Original article

A Cross- sectional study on morbidity profile of children below 6 years in rural field practice area of KIMS

[1]Dr. Amrita N Shamanewadi, [2]Dr. K. Nagaraj

[1]Assistant Professor, Department of Community Medicine,M. V. J Medical college and Research hospital, Hoskote, Bangalore , India

[2] Professor and Head of the Department, Department of Community Medicine, Kamineni Institute of Medical Sciences, Naketpally, Nalgonda district, Telangana , India

Corresponding author: Dr. Amrita N Shamanewadi

Abstract:

Background: The pre- school age (0-6 yeas) is a crucial and transitional period when the child is struggling to come into equilibrium with its ecology, this stage represents a transition from infancy when the child is protected physically and physiologically by the mother. A child deprived of care during these years is deprived of the opportunity of growing into a normal human being.

Materials and methods: The present study was a cross – sectional study was conducted in the rural field practice area of KIMS, Narketpally, Nalgonda district, Telangana. A house to house survey was conducted using a pretested and predesigned questionnaire. Informed consent was taken from all parents/guardians. The data thus obtained was entered into MS Excel and was analyzed using SPSS version 19.

Results: A total of 933 children were surveyed . Out of the 933 children 300 children were observed to have common morbidities. 56.67 % of male children had morbidities. The prevalence of morbidity was more in children belonging to upper lower class (55%) and also more among children of illiterate mothers(66.66%).

Conclusion: It is concluded that prevalence of childhood morbidities were more among children of illiterate mothers. Hence measures should be taken to impart health and nutritional education to mothers.

Key words: childhood morbidity, rural field practice area

Introduction

Early childhood i.e. first 6 years constitutes the most crucial period in time when the foundations are laid for cognitive, emotional, physical/ motor development & cumulative life long learning. Child survival, growth and development have to be looked at as a holistic approach as one cannot be achieved without others. There have to be balanced linkages between education, health and nutrition for proper development of child. [1]

About 13.12% of the Indian population consists of children between 0-6 years.[2]Fist few years of life is the most crucial period of life as this age is known for accelerated growth and development, warranting regular monitoring.

During this period about 40 % of physical growth and 80 % of mental development occur. Any diverse influences during this period may result in severe limitations in their development.[3]Each year 27 million children are born in India .Around 10 percent of them do not survive upto 5 years of age . India

contributes to 25 per cent of the over 6.9 million under – five deaths occurring worldwide every year. Of the 6.9 million deaths in 2011, almost two – thirds (64 %) were caused by infectious diseases and conditions such as Pneumonia, Diarrhoea, Malaria, Meningitis, Tetanus , HIV and Measles . Around 40 % of all under – five deaths are attributable to undernutrition .[4]

Infectious diseases like diarrhea, acute respiratory infections, malaria and whooping cough have been found to be the world's leading cause of morbidity and premature death especially in children in developing countries. 6.9 % of deaths in children were attributed to respiratory infections, 2.2% to malarial fever and 2.0% to childhood diseases.[5]

In India, Common morbidities among children are fever, acute respiratory infections, diarrhoea and malnutrition. Unfortunately malnutrition is rarely perceived as a morbid event by families, communities and health system.[6,7]

Studies are available on malnutrition, mortality or reasons for hospitalization in the under– five's from India and other developing countries. There are very few studies on the morbidity profile of children below 6 years. Hence, the present study is an attempt to study the morbidity profile of children below 6 years.

Objectives:

1. To assess the morbidity profile of children below 6 years.
2. To study the association of socio-demographic factors with morbidity.

Materials and methods:

Study setting: Field Practice Area of Department of Community Medicine, Kamineni Institute of Medical Sciences Narketpally, Nalgonda district, Telangana.

Study Design: Community based Cross Sectional study.

Study Period: September 2011 to September 2013 [two years]

Ethical approval: Institutional Ethical Committee approval was obtained prior to the initiation of the study.

Study Population:Children below 6 years of age.

