

Original Article

Morbidity Pattern among Under Five Children in a Selected Upazilla Health Complex

*Begum M¹, Elham N², Riya N³, Shoeb N⁴, Rahman F⁵, Nasreen A⁶**Abstract**

A descriptive type of cross sectional study was conducted to find out the morbidity pattern of under five children from February to March 2018. Sick child up to 5 years of age attending Sonarganon Upazila Health Complex, Narayanganj were included in this study. Total 250 respondents were selected by purposive sampling method. Data were collected through structured questionnaire by face to face interview and anthropometric measurement by checklist. Out of 250 respondents, maximum mother 96(38.4%) were in the age group 20-24 year, only 10 (4%) were above 40 years of age. Most of the respondents (94%) were Muslims, one third of them (34%) had non formal education and nearly one third (32%) had completed primary education. About three fourth of the respondents (73.6%) were house wives and 40% live in kacha houses. Monthly family incomes 12000TK of the (36.8%) respondent and more than (67%) two third had sanitary latrine. Majority of the children (59.6%) were within the age group of 12 months or less and mean age \pm SD was 15 ± 12.8 months and majority were female child (51.2%). Mean weight \pm SD and mean height \pm SD of the children were 7.84 ± 2.76 kg and 67.77 cm ± 13.5 cm respectively. Among the morbidity it was found that 26.4% were ARI followed by diarrhoea 18.8%, fever 18% pneumonia 13.6%, skin diseases 6.8%, helminthiasis 6.4%, anemia 4.8%, mumps 3.6% and malnutrition 1.6%. Majority of the children (60%) completed immunization.

Diarrhoea was found more common among illiterate and non-formal educated mothers (55.58%). Acute respiratory infection (ARI) was more prevalent in children who lived in kacha house. Pneumonia was more common among the children of business women (33.3%). This study reveals the existing morbidity pattern of under 5 children and would be helpful for development of health services of under 5 children.

Keywords: Morbidity, Under five children, Diarrhoea, ARI.

INTRODUCTION

Morbidity can be defined as the condition of being diseased, the rate of disease in a population is a morbidity. Disease state, disability and poor health all together mean morbidity.¹ Morbidity impedes body's metabolism and retards the response. The poor appetite of a malnourished child leads to a fall in dietary intake and indicates a morbid condition. Morbidity reveals impairment in the immune competence of an organism and may cause death at one early stage of life. The common morbidities in Bangladesh are Pneumonia, Diarrhoea, other infections, prematurity, neonatal sepsis, perinatal asphyxia, accidents and poisoning, Pertussis, Measles, Tetanus, Meningitis & Malaria. These morbid conditions often take a heavy toll of every year.² The under-5, infant and neonatal mortality rate in our country are 28, 21, and 15 per thousand live births respectively. Although these have been reduced a lot from before, they are still very high when compared with the developed world.³

Most often the children living in a developing country like ours reside in a hostile environment, like poverty, overcrowding, lack of easy access to treatment, lack of sanitation and malnutrition. This makes the under -5 age group the frequent victims of infectious diseases & other morbidities. There are some common diseases from which children under 5 are suffering. These are ARI, Diarrhoea, Malnutrition, Helminthiasis, and skin diseases. These diseases are mostly preventable. The morbidities are reducible by improving socio economic conditions, changing some habits and improving macro environment. In the most areas of the country, especially in the lower socio-economic class, water supplies are unprotected & unclean. Latrine & other facilities for disposal of excreta

1. *Dr. Masuma Begum. Professor (CC), Department of Community Medicine, Holy Family Red Crescent Medical College (HFRCMC), Dhaka. Email: masuma_dr@yahoo.com
2. Dr. Nazia Elham, Assistant Professor, Department of Community Medicine, HFRCMC, Dhaka.
3. Dr. Sayeda Riya, Professor, Department of Community Medicine, Tairunessa Memorial Medical College
4. Dr. Nusrat Shoeb, Assistant Professor, Department of Community Medicine, HFRCMC, Dhaka.
5. Dr. Fatema Rahman, Lecturer, Department of Community Medicine, HFRCMC, Dhaka.
6. Professor Ayesha Nasreen, Department of Community Medicine, HFRCMC, Dhaka.

