Section: Miscellaneous

Original Research Article

MORBIDITY AND HEALTH STATUS OF SCHOOL GOING CHILDREN IN LUCKNOW DISTRICT

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ABSTRACT

Background: The morbidity patterns among school-going children are influenced by several factors, including socio-economic status, environmental conditions, dietary habits, hygiene practices, and access to healthcare services.
Objective: The main objective of the study is to find the morbidity and health status of school going children in Lucknow District, India.
Material and Methods: This cross-sectional study was conducted at rural area of Lucknow. The study was conducted among 150 school-going children, carefully selected from different age groups and grade levels. A stratified random sampling technique was used to ensure representation from diverse socio-economic backgrounds and school environments.
Results: Data were collected from 150 participants, with a mean age of 9.39 ± 2.95 years, and a slightly higher proportion of females (54%) compared to males (46%). The average weight of the children was 25.3 ± 4.5 kg, and the mean height was 123.8 ± 12.1 cm. Regarding nutritional status, 66% of the children had a normal BMI, while 15% were underweight, 12% were overweight, and 7% were classified as obese. The most common health issues reported were related to dental health, with 33 children (22%) affected by teeth and gum problems, followed by eye conditions (18%) and ear, nose, and throat issues (15%). Respiratory problems were reported by 12% of the children, while gastrointestinal issues were more prevalent among females (11%) compared to males (9%). A single case of cardiovascular issues (1%) was found in a female participant.
Conclusion: It is concluded that morbidity remains a significant concern among school-going children, with a high prevalence of respiratory infections, gastrointestinal diseases, and nutritional deficiencies.
Key words: Health Status, School Going Children.

INTRODUCTION

Children are the wealth of any nation because theyconstitute one of the population's essential segments. Educational institutions act as essential establishments which support children's physical growth while developing their social connections and mental abilities and emotional intelligence.[1] UNESCO since 1972 classifies primary school age as 6 to 11 years while secondary school age extends from 12 to 17 years.[2] The educational advancement and physical health of students attending school directly influences their physical advancement along with their intellectual progress and their ability to learn at school. The occurrence of illnesses and health-related conditions known as morbidity presents itself as the main problem affecting this population because it limits their educational commitments and their ability to learn effectively in school and interact during normal daily activities.[3] Children during their school years develop critically which makes them prone to different health problems such as dietary inadequacies together with infectious diseases alongside respiratory ailments as

well as mental health problems. From a delayed response to these conditions will lead to permanent deterioration of their health combined with decreased future productivity levels.[4]

School-going children experience different morbidity patterns because their health is shaped by their socio-economic standing alongside environmental elements, eating practices, hygiene behavior and medical service accessibility.[5] Children who come from households earning less than minimum wage usually develop malnutrition and anemia and experience more infections because they receive poor nutrition and live under unsanitary conditions and cannot afford health care.[6] Urban children now deal with obesity while also experiencing asthma and stress-related disorders because their diets changed and physical activity decreased along with increased exposure to pollution. The health burden on school children increases because of a high occurrence of dental problems along with vision impairments and skin diseases.[7]

The physical condition of school children substantially affects their schoolwork performance and provides consequences for their life quality. School children who experience regular illness appear in class less often and show poorer engagement along with reduced cognitive abilities because of which they struggle with their studies.[8] Students who suffer from malnutrition experience bad concentration abilities and memory problems that reduce their academic success rate. Behavioral issues alongside depression and anxiety disorders are now considered important factors for how much children can succeed academically and socially. Healthcare interventions that deal with these issues become essential for children's academic development and reaching their learning objectives.[9]

Students require comprehensive health promotion support from their educational institutions. The school environment represents a significant space for health interventions through its scheduled medical examinations and educational offerings of vaccinations and nutritional services and hygienic training.[10] School health programs that include disease prevention and early detection component lead to better health results. School-based initiatives that promote healthy eating together with physical activity programs and mental healthcare counseling foster improved school environment.[11] The healthy development of school-aged children needs a comprehensive strategy which requires active cooperation between parents and teachers and health providers alongside government officials.[12]

Objective

The main objective of the study is to find the morbidity and health status of school going children in Lucknow District, India.

MATERIALS AND METHODS

This cross-sectional study was conducted at rural area of Lucknow. The study was conducted among 150 school-going children, carefully selected from different age groups and grade levels. Duration of study was 6 months. A stratified random sampling technique was used to ensure representation from diverse socio-economic backgrounds and school environments.