- **Inclusion Criteria :**
    1. Children who were residing in the residential area for a minimum period of 6 months.
- **Exclusion Criteria:**
    1. Children who were terminally ill.
    2. Children who had congenital anomalies and inborn errors of metabolism

Sample Size

Taking Prevalence (p) = 30%, allowable error (d) = 10% of P and q=1-p sample size was estimated to be 933. (Sample Size = $4pq/l^2$).

Sampling strategy

- Multistage Systematic Sampling was used.
- In the first stage 5 villages were selected by simple random sampling among the 11 constituent villages of the study area.
- In the second stage, sample of the study subjects to be drawn from each village has been calculated by the method of probability proportional to population size.
- In the third stage, total numbers of houses in each village were counted and systematic sampling method was used by picking up every n^{th} house according to the total number of houses in each of the selected village, the details of which are given below:

www.ijbamr.com P ISSN: 2250-284X , E ISSN : 2250-2858

Village	No. of children below 6 years	Children examined	No. of households
Cherlapally	624	338	1176
Anneparthy	429	233	402
Dandampally	271	147	349
Kanchanpally	239	128	389
Buddaram	160	87	468

Data was collected using a pretested and predesigned questionnaire. Anthropometric measurements of the children were taken and appropriate clinical examination of children was done . Data thus obtained was coded and entered into Microsoft excel worksheet and analyzed using statistical package for social sciences (SPSS) Version 19. Chi- square test was used and p value of <0.05 was considered to be significant.

Results:

A total of 933 children were examined.

Table – 1: Age – wise distribution of study population (n= 933)

Sl.no.	Age group (months)	Number	Percentage
1	< 12	187	20.05
2	12 – 23	195	20.9
3	24 – 35	138	14.79
4	36 – 47	125	13.39
5	48 – 59	85	9.11
6	60 – 71	203	21.76
	Total	933	100

Table – 2: Distribution of study subjects according to Gender (n = 933)

Gender	Number	Percentage
Female	493	52.84
Male	440	47.16
Total	933	100

Table - 3: Common morbidities reported in study subjects (n =300*)

Morbidity	**Numbers**	**Percentage**
Fever	82	27.33
ARI	96	32
Diarrhoea	62	20.67
Worm infestation	29	9.67
Skin infection	31	10.33
Total	**300**	**100**

* 633 children were normal with no morbidities in the past 1 month from the time of study.

In the present study out of the 300 children who were reported to have common morbidities, 96(32%) of children were reported to have ARI, 82 (27.33%) children were reported to have fever and a minimum of 29 (9.67%) children were reported to have worm infestation .

www.ijbamr.com P ISSN: 2250-284X , E ISSN : 2250-2858

Table 4: Association between gender and morbidity profile

Gender	Mobidity		Total (%)
	Yes(%)	No (%)	
Females	133 (44.33)	360 (56.8)	440
Males	167 (56.67)	273 (43.2)	493
Total	**300(100)**	**633(100)**	**933**
$X^2 = 12.84, p < 0.005$			

Morbidity was more among males(56.67%) as compared to females. The difference was found to be statistically significant.

Table 5: Association between socio- economic status and morbidity profile

Socio- Economic status	Morbidity		Total
	Yes (%)	No (%)	
Lower	88 (29.33)	93 (14.69)	181 (19.4)
Upper lower	165 (55)	300 (47.39)	465 (49.7)
Lower middle	32 (10.67)	160 (25.28)	192 (20.6)
Upper middle	10 (3.33)	58 (9.16)	68 (7.3)
Upper class	5 (1.67)	22 (3.48)	27 (2.9)
Total	**300**	**633**	**933**
$X^2 = 57.76, p < 0.0001$			

www.ijbamr.com P ISSN: 2250-284X , E ISSN : 2250-2858

In relation to the socio- economic status childhood morbidity to be more prevalent among the upper lower class(55 %).

Table 6: Association between literacy status of mother and morbidity profile

Literacy Status	Morbidity		Total (%)
	Yes (%)	No (%)	
Illiterate	200 (66.66)	121 (19.12)	321
Primary	31 (10.33)	99 (15.64)	130
Secondary	25 (8.33)	33 (5.21)	58
High school	22 (7.33)	216 (34.12)	238
Intermediate	10 (3.33)	63 (9.95)	73
Graduate	12 (4)	101 (15.96)	113
Total	**300 (100)**	**633 (100)**	**933**
X^2 = 233.8, p <0.00001			

With regard to the literacy status of mother, morbidity was more among children of illiterate mothers (66.6%) .

