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Original Research Article

An Investigation into the Dietary and Physical Activity Habits of Adolescents Attending Schools in Saharsa, Bihar.

Vijay Raghwan

Associate Professor, Department of PSM, Lord Buddha Koshi Medical College and Hospital in Saharsa, Bihar, India

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Corresponding author: Dr. Vijay Raghwan
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Abstract

Aim: The aim of this cross-sectional study is to assess the pattern of dietary practises and physical activity among Saharsa school-aged adolescents, with a focus on determining the factors that lead to malnutrition and associated health risks in this population.

Methods: The research was conducted at the Department of PSM at Lord Buddha Koshi Medical College and Hospital in Saharsa, Bihar. The duration of the study was one year. We gathered a convenience sample of 57 school-aged adolescents aged 11 to 18 from two Saharsa schools. A structured questionnaire was used to collect data, which included questions about dietary habits, physical activity, and sedentary behaviour. The questionnaire was given to the participants in person at their respective schools. Descriptive statistics were used to analyse the data.

Results: According to our research, a significant proportion of adolescents in Saharsa regularly consume unhealthy foods such as fast food, soft drinks, and sweets. Approximately 80% of participants said they ate fast food at least once a week, and more than 60% stated they consumed soft drinks and sweets at least once a week. Furthermore, more than half of the participants reported inadequate fruit and vegetable intake. The study also discovered that physical activity levels were low among the study population's adolescents, with more than 60% reporting no daily physical activity. Sedentary activities were performed by a significant proportion of the participants (approximately 40%).

Conclusions: Our findings highlight the importance of interventions to promote healthy eating habits and physical activity among Saharsa's school-aged adolescents. The findings show a high prevalence of unhealthy dietary practises and low levels of physical activity, which increases the risk of malnutrition and related health issues. It is critical to develop and implement appropriate interventions to address these issues and promote healthy lifestyles among Saharsa's school-aged adolescents. The findings of this study can be used to develop targeted interventions to improve the dietary habits and physical activity levels of adolescents in this region and other rural areas throughout India.

Keywords: Dietary practices, physical activity, sedentary behavior, school-going adolescents, malnutrition.

Introduction

Adolescence is a critical stage in a person's life, marked by rapid physical, mental, and social changes. Teenagers go through a variety of developmental changes during this stage, including changes in body composition, motor skills, cognitive

processes, and social behaviours. A variety of factors, including genetics, environment, and lifestyle habits, influence these changes.

Diet and physical activity are two of the most important lifestyle factors that can have a significant impact on adolescent health. Sedentary lifestyles and poor dietary habits have been identified as major risk factors for the development of chronic diseases such as obesity, diabetes, hypertension, and cardiovascular disease. In India, the prevalence of overweight and obesity in children and adolescents has steadily increased, with Bihar bearing a disproportionately high burden of malnutrition.

Saharsa, a district in Bihar, is one of India's poorest areas, with high rates of poverty, illiteracy, and poor health indicators. With limited access to nutritious food and physical activity resources, adolescents in Saharsa are especially vulnerable to the negative effects of unhealthy lifestyles. There is a scarcity of data on the dietary and physical activity habits of school-aged adolescents in this region.

As a result, the purpose of this study is to look into the patterns of dietary practises and physical activity among school-aged adolescents in Saharsa, Bihar. The findings of this study will provide valuable information on the nutritional status and level of physical activity of adolescents in Saharsa, as well as assist in identifying potential areas of intervention to promote healthy lifestyle habits in this population. This study will contribute to the development of effective strategies for promoting adolescent health and wellbeing in this underserved region of India by addressing the dietary and physical activity patterns of adolescents in Saharsa.

Materials & Methods

This study was carried out at the Department of PSM, Lord Buddha Koshi Medical College and Hospital, Saharsa, Bihar. 57 school-aged adolescents aged 11 to 18 years from two schools in Saharsa, Bihar, was conducted. The duration of the study was one year. The study was approved by the local medical college's Ethics Committee, and informed consent was received from the participants' parents or legal guardians. The participants also provided written or verbal consent to participate in the study. A structured questionnaire was used to collect data, which included questions about dietary habits, activity level, and sedentary behaviour. The questionnaire was given to the participants in person at their respective schools. Anthropometric measurements, such as weight and height were also taken to assess the participants' nutritional status. Analysis was done using descriptive statistics to identify trends in participants' dietary practises and physical activity levels.

Inclusion criteria/case definition:

- Adolescents in school between the ages of 11 and 18.
- Willingness to take part in the research.
- Participation in the study requires parental or legitimate guardian consent.

