia etc. according demographic study, more number of patients were belongs to the district Jajpur and different rural areas. This study helps in improvement of health status and implement proper awareness programme to reduce the incidence childhood morbidities in rural areas.*

Key Words: *Childhood morbidities, socio-economic, Odisha..*

1. INTRODUCTION:

Childhood diseases are among the most serious health issue facing developing countries. Respriratory infection, diarrhoea, malaria were the leading cause of death among children under five years in 2016. It is reported by UNICEF that every year about 5.6 million children die under the age of 5years[1]. Globally, India is now considered as one of the leading country in infant and child mortality. It accounts for one-fifth of child mortality in the world. There is a wide variation in socio-demographic status in different states of the country [2]. Odisha is like Madhya Pradesh, Uttar Pradesh and Assam having higher mortality rate. According to demographic and socio-economic status, Odisha is considered as one of the backward states. Nearly 87% people of this state are living in rural areas and depend on agriculture. The morbidity in children become serious because of under-nutrition, feeding practices case in children and least awareness among rural population. Most of these cases due to vitamin deficiency have been suffering from diarrhoea, pneumonia and jaundice etc. Mothers are treating their child by various local folk-medicines [3]. Basically in developing countries the biomedical knowledge is limited on children and that affect the health outcomes of the society. The prevalence and incidence for majority diseases are quantified in slum areas in many developing countries[4,5]. In many cases, the information on disease burden is based on clinic, hospital and national registry data .The data obtained from through the prospective studies can be used for proper planning and effective healthcare resources to develop effective disease control measures. Pneumonia, jaundice and haematological disorder are common among morbidity in children. The main objectives of this present study to understand the child hood morbidities and to know the effect of socio economic, demographic and spatial characteristics related to childhood morbidities in Odisha. It will highlight the prevalence and epidemiological status to improve the health care practices in rural areas.

2. MATERIALS AND METHODOLOGY:

The entire cross sectional survey and statistical analysis was carried out from the month of December,2018 to January,2020 in different Community health centre and Hospitals of Cuttack city in Odisha, India. It is reported that Odisha has high level of infant morbidity and mortality rate. [6].These study areas were taken as most of the patients come to to the city throughout the state. During this period, a cross sectional survey was designed with some questionnaires for paediatric patients. These Paediatric patients under the age of 12 years were under treatment and they were identified by health care professionals like physician. The survey analysed the patient admitted in the hospital and related to childhood morbidities like diarrhoea, pneumonia, jaundice, meningitis, haematological disorder and asthma. The survey was conducted by taking the consent from their parents. After collecting the information of patients, a data collection sheet was developed for further analysis[7]. These

information were included age, gender, locality and the variables to their clinical findings. These data were tabulated and presented with mean±SD. These studies were statistically analysed for the test of significance at p<0.05. Statistical analysis was carried out for significant difference by using PAST software [8].

