Original Research Article

A School Based Cross Sectional Assessment of the Health Status of Primary School Students

Shalini Sheoraj[1], Ragini[2]

[1]Tutor, Department of Community Medicine, Anugrah Narayan Magadh Medical College and Hospital,Gaya, Bihar, India

[2]Consultant, Department of Community Medicine, Narayan Hospital and Research Centre, Sampatchak, Sohagi More, Patna, Bihar, India

Corresponding Author: Dr. Ragini
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Abstract

Aim: The aim of the present study was to assess the health status of primary school students in urban and rural areas of Bihar region.

Methods: This school based cross sectional study was conducted in the urban and rural field practice areas of community medicine department for the period of 2 years. Convenient sampling technique was adopted to select primary schools from 1st to 5th standard. Total 200 primary school students were included.

Results: In the study among which 80 were from urban area and 120 were from rural area. 45 were males and 35 females in urban area and 70 were males and 50 were females in rural area were examined. Majority of the students in urban area were from 4th standard followed by 5th standard while in rural areas majority were from 5th followed by 2nd standard. Most common morbidity identified was ENT problems (ear wax, ear discharge) in both urban and rural students and the difference between them was found be statistically significant (p value <0.00001). Followed by pallor, Dental issues like caries, plaque etc. The difference between the nutritional status in urban and rural students was found to be statistically significant.

Conclusion: The common infirmities found in students were ear wax and discharge, dental caries, anemia, poor personal hygiene and undernutrition. Effective implementation and monitoring of school health services is need of the hour. The present study also highlights the role of teachers and parents in educating the students about good sanitation and personal hygiene.

Keywords: Health status, Physical examination, Primary school, School health

Introduction

Children are nation's greatest asset. School children constitute around 25% of total population in India. [1] They are more vulnerable to infection & malnutrition than rest of the population. The school is an opportune setting to provide health and nutrition services to children. This also gives opportunity to inculcate healthy habits and life styles to promote healthy behavior and to learn values of health and hygiene. The health & nutritional status of school-aged children impacts their cognition, and subsequently their educational achievement. Ministry of Education is running 'Mid Day Meal' Programme & Ministry of Health is running School Health Programme to improve health & nutritional status of school children. Despite of all these, nutritional deprivation and poor health status is rampant in children of school age particularly primary school children ranging in magnitude from 20-80%. [2]

India is home to 472 million children under the age of 0-18 years, comprising 39% of the country's total population. Out of the 128.5 million children residing in urban areas, close to 7.8 million children under the age of 0-6 years still live in abject poverty and poor conditions in informal settlements, making it imperative that we plan and build sustainable and inclusive cities from their perspective. The health and growth of adolescents has attracted global attention in the last two decades. [3] This period is known to be a second chance for growth for those children who have experienced a nutritional deficit in their early life. [4,5] During this period 35% of adult weight and 11-18% of adult height are acquired. Short stature in adolescence resulting from chronic under nutrition is associated with reduced lean body mass and deficiency in muscular strength and work capacity. [6]

The aim of the present study was to assess the health status of primary school students in urban and rural areas of Bihar region.

Materials and Methods

This school based cross sectional study was conducted in the urban and rural field practice areas of community medicine department for the period of 2 years. Convenient sampling technique was adopted to select primary schools from 1st to 5th standard. Total 200 primary school students were included. All the students who were present at the time of survey were included in the study. A pre-tested and semi-structured proforma was used to record information regarding anthropometric measurements, physical examination/ personal hygiene, clinical findings etc. Examination was done by medical officers at rural and urban health and training centres. Every student underwent a thorough systemic and physical examination. Nutritional status was assessed by taking height, weight and calculating BMI. Data collected was entered into MS Excel. Data analysis was done by using SPSS v 26 statistical software.