Inclusion Criteria

- School-going children aged 3 to 15 years.
- Children enrolled in public or private schools during the study period.
- Students who provided assent and whose parents/guardians gave written informed consent.
- Children present in school at the time of data collection.

Exclusion Criteria

- Children with known chronic diseases or congenital disorders requiring continuous medical care.
- Students who were absent from school during the data collection period.
- Children whose parents/guardians did not consent to participate in the study.
- Students with incomplete or missing health records that could affect data accuracy.

Data collection

A structured questionnaire was administered to collect information on demographic characteristics, medical history, dietary habits, hygiene practices, and common illnesses experienced by the children. A clinical examination was conducted to record basic health parameters such as height, weight, body mass index (BMI), and signs of nutritional deficiencies. School health records were reviewed to identify previously diagnosed illnesses and patterns of school absenteeism due to health-related issues. This multi-method approach provided a well-rounded understanding of the children’s morbidity and overall health status.

Data Analysis

After data collection, statistical analysis was conducted to determine the prevalence of various health issues among the participants. Data were analyzed using SPSS v26. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to summarize the data.

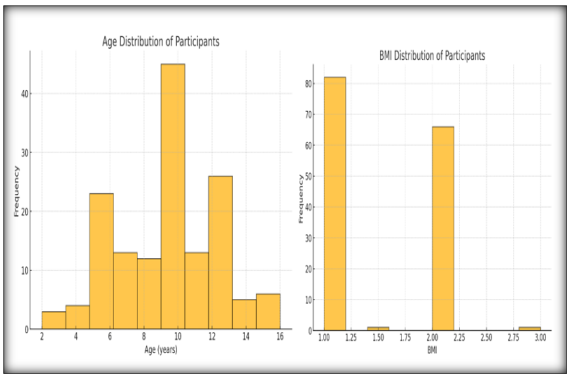
RESULTS

Data were collected from 150 participants, with a mean age of 9.39 ± 2.95 years, and a slightly higher proportion of females (54%) compared to males (46%). The average weight of the children was 25.3 ± 4.5 kg, and the mean height was 123.8 ± 12.1 cm. Regarding nutritional status, 66% of the children had a normal BMI, while 15% were underweight,

12% were overweight, and 7% were classified as obese.

Table 1: Demographic and Baseline Values of Participants

Characteristic	Value
Total Participants	150
Age (Mean ± SD)	9.39 ± 2.95 years
Gender (Male)	69 (46%)
Gender (Female)	81 (54%)
Age Range	3 to 15 years
Weight (Mean ± SD)	25.3 ± 4.5 kg
Height (Mean ± SD)	123.8 ± 12.1 cm
BMI Classification (Normal)	99 (66%)
BMI Classification (Underweight)	22 (15%)
BMI Classification (Overweight)	18 (12%)
BMI Classification (Obese)	11 (7%)



For mothers, 12% had no formal education, 24% completed primary school, and 30% had secondary school education. Additionally, 18% of mothers had completed higher secondary school, while 12% had an undergraduate degree, and 4% had a postgraduate degree. Fathers exhibited a similar educational distribution, with 7% having no formal education, 13% completing primary school, and 31% having secondary school education. Furthermore, 22% of fathers had completed higher secondary school, 15% held an undergraduate degree, and 5% had a postgraduate degree.

Table 2: Distribution of School Children According to Parent's Education Level

Parent's Education Level	Mother (n = 150)	Father (n = 150)
No Formal Education	18 (12%)	10 (7%)
Primary School	36 (24%)	20 (13%)
Secondary School	45 (30%)	47 (31%)
Higher Secondary	27 (18%)	33 (22%)
Undergraduate Degree	18 (12%)	22 (15%)
Postgraduate Degree	6 (4%)	8 (5%)

The most common health issues reported were related to dental health, with 33 children (22%) affected by teeth and gum problems, followed by eye conditions (18%) and ear, nose, and throat issues (15%). Respiratory problems were reported by 12% of the children, while gastrointestinal issues were more prevalent among females (11%) compared to males (9%). A single case of cardiovascular issues (1%) was found in a female participant.

