Morbidity Pattern And Some Socio-Cultural Factors : A Study Amongst Under Five Children Attending Pediatric Department Of A Tertiary Care Hospital In West Bengal,India.

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Abstract: *Morbidity and mortality of under five children is an important indicator of overall development of the country.Though the morbidity pattern varies from country to country but for common childhood morbidities there are some preventable factors. This cross-sectional hospital based study describes the morbidity pattern along with some socio-demographic and behavioural factors. Majority of the children were 24-59 months old(42.4%)and Male(60%).Respiratory illnesess followed by fever were the commonly found morbidities among the studied children. Genito-Urinary and Circulatory Disorders were next commonly found morbidities. Morbidity pattern were different in different age groups. Underweight children were 34.2%. Severely underweight children were found more among children suffering from Genitourinary disorders or circulatory disorders. Exclusive breast feeding practices were good but timely complementary feeding were not done properly. This study reinforced the need that existing health care services directed towards this vulnerable age group in both preventive and curative aspects should be geared up to reduce common childhood morbidities.*
Keywords: *Morbidity, sociocultural factors, Tertiary care hospital,. underfive children*

I. Introduction

Children are the backbone of every country and their health is a prime concern of the country. The under five is an important age group and vulnerable section of the society ,as the morbidity profile of this age group has a far reaching consequences on the overall development of the country. In India every year around 27 million children are born,10% of which do not survive upto 5 years of age. India has the highest underfive mortality rate (43 per 1000 live births) which contributes to 25% of 6.9 million (year 2013) underfive death worldwide. It is unacceptable that every day 17000 children still die before their fifth birthday, mostly from preventable causes and treatable diseases, even though the knowledge and technology for life saving interventions are available. Most of these under five deaths are due to acute respiratory diseases, diarrhea, malaria, measles ,HIV/AIDS and neonatal conditions- contributing 44% of under 5 deaths. Mortality rates of under 5 children is 2.5 times higher among moderately underweight and 5 times higher in severely underweight children. In the Millenium development goals 4, target 5 states that Under 5 deaths should be reduced by two thirds between 1990 and 2015.Different socio cultural factors like age, gender, mothers literacy ,socioeconomic condition of the family, immunization status, feeding practices have a role on the health and development of the child.[1,2,3,4]

With this background the present descriptive study was carried out in the paediatric department of a Tertiary care hospital to find out the morbidity pattern and nutritional status of under five children along with relation of some socio cultural factors.

II. Methodology

A cross-sectional observation was made in the paediatric in-patient and outpatient department of a medical college in West Bengal, India. Children aged 0-59 months were the study population. A predesigned, pretested, semistructured study proforma was used for data collection. Parents or accompanying guardians were interviewed in their local language. In the O.P.D exit interview was taken. Provisional diagnosis as noted in the O.P.D card or Bed Hold Tickets were recorded. Where there was some confusion in diagnosis present chief complaint were recorded. Weight was recorded with the help of sister in I.P.D or O.P.D by weighing machine (bathroom or pan type as needed).Mid Upper Arm circumference was measured and noted. Data were collected by systematic sampling-every third bed in I.P.D and every third child in O.P.D were the study population provided the parents or guardians gave consent otherwise the next child were included in the study. Interview time was 20-25 minutes. Total 210 children were studied. First part of the proforma included socio-demographic characteristics like age, gender, religion, literacy status of the parents, per capita income. Second part of the proforma contained morbidity pattern, nutritional status, immunization status,feeding practices. Collected data were compiled in Microsoft Excel sheet and analyzed by descriptive statistics using proportion.This study was

in accordance with the Helsinki declaration. Before carrying out the study Institution Ethics committee clearance was taken.