3. RESULTS AND DISCUSSION:

This study was included 78 numbers of paediatric patients, who were under treatment in the hospitals. These patients were treated with following diseases like diarrhoea, jaundice, anorectal malformation, sickle cell anaemia, beta thalassemia, pneumonia, meningitis and gasto intestinal disorder. Out of these total 78 individuals, 51(65%) were male individuals and female individuals were 27(35%). The mean age of these paediatric individuals were 2.78 ± 3.52 years. The mean age of male individuals were 2.57 ± 3.27 and mean age of female individuals were 2.89 ± 3.93. From this data it is analyzed that Male individuals were more affected than female individuals. There were no significant difference between age of male and female at $p<0.05$. There was highly significance difference between the age of male group and female group individually at $p<0.01$.
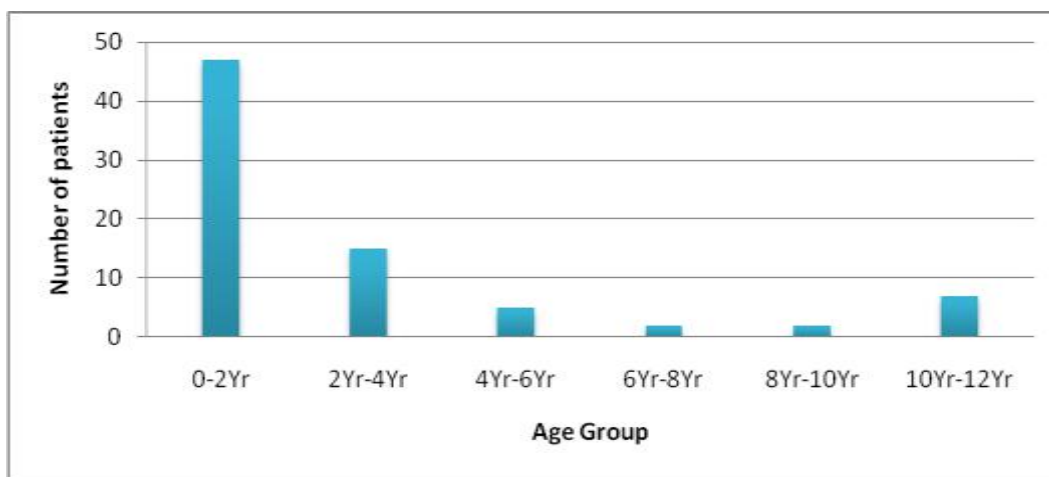

Fig.1 paediatric diseases at different age group.

During this study, the age groups of these individuals were taken from new born to 12 years of age. (Fig.1).From the above study, it was found that the prevalence of these diseases was the highest 47(60.25%) at age group 0-2 years and the least affected was in the age group 6-8 years. From these data it was determined that paediatric individuals less than five years were more susceptible to various infectious diseases [9].
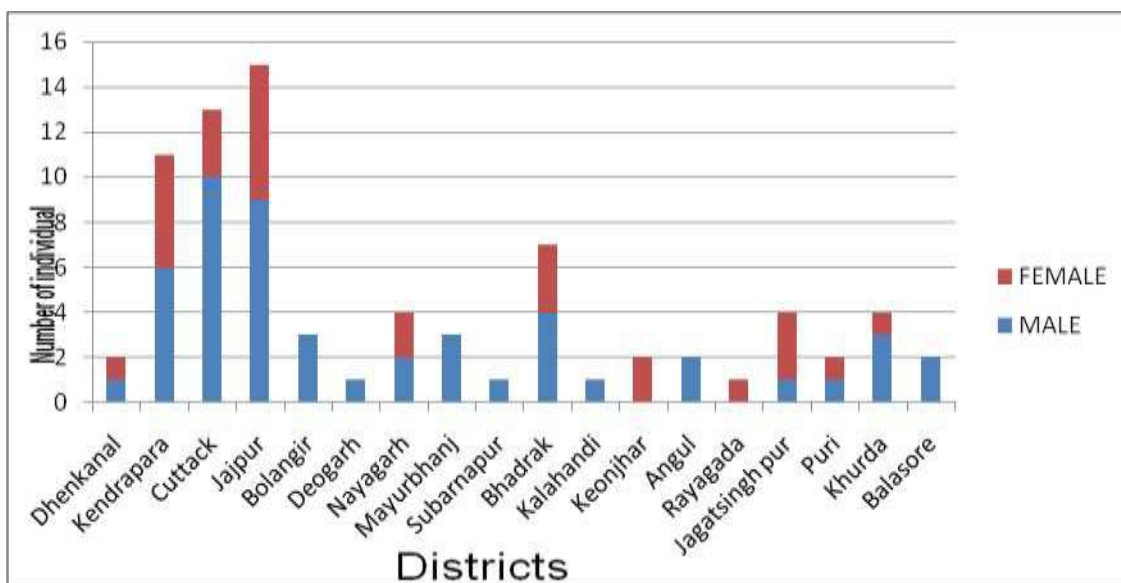

