

Original Research Article

A school based cross-sectional study to assess the health problems and health status among school going children at Akhorigola, Rohtas District, Bihar

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ABSTRACT

Background: School-going children constitute one-fifth of the total population. They are the future of the nation's successor generation; therefore, high-performing students are important investments in building the nation's future. This study aimed to identify the health problems among school-going children.

Methods: The current research was a cross-sectional study conducted in the Akhorigola block of Rohtas, targeting school-going children. A total of 650 participants were selected through a purposive sampling technique and assessed using a pre-structured format. The acquired data was analyzed using the statistical package for the social sciences (SPSS) to calculate the results based on objectives and hypotheses.

Results: The outcomes of the study showed that among the 360 school-age boy participants, 210 (58.33%) had a normal weight, 100 (27.79%) were underweight, and 50 (13.88%) were overweight. Among the 290 girl participants, 150 (51.82%) had a normal weight, 110 (37.84%) were underweight, and 30 (10.34%) were overweight. The study also revealed that the majority of the 650 participants, 149 (22.92%), had inadequate personal hygiene, 109 (16.76%) had dental caries, 78 (12%) were affected by worm infestation, 55 (8.46%) were anemic, 47 (7.23%) had vitamin-A deficiency, 44 (6.76%) had scalp and hair problems, 38 (5.84%) had ear problems, and 30 (4.61%) had impaired visual acuity.

Conclusions: Implementing school health programs can pose several challenges, but these can be effectively tackled through the integration of activities between the health and education departments.

Keywords: School health programme, Malnutrition, Anaemia, School age children

INTRODUCTION

In 1909, the first known health program in India was launched in the Baroda province of British India.¹ The Indian school system serves more than 25 crore children through a network of 15 lakh schools staffed by over 85 lakh teachers.⁴ SHP-AB is only available to government-aided schools. It is estimated that nearly 50% of all students in India attend private unaided schools.

According to the 2011 census, there are 47.3 crore children (0-18 years) in India, accounting for 39 percent of the population. According to recent data, around 26 crore children in the age group of 6-18 are enrolled in schools. Due to increased emphasis on Sarva Shiksha Abhiyan (SSA) and the Right to Education Act (2010), the number of children attending school has increased significantly.²

In the last decade, at least three key programs have been launched with school health components: Rashtriya Bal

Swasthya Karyakram (RBSK), Rashtriya Kishor Swasthya Karyakram (RKSK) and Ayushman Bharat School Health Program (SHP-AB). However, even these programs have had implementation issues and most of the envisaged interventions have not been translated into actual implementation.³

The nation's future depends on the success of its school-going children, who represent one-fifth of the population and are the nation's successor generation. Therefore, investing in high-performing students is a valuable investment.^{5,6} Despite the well-known importance of nutritional health several cultural, social, political, economic, and educational factors contribute to malnutrition among children.⁷ Schools remain for many years been recognized as an important setting for health promotion for the community.⁸

School Health Program is envisaged as an important tool for the provision of preventive, promotive, and curative health services to the population.⁹ The School Health Programme is the only public sector programme specifically focused on school-age children. Its focus is to address holistically the health and nutrition needs of children in a manner that fulfils the needs of today's lifestyle, hence activities like yoga and counselling facilities have been incorporated.¹⁰

The study aimed to determine the health status of school-going children at Akhorigola Block, Rohtas (Distt).

METHODS

Study design and setting

In this present study, a school-based cross-sectional survey was conducted in Akhorigola, Rohtas from 31 January to 27 February 2024.

Study sample and technique

A purposive non-probability sampling technique was used to select 650 school-going children who were willing to participate in the survey.

Study participants

Inclusion criteria all children from UKG to 8th standard class students, who are attending the class during the data collection, and children who are absent in the class during the data collection, who are having serious health problems are not included in this study.

Descriptive tool

A pre-structured assessment format was used to record information regarding the anthropometric measurement, physical assessment including hair, scalp, eye, oral hygiene, vision test, personal hygiene, and clinical symptoms assessment. Every student underwent a

thorough systemic and physical examination including a careful clinical examination. Anemia was diagnosed by the presence of pallor at the lower palpebral conjunctiva, mucous membrane, tongue, soft palate, nail bed, and skin surface. Vision assessment by using Snellen's chart, and vitamin A deficiency assessment by checking the conjunctiva and dryness of cornea.

Anthropometric measurements include height and weight. Height was measured with the stadiometer in a standing position, barefooted with heels close together, and weight was measured using a manual weighing scale. Using the World Health Organization (WHO) growth chart (Z score) for up to ten years, calculate the degree of malnutrition.

Statistical analysis

The data was analyzed using IBM statistical package for the social sciences (SPSS) (version-26). The researcher developed a master sheet to compute the data and used both descriptive and inferential statistics to calculate the results based on the objectives and hypotheses of the study. the demographic profile data, which includes participants characteristics, was evaluated with frequency and percentage.