Results

Table 1: Distribution of students according to their school standard and gender

Standard	Urban			Rural		
	Male (n=45)	Female (n=35)	Total (N=80)	Male (n=70)	Female (n=50)	Total (N=120)
I	6	4	10	14	10	24
II	4	4	8	15	11	26
III	7	7	14	13	11	24
IV	16	10	26	14	8	22
V	12	10	22	14	10	24

In the study among which 80 were from urban area and 120 were from rural area. 45 were males and 35 females in urban area and 70 were males and 50 were females in rural area were examined. Majority of the students in urban area were from 4th standard followed by 5th standard while in rural areas majority were from 5th followed by 2nd standard.

Table 2: Distribution of health problems among urban and rural school students

Health problems	Urban (n=80)	Rural (n=120)	P value
Pallor	30	46	0.4603
Skin disease	4	5	0.3945
Dental issues	18	49	0.0902
Eye problems	2	2	0.4835
ENT problems	71	77	<0.00001
Micronutrient deficiency	6	9	0.7275
Personal hygiene	17	34	0.8838
Respiratory problems	2	4	0.8092
CVS problems	1	1	0.6882

Most common morbidity identified was ENT problems (ear wax, ear discharge) in both urban and rural students and the difference between them was found be statistically significant (p value <0.00001). Followed by pallor, Dental issues like caries, plaque etc.

Table 3: Nutritional status of urban and rural school students

Nutritional status	Urban			Rural		
	Male (n=45)	Female (n=35)	Total (N=95)	Male (n=70)	Female (n=50)	Total (N=120)
Underweight	7	12	19	24	32	56
Normal	35	22	57	44	17	61
Overweight/obese	3	1	4	2	1	3

The difference between the nutritional status in urban and rural students was found to be statistically significant.

Discussion

Healthy children are the foundation for a healthy nation and nation's future depends on the status of the children. Apart from the family, no social institution has greater influence on the lives of children than schools. Every day children spend a considerable amount of time interacting with their peers and teachers gaining knowledge, building attitudes and skills, and developing behaviours. Recognizing schools as useful platform,

Government of India has launched "school health program" under Ayushman Bharat to strengthen health promotion and disease prevention intervention which will encompass a comprehensive and evidence-based health promotion intervention in addition to offering age appropriate health education, health promotion activities, health screening, preventive services, documentation of health related data, and better skills for emergency care in government and government aided schools of India. [7]

In the study among which 80 were from urban area and 120 were from rural area. 45 were males and 35 females in urban area and 70 were males and 50 were females in rural area were examined. Majority of the students in urban area were from 4th standard followed by 5th standard while in rural areas majority were from 5th followed by 2nd standard. Most common morbidity identified was ENT problems (ear wax, ear discharge) in both urban and rural students and the difference between them was found be statistically significant (p value <0.00001). Followed by pallor, Dental issues like caries, plaque etc. The difference between the nutritional status in urban and rural students was found to be statistically significant. Pallor in urban students (35.8%) was higher than that reported by Patel et al [8] as 30.99% in urban area and in rural students (31.3%) was lower as compared to 38.23% reported by Asghar et al [9] respectively.

A study by Asghar et al [7] has reported ear discharge to be found in 10% of students as compared to this study where it was found to be 80% in urban and 50% rural students. This was because apart from ear discharge, ear wax, condition of tympanic membrane and hearing loss was also taken into account. Dental issues in urban students were found to be higher than rural students which can be due better dental hygiene education and practices at home in urban areas. Other health issues were found to be comparable, though slightly higher among urban students which could be due to poor food choices like junk food over vegetables and fruits which are more costly, more exposure to pollution etc. Overall girls were found to be underweight and boys were overweight in this study indicating gender disparity in nutrition. Obesity and overweight students were more in urban areas owing to the dietary pattern and junk culture among them. Similar results were also seen in a study done by Patel et al

[8] in Ahmedabad wherein 26.8% boys and 32.5% girls were found to be underweight and 72.3% boys and 67% girls were found to be healthy.

Conclusion

The common infirmities found in students were ear wax and discharge, dental caries, anemia, poor personal hygiene and undernutrition. Effective implementation and monitoring of school health services is need of the hour. The present study also highlights the role of teachers and parents in educating the students about good sanitation and personal hygiene.

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