ORIGINAL ARTICLE

MORBIDITY AND MORTALITY IN CHILDREN IN RURAL COMMUNITY OF DISTRICT PESHAWAR

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ABSTRACT

Background: In Pakistan more than 20 million people are under five years age. The aim of this study was to determine the mortality rate, morbidity and its various causes in children of less than 5 years age in a rural community of District Peshawar.

Material & Methods: This descriptive study was conducted in the village Budhni of District Peshawar, from 1st January 2005 to 31st July 2006. Sampling technique was purposive. The data was analyzed in PMRC Research centre PGMI, Peshawar by using SPSS version 14. Descriptive statistics was given for qualitative variables and presented in the form of frequency and percentage.

Results: Two hundred & eighty-three children under 5 years age, presented to Budhni Health Centre during the study period. Male to female ratio was 1.9:1. Nine deaths occurred in children under 5 years during the study period. Most of the deaths 7(78%) were in the neonatal period. Among the diseases, acute respiratory infection was the leading disease comprising 27% of the total. Causes of death were neonatal jaundice (22%), diarrhea (11%), fits (11%), and unknown (45%).

Conclusion: Majority of deaths occurred in the neonatal period, which enhances the importance of antenatal care in the first month after birth. Infant/Child mortality in this region can be reduced by improvement in the health care system at peripheral level.

Key words: Mortality rate, Morbidity, Rural community, Peshawar.

INTRODUCTION

In Pakistan more than 20 million people are under five year age.[1] Out of total deaths in a year in Pakistan, almost 50% were reported in under 5 years children. Similarly, out of the total sick persons in Pakistan a large proportion, i.e. about 3/5 are contributed by the children.

It has been reported that about 550,000 children under five years die in Pakistan from preventable causes including pneumonia, diarrhoea, malnutrition, measles, and malaria. Pakistan has been able to reduce mortality rate for children by 15% since, 1990, but it was still among the countries with high mortality in children.[2]

It has been reported that in South Asia 100 children per 1000 live birth die before they celebrate their 5th anniversary.[3] These high death rates indicate the poor socio-economic and health problems of the community,[4] while on the other hand, proper hygiene and selective health planning has reduced the infant mortality in many countries.[5]

Keeping in view the high mortality rate in south Asia and particularly in Pakistan, Pakistan Medical Research Council launched a project of Health Services Research in village Budhni in 1985 to collect information regarding morbidity, mortality, age, sex, duration of illness, and causes of deaths.

Budhni village is situated at a distance of 25 KM from Peshawar, with total population of about 8848 in the study period. The village at the start of the project had no proper sanitation system. The population under 5 year is about 20% (1770) of the total. The death rate is 28 per thousand in the particular community under 5 years of age at the study period.

The aim and objective of present study was to collect information about the morbidity, mortality, and its various causes in the rural community in children under age 5, to give a preliminary idea to health providers, planners and program executives for the initiation of health centre projects in a particular area in children under 5 year of age. The study also aimed to evaluate birth rate, deaths records, socio-economic status, and education of the people of the village. Special emphasis was made in children in less than five years of age.

MATERIAL AND METHODS

This descriptive study was conducted in a rural community, village Budhni of District Peshawar, from 1st January, 2005 to 31st July, 2006, to collect information on morbidity, mortality, and its causes in under 5 years children. Sampling technique was purposive.

All the information regarding type of disease, duration of illness, age, sex, births, and deaths of the children, were recorded by the staff of the Health Centre. Birth and death records of the village were also maintained in the heath centre. The causes of death in children were determined by verbal discussion with the parents /guardians (verbal autopsy) of the diseased children and hospital record. A male curaparamedic visited the residence of diseased children on the 4th day of death for this purpose.

The data was analyzed in Pakistan Medical Research Council, Postgraduate Medical Institute, Peshawar, by using SPSS version 14. Descriptive statistics was given for all qualitative variables and presented in the form of frequencies and percentages.

RESULTS

Two hundred & eighty-three children under five years age presented to PMRC Health Centre village Budhni during the study period; of which 185 (65%) were males and 98 (35%) females with a male to female ratio of 1.9:1.

Acute respiratory infection in 77 (27%) was the leading disease reported. Gastroenteritis was reported in 40 (14%), fever in 53 (19%), helminthes in 10 (4%), skin infections 32 (11%), eye infections 28 (10%), ear infections 9 (3%), and 34 (12%) were reported as unknown. (Table-1)

Table-2 depicts the age and sex distribution of the deaths in children. Nine deaths occurred of which 6 (66.7%) were male babies and 3 (33.3%) females. All the male babies died before completing their first year of life, while out of 3 female babies, 2 died before and one after 365 days of life.

Table-3 reveals the main causes of death, which include; neonatal jaundice in 2 (22%), fits in 1 (11%), cardiac congenital abnormality in 1 (11%) and undiagnosed in 5 (56%) cases.

Table-1: Causes of morbidity.

