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ORIGINAL ARTICLE

Assessment of Morbidity Profile of Under-Five Children in a Rural Area of West Bengal

ABSTRACT

Background & Objectives: Morbidity rates are very high among the under-five children specifically in developing countries. The morbidity data are mostly hospital based. The present study was conducted with the objectives to study morbidity profile of under-five children and to find out association between childhood morbidity and socio-demographic factors as well as feeding practices if any.

Methodology: The study was conducted in Singur Block, Hooghly, West Bengal among the under-five children. Two villages named Kaliara (1623) & Paltagarh (2384) were selected by Probability Proportion to Size-With Replacement (PPS-WR) method. Two villages were subdivided into hamlets & total enumeration of the randomly selected hamlets was done and information was collected by interviewing the mother, examination of the child and record review.

Result: Among the study population, 54% were boys and the rest were girls (n=101). The prevalence of morbidity among boys was 80% while among girls it was 71.7% (p>0.05). Majority of the children (92%) belonging to 24-35 months age group were morbid in comparison to other age groups (p>0.05). The prevalence of morbidity was found to be

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maximum among Schedule Tribe (90.91%,p>0.05). Morbidity was more among the children staying at kutchha houses (p<0.05).ARI was the most frequent morbidity. Morbidity was found to be less in exclusively breast fed children (p<0.05)

Conclusion: Improved literacy status among the mothers ,better housing condition and adequate knowledge of exclusive breast feeding may help to reduce the morbidity among under-five children.

KEY WORDS:-rural area, under-five, morbidity, ARI

INTRODUCTION

The measurement of morbidity is complex and the usual source of morbidity data are national surveys or published studies. A significant proportion of the morbidity outcome can be prevented with a few interventions that are accessible, affordable and deliverable without complex technology.

According to NFHS-3 data, 5.8 % of under-5 children in India suffered from ARI (13% in West Bengal) in the two weeks preceding the survey and it was 6% in rural India. Likewise 14.9% of that age group had fever in last two weeks (15.1% in rural India) . According to the same data, 9% under-5 children suffered from any form of diarrhoea in the last two week period. Among under-5 children in India, 69.5% were found to be anaemic (61% in West Bengal) and it was 71.5% in rural India.[1]

With this background, the present community based study was an attempt to find out the prevalence of morbidity among under five children and its association with various socio-demographic factors as well as feeding practices if any, in Singur, Hooghly.

Methodology

This was a cross sectional community based observational study from October 2014 to March 2015. Two villages- Paltagarh and Kaliara were selected randomly from 64 villages in the rural field practice area of All India Institute of Hygiene & Public Health, Kolkata. Complete enumerations of seven randomly selected hamlets from each of the two villages were done by house to house visit and a total of 101 under-five children were included in the study among which 55 were boys and 46 were girls.Data was collected by interview, clinical examination, and review of records using a predesigned, pretested and structured schedule.

Interview was conducted with the care givers preferably the mother, using the schedule. Information regarding their socio-demographic and economic characteristics, morbidity pattern in last two weeks, health seeking behaviour during illnesses along with dietary pattern were obtained. Clinical examination, anthropometric measurements including length /height, weight and mid upper-arm circumference were taken.

Results and discussion

Table 1: Distribution of Socio-demographic profile of the study population (N=101)

Variables		Frequency	%
1.Sex	Male	55	54.5
	Female	46	45.5
2.Age group	0-11 months	31	30.7
	12-23 months	25	24.8
	24-35 months	13	12.9
	36-47 months	14	13.9
	48-59 months	18	17.7
3. Religion	Hindu	99	98.0
	Muslim	2	2.0
4. Social group	SC	14	13.9
	ST	11	10.9
	OBC	6	5.9
	Others	70	69.3
5. SES class	I	0	0.0
	II	7	6.9
	III	29	28.7
	IV	52	51.5
	V	13	12.9

Table: 2 Distribution of different types of morbidity in the study population (N=101)*

Type of morbidity	Number	Percentage
ARI	39	38.6
Diarrhoea	13	12.8
Fever	6	5.9
Vomiting	1	1.0
Skin disease	13	12.8
Worm infestation	15	14.9
E.N.T. problem	1	1.0
CHD	1	1.0
Dental caries	10	9.9
Pallor	28	27.7
Under nutrition (wt/age)	28	27.7

