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Original Research Article

Socio Demographic Factors and Its Association with Morbidity Pattern amongst Primary School Children in Rural Areas of Kamrup District, Assam

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ABSTRACT

Introduction: School children particularly in rural areas are highly vulnerable to various morbid conditions due to poor socio economic status as well as other socio demographic factors.
Material and Methods: A cross sectional community based study was done amongst rural primary school children in Boko, Kamrup district of Assam. Samples were collected randomly from 20 schools. Total sample size was 400 and data were collected by using semi-structured questionnaire. Analysis was done with the help of Instat Graph pad and other appropriate statistical tests.
Result: 56.7% of male children were suffering from various diseases whereas 57.4% female children were suffering from any form of disease. Majority 65.8% children in the age group of 6-7 years suffered from various morbidities. Out of 400 school children, 64% having diseases whose fathers educate up to ME and High school whereas 65.2% school children having diseases whose mothers were educated up to primary school and there is significant association between the parent's educational status and the morbidity condition. ($p<0.05$).There is a strong association between socioeconomic status and morbidities amongst the children and it is highly significant. ($p<0.05$)
Conclusion: since socio economic status and other socio demographic factors play a significant role in relation with morbidity amongst school children, so it is essential to improve the living conditions of people in rural areas and to create awareness amongst them.

Key words: morbidity, primary school children.

INTRODUCTION

Anaemia, malnutrition, infectious diseases, intestinal parasitosis, dental carries and diseases of skin, ear and eyes are the major health related problems amongst the school children in India. [1]

In India 68.84% of people live in rural areas and in Assam 86% people are living in villages. [2] People living in the rural areas have developed various undesirable health attitudes and practices mainly due to illiteracy, poverty, ignorance, misconception and superstition. Various morbidities like anaemia, worm infestation, under nutrition and dental caries, skin infection etc are most common amongst rural school children. [3]

This study was done to find out the association between various socio demographic factors and morbidity amongst the rural primary school children in Kamrup district, Assam.

METHODOLOGY

This study was community-based cross-sectional and it was done among the

primary school children in the age group of 6-11 years during the period August 2012 to July 2013 in Boko-Bongaon block of Kamrup (rural) district, Assam.

Criteria for Inclusion and Exclusion:

All children attending school from Class 1 to 5 in the age group of 6-11 years were included in the study. Those were absent in the class during the study period and those having age more than 11 years and <6 years were excluded from the study.

For sample size estimation, prevalence of any morbidity at a given point of time was assumed to be 50% to yield the largest value of "*n*" while fixing the level of precision.5 prevalence of any morbidity among primary school children for the study is taken to be 50% with a relative error of 10% and after calculation the sample size for the study comes out to be 400 ($n = 400$).

Schools are the primary sampling units in this study. From the block office, the lists of primary schools are collected, and 20 schools are selected randomly for the study. four children was selected randomly from every class by using the class register from Class 1 to 5 and all total 20 children were selected from each school to get the sample size. All the children meeting the inclusion criteria were included only in the study. If the child selected randomly was absent on the day, and then the child next to him was selected for the study according to the school register.

A pre-designed pre-tested semi-structured proforma was used for collection of data. By using school records, sample selection and estimation of age was done.

Ethical approval was obtained from the Institutional Ethics Committee of Gauhati Medical College and Hospital before commencing the study.

To find out demographic characteristics and socioeconomic status of the study group, house to house visit was done. [4] Socioeconomic status was assessed by using B.G Prasad's socioeconomic status classification for October 2012.

Statistics

Analysis of data was done in Microsoft Office Excel. Analysis of categorical variables was done using Chi-square test. Criteria of significance used in the study were $P < 0.05$.

