

Original Research Article

A study on health problems among government primary school children in rural area of Kadapa district, Andhra Pradesh

Ram Sagar Reddy Moola, Renuka Biyyala*, Venkata Ramana Bhuma

Department of Community Medicine, Rajiv Gandhi Institute of Medical Sciences, Kadapa, Andhra Pradesh, India

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***Correspondence:**

Dr. Renuka Biyyala,

E-mail: biyyala.renuka@gmail.com

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ABSTRACT

Background: “To learn effectively, children need good health” says the World Health Organization’s Expert committee on school health services. In spite of the primary health care that exists in India, yet it is unable to cover the health needs of school children, especially the primary school children. To know their health status and influencing factors, a study is designed in the rural area of Kadapa district of Andhra Pradesh.

Methods: A cross sectional study design was used to assess the health condition of the rural government primary school children at school and socio-demographic data at their home during the period July to December 2016. A sample of 683 children from 20 schools was included in the study. The data was analyzed and inferences were drawn.

Results: 38.79% of the rural government primary school children had one or more health problem. Dental problems were found in 21.66% followed by skin problems in 8.05%, nutritional defects in 7.61%, eye disorders in 6.88% and ENT problems in 22.84%. Only 5.42% had good personal hygiene. Majority of the children were poor belonging to the socioeconomic status of class IV (19.62%) and class V (76.60%). 83.39% of the children with health problems had poor housing conditions.

Conclusions: More than 2/3rd was found suffering from health problem which was almost equally distributed among boys and girls. The suffering children were almost 95% from lower socioeconomic status and 83% with poor housing conditions.

Keywords: Primary school children, Health problems, Socioeconomic factors, Housing environment

INTRODUCTION

WHO stressed the importance of health of children and their environment on the world health day 2003 with the theme “Shape the future of life, healthy environments for children”. Children constitute more than 25% of the total population and primary school children represent a significant group of 9.2% in India.¹ School health programmes can be the most efficient and cost-effective way to improve students' health and, as a result, their academic performance.² Healthy habits learned during early years will be applied throughout life. An evaluation

of school health programme in 9 PHCs by the NIHFV showed 24% of the school children medically examined had some disease or defect.³ The social and economic factors surrounding the school children were the considerable reasons for their health status. The housing environment was also playing its part in deciding the health status of children.

The common problems observed among the school children in the earlier studies were malnutrition, worm infestations, dental caries, and skin infections ranging each in different proportions from 5% to 50% with the

problem being more prevalent in government sector than private.

Though a lot of cross sectional studies are available that assessed the problems in school children, only a few are concerned with chronic problems. Unlike acute, the chronic health problems severely affect the growth and learning in long term without early intervention.

In the current study, a sincere attempt made to assess the health problems and their influencing factors in government primary school children and intervene by referring the students to appropriate health facilities.

Objectives

- To assess the prevalence of health problems in the students of government primary school children.
- To assess the influencing factors related to the health problems.

METHODS

The present study was a school and home based cross-sectional study conducted in 20 primary schools covering the minimum calculated sample size of 650 based on the prevalence of proportionate health problems which were randomly selected from rural areas of Kadapa district from July to December 2016. All the students enrolled in the selected school were 683 after the necessary exclusions. The data collection was done by taking history and examination of the child along with interview of the parents and inspection of the house. Informed consent was taken from the child's parents explaining the purpose of the study. Children who were not available

either at home or school were excluded from the study. Modified BG Prasad's classification adjusted for the year 2016 was followed to assess the socioeconomic status of the child's family.⁴ A semi structured questionnaire was used to assess the personal hygiene and housing environment of the child. The data obtained was analyzed using Microsoft Excel 2007 and SPSS version 19. Results were represented in the form of tables, graphs and figures. Chi square test was applied wherever necessary.

RESULTS

265 (38.79%) out of 683 primary school children have one or more health problem. Majority of the problems were seen in the age group of 8-9 years (43.03%). Next highest was observed in the age group of 6-7 years (37.62%) followed by the age group of 10-12 years (35.51%) which is not statistically significant. No gender differentiation was noted with regard to the health problems.