*Multiple response

Table 3: Association of morbidity with different socio-economic factors (N=101)

Variables	Presence of morbidity		p value
	Yes (%)	No (%)	
Sex-			
Male	44 (80.0)	11 (20.0)	0.3313
Female	33 (71.7)	13 (28.3)	
Age (months)			
0-11			
12-23	21 (67.7)	10 (32.3)	0.4800
24-35	20 (80.0)	5 (20.0)	
36-47	12 (92.3)	1 (7.7)	
48-59	10 (71.4)	4 (28.6)	
	14 (77.8)	4 (22.2)	
Social group-			
SC	9(64.3)	5 (35.7)	0.2995
ST	10(90.9)	1 (9.0)	
OBC & Others	58(76.3)	18 (23.7)	
SES class-			
I+II+III	28 (77.8)	8 (22.2)	0.78
IV+V	49 (75.4)	16 (24.6)	
Type of family			
Joint	39(67.2)	19(32.8)	0.013
Nuclear	38(88.4)	5(11.6)	
Type of house			
Kutcha	17(89.5)	2(10.5)	
Semi pucca	41(87.2)	6(12.8)	0.0007
Pucca	19(54.3)	16(45.7)	
Type of latrine			
Nil	15(75.0)	5(25.0)	
Water seal	48(72.7)	18(27.3)	0.236
Others	14(93.3)	1(6.67)	
Exclusive breast feeding			
≥ 6 months	36 (67.9)	17 (32.1)	0.039
< 6 months	41 (85.4)	7 (14.6)	

In this study,it was found that ARI was the most frequent morbidity (38.6%) present in the study population followed by under nutrition (27.7%), pallor (27.7%), worm infestation (14.9%), skin disease (12.8%) and diarrhoea (12.8%) respectively.

Gupta S. et al in rural area of Jammu observed that morbidities among under-five children (excluding chronic conditions) in decreasing order of incidence were acute respiratory infections (47.26%), diarrhoeal diseases (30.10%), skin infections and fever[2].

In this study morbidity among children was 76.2% (boys - 80%, girls – 71.7%). There was no statistically significant difference among the morbidity profile between two genders (OR=1.57, p =0.33). Whereas females suffered more episodes of illness (5.6 episodes/ child/year) compared to males (4.0 episodes per child per year) documented by Sanjana Gupta et al in a study in a rural area of Jammu[2]. On the other hand Lakshmi J A et al[3] and Mittal A[4], observed more episodes among males as compared to females in their studies among under five children. However, Ukey UU mentioned that the probability of under reporting of morbidity in females should also be considered[5].

Majority of the children (92%) belonging to 24-35 month age group were morbid, the difference of morbidity in different age groups was not statistically significant (p=0.48). According to NFHS-3 data, ARI (8.1%), fever (21.1%) and diarrhoea (18.1%) were mainly found in 6-11 month age group. Study of Kutty VR et al in rural Kerala in 1992, showed that the incidence of various diseases initially increased as per the age, and declined after 3 years of age[6].

The prevalence of morbidity was found to be maximum in ST (90.9%) and least in SC (64.3%) category (p=0.299). According to NFHS 3 data morbidity was found to be maximum in other caste and least in ST category, but diarrhea was most common in OBC category (9.5%) and least in other caste (8.6%).

Morbidity was found marginally more (77.8%) among the children from upper socio-economic class (I+II+III) (p=0.78, OR=1.14).It was observed that morbidities were more in nuclear (88.4%) families (p=0.0136, OR=3.7).

Morbidities were more in the kutchha houses compared to pucca and semipucca houses and the difference was statistically significant (p=0.0007).

In the present study, 52.5% children were exclusively breastfed. Morbidity was found to be less in exclusively breast fed children (p=0.039, OR=2.78). Bele SD et al in 2011 reported significant association between lack of exclusive breast feeding and occurrence of diarrhoea (p= 0.008), ARI (p= 0.03) while no association was observed with other infections[7].

CONCLUSION

The present study highlighted that ARI is the most common morbidity among under five children followed by pallor and malnutrition. The sociodemographic variables which has got significant association with morbidity are kuccha house, low maternal education ,low socioeconomic status and lack of exclusive breast feeding . Improved literacy status among the mothers ,better socioecomic condition and adequate knowledge of exclusive breast feeding can reduce the problem in future.

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