Fig.2.Male and female paediatric patitients in different districts in Odisha

In this study, paediatric individuals came from different different geographical locations of Odisha. Jajpur district was showed the highest numbers of affected individuals who were under treatment in the hospitals. Under nutrition in mother as well as children could be the major cause of these incidences. It is reported that breast

feeding practices for first six months child has reduced to half of mothers. Awareness among people and low literacy rate cause the ongoing challenges in rural part of the State. From this demographic representation of patients, Jajpur showed the maximum 19% are from Jajpur, and 1% each from Rayagada, Deogarh, Sonpur and Kalahandi[10,11].

Table 1. prevalence of diseases in male and female individuals

Sl No..	DISEASE	Male	Female	Total
1	Pneumonia	13	5	18
2	Meningitis	2	4	6
3	Asthma	4	1	5
4	Nephrotic syndrome	3	3	6
5	Seizure	6	2	8
6	Diarrhoea	4	2	6
7	Jaundice	5	0	5
8	Anorectal malformation	5	0	5
9	Oesophagus blockage	1	3	3
10	Neonatal intestinal obstruction	0	1	1
11	Congenital hypertrophic pyloric Stenosis	2	0	2
12	Ileocolic Intususception ascitis	1	1	2
13	Acute appendicitis	1	1	2
14	Gastritis	1	0	1
15	Beta thalassemia	1	3	4
16	Septicemia	2	1	3

It is represented that (Table-1) represents the number of male and female patients were suffering from different diseases. Among 78 patients,18(23%) individuals were treated with Pneumonia. In India, paediatric pneumonia is considered as the second leading cause of mortality in children. It is reported that 19% all child mortality is caused due to pneumonia, which is more common in South-east Asia and Sub Saharan Africa. Here, it is also found that most of these patients were under less than five years of age[12]. Others were also infected with seizure, septicemia, meningitis, nephrotic syndrome and diarrhoea. Diarrhoea is another cause of child morbidity and mortality and it causes about 2.2 millions of paediatric mortality. In this study, it was observed that the diarrohea caused due to unhygienic condition like contaminated drinking water and food used by mother and child. Most of them admitted in the hospital as they took some unusual antibiotic as drug at the young age.Beta thalassemia Asthma, Jaundice and Anorectal Malformation, oesophagus blockage, congenital hypertrophic pyloric Stenosis, iIleocolic intususception ascitis an acute appendicitis and then 1 number of children suffering each from Neonatal Intestinal Obstruction, midgut malrotation and gastritis[13,14].

Beta-thalasemia is a hereditary disorder and patients were avoided to take spinach and other iron containing foods. They were observed with high concentration of iron and ferritin in their serum[15]. There were 4 individuals under treatment at the age of 4-11 years. Jaundice is also affected in neonates and here the cases were found under the age of five years. Most of the affected babies were formula feeding with artificial food and different pattern of breast feeding. These mothers and babies were taking water in unhygienic condition. Oesophagus blockage, anorectal malformations,pyloric Stenosis are common congenital abnormalities[16,17]. These were treated by paediatric surgery. It is observed that around 15 patients were under treatment with this type of anomalies.the early management of newborn is very important to get better outcome.

4. CONCLUSION:

This study provides information about the incidence of paediatric diseases, which will be a better guide line to reduce the prevalence. Rural and tribal area people are not getting the proper facilities for early diagnosis. The delay in appropriate treatment and distance from the health centres seek more attention for better care of children[18]. They also depend upon the home remedies, is one of the major cause of these prevalence. Reason may be the use of pond water without treatment, low literacy rate, pre-term birth, unaware of government programmes and poverty[19,20]. Poverty and education can reduce the morbidity to get a better healthy society for coming generations.

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