CAUSES / DISEASES	Male	Percent	Female	Percent	Total	Percent
Acute respiratory infection	56	73	21	27	77	27
Gastroenteritis	26	65	14	35	40	14
Fever	31	58	22	42	53	19
Helminthes	08	80	02	20	10	04
Skin infection	21	66	11	34	32	11
Eye infection	17	61	11	39	28	10
Ear infection	08	89	01	11	09	03
Unknown	18	53	16	47	34	12
Total	**185**	**65**	**98**	**35**	**283**	**100**

Table-2: Age and sex-wise mortality.

Age at Death(Days)	Number	Male	Percent	Female	Percent
0-7	3	2	67	1	33
8-30	4	3	75	1	25
31-365	1	1	100	–	–
> 365	1	–	–	1	100
Total	9	6	67	3	33

Table-3: Causes of mortality.

Causes of Death	Number	Percent
Neonatal jaundice	2	22
Diarrhoea	1	11
Fits	1	11
Cardiac congenital anomalies	1	11
Unknown	4	45
Total	9	100

Table-4: Vital statistics in children <5 years age in village Budhni.

Total Population	8848
Total Families	1230
Total Houses	720
Population <5 years age	1770
Crude Birth rate (Per 1000)	37
Crude Death rate (Per 1000)	7
Pre-natal mortality rate (Per 1000 live births)	10
Neonatal Mortality rate (Per 1000 live births)	22
Infant Mortality Rate (Per 1000 live births)	25
Child Mortality Rate	28

Table-4 shows mortality rate and other vital statistics of children under 5 years age in village Budhni during the study period.

DISCUSSION

Two hundred & eighty-three children under 5 years age visited Budhni Health Centre in the study period for treatment. Acute respiratory infection was the leading disease (27%). Pneumonia is one of leading cause of morbidity and mortality in children in developing countries.[6] In Pakistan over 250,000 child deaths are annually contributed to Acute Respiratory Infection.[7] Mortality is particularly high in rural areas where incidence of ARI is reported to be 30-35%.[8] Pneumonia accounts for 28.5% of the deaths in children under 5 years of age. In our study, we found that ARI comprised 27% of the total illness, which agrees with those results. Pakistan has an IMR of 95/1000.[9]

Respiratory symptoms are frequent among Pakistani children under 5 years of age. Cough and fever in the preceding 14 days affects over one in five children under age five. There is little variation between the sexes or residence of city and rural areas. Similarly, approximately 11-13% of children reported wheezing in the chest during the last 14 days.

ARI is the most common childhood illness throughout the word. It continue to be the major cause of death among children under five years of age in developing countries; in 1995 more than 3 million children died of pneumonia and a further 1.1 million from ARI, accompanied by other ailments. ARI/measles 640,000, ARI/pertussis 260,000, ARI/malaria 190,000 and ARI/HIV 20,000; with as many as eight episodes per child annually. ARI is also a leading cause of sickness and disabilities such as deafness.[10]

Diarrheal diseases are an important cause of childhood mortality. Diarrhea is a frequent occurrence among children under 5 years of age in Pakistan. Every two weeks 20-30 percent of children have an episode of diarrhea. During the course of a year the average child may experience 5-12 episodes of diarrhea. Diarrhea is most frequent in the younger age group with little difference between the sexes or urban/ rural dwellers. In our study, Diarrheal diseases are 11%, which is 3rd leading cause of death.[10]

Diarrheal diseases are associated with unsafe water and poor sanitation, coupled with poor food-handling practices. They are a graphic example of the synergy of poverty and lack of knowledge. Prevention and control, therefore, don't solely rest with the health services but depend on education and economic development.

Worm infestation is one of the major causes of diarrhea in Pakistan. The most important way to control parasitic diseases among children include simple hygienic measures. The most common intestinal worms are roundworms, hookworms, and whip worms - each infects 170-400 million school-age children annually.[11]

In our study the 2nd and 3rd common diseases are gastroenteritis (14%) and fevers (19%). Health policies are made when the researchers provide scientific data to health planners to reduce the morbidity and mortality. Mehnaz et all[12] in their community based study indicated that better selected community health workers trained for identifying cases of pneumonia provide better 1st line care and treatment. Initiation of breast-feeding practices, the use of pre-lacteal feeding practices, breast-feeding duration, firming, and selection of complements in the 1st year of life could better

prevent the acute respiratory infections in infants.[13] The cross-sectional KAP study by Mehmood and Atif[14] investigated that most mothers are aware of the need to increase dietary intake during pregnancy and lactation but financial constraints does not allow them to change their diets.

Although the infant mortality rate (IMR) of Pakistan is 95/1000, but in our study, the IMR is 25/1000, while child mortality rate is 28/1000 live births, this decrease in IMR & CMR is because of proper and better selected community and trained health workers for the early detection of disease and proper treatment. As 9 deaths occurred in children under 5 years ages during the study period, and majority of deaths were in the neonatal period (78%). This also enhances the importance of antenatal care and 1st few weeks after birth.

CONCLUSION

Majority of deaths occurred in the neonatal period, which enhances the importance of antenatal care in the first month after birth. Infant/Child mortality in this region can be reduced by improvement in the health care system at peripheral level.

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