*For correspondence

are inadequate and impoverished. Houses hold rubbish, and garbage is usually dumped in the dwelling places or in the water supply which contaminates the source of water. As a result, high incidence of diarrhoeal diseases does occur. Diarrhea prevalence is usually high among under-five children and it is significantly prevalent among children aged between one to two years.⁶

Homes are poorly ventilated and overcrowded.⁵ Smoke from the cooking stoves pollutes the air inside the house, and the polluted air, in turn, causes ARI.⁶ ARI causes 23% of infant (0-1yrs) death and 25% death of 1-5 yrs age group. Respiratory infections account for 6% of the total global burden of disease which is a higher percentage compared with the burden of diarrheal disease, cancer, human immunodeficiency virus (HIV) infection, ischemic heart disease or malaria.⁷

Low levels of parental education increases morbidities. Mothers' education, and household economic status are significantly associated with childhood diarrhea.⁴ There are also evidence available for a link between maternal education and child health in low and middle-income countries.⁸ However, vaccination is playing an important role in giving the children the strength to fight off diseases and disabilities.

MATERIALS AND METHODS

A descriptive type of cross-sectional study was carried out to find out the morbidity pattern among under five children at Sonargaon Upazilla Health Complex. The total study period was from February to March, 2018. Sample was selected purposively and a total of 250 under five children were included in this study. All the under five children attending the hospital were considered as sample. A questionnaire was developed for collecting information for this study. For the collection of anthropometric data, measuring tape and weighting scale were used. The data was collected in every ward and outpatient department of the hospital where under five children were available. The data was collected by interviewing the mother, father or any attending guardian capable of providing necessary information.

RESULT

Total number of 250 under five children were examined to findout their morbidity pattern.

Table I, shows the distribution of mothers by age, among the mothers 38.4% were at the age of 20 to 24 years followed by 23.6% at the age of 25 to 29 years. There were 4% respondents at the age of 40 and above years. A total 94% were Muslims & only 6% were Hindus. Total

number of non-formal educated persons were 34%. The next group was the respondents with primary education which was 32% and graduate & above was 4.4%. Among the respondents 73.6% were housewives, followed by 14.8% garments workers, 5.2% service holders, 4% day labourers and 2.7% were business woman. It was observed that 46.8% respondent were living in pucca houses, 40.8% in kacha houses and 12.4% in tin-shed houses.

Table I Sociodemographic characteristics of respondents (n=250)

| Attributes | Groups | Number | Percentage % |
|-------------------------------|--------------------|--------|--------------|
| Age of the Mother (in year) | <20 | 48 | 19.2 |
| | 20 to 24 | 96 | 38.4 |
| | 25 to 29 | 59 | 23.6 |
| | 30 to 34 | 24 | 9.6 |
| | 35 to 39 | 13 | 5.2 |
| | 40 and above | 10 | 4 |
| Religion | Islam | 235 | 94 |
| | Hindu | 15 | 6 |
| Education level of the Mother | Illiterate | 6 | 2.4 |
| | Non-formal | 85 | 34.0 |
| | Primary | 80 | 32.0 |
| | Secondary | 68 | 27.2 |
| | Graduate and above | 11 | 4.4 |
| Occupation of the mother | Housewives | 184 | 73.6 |
| | Garments worker | 37 | 14.8 |
| | Service holder | 13 | 5.2 |
| | Day labourer | 10 | 4 |
| | Business woman | | 2.7 |
| Housing of the respondents | Kacha house | 102 | 40.08 |
| | Pucca house | 117 | 46.8 |
| | Tin shed house | 31 | 12.4 |

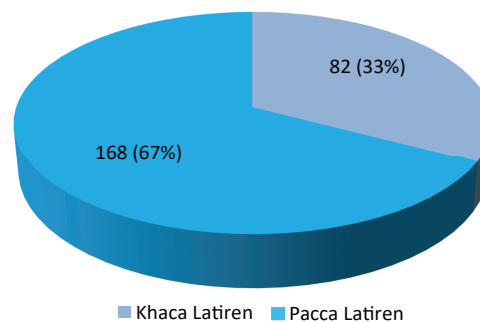


Figure-1: Distribution of respondents by sanitary facilities (n=250).