RESULTS

Out of 400 children, 135(56.7%) of male children were suffering from diseases whereas 93(57.4%) female children were suffering from any form of disease. But this association is statistically insignificant. ($p>0.05$) (Table 1)

Majority 65.8% children in the age group of 6-7 years suffered from various morbidities followed by 63.8% in 7-8 years age group and 55.3% in 8-9 years of age group. However there is no significant association between morbidities and the age group in this study. ($p>0.05$) (Table2)

Majority 64% school children having diseases whose fathers educate up to ME and High school followed by 59.4% amongst primary and 50% amongst the illiterate group. Only 33.3% school children had morbidity whose fathers educate up to graduate level. There is significant association between the father's educational status and the morbidity condition. ($p<0.05$). (Table 3)

Majority 65.2% school children having diseases whose mothers were educated up to primary school followed by 62.2% amongst ME and High school group and 43.4% amongst the illiterate group. 44% school children had morbidity whose mothers were educated up to HS level. There is significant association between the mother's educational status and the morbidity condition ($p<0.05$). (Table 4)

It was found that 77% of school children suffering from morbid conditions belong to joint family whereas 48.7% school children belong to nuclear family. There was association between the type of family and morbidity amongst the school children which was highly significant. ($p<0.05$) (Table 5)

Majority 62.5% school children with morbidity were found to be Islam by religion whereas 58.3% was Hindu and 52.3% was Christian. But there was no significant association between the morbidity and the type of religion. (p>0.05) (Table 6)

Table 1: Association of morbidity among the school children and their sex

Sex		Children with morbidity	Children without morbidity	Total
Male	No	135	103	238
	%	56.7	43.3	100
Female	No	93	69	162
	%	57.4	42.6	100

χ^2= 0.01844, d.f=1, p value= 0.8920 and insignificant at 5% level

Table 2: Distribution of school children according to their morbidity status across age groups

Age of the children in years		6-7	7-8	8-9	9-10	10-11
Morbidity present	No.	52	53	36	38	49
	%	65.8	63.8	55.3	48.7	51.5
Morbidity absent	No.	27	30	29	40	46
	%	34.2	36.2	44.7	51.3	48.5
Total	No.	79	83	65	78	95
	%	100	100	100	100	100

χ^2= 7.492, d.f= 4, p=0.1121 and is insignificant at 5% level of significance

Table 3: Association between health status of the children and their father's educational status

Father's education	Children with morbidity		Children without morbidity		Total	%
	No.	%	No.	%		
Illiterate	22	50	22	50	44	100
Primary	85	59.4	58	40.6	143	100
M E and High school	98	64	55	36	153	100
H S	17	40	25	60	42	100
Graduate	6	33.3	12	66.6	18	100

χ^2= 13.124, d.f=4, p= 0.0107 and significant at 5% level of significance

Table 4: Association between health status of the children and their mother's educational status

Mother's education	Children with Morbidity		Children without morbidity		Total	%
	No.	%	No.	%		
Illiterate	43	43.4	56	56.6	99	100
Primary	60	65.2	32	34.8	92	100
M E and High school	112	62.2	68	37.8	180	100
H S	12	44	15	56	27	100
Graduate	1	50	1	50	2	100

χ^2= 13.75, d.f= 4, p= 0.0081 and is significant at 5% level of significance

Table 5: Distribution of morbidity amongst the school children across the type of family

Type of family	Children with morbidity		Children without morbidity		Total	%
	No.	%	No.	%		
Nuclear	139	48.7	146	51.3	285	100
Joint	89	77	26	23	115	100

χ^2=27.382, d.f=1; significant at 5% level of significance

Table 6: Distribution of morbidity amongst the children across various religions

Religion	Children with morbidity		Children without morbidity		Total	%
	No.	%	No.	%		
Hinduism	172	58.3	123	41.7	295	100
Islam	20	62.5	12	37.5	32	100
Christian	34	52.3	31	47.5	65	100
Others	2	25	6	75	8	100

χ^2= 4.526, d.f= 3; p=0.21; insignificant at 5% level of significance

Table 7: Association of morbidity amongst the school children and their socioeconomic status

Socioeconomic status	Children with morbidity		Children without morbidity		Total	%
	No.	%	No.	%		
Class I	2	16.67	12	83.33	14	100
Class II	51	56	40	44	91	100
Class III	78	61	50	50	128	100
Class IV	92	63.4	53	36.6	145	100
Class V	15	68.2	7	31.8	22	100