265 (38.79%) out of the 683 children studied were have one or more health problem. 80 (11.71%) children were found to suffer from multiple health issues. Among these, dental problems in the form of Dental caries and Gingivitis were predominantly seen in 148 (21.66%) followed by skin problems in 55 (8.05%), nutritional defects in 52 (7.61%), eye disorders in 47 (6.88%) and ENT problems in 23 (3.36%). A total of 20 (2.92%) of the school children were found to suffer from the disorders concerned to respiratory, cardiovascular, musculoskeletal, nervous system, genitourinary and lymphatic systems. Girls were found to suffer more from nutritional problems compared to boys.

Table 1: Age and sex wise distribution of health problems in the school children.

Age	Health problems								Total	
	Present				Absent				No.	%
	Boys	Girls	Total	%	Boys	Girls	Total	%		
5	21	21	42	15.85	39	25	64	15.31	106	15.52
6	17	14	31	11.69	31	26	57	13.64	88	12.88
7	25	24	49	18.49	33	36	69	16.51	118	17.28
8	26	30	56	21.13	41	29	70	16.75	126	18.45
9	20	15	35	13.21	30	23	53	12.68	88	12.88
10	14	14	28	10.57	32	26	58	13.87	86	12.59
11	13	11	24	09.06	22	25	47	11.24	71	10.40
Total	136	129	265	100.00	228	190	418	100.00	683	100.00

$\chi^2= 10.0963$ df= 18; p=0.9287, Not significant.

Table 2: Distribution of health problems among the school children.*

Type of health problem	Boys		Girls		Total	
	No.	%	No.	%	No.	%
Nutritional deficiencies	22	11.00	30	20.69	52	15.07
Eye	32	16.00	15	10.34	47	13.62
ENT	13	06.50	10	06.90	23	06.67
Dental	85	42.50	63	43.45	148	42.90
Skin	34	17.00	21	14.48	55	15.94

Continued.

Type of health problem	Boys		Girls		Total	
	No.	%	No.	%	No.	%
Respiratory system	03	01.50	01	00.69	04	01.16
Cardiovascular system	01	00.50	02	01.38	03	00.87
Central nervous system	01	00.50	00	00.00	01	00.29
Genitourinary	05	02.50	01	00.69	06	01.74
Musculoskeletal	03	01.50	02	01.38	05	01.45
Lymphatic	01	00.50	00	00.00	01	00.29
Total	200	100.00	145	100.00	345	100.00

*345 problems were observed in 265 study subjects.

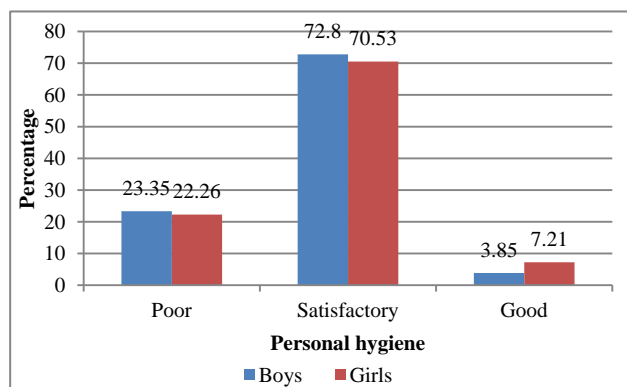


Figure 1: Distribution of study subjects according to their personal hygiene.

It was observed that 490 (71.74%) had satisfactory personal hygiene followed by 156 (22.84%) with poor personal hygiene. Only 37 (5.42%) children had good personal hygiene without any significant difference between boys and girls.

Table 3: Distribution of school children with health problems according to their socio-economic status.

Socio-economic status	Boys		Girls		Total	
	No.	%	No.	%	No.	%
Class I	00	0.00	00	0.00	00	0.00
Class II	03	2.21	01	0.78	04	1.51
Class III	04	2.94	02	1.55	06	2.27
Class IV	32	23.53	20	15.50	52	19.62
Class V	97	71.32	106	82.17	203	76.60
Total	136	100.00	129	100.00	265	100.00

$\chi^2 = 0.8777$; d.f.=4; $p > 0.05$, not significant.

76.60% (203) of the rural govt. primary school children under study with health problems belonged to Class V, followed by 52 (19.62%) belonged to Class IV, 6 (2.27%) belonged to Class III; 4 (1.51%) belonged to Class II and there were no children belonging to Class I, according to modified B.G. Prasad socioeconomic classification.⁴ It was evident from the results that majority of the school children with health problems belonged to Class V showing a close relation between socioeconomic status and health problems as inversely proportional.