Regarding sanitary facilities the distribution of respondents by sanitary facilities 67% were using sanitary latrine and 33% were using kacha latrine.

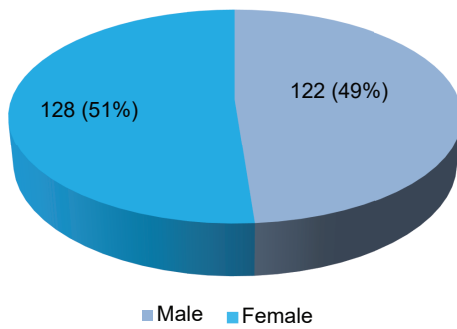


Figure-2: Distribution of the children by Gender (n=250)

Figure 2 shows about 128 (51.2%) children were girls and 122 (48.8%) children were boys.

Table II shows distribution of children, among the 250 children 59.6% belonged to less than 12 months age group, followed by 23.6% in 13 to 24 months age group. Mean±SD age of the children was 15.01±12.76 months. It was observed that 25.2% children were within 61 to 70 cm height, 22.4% within 51 to 60 cm height and 20.8% within 71 to 80 cm height.. Mean height±SD of the children were 67.77±13.50 cm. Among the children 49.2% were of 6.1 to 9 kg weight, followed by 23.6% of 3.1 to 6 kg weight, 2.8% were of 3 kg or less weight. Mean weight ± SD of the children were 7.84±2.76 kg.

Table II Distribution of the children by age, height and weight (n=250)

| Attributes | Groups | Number | Percentage % |
|-------------------|-------------------|------------------|--------------|
| Age | 12 months or less | 149 | 59.6 |
| | 13 to 24 months | 59 | 23.6 |
| | 25 to 36 months | 20 | 8 |
| | 37 to 48 months | 17 | 6.8 |
| | 49 to 60 months | 05 | 2 |
| Mean=15.01 months | | SD=+12.76 Months | |
| Height | 50 cm or less | 27 | 10.8 |
| | 51 to 60 cm | 56 | 22.4 |
| | 61 to 70 cm | 63 | 25.2 |
| | 71 to 80 cm | 52 | 20.8 |
| | 81 to 90 cm | 42 | 16.8 |
| | 90 cm and above | 10 | 4 |
| Mean=67.77 cm | | SD= + 13.50 cm | |
| Weight | 3 kg or less | 07 | 2.8 |
| | 3.1 to 6 kg | 59 | 23.6 |
| | 6.1 to 9 kg | 123 | 49.2 |
| | 9.1 to 12 kg | 45 | 18 |
| | 12.1 to 15 kg | 16 | 6.4 |
| Mean=7.84 kg | | SD= + 2.76 kg | |

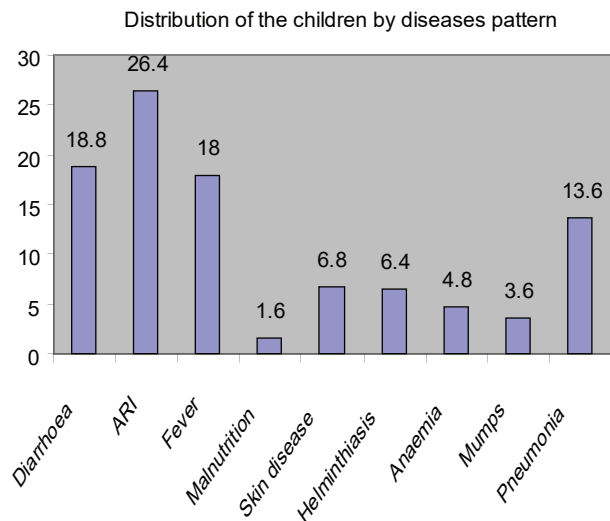


Figure 3: Distribution of the children by diseases pattern (n=250)

Figure 3 shows the distribution of children by disease patterns, 26.4% children suffered from ARI, 18.8% from Diarrhoea, 18% from fever and 13.6% from Pneumonia. There were children who suffered from skin disease (6.8%), Helminthiasis (6.4%), Anaemia (4.8%), Mumps (3.6%) and malnutrition (1.6%) respectively.