χ^2= 14.064, d.f= 4, p= 0.0071; significant at 5% level of significance

Maximum morbidity 68.2% was found amongst the children belonging to class V socioeconomic status followed by 63.4% amongst class IV and 61% among

class III socioeconomic status. Only 16.67% children belonging to class I socioeconomic status suffered from any morbidity. There is a strong association between socioeconomic status and morbidities amongst the children and it is highly significant. ($p<0.05$) (Table 7)

DISCUSSION

This study was conducted to find out the association between various socio demographic factors and morbidity amongst the rural primary school children in Kamrup district, Assam. Out of 400 children, 135(56.7%) of male children were suffering from diseases whereas 93(57.4%) female children were suffering from any form of disease. But this association is statistically insignificant. ($p>0.05$) (Table 1)

In one study conducted amongst the school children by Rakesh Kakkar et al in Doiwala Block, Dehradun; it was found that clinical anaemia was higher in Girls (46.7%) as compared to Boys (34.1%). Worm infestation was higher in boys (65.1%) as compared to Girls (57.3%). Dental Caries (53.1%) and dermatitis (16.3%) were more in boys. Higher prevalence of dental caries (45.2%) was more common in boys (53.1%). [5]

Majority 65.8% children in the age group of 6-7 years suffered from various morbidities followed by 63.8% in 7-8 years age group and 55.3% in 8-9 years of age group. However there is no significant association between morbidities and the age group in this study. ($p>0.05$) (Table 2)

Out of 400 school children, 64% having diseases whose fathers educate up to ME and High school whereas 65.2% school children having diseases whose mothers were educated up to primary school and 43.4% amongst the illiterate group. There is significant association between the parent's educational status and the morbidity condition ($p<0.05$). (Table 3, 4)

It was found that 77% of school children suffering from morbid conditions belong to joint family and there is highly significant association. ($p<0.05$). (Table 5) But there was no significant association between the morbidity and the type of religion. ($p>0.05$) (Table 6)

In another study conducted by Saluja N et al amongst school children in Meerut India 2007; 542 children (67.8 %) were found to be suffering from one or more morbid conditions. Prevalence of morbidity was found to be maximum in Muslim children (82.5%), children belonging to lower class (90%) and Schedule castes (75.5%). The association of morbidity with the type of family was also found to be significant ($p<.01$) being 73.1% in nuclear families and 49.7% in joint families. The difference in morbidity with literacy status of parents was found to be statistically significant ($p<.001$) being maximum in children of illiterate. [6]

68.2% morbidity was found amongst the children belonging to class V socioeconomic status there is a strong association between socioeconomic status and morbidities amongst the children and it is highly significant. ($p<0.05$) (Table 7)

In one study conducted amongst school children by Nigudgi.S.R et al in Gulbarga city 2010, it was found that 84% of study population belongs to class II, III, IV and 9% belong to class V and 7% belong to class I according to Modified B G Prasad classification. [7]

CONCLUSION

In our study it was found that 135(56.7%) of male children were suffering from diseases whereas 93(57.4%) female children were suffering from any form of disease. But this association is statistically insignificant. ($p>0.05$)

Majority 65.8% children in the age group of 6-7 years suffered from various morbidities. However there is no significant association between morbidities and the age group in this study. ($p>0.05$)

Out of 400 school children, 64% having diseases whose fathers educate up to ME whereas 65.2% school children having diseases whose mothers were educated up to primary school. There is significant

association between the parent's educational status and the morbidity condition ($p<0.05$).

It was found that 77% of school children suffering from morbid conditions belong to joint family and there is highly significant association ($p<0.05$). But there was no significant association between the morbidity and the type of religion. ($p>0.05$)

There is a strong association between socioeconomic status and morbidities amongst the children and it is highly significant. ($p<0.05$)

Since socio demographic factors play an important role in various morbidities amongst school children so it is necessary to improve the economic status of people. Proper education and creating awareness amongst the families particularly the mothers about the various socio demographic factors related to various morbidities and their ill effects is essential.

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