Discussion:

The pre- school age (0-6 yeas) is a crucial and transitional period when the child is struggling to come into equilibrium with its ecology,this stage represents a transition from infancy when the child is protected physically and physiologically by the mother. A child deprived of care during these years is deprived of the opportunity of growing into a normal human being. Hence, the present study was conducted to assess the morbidity status of these children. In the present studyout of the 933 children surveyed, about 300 (32.14%) children suffered from common morbidities. This observation regarding prevalence of morbidity is less as compared to the studies of Bhansali et al[8] (1979) and Chopdar et al[9](1979) showing morbidity prevalence of 95.7% and 57.6% respectively. This improvement may be attributed to programmes like Integrated Childhood Development Scheme (I.C.D.S) and the increase in utilization of health services. It may also be attributed to increased immunization coverage than before.

Prevalence of morbidity was more among males(56.67%) compared to females(44.33%). This difference could be attributed to the fact that probably all female morbidities were not reported.

Our study findings with respect to male predominance were in agreement with studies of Bhansali[8], Lakshmi[5], Mittal A[10], Paramita1[11], Panda P[12].

www.ijbamr.com P ISSN: 2250-284X , E ISSN : 2250-2858

Apart from gender difference there was difference in the prevalence of mobidity with respect to socio-economic status and mother's literacy status. Prevalence was more among children belonging to upper lower class and was more among children whose mothers were illiterate.

According to our study prevalence of skin infections and worm infestation was less compared to fever, ARI and diarrhea . This indicates that communicable disease's burden is more prevalent.

Conclusion: The present study concludes that ARI and Diarhoea are still common illness among children below 6 years. Efforts should be made to impart proper health and nutrition education to mothers. Community should be educated to utilize the programmes like I. C. D. Swhich are started to improve the health of children.

Acknowledgements:

We would like to thank all the participants who have participated in the study.

References:

1. ICDS .Department of human resources development ,Government of India, New Delhi:1994;1-8
2. Census of India 2011,Provisional Population totals , paper 1 of 2011,India series 1,73
3. Sanjana Gupta, D S Jamwal, Dinesh Kumar, S. k. Gupta, Mordidity among under five children in a Rural Area of Jammu, JK science journal, Vol.14, No.2, April- June 2012, 85-88.
4. K.Park, Textbook of Preventive and Social medicine, M/s BanarisidasBhanot, Twenty-Second edition,2013 .
5. Lakshmi J. A., Khyrunnisa Begum, Saraswathi G. &JamunaPrakash — Influence of Nutrition andEnvironment on Morbidity Profile of Indian PreschoolChildren. *Mal J Nutr*. **11**(2): 121-132, 2005.
6. Mishra C.P. — Strategic issues in child health. IndianJ Public Health. 54:75-80, 2010.
7. NFHS-3 International Institute of Population Sciences.National Family Health Survey NFHS-3 India. 2005-2006.
8. Bhansali K.M., Mathur G.M., Sharma R. — A studyof morbidity pattern in pre-school children. Indian JPaediatrics. 46: 13-19, 1979.
9. Chopdar A., Samal N.C. — Nutritional status of preschoolchildren at Subdega tribal Integrated ChildDevelopment Service (I.C.D.S.) project (Orissa)Indian J Paediatrics. 46: 87-91, 1979.
10. Mittal A., Singh J., Ahluwalia S.K. — Effect ofmaternal factors on nutritional status of 1-5-year-oldchildren in urban slum population. Indian J CommunityMed. 32:264-267, 2007.
11. Paramita S., Nina P., Benjamin A.I. — Epidemiologicalcorrelates of under-nutrition in Under-5 years childrenin an urban slum of Ludhiana. Health and Population:Perspectives and Issues. 33 (1), 1-9, 2010.
12. Panda P., Benjamin, A.I., & Zachariah, P. — Healthstatus of under-fives in a Ludhiana slum. Health andPopulation–Perspectives and Issues. 16 (3&4), 133-141, 1993.