Table III shows 94.8% respondents had adequate knowledge about breast feeding, 5.2 % had not adequate knowledge. About 28.8% took rice as their supplementary food. This was followed by suji (26%), milk (22.4%), Khichuri (21.8%) and 1.2% took fruits as their supplementary food.

Table III Knowledge of breast feeding and type of supplementary food of children (n=250)

| Attributes | Groups | Number | Percentage % |
|--------------------------------|----------------------|--------|--------------|
| Knowledge about breast feeding | Inadequate knowledge | 13 | 5.2 |
| | Adequate knowledge | 237 | 94.8 |
| Supplementary food | Khichuri | 54 | 21.6 |
| | Shuji | 65 | 26 |
| | Rice | 72 | 28.8 |
| | Fruits | 03 | 1.2 |
| | Milk | 56 | 22.4 |

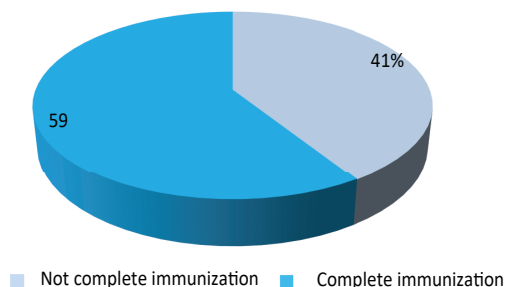


Figure 4: Distribution of the children by immunization status

Figure 4 shows the immunization status of children, 58.8% children were completely immunized and 41.2% were incomplete immunization.

Table IV shows that 33.33% and 16.25% children of illiterate and primary educated mothers respectively suffered from diarrhoea. The children of higher secondary and graduate mothers suffered 15.4% and 9%. Prevalence of ARI was 29.4% among the children living in Kacha house, 25.8% living in tin-shed house and 23.9% living in pacca houses. The occurrence of pneumonia was 33.3% among the children of business women and 31% in children of service holder and 13% among children of house wives.

Table IV: Relationship between morbidity of children and mothers' factors

| Factors | Morbidity | |
|-----------------------------|--------------------------|-------------------------|
| | Diarrhoea Present | Diarrhoea Absent |
| Educational Status | | |
| Illiterate | 2 (33.33%) | 4(66.66%) |
| Non formal education | 19 (22.35%) | 66(77.65%) |
| Primary | 13 (16.25%) | 67(83.75) |
| Up to class X | 7 (24%) | 22(76%) |
| Secondary | 3 (11.5%) | 23(88.5%) |
| Higher, Secondary | 2(15.4%) | 11(84.6%) |
| Graduate and above | 1 (9%) | 10(91%) |
| Type of housing | ARI Present | ARI Absent |
| Kacha House | 30(29.4%) | 72(70.6%) |
| Pacca | 28(23.9%) | 89(76.1%) |
| Tin-shed | 8(25.8%) | 23(74.2%) |
| Occupation of mother | Pneumonia Present | Pneumonia Absent |
| Housewife | 24(13%) | 160(87%) |
| Service | 4(31%) | 9(69%) |
| Garments workers | 4(10.8%) | 33(89.2%) |
| Day labor | 0(0%) | 10(100%) |
| Business | 2(33.3%) | 4(66.7%) |

DISCUSSION

In this study when demographic data were analyzed it was found that among 250 respondents 102 (40.8%) resided in Kacha house, 117 (46.8%) in pacca house and only 31(12.4%) in Tin shed house. According to a survey report of Bangladesh Bureau of Statistics, more than half of the countries total population live in Kacha houses.⁹ Regarding sanitary facility majority 168(67%) were using Sanitary facilities using sanitary latrine and rest 82(33%) were using khacca latrine. According to the Bangladesh Bureau of Statistics (BBS) and UNICEF, the proportion of households using sanitary latrines in rural areas was 49.9% in 2009.¹⁰

