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Common morbidities among under-five children in the rural population of district Ghaziabad

Sankalp Khatri[1], Gajendra Kumar Gupta[1], A Revanth Kumar[1,*], Anupama Singh[1], Deepika Agrawal[1]

[1] *Dept. of Community Medicine, Santosh Medical College, Santosh Deemed to be University, Ghaziabad, Uttar Pradesh, India*

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ABSTRACT

Background: Malnutrition and morbidities among under-five children is a major public health problem in India.
Objective: To assess the morbidity status of children under five years of age in a rural community of District Ghaziabad.
Materials and Methods: A community based cross sectional study was conducted in the villages of district Ghaziabad using multistage simple random sampling technique. The survey was done by using a pretested proforma along with clinical examination and anthropometric measurements of un-der-five children. Analysis was done using MS excel 2013.
Results: More than a third of the children had nutritional health problems like Stunting in 36.9% of children, followed by 31.1% underweight and 20% suffered from wasting. Diarrhoea was most common morbidity, accounting for 36.5% children & ARI affected 30.9% of the children.
Discussion: Diarrhoea, Acute Respiratory Tract Infection and malnutrition were found to be major morbidities among the children, accounting for around one third of them.
Conclusion: Healthy children grow-up to build healthy nation in future. Hence capacity building of parents for early health seeking and strengthening grass root level health workers is essential to act timely in managing these morbidities.

1. Introduction

Under-five children accounts for 10.7% of Indian population and they are vulnerable to various morbidities.[1] This age group is a crucial and transitional period when the child is struggling to come into equilibrium with its ecology. A child deprived of health care during these most impressionable years, is deprived of the opportunity of growing into a normal human being, and the damage done in the first few years could be irreversible.[2] The major diseases affecting this age group are nutritional problems, acute diarrheal diseases, acute respiratory infections, anaemia, skin disease, ear discharge, etc.[3]

Nutrition is the foundation of child survival and development. Under- nutrition is occurring in the form of silent epidemic among the children under five years of age. It is an important Public Health problem not only in India but around the globe.[4] Nutritional problems are comprised of four forms as under-nutrition, over-nutrition, imbalance and the specific deficiency.[5] Malnutrition not only affects people's health and wellbeing, it also affects physical and mental growth, suppressing body immune system, increasing risk of non-infectious and transmissible diseases, reducing productivity and other negative social and economic consequences on individual households, societies and nations.[6] Malnutrition among under-five children is a major public health problem in India.[7] The National Family Health Survey – 4 (2015-16) showed huge variation in childhood morbidity profile among different states

* *Corresponding author*.
E-mail address: revanthkumar.dr@gmail.com (A. R. Kumar).

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and Diarrhoeal diseases were noted to haves the highest prevalence among under-five children.[8]

The burden of morbidities appears particularly high among rural and indigenous tribal populations who constitute about 8.2% (84.3 million) of total population in India.[9] The socio-economic conditions, ignorance due to illiteracy, unhygienic conditions, overcrowding makes these people more susceptible to various communicable diseases and malnutrition. Several child survival strategies implemented by Government of India has resulted in impressive improvement in morbidity and mortality indicators, but the results have not been consistent.

Diarrhoea, dehydration, malaria, anaemia, acute respiratory infection, and meningitis accounted for 85.5% of the underlying diseases and for 76% of deaths.[10] According to WHO, out of total deaths in under five children 19% deaths each were contributed by ARI and Diarrhoea, 18%were due to perinatal cause, 7% occurred due to Measles, 5% due to Malaria and 32% were from other causes.[11] Thus the present study was undertaken to identify prevalence of the common morbidities among under-five children in the rural population of District Ghaziabad.

2. Materials and Methods

A community based cross sectional study was planned in the Community Medicine Department, Santosh Medical College, Santosh Deemed to be University, Ghaziabad and conducted in the selected villages under PHC Pasonda in Loni Block, district Ghaziabad using multistage simple random sampling technique from May 2016 to April 2017. Ethical clearance was obtained from the Institutional Ethical Committee.

A Sample size of 975 was calculated by taking prevalence of fever in India from NFHS-3 (2005-06) as 14.9% & an allowable error of 15% and a total of 980 under-5-year children were considered for the present study.[12]

Prior to the actual study, the questionnaire was pretested in a randomly selected village other than the study villages from the same block as a pilot study to assess the comprehensibility of the same.

The survey was conducted in the randomly selected villages until the required number of sample size was achieved, using a predesigned, pretested and semi-structured proforma for recording the anthropometrical measurement, clinical findings and other parameters like birth history, feeding practices, immunization status, any signs of nutritional deficiency, present health status including baseline nutritional and morbidity status (within last 2 weeks) of the under five children.

All the children who have not celebrated their 5^{th} year birthday as on the day of Data collection and whose guardian (nearest Kin) consented to participate were included in the study. The children of relatives or visitors or those families who have been residing in the selected village for less than 3 months of the study date were excluded.

The collected data was compiled in MS Office Excel 2013 & presented in tabulation.

3. Results

In the present study (Table 1) there were 57.04% girls and 42.96% boys in the study population. Highest number of Girls 20.9% (205) were found in 0-11 months age group whereas among the boys, more number of boys were in 48-59 month age group 13.3% (130) & least number of boys were present in 0-11 months age group 5.5% (54) and least number of girls present in 12-23 month age group 4.1% (40).

With respect to cast wise distribution of the study population, about two thirds proportion (63.98%) of the study population were Muslim and 32.04% were Hindus. There was only one Christian individual among the study subjects (others include Sikhs & Christian) (Table 2).