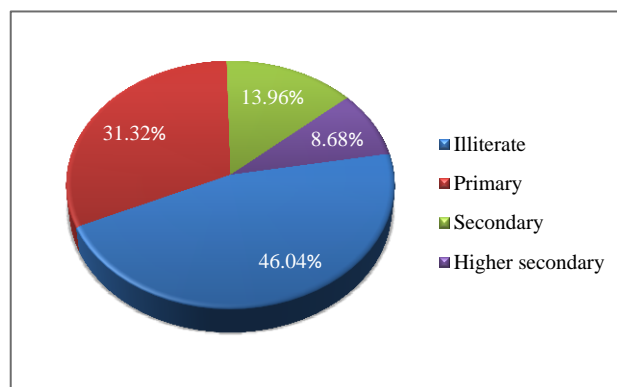


Figure 2: Distribution of school children with health problems in relation to the literacy status of the head of the family.

Nearly half (46.04%) of the head of the families of children with health problems were Illiterates, while 83 (31.32%) had their primary education, 37 (13.96%) had completed secondary education, and only 23 (8.68%) had their higher secondary education. This shows that health problems among children are more common in families with low or no literacy with no clinical significance.

Table 4: Distribution of school children with health problems according to their housing environment.

Housing environment	Boys		Girls		Total	
	No.	%	No.	%	No.	%
Poor	115	84.56	106	82.17	221	83.39
Satisfactory	20	14.71	19	14.73	39	14.72
Good	01	0.73	04	3.10	05	1.89
Total	136	100.00	129	100.00	265	100.00

$\chi^2 = 2.0087$ df = 2 $p > 0.05$, Not significant.

Majority 221 (83.39%) of the children suffering were living in poor housing environment. 39 (14.72%) children with health problems were having satisfactory environmental conditions while only 5 (1.89%) were living in good housing environment showing a relation that health problems among children are common where there are poor environmental conditions prevailing.

DISCUSSION

The present study revealed that 38% of the rural children studying in government primary school had one or more health problem. Similar observations were noted in a study done by Thirumalaikolundusubramanian et al at 39.9%.⁵ In contrast, a study done by Rao et al, 71.3% of the children had one or more health defects which was much higher than the present study.⁶

No significant difference was noted in the age wise and gender wise prevalence. In our study, 11.71% children were found to have multiple health problems. Out of the 683 study subjects, 21.66% had dental problems which almost coincides (27.9%) with the study conducted by Ananthkrishnan et al in Tamil Nadu.⁷ In the same study nutritional deficiencies were observed in 36.03% of school age children as compared to the present study where it was seen only in 7.61% which was more among girls. The variation may be due to regional, social and cultural factors and the present day Anganwadi and midday meal implementation schemes. Disorders related to Skin (8.05%), Eye (6.88%), ENT (3.36%) and other systems together (2.92%) were observed. Majority of the children (71.74%) in the present study had satisfactory personal hygiene. 22.84% were poor and only 5.42% were good at personal hygiene. These observations were in accordance with those made by Sundaram et al who studied the primary schools at corporation of Madras city in 1978 where 28.71% children had poor personal hygiene.⁸

In the present study, three fourths of the government primary school children in rural area belong to class V in the present study and no one from Class I. 19.6% belong to class II and the remaining 3.78% from Class III & IV. The socioeconomic status of the children's families in the present study were similar to those made by Rao et al in his study.⁶ Literacy status of family head had direct relation with the child's health problems as evidenced in our present study. 46.04% of the children suffering from disorders were from illiterate families while only 8.68% were from families with higher secondary or more education. Similar observation was made by Rao et al in his study where the prevalence of chronic defects among children was higher in illiterate families.⁶ 83.39% of the children with health problems were living in poor housing conditions while only 1.89% of them from good living environment without any gender variation suggesting the direct role of housing environment in health.

CONCLUSION

One third of the study participants were found to have health problem distributed similarly among boys and girls. The social factors behind the health problems in these rural government primary school children were poor socioeconomic status, poor hygiene, low parent literacy and poor housing conditions. Socioeconomic development is the strong key to improve the health status along with improving the hygiene standards through regular health education through teachers and health workers.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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