Male female ratio of children in 61:64. Mean height of child were 67.77 ± 13.5 cm. Majority 63(25.2%) were belong to 61 to 70 cm of height and lonely 10(4%) were belong to 90cm and above. Mean weight of children were 7.84 ± 2.76 kg. Maximum 123 (49.2%) belong to the wt. 6.1 to 9 kg only 16 (6.4%) were belong to weight 12.1 to 15 kg. Maximum 143(58.8%) child had completed Immunization and 103 (41.2) were not completed immunization. A study conducted from Secondary dataset from Bangladesh Demographic and Health Survey shows about 86% of the children were fully immunized which is much higher than our finding.¹¹

In this study, it was found that ARI is the major cause of morbidity among under five children, 66(26.4%) followed by diarrhoea.⁹ 47(18.8%) which supports the WHO. WHO report from state of world children's 98 shows that annual death of under five children by main causes are ARI (30%) and diarrhoeal diseases (28%).¹² Another report from WHO bulletin 1996-97 shows that, ARI accounts for 30% to 50% of pediatric hospitalization in most developing countries. 33% of deaths of under five children in 1995 were due to ARI, pneumonia.¹³ The study observed that, major cause of under-five morbidity is Diarrhoea, ARI, Fever, pneumonia, which was also found in WHO report explaining the most common enemies of the world children includes several diseases that kill over 8 million children a year in developing countries. These are diarrhoea, Pneumonia, measles, ARI, malnutritional etc. Out of 8 million under five child deaths, 4.5 million die from ARI, 2.5 million die from diarrhoea and 0.6 million die from other diseases. Considering the occurrences of diseases among under five children, it was found that, ARI, diarrhoea, fever, pneumonia, helminthiasis, fever. were the major causes of their illness .A morbidity study carried out in 350 children below 5 years, in a sindhi colony in Raja

Park of Jaypur city India, Sharma et al¹⁴ showed that, a majority of children (78%) suffered from one or more diseases like ARI, diarrhoea, pneumonia and helminthiasis which were leading causes of illness.

The majority of children in this study were under 12 month's age group indicating higher morbidity in lower age group. It is supported by a hospital-based study by Amin R et al who showed that 55% of total morbidity occurred in 0-12 months of age and highest mortality was due to ARI (23.7%), diarrhoeal disease (34.6%) and fever (2%) also prevalent among this age group. The study found higher incidence of diarrhoea among lower educational status.¹⁵

A study done in Ghana on factors associated with childrens' Diarrhoea and ARI shows Children under-5 years old whose mothers had a secondary or higher education had a lower prevalence of diarrhoea compared to children whose mothers had no formal education.¹⁶

It was found that children of illiterate mothers suffered more from diarrhoea 13(22%) than the literate mothers. A study among 0-4 years children of urban community of Abidjan by Domande et al revealed that low literacy and poor socioeconomic condition and lack of water supply within the house were the associated factor responsible for occurrence of diseases such as diarrhoea, ARI etc.¹⁷

The study observed higher incidence of ARI in lower living condition (Kacha house) I,e 29% . A longitudinal study by Mitra N was carried out in West Bengal on ARI among rural under-fives showed that overall incidence density rate of ARI episodes was 19.57/100 person months at risk. Risk ratio analysis showed that, low socio-economic class, low birth weight, malnutrition of the children, low standard of living and indoor smoke pollution were significantly associated with increasing number of ARI episodes.¹⁸ The study showed that, the occurrence of pneumonia was more among the children of service holder mothers (33.3%) and Business women (33.3%) than the children of house wives (13.2%). It indicates that lack of care was responsible for the occurrence of disease among children. The study revealed that major causes of morbidity among under five children were ARI 46 (26.4%) and diarrhoea 33(19%) which supports another study by Anandhi CL et al. who conducted a cross sectional study on acute morbidity in under five children in a rural area of Haryana, India found that out of 980 under five children 81 had diarrhoea and 78 had ARI. These two diseases are more prevalent among under five children.¹⁹

CONCLUSIONS

Study shows that most of the mothers was young adult and are Muslims. Most of them were housewives, primary educated, residing in kacha houses and used sanitary latrine. Maximum children were below one year of age and female child. Most of the children completed immunization. ARI was most common morbid condition followed by diarrhoea, fever, pneumonia and others. ARI was more prevalent in children who lived in Kacha houses and pneumonia was more common among the children of business women. Findings of this study may be a useful basis for future research.

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