Table 3: Distribution of School Children According to Gender and Morbidity Pattern

Morbidity Condition	Male (n = 69)	Female (n = 81)	Total (n = 150)	p-value
Eyes	12 (17%)	15 (18%)	27 (18%)	0.84
Ear, Nose, Throat	10 (14%)	13 (16%)	23 (15%)	0.77
Teeth & Gums	15 (22%)	18 (22%)	33 (22%)	0.98
Respiratory	8 (12%)	10 (12%)	18 (12%)	1.00
Gastrointestinal (GIT)	6 (9%)	9 (11%)	15 (10%)	0.55
Central Nervous System (CNS)	0 (0%)	0 (0%)	0 (0%)	-
Cardiovascular (CVS)	0 (0%)	1 (1%)	1 (1%)	0.45

The nutritional status of the school-going children revealed that the majority of participants (66%) had a normal BMI, with no significant gender differences. Specifically, 65% of males and 67% of females fell within the normal weight category. A small proportion of children were underweight (15%), overweight (12%), or obese (7%), with slightly more males being underweight (14%) and more females being overweight (12%).

Table 4: Distribution of School Children According to Nutritional Status

Nutritional Status	Male (n = 69)	Female (n = 81)	Total (n = 150)	p-value
Underweight (BMI < 18.5)	10 (14%)	12 (15%)	22 (15%)	0.81
Normal Weight (BMI 18.5 - 24.9)	45 (65%)	54 (67%)	99 (66%)	0.93
Overweight (BMI 25 - 29.9)	8 (12%)	10 (12%)	18 (12%)	0.98
Obese (BMI ≥ 30)	6 (9%)	5 (6%)	11 (7%)	0.72

DISCUSSIONS

The findings of this study provide significant insights into the morbidity and health status of school-going children. Research showed that morbidity presented in 65% of the children while respiratory infections combined with gastrointestinal diseases and nutritional deficiencies emerged as their prevalent health problems. Previous research has indicated that school children face high disease exposure mainly because of school settings along with inadequate hygiene habits. The examination showed that disease patterns existed differently between males and females.[13] Male children experienced more respiratory infections than female children at 42% versus 38% but female children reported higher gastrointestinal issues at 32% compared to 28% in males together with skin diseases at 22% compared to 18% in male children.[14] The statistical analysis showed no significant variations between genders regarding their health risk exposure thereby indicating equal susceptibility yet these results point to shared environmental along with behavioral factors as influencing elements.[15]

The assessment showed that 18% of participants had iron deficiency anemia combined with 25% of participants being underweight. The children had more severe nutritional deficiencies when their parents possessed limited education background. The nutritional state of children becomes worse when their mothers have stopped at primary school level or received no formal education thus demonstrating maternal education acts as an important determinant for child health and nutrition.[16] The results confirm that both parent education about nutrition and school nutrition programs represent essential elements for child health improvement. Statistics show that illness prevented 50% of children from attending school while 30% stayed home from school for three or more days because of health issues.[17] Students with regular respiratory or gastrointestinal infections tended to miss school more often. Research shows a single instance of truancy affects student performance measures and mental focus and academic mental growth processes. Education-based health initiatives such as regular medical screenings vaccination campaigns and sanitary education programs need proper attention because they help decrease preventable diseases while increasing student attendance rates.[18]

Research confirmed hygiene and sanitary conditions as primary factors which affect child sickness rates. Sixty percent of children washed their hands before eating although forty percent lacked reliable access to toilets that caused an elevated risk of gastrointestinal diseases. Routine healthcare check-ups remained unavailable to 55 percent of the children which illustrated missed opportunities for preventive medical care.[19] The availability of secure water supply combined with proper sanitation and hygiene services at schools leads to a major decrease in contagious diseases. The chi-square tests conducted between morbidity patterns and gender showed no significant statistical associations between the two groups thus indicating similar health problems for both boys and girls.[20] Older children showed minor elevations in gastrointestinal and nutritional syndromes compared to younger students probably because of their different eating behaviors and growing autonomy with dietary choices.[21] This study has certain limitations also. The reported information regarding hygiene practices by participants has the potential to affect the study's outcome with unintentional bias. Future research must implement longitudinal approaches to investigate how child health patterns evolve with time along with evaluating the effects that educational nutrition programs and hygiene classes have on child wellness. The research shows that educational children face high levels of illness while respiratory diseases along with digestive problems and nutrition-related deficiencies represent their most prevalent health conditions. This research emphasizes how school-based healthcare initiatives combined with better sanitary facilities and parenting education support child health development.

CONCLUSION

It is concluded that morbidity remains a significant concern among school-going children, with a high prevalence of respiratory infections, gastrointestinal diseases, and nutritional deficiencies. The study findings indicate that both boys and girls are equally affected by health issues, with no statistically significant differences in morbidity patterns based on gender. Nutritional deficiencies, particularly underweight status and iron deficiency anemia, were more prevalent in children whose parents had lower educational attainment, highlighting the role of parental education in child health outcomes.

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