III.   Results

The sociodemographic characteristics among the studied 210 children showed that majority (42.4%) were aged between 24-59 months followed by 25.7% were 12-23 months old and 23.8% were 2-11 months old. Male babies constituted 60% of the study population. Urban and rural children were nearly in same proportion 42.8% and 43.4% consecutively. Whereas 13.8% children came from urban slum. Majority children (62.4%) were Hindu by religion followed by 36.2% were Muslims. More children were from non Nuclear family (63.3%).Nearly one third (33.8%) of the children came from family which had per capita monthly income Rs.1500-2999 followed by 30.9% had MPCI of Rs.500-1499. (Table 1).It is seen from Table 2 that more fathers (36.8%) and mothers (39.0%) had primary education followed by secondary education -22.2% and 24.4% consecutively. Majority of the father (65.2%) were skilled worker, whereas 89% mothers were home maker. Table 3 showed morbidity pattern of the studied children. More children were suffering from cough & cold(30.0%),when 9.1% children had pneumonia and 0.9% children each had pulmonary tuberculosis and Bronchial.Asthma. Diarrhoea was the morbidity in 3.8% children,4.3% had Nephrotic Syndrome,U.T.I was found among 2.9%, 5.2% were suffering from Leukaemia and 3.2% from other blood disorder. PUO was found among 26.2% children. Any other category included 7.1% children which consisted of Jaundice, Liver disorder, Rashes, Allergy, Injury, Burn,Eye problem, cleft palate, poisoning, tonsillitis etc. It is evident from table 4 that for respiratory diseases more children were from 24-59 months age group followed by 28.7% were from 12-23 months & 25.3% were from 2-11months..Similar findings were also seen in Circulatory diseases (63.2%-24-59 months,31.5% in 12-23 months).In case of Gastro Intestinal disorder more proportion of children were from (42.1%) 12-23 months followed by 36.9% were aged 24-59 months & 20% from 2-11 months. For Genito urinary diseases, febrile disorders and any other diseases more proportion of children were from 24-59 months. In this study seventy two children(34.2%) were under weight according to WHO new growth chart. MUAC showed 37.8% children were undernourished (54/143). For respiratory diseases 24.1% children were mild-moderate underweight, which was 10% for GI disorders, 13.3% for Genito Urinary diseases, 21.1%   for Circulatory disorders and 27.3% for PUO. Children who were suffering from Genito Urinary diseases, more proportion of them were severely underweight (26.6%), which was 21.1% for circulatory diseases, 13.8% for respiratory diseases. Mid upper arm circumference of the children showed that in case of Respiratory disorder 20% were mild-mod. undernourished & 11% were severely, whereas for GI disorder 37.5% children were mild-moderate undernourished and 25% were in severe category which was 27.8% for children suffering from circulatory diseases. Fully\up to date immunized children ranged from 53.4% to 81.6%. Children suffering from respiratory diseases, 17.2% of them were partially immunized, which was 10.0% for GI, 21.1% for Circulatory and in any other category it was 40.0%.Unimmunized children were 13.3% who were suffering from Genito-Urinary diseases. Exclusive breast feeding practices ranged from 60%-100%.Timely complementary feeding were not done amongst 102 children (102/182-56%) which was maximum (71.5%) amongst children suffering from Genito-Urinary diseases followed by Gastro intestinal diseases (68.8%) and Respiratory diseases (53.3%).

IV.   Discussion

UNICEF considers morbidity and mortality of underfive children as the single best indicator of social development. This hospital based descriptive study readdresses the morbidity pattern of 210 under five children .In this study children aged 24-59 months were commonly suffering from different morbidities followed by 12-23 months and 2-11 months respectively. Study done by Srivastava DK & others in Urban slums showed similar findings like our study [5], but the Hospital based study done by Obi JO showed largest number of admission were under one year followed by 1-2 year.[6] Reason behind this may be feeding practices in infants and Immunisation status had improved over years in this area (shown later in tables).Other possible reasons were different study design,, geographical areas were different. Study done by Ujwala U. Ukey and others had seen morbidity were more common in 0-1 years age followed by 4-5 years age [7] similar to the findings shown by Sanjana Gupta & others in Jammu.[8]Though AR Dongre & others found lowest morbidity among 0-11 months children and highest morbidity among 12-23 months old children.[9]Similar to other studies our study also showed that males were suffering more.[4,6,7,8,10,11]This observation can be actual presence of increased morbidity in male children which may be due to males were   biologically more prone to suffering from different morbidities or there was gender discrimination in receiving hospital care i.e the morbidity in females not being reported. This needs to be further explored by community based qualitative research. Though Taufiq Mashal et al in their community based study in Afghanistan did not show any significant association of gender in the morbidity of under five children.[12] This study showed that children who came from non nuclear family were suffering more which was in contrast to the findings shown by Sanjana Gupta and others in their community based study in rural area of Jammu, India .[8] Reason of which may be that care giver of non nuclear family

system gave less time to their children. Similar to other study we have also found that in this hospital more children came from lower socio-economic strata.[8] Respiratory illness followed by fever were the commonly found morbidity among the studied children which were different from other studies.[6,9,10,12,13,14] Difference may be due to geographically different study area, study techniques were also different. Diarrhoea were less common in our study which may be due to diarrhea were better managed in the community by ORS and home available fluids- resulting less hospital admission. Children suffering from Genito urinary disorders and Circulatory disorders were next commonly found morbidity in this study. Reason cited behind this was as it was a Government aided tertiary care hospital and treatment was less costly and the children were more from lower socio-economic category,it is quite likely that they were availing treatment from this hospital. Morbidity pattern were different in different age groups. Somewhere the reason may be,as the children had shifted from exclusive breast feeding without appropriate complementary feeding, immunity might have wanned or sometime it may be due to the causative organism more commonly affected that particular age group. This study showed less proportion of underweight children compared to the study done by Arshiya Masood and others in Tertiary care hospital in a Rural area of U P.[13]On the other hand our study findings were higher than the study by Srivastava DK and others in Etawah district , might be due to different geographical area or assessment methods.[5] Severely underweight children were found more among Genitourinary disorders or circulatory disorders might be due to those children were chronically suffering. Immunisation status of the studied children were different from the result shown by Shaili Vyas and others in Rural area of Dehradun.[15] This study found that Exclusive breast feeding practices were good but timely complementary feeding were not done properly might be the reason for severely under weight children found in some category like children suffering from Gastro intestinal or Genito urinary diseases.