980 children were distributed in a total of 500 families. Majority of the families were nuclear families 63.60% and rest were joint families. Amongst under five children, 58.98% belonged to the joint family (Table 3).

Majority of the children 3 (6.9%) had stunting followed by 31.1% who were underweight and 20% suffered from wasting (Table 4).

Major morbidity found among the children was diarrhoea, accounting for 36.5% children. This was followed by ARI affecting 30.9% of the children. Worm infestation was found among 10.1% of the children (Table 5).

Table 1: Age & gender wise distribution of the study population (n=980)

S. No.	Age group (months)	Gender		Total (%)
		Male (%)	Female (%)	
1	0-11	54(5.5)	205(20.9)	254(26.4)
2	12-23	76(7.8)	40(4.1)	116(11.8)
3	24-35	94(9.6)	96(9.8)	190(19.4)
4	36-47	67(6.8)	109(11.1)	176(17.9)
5	48-59	130(13.3)	109(11.1)	239(24.4)
Total		421(42.96)	559(57.04)	980(100)

Table 2: Religion-wise distribution of study population (n = 980)

Religion	No. (%)
Muslim	627 (63.98)
Hindu	314 (32.04)
Others	39 (3.98)
Total	980 (100)

4. Discussion

In the present study Table 1 shows that 57.04% were female children and 42.96% were males. Around 13.27% male

Table 3: Distribution of study population according to type of the family

Family Type	No of Families (%)	No. of Children (%)
Joint	182 (36.4)	578 (58.98)
Nuclear	318 (63.6)	402 (41.02)
Total	500 (100)	980 (100)

Table 4: Distribution of study population according to nutritional status

S. No.	Nutritional status	No. of Children (%)
1	Under Weight	305 (31.1)
2	Stunted	362 (36.9)
3	Wasted	196 (20)

Table 5: Distribution of morbidities in the study population

S. No.	Morbidity	No. of Children (%)
1	ARI	303 (30.9)
2	Diarrhoea	358 (36.5)
3	Measles	27 (3.8)
4	Anaemia	8 (3.8)
5	Fever	89 (3.1)
6	Malaria	14 (3.4)
7	Worm infestation	99 (10.1)
8	Skin infections	80 (3.2)
9	Other*	2 (3.2)

*indicates the following morbidities: Refractive errors, Chicken Pox, Dental caries, Night blindness, Paediatric TB & Ear Infection.

children were in the 48-59 age-group as group had the maximum 20.92% number of female subjects. Female group 11-23 months accounted for 4.08% of the study group as compared to only 5.51% in the 0-11 months age group; in contrast, this age.

In a similar cross-sectional community-based study conducted in the field practice area of Rural Medical College Loni, Avachat et al (2009)observed that among the 652 under-five children, 55.37% were male and 44.63% were female. Among these children 19.63% belonged to less than 12 months age group, while 21.01%, 21.78%, 17.18% and 20.40% of the children belonged to 12-23 months, 24-35 months, 36-47months and 48-59 months age-groups respectively. [13]

Highest proportion of the study population 63.98% were Muslims followed by 32.04% (Table 2).

In Table 3, it was observed that 980 children were distributed in a total of 500 families. Majority of the families were nuclear families (63.60%) and rest were joint families. Amongst under five children (58.98%) belonged to the joint family. A study of Luthra et al. (2010) in rural Dehradun however observed that 55.4% of the study children belonged to nuclear families whereas 44.6% belonged to joint families. Both the study showed predominating nuclear families. [14]

Table 4 of the present study showed that31.12% of under-five children were under weight. It was observed that the occurrence of underweight was more among the girls (24.90%) when compared to boys (6.22%).

Among 980 under five children 362 (36.94%) were stunted. Stunting was also found to be more in female children (23.78%) than male children (13.16%).

Among 980 children 44 children (20.00%) had wasting. Similar to Underweight & Stunting, Wasting was also observed to be 3 times higher among the girls (15%) & boys it was 5.00%.

hows that female children (56.63%) suffered slightly more episodes than male children (43.37%). Maximum 37.84% of female and 32.46% of male children suffered from diarrhoea followed by ARI.

NFHS II collected information on the prevalence and treatment of three health problems that cause considerable mortality in young children. These are fever, acute respiratory tract infection (ARI) and diarrhoea. In India 30% of children under the age of three had fever during the two weeks preceding the survey, 19% had symptoms of ARI, and 19% had diarrhoea· Whereas according to National Family Health Survey-III (NFHS-III) in India, 9% & 5.8% of mothers of children below the age of 3 years reported that their children suffered from diarrhoea and ARI respectively. [15]

Mishra VK (1999) in their analysis of NFHS data reported that the prevalence of stunting is the same for boys and girls. A separate analysis for Bihar indicates that even in Bihar, in which the status of women is arguably the lowest of any state in India, there is no significant difference in the prevalence of stunting between boys and girls. [16]

5. Conclusion

The present study showed, Diarrhoea was the major morbidity among children, accounting for 36.5% of the children, followed by ARI affecting 30.9%. Nutritional status was also found to be poor with high prevalence of 36.9% for children with stunted growth, 31.1% were underweight and 20% suffered from wasting. It is recommended that the beneficiaries be imparted adequate health education to create awareness on the ongoing National Health Programs in their area and bring a behaviour change in their health seeking habits. The capacities of the grass root level health workers also need to be strengthened for focusing on these health issues by early detection and timely management or referral.

6. Source of Funding

Nil

7. Conflicts of Interest

None declared.

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Author biography

Sankalp Khatri Ex Post Graduate Resident

Gajendra Kumar Gupta Professor

A Revanth Kumar Assistant Professor

Anupama Singh Assistant Professor

Deepika Agrawal Professor and HOD

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