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Original Research Article

Health profile of primary school students: a cross sectional study among urban and rural areas of eastern Haryana

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ABSTRACT

Background: Healthy children are the foundation for a healthy nation and nation's future depends on the status of the children. School Health Program aims to strengthen health promotion and disease prevention intervention. Objective was to assess the health status of primary school students in urban and rural areas of Panipat, Haryana.
Methods: This school based cross sectional study was conducted in the urban and rural field practice areas of community medicine department, NCMCH, Panipat during February-March 2023. Convenience sampling was adopted to select primary schools from 1st to 5th standard. A semi-structured proforma was used to record information regarding anthropometric measurements, physical examination, clinical findings etc.
Results: Total 261 primary school students were examined. Most common morbidity identified was ENT problems (ear wax, ear discharge) in both urban (80%) and rural (50%) students. Poor personal hygiene was observed in 1/5th students. Skin problems, refractory errors, micronutrient deficiency and respiratory problems were also identified. Difference between the nutritional status in urban and rural students was found to be statistically significant.
Conclusions: The common health problems found in children such as ear discharge, anaemia, poor personal hygiene and undernutrition can be addressed with implementation of school health programme in effective way.

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

INTRODUCTION

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.[1]

National Family Health Survey-V (2019-2021) reported that about 67.1% pre-school- aged children were anemic. Burden of this disease was reported to be even more for Haryana with 70% of children as anemic.[2] Children under 5 years who are stunted (height-for-age)- 35.5%, children under 5 years who are wasted (weight-for-height)- 19.3% and children under 5 years who are overweight (weight-for-height)- 3.4% in India. In Haryana, 27.5% children under 5 years are stunted, 11.5% are wasted and 3.3% are overweight.[2] Common morbidities found in school children from 8 to 13 years in India are- worm infection, squint, refractive errors, upper respiratory tract infections,

skin disorders, ear discharge, lower respiratory tract infections and abdominal pain.[3-5] Hence, this study aimed to assess the health status of primary school students in urban and rural areas of Panipat, Haryana.

METHODS

This school based cross sectional study was conducted in the urban and rural field practice areas of community medicine department, NCMCH, Panipat during February-March 2023. Convenient sampling technique was adopted to select primary schools from 1st to 5th standard. 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

Total 261 primary school students were included in this study among which 95 were from urban area and 166 were from rural area. 51 (53.6%) males and 44 (46.31%) females in urban area and 94 (56.62%) males and 72 (43.37%) 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 1).

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

	Urban (%)			Rural (%)		
Standard	**Male (n=51)**	**Female (n=44)**	**Total (N=95)**	**Male (n=94)**	**Female (n=72)**	**Total (N=166)**
I	08 (15.6)	06 (13.6)	14 (14.7)	18 (19.1)	11 (15.3)	29 (17.5)
II	06 (11.7)	06 (13.6)	12 (12.6)	19 (20.2)	15 (20.8)	34 (20.5)
III	09 (17.6)	08 (18.2)	17 (17.9)	17 (18.2)	16 (22.2)	33 (19.9)
IV	15 (29.4)	16 (36.3)	31 (32.6)	20 (21.3)	14 (19.4)	34 (20.5)
V	13 (25.5)	08 (18.2)	21 (22.1)	20 (21.3)	16 (22.2)	36 (21.6)

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

Health problems	Urban (n=95) (%)	Rural (n=166) (%)	χ^2	P value
Pallor	34 (35.8)	52 (31.3)	0.545	0.4603
Skin disease	07 (7.4)	08 (4.8)	0.7248	0.3945
Dental issues	21 (22.1)	53 (31.9)	2.869	0.0902
Eye problems	03 (3.2)	03 (1.8)	0.4908	0.4835
ENT problems	76 (80.0)	83 (50.0)	22.841	<0.00001
Micronutrient deficiency	08 (8.4)	12 (7.2)	0.1219	0.7275
Personal hygiene	21 (22.1)	38 (22.9)	0.0214	0.8838
Respiratory problems	04 (4.2)	06 (3.6)	0.0583	0.8092
CVS problems	01 (1.05)	01 (0.6)	0.161	0.6882

Table 3: Nutritional status of urban and rural school students.

	Urban (%)			Rural (%)		
Nutritional status	**Male (n=51)**	**Female (n=44)**	**Total (N=95)**	**Male (n=94)**	**Female (n=72)**	**Total (N=166)**
Underweight	9 (17.6)	15 (34.1)	24 (25.2)	33 (35.1)	41 (57)	74 (44.5)
Normal	38 (74.5)	27 (61.3)	65 (68.4)	58 (61.7)	30 (41.6)	88 (53)
Overweight/obese	4 (7.8)	2 (4.5)	6 (6.3)	3 (3.2)	1 (1.4)	4 (2.4)

Most common morbidity identified was ENT problems (ear wax, ear discharge) in both urban (80%) and rural (50%) students and the difference between them was found be statistically significant (p value <0.00001). Followed by pallor which was 35.8% in urban and 31.3% in rural students. Dental issues like caries, plaque etc. were found in 22% of urban and 32% of rural students (Table 2). Poor personal hygiene was observed in around one fifth students in both urban and rural areas. Skin problems (eczema, hypopigmentation, dry skin), refractory errors, micronutrient deficiency and respiratory issues (asthma, upper and lower respiratory tract infections) were also identified but there was no statistically significant difference between then in urban and rural students. In Table 3, the difference between the

nutritional status in urban and rural students was found to be statistically significant (χ^2 =10.857, p value <0.05).

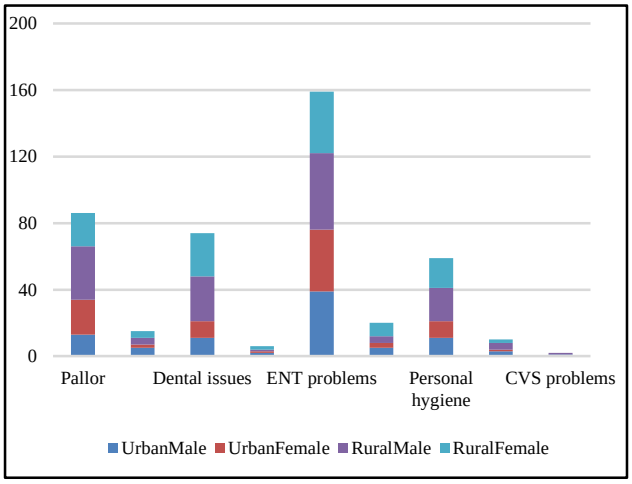

Figure 1: Morbidity pattern among urban and rural school students.

DISCUSSION

The present study was done to assess the health status of children studying in primary school. It was found that 80% students of urban areas were suffering from one or more health problems which is consistent with studies done by Verma et al and Naseem et al where 52.2% and 56.25% urban students had health issues.[3,6] Around 50% of rural students in this study had health problems which is similar to 58.7% reported by study done by Naseem et al.[6]

Pallor in urban students (35.8%) was higher than that reported by Patel et al as 30.99% in urban area and in rural students (31.3%) was lower as compared to 38.23% reported by Asghar et al respectively.[4,7] ENT problems were the most common health issue among students followed by pallor, dental issues and poor personal hygiene in both urban and rural areas. A study by Asghar et al 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.[7] 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. The same was also observed by a study done by Verma et al in urban area (6.1%) and by Asghar et al in rural area (37.05%).[3,7] 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 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.[4]

There are few limitations of this study. The findings of the study are based on clinical evaluation (history and examination). No laboratory corroboration was made for the positive findings. The students absent on the day of examination were not included in the study.

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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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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