V.   Conclusion

This study reinforced the need that existing health care services directed towards this vulnerable age group in both preventive and curative aspects should be geared up to reduce common childhood morbidities along with improvement in other sectors like social, environmental etc. will surely help in building the healthy nation.

Table 1: Socio-Demography of the study population

Socio-demographic variables	Number	%
Age in months		
< 2 months	17	8.1
2-11 months	50	23.8
12-23 months	54	25.7
24-59 months	89	42.4
Gender		
Male	126	60.0
Female	84	40.0
Residence		
Urban	90	42.8
Urban Slum	29	13.8
Rural	91	43.4
Religion		
Hindu	131	62.4
Muslim	76	36.2
Others	03	1.4
Type of family		
Nuclear	77	36.7
Non-Nuclear	133	63.3
Monthly family income per capita in Rs.		
≥ 10000	05	02.4
5000-9999	21	10.0
3000-4999	28	13.4
1500-2999	71	33.8
500-1499	65	30.9
< 500	20	09.5

Table 2: Literacy and Occupation of the Parents

Literacy	Father*		Mother	
	Number	%	Number	%
Illiterate	35	16.9	36	17.1
Below Primary	09	04.3	16	07.6
Primary	76	36.8	82	39.0
Secondary	46	22.2	51	24.4
Higher Secondary & above	41	19.8	25	11.9
Occupation				
Skilled	135	65.2	15	07.2
Unskilled	36	17.4	08	03.8
Business	32	15.5	00	00.0
Home maker\ Unemployed	04	01.9	187	89.0

*Father of 3 children were dead

Table 3: Study population according to physical morbidity   n=210

Physical Morbidity	Number	%
Respiratory System (n=87)		
Cough and cold	63	30.0
Pneumonia	19	09.1
Very severe disease	01	0.5
Tuberculosis	02	0.9
Bronchial Asthma	02	0.9
Gastro-Intestinal System (n=19)		
Diarrhoea	08	3.8
Vomiting	11	5.2
Genito-Urinary System (n=15)		
Nephrotic Syndrome	09	4.3
Urinary tract infection	06	2.9
Circulatory System (n=19)		
Leukaemia\Blood cancer	11	5.2
Other blood disorder	08	3.8
PUO	55	26.2
Any other[*]	15	07.1

***It includes Hepatomegaly,Tonsilitis,Septicaemia,Cleft palate, Poisoining, Pancreatitis, Jaundice, Eye problem

Table 4: Morbidity pattern and selected socio-cultural and clinical variables   n=210

Variables	Resp. System n=87	G I System n=19	Genito-Urinary n-15	Circulatory System n=19	PUO n=55	Any other n=15
Age in ms						
< 2 ms	10(11.5)	00(0.0)	00(0.0)	00(0.0)	02(03.6)	05(33.3)
2-11ms	22(25.3)	04(20.0)	03(20.0)	01(05.3)	17(30.9)	03(20.1)
12-23 ms	25(28.7)	08(42.1)	01(06.7)	06(31.5)	12(21.8)	02(13.3)
24-59 ms	30(34.5)	07(36.9)	11(73.3)	12(63.2)	24(43.6)	05(33.3)
Present weight*						
Above green	10(11.5)	06(30.0)	02(13.3)	01(05.3)	10(18.2)	03(20.1)
Green	44(50.6)	12(60.0)	07(46.8)	10(52.6)	25(45.4)	08(53.3)
Yellow	21(24.1)	01(10.0)	02(13.3)	04(21.1)	15(27.3)	03(20.1)
Red	12(13.8)	00(0.0)	04(26.6)	04(21.1)	05(09.1)	01(06.5)
MUAC (n=143**)						
Normal	38(69.0)	03(37.5)	08(66.6)	11(61.1)	2 0(55.5)	02(28.6)
Mild –Mod	11(20.0)	03(37.5)	02(16.7)	02(11.1)	09(25.5)	03(42.8)
Severe	06(11.0)	02(25.0)	02(16.7)	05(27.8)	07(19.0)	02(28.6)
Immunisation Status						
Fully/ Up to date	71(81.6)	18(94.7)	12(80.0)	15(78.9)	33 (60.0)	08(53.4)
Partial	15(17.2)	01(05.3)	01(06.7)	04(21.1)	18(32.7)	06(40.0)
Unimmunized	01(01.2)	00(00.0)	02(13.3)	00(00.0)	04(07.3)	01(06.6)
Breast feeding						
Exclusive	79(90.8)	18(90.0)	15(100.0)	15(78.9)	50(91.0)	09(60.0)

Partial	08(09.2)	00(00.0)	00(00.0)	04(21.1)	04(07.2)	03(20.0)
Never	00(00.0)	01(10.0)	00(00.0)	00(00.0)	01(01.8)	03(20.0)
Timely Complementary feeding*28						
Yes(80)	35(46.7)	05(31.2)	04(28.5)	09(60.0)	21(42.8)	06(46.2)
No(102)	40(53.3)	11(68.8)	10(71.5)	06(40.0)	28(57.2)	07(53.8)

*WHO new growth chart**67 children were below 1 year of age ***28 children were aged less than 6 months old

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