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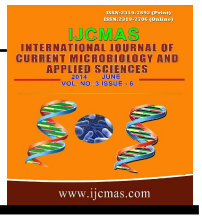

Original Research Article

Profile on Risk factors of pneumonia among Under-five age group at a Tertiary care hospital

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Keywords

Pneumonia, Risk factors, Under fives

A B S T R A C T

Pneumonia is an important cause of mortality and morbidity in children especially among under fives. In India it constitutes 19% of under five deaths and 8.2 % of all disability in under fives. Various risk factors make these children prone for pneumonia. The high mortality & morbidity made necessary to know the risk factors of pneumonia Objective: To study the profile on risk factors of pneumonia among under five years of age group Methods: A case series study was undertaken at a tertiary care hospital, Bellary, India. The cases were ARI patients from Bellary City admitted in pediatric ward of VIMS hospital, a tertiary care centre. Results: An association was found between Pneumonia and parents education, parents occupation, joint family, LSCS, low birth weight

Introduction

Pneumonia is one of the leading causes of mortality among under five children in most developing countries. It is estimated to cause 1.9 million deaths each year (Williams et al 2002). Pneumonia kills more children than any other illness, more than measles, malaria and AIDS combined. Globally 156 million new pneumonia cases are reported every year in the developing world. As many as 8.7 per cent of these cases are severe enough to be life-threatening and require hospitalization (WHO bulletin 2009).

In India, pneumonia is responsible for an estimated 410,000 deaths (Williams et al 2002) in children under five. Studies have shown that up to 19% of children hospitalized with pneumonia die in India. According to the 2008 estimates of WHO, pneumonia is the second leading cause of mortality in under-5 children (18%) and the cause for highest mortality by a single specific disease among under-5 age group (WHO Report 2008). As millions of children, specially the poor, remain at high risk of dying from pneumonia, it is a major factor causing delay in achieving the Millennium Development Goal of globally

reducing childhood deaths by two-thirds by 2015(WHO Report 2009).

Childhood clinical pneumonia is caused by a combination of exposure to risk factors related to the host, the environment and infection. Possible risk factors (Murali et al 2006) include malnutrition, low birth weight, non-exclusive breastfeeding (during the first 4 months of life), immunization status, indoor air pollution(Kiran et al 2000), overcrowding, concomitant diseases, mother's education and birth order etc (Maria et al 2004).

With socioeconomic progress and improvement in health awareness and referral services, an increasing proportion of pneumonia deaths will occur in hospitals (Djelantik et al 2003). Hence, the profile of pneumonia in tertiary care centre is likely to reflect the burden in the community. Only a few studies have performed such an evaluation in developing countries (Tjewsoh et al 2009; Sehgal et al 1997; Patwari et al 1988; Deivanavagam et al 1992).

Materials and Methods

A case series study was conducted among children of the age group 0-5 yrs admitted to the Pediatric Department of Vijayanagara Institute Of Medical Sciences, Bellary, Karnataka. The study subjects, cases comprised of in-patients with pneumonia as ascertained by WHO criteria, which were 75 in number. Data was collected using a pre designed semi structured questionnaire which contained information regarding family & socio economic conditions and birth history. Age of the child was recorded in completed months. Family type was classified as Nuclear /Joint / Three generation family. After obtaining written informed consent from parents/guardians, data was collected by an interview technique and was analysed using SPSS

Results and Discussion

Totally 75 child hood pneumonia cases were included in the study and among them, 62.6% were males and 37.4% were females. Age distribution revealed that 10.6% of study subjects were less than 2 months old, 42.6% were between 2 – 12 months and 46.8% were between 1-5 years. Majority of the study subjects belong to family size of above 5 (74.6%) and of joint family (68%). History of educational status of both the parents revealed that majority of study subjects educational status was less than primary schooling. It was observed that majority of study subjects' father occupation was unskilled (84%) and mother occupation was also unemployed/unskilled (92%)

Among 75 cases, 62.6% of mothers registered their pregnancy and only 32% of mothers had ANC visits of more than 3 times. Among total cases studied, 70.6% born at their home and 84% were low birth weight babies. Exclusive breast feeding was present among 94.6% of cases

In socio-demographic factors variables like joint family, paternal and maternal education upto or less than primary and paternal occupation unemployed / unskilled were found to be associated. Family plays an important role both in health and disease- in the prevention and treatment of individual illness, in the care of children and in the stabilization of the personality of both adults and children (Karalanglin et al 2009).

In our study, pneumonia was more common among children living in joint type of family; it may be due to the more family members and overcrowding which makes joint family a playground for communicable diseases.

Table.1 Socio-demographic characters of study subjects

Socio demographic characters	Frequency
Age	
< 2 months	08 (10.6%)
2 – 12 months	32 (42.6%)
> 12 months –5 yrs	35 (46.8%)
Sex	
Male	47 (62.6%)
Female	28 (37.4%)
Family type	
Joint family	51 (68.0%)
Nuclear family	24 (32.0%)
Family size	
> 5 members	56 (74.6%)
< 5 members	19 (25.4%)
Paternal education	
< Primary	53 (70.6%)
> Primary	22 (29.4%)
Maternal education	
< Primary	61 (81.3%)
> Primary	14 (18.7%)
Paternal occupation	
Unemployed/unskilled	63 (84.0%)
Semi/skilled	12 (16.0%)
Maternal occupation	
Unemployed/unskilled	69 (92.0%)
Semi/skilled	06 (08.0%)

These diseases are known to spread rapidly in families because of the common environment which the family members share.

Income, education and occupation are the major components of most measures of social class and are generally positively correlated with health status. Diseases of respiratory system, eyes and skin, diarrhea have a higher incidence in lower classes which can be ascribed to the poor state of physical environment in which they live. Individuals in the lower social classes have been found to make less use of hospital facilities, consult the doctor less often and are less likely to be aware and utilize preventive health services such as prenatal and postnatal care, general check ups and immunization services.

In our study ANC visits less than three, delivery by caesarean section , birth weight less than 2500gm, failure to initiate breast feeding within 4hrs were found to be associated. Birth weight of an infant is the single most important determinant of its chance of survival, healthy growth and development. Most of the low birth weight infants become victims of PEM and infections. Low birth weight also reflects inadequate nutrition and ill health of the mother. There is a strong and significant positive correlation between maternal nutritional status and the duration of pregnancy and birth weight.

Table.2 Pregnancy related factors among study subjects

Pregnancy related factors	Frequency
ANC registration	
Yes	47 (62.6%)
No	28 (37.4%)
ANC visits	
< 3 visits	51 (68.0%)
> 3 visits	24 (32.0%)
Mode of delivery	
LSCS	56 (74.6%)
NVD	19 (25.4%)
Place of delivery	
Home	53 (70.6%)
Institution	22 (29.4%)
Birth order	
</= 2	61 (81.3%)
> 2	14 (18.7%)
Birth weight	
< 2500 gms	63 (84.0%)
> 2500 gms	12 (16.0%)
Initiation of Breast Feeding	
< 4 hrs	69 (92.0%)
> 4 hrs	06 (08.0%)
Exclusive BF	
Present	71 (94.6%)
Absent	04 (5.4%)

Antenatal checkup aims at achieving, at the end of pregnancy a healthy mother and a healthy baby. In our study ANC less than 3 has emerged as one of the factors for development of pneumonia. This may be due inadequate nutrition and ill health of the mother and failure to identify the high risk cases. Improper ANC can increase the likelihood of delivery by caesarean section which may be either elective or emergency (Maria et al 2004).

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