Ethical considerations

Ethical approval for the study was taken from the institute ethics committee. After being informed about the research, and the confidentiality, and anonymity of the information. Completing the questionnaire was regarded as informed consent to participate in the study.

RESULTS

Table 1 revealed that out of 650 study participants, the majority of study participants 160 (24.61%) were enrolled from the 5th class to the 6th class, 150 (23.09%) study participants were enrolled from the 7th to 8th class, 130 (20%) study participants were enrolled from 3rd to 4th class, and 90 (13.84%) study participants were enrolled in UKG to LKG standard in school. Out of 650 study participants, half of the majority 360 (55.38%) were boys and 290 (44.62%) were girls.

Table 1: Distribution of study participants' demographic profiles (n=650).

Demographic variable	Frequency	Percentage
Children school standard		
UKG-LKG	90	13.84
1 st to 2 nd	120	18.46
3 rd to 4 th	130	20
5 th to 6 th	160	24.61
7 th to 8 th	150	23.09
Gender		
Boys	360	55.38
Girls	290	44.62

Table 2 shows that out of 360 study participants, 210 (58.33%) had normal weight, 100 (27.79%) were underweight malnutrition, and 50 (13.88%) were found to be overweight among boys of school-age children. In study participants out of 290, the majority of 150 (51.82%) were found to have normal weight, 110 (37.84%) were found to be underweight and 30 (10.34%) were found to be overweight among girls of school-going children.

Table 2: Distribution study participants' nutritional status (n=650).

Nutritional status	Boys (360)		Girls (290)	
	F	%	F	%
Normal weight	210	58.33	150	51.82
Overweight	50	13.88	30	10.34
Underweight	100	27.79	110	37.84

Table 3 depicts that out of 650 study participants, the majority of the children, 149 (22.92%) were found to have inadequate personal hygiene, 109 (16.76%) had dental caries, 78 (12%) were affected with worm infestation, 55 (8.46%) were found anemic, 47 (7.23%) had vitamin-A deficiency, 44 (6.76%) had scalp and hair problems, 38 (5.84%) had ear problems, 30 (4.61%) had impaired visual acuity among the school going children.

Table 3: Distribution of study participants' health problems (n=650).

Health problems	Frequency	Percentage
Anemia	55	8.46
Vitamin-A deficiency	47	7.23
Impaired visual acuity	30	4.61
Dental caries	109	16.76
Ear problems	38	5.84
Scalp and hair problems	44	6.76
Skin lesion or fungal infection	21	3.23
Worm infestation	78	12
Improper personal hygiene	149	22.92

DISCUSSION

In Bihar, 85% of children aged 6–17 years go to school, 88% in urban areas and 84% in rural areas. School attendance is 89% between the ages of 6–14, but drops sharply to 69% between the ages of 15–17. There has been little change in the nutritional status of children in Bihar since NFHS-4. The percentage of stunted children has declined from 48% to 43% in the 4 years between NFHS-4 and NFHS-5. The percentage of underweight children has decreased from 44% to 41%. However, over the same period, wastage increased from 21% to 23%. Despite persistently high levels of stunting underweight and wasting, child malnutrition is still a major problem in Bihar.¹¹

The present study revealed that out of 360 study participants, 210 (58.33%) had normal weight, 100 (27.79%) were found to have underweight malnutrition, and 50 (13.88%) were found to be overweight among boys of school-age children. In study participants, out of 290 majorities that is 150 (51.82%) were found to have normal weight, 110 (37.84%) were found underweight, and 30 (10.34%) were found to be overweight among girls of school-going children.

More than two-thirds (69%) of children aged 6-59 months are anaemic. This includes 31% being mildly anemia, 37% being moderately anemia and 2% having severe anemia. In this present study, the prevalence of 55 (8.46%) had anemia. And other health problems 47 (7.23%) had vitamin-A deficiency, 44 (6.76%) had scalp and hair problems, 38 (5.84%) had ear problems, and 30 (4.61%) had impaired visual acuity among the school-going children.

Limitations

The limitations of this study include the utilization of a cross-sectional, school-based design, which may not adequately capture changes in knowledge. Moreover, the duration of the study was limited, and the findings were based solely on the client's history and clinical examination. Furthermore, modern laboratory health investigations were not conducted to verify the clinical diagnosis of anemia, and worm infestation was not examined.

CONCLUSION

The School Health Program is a public sector initiative that specifically targets school-age children, with the aim of addressing their health and nutrition needs in a manner that is suitable for modern lifestyles. This includes incorporating activities such as yoga and counselling facilities to help reduce stress among school-age children. The present study found that a higher prevalence of underweight malnutrition was observed in girls 110 (37.84%) compared to boys 100 (27.79%). In order to promote a healthy lifestyle among students, schools need to prioritize the delivery of key programs. Implementing school health programs can pose several challenges, but these can be effectively tackled through the integration of activities between the health and education departments.

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