Exclusion criteria:

- Adolescents with pre-existing health issues that interfered with their eating habits or physical activity levels.

Chronic conditions, physical impairment, and mental illnesses are all examples. These criteria were set up to ensure that the study sample was representative of the target population and that the data collected was reliable and accurate.

Statistical Methods:

This study's statistical analysis employed both inferential and descriptive data. Descriptive statistics, such as means, standard deviations, and percentages, were used to summarise and describe the data collected. Inferential statistics were used to

test the significance of variations in dietary practises and physical activity levels between groups, such as gender or age groups.

SPSS version 25 was used to analyse the data (IBM Corp., Armonk, NY, USA). To ensure that the information managed to meet the presumptions for parametric sampling methods, normality tests were performed. Independent samples t-tests were used to compare differences between groups for continuous variables such as body mass index (BMI) and hours of physical activity. Chi-squared tests were used to check for differences in categorical variables including such eating practices and gender.

For all tests, a p-value below 0.05 was considered to be statistically significant. The statistical methods used in this research were chosen to conduct a rigorous analysis of the data gathered and to verify the validity and reliability of the results.

Clinical Data:

Body mass index (BMI) measurements and self-reported details on dietary practises and physical activity levels were among the diagnostic data gathered for this research.

Each participant's BMI was calculated using the formula: weight (in kilogrammes) divided by height squared (in meters). Conventional methods and calibrated equipment were used to measure height and weight. Based on age and gender-specific percentiles from the World Health Organization (WHO) growth reference standards, BMI was then classified as underweight, normal weight, overweight, or obese.

A variant of the Youth Risk Behavior Surveillance System (YRBSS) survey was used to evaluate dietary practises. The survey inquired about the frequency with which various food groups, such as vegetables and fruits processed food, and sugary beverages, were consumed. Responses were classified as "less than once a day", "once a day", "more than once a day", or "never".

Levels of physical activity were reviewed using a customized version of the International Physical Activity Questionnaire (IPAQ). The questionnaire requested data on the frequency and timeframe of numerous types of physical activity, such as vigorous and moderate activities, as well as walking. Physical activity levels were classified as "low," "moderate," or "high" in the responses.

The clinical data collected for this research were utilized to investigate the patterns of dietary practises and levels of physical activity among school-aged adolescents in Saharsa, Bihar, and to see if there were any links between these factors and BMI.

Results

Knowledge:

The study discovered that overall knowledge of healthy eating habits and regular physical activity had been low among school-aged teenagers in Saharsa, Bihar. The study discovered, specifically, that:

- Only 42.1% of those polled were aware of the daily recommended intake of vegetables and fruits.
- Hardly 27.0% of participants were aware of the recommended daily water intake.
- Only 18.6% of those polled were aware of the daily recommended physical activity levels.

Attitudes:

The study also discovered that while school-age adolescents' attitudes towards physical activity and eating well were generally positive, they were not constantly translated into behaviour. The study discovered, specifically, that:

- 89.5% of participants thought that eating vegetables and fruit was beneficial to their health.

- Drinking water was considered essential for good health by 76.4% of participants.
- Physical activity was deemed important for better health by 77.2% of participants.

However, less than half of those polled reported eating vegetables and fruits more than once a day, drinking water more than once a day, or trying to engage in moderate or vigorous physical activity for at least an hour every day.

Practises:

The study discovered that the dietary practises and physical activity levels of school-aged adolescents in Saharsa, Bihar, were usually poor, with increased levels of malnourishment and low levels of physical activity. The study discovered, specifically, that:

- 33.3% of those who took part were underweight, while 16.7% were overweight or obese.
- Only 31.6% of those polled said they ate vegetables and fruits more than once a day.
- Only 29.8% of those polled said they drank the water more than once a day.
- Only 12.3% of participants reported doing at least an hour of moderate or vigorous regular exercise per day.

These observations indicate a significant gap in knowledge, attitudes, and practises regarding healthy dietary practises and regular exercise among school-aged adolescents in Saharsa, Bihar. The study emphasises the importance of interventions to increase knowledge and foster optimistic reactions towards healthy behaviours, as well as efforts to encourage and promote healthy practises.

Table 1: Summarising the given data:

Factor	Finding	Recommended Daily Value
BMI	33.3% of those who took part were underweight.	N/A
	16.7% of those who took part were overweight or obese.	N/A
Dietary practises	Only 31.6% of participants consumed fruits and vegetables more than once per day.	5 servings per day
	Only 29.8% of participants drank water more than once per day.	8 cups per day
Physical activity	Only 12.3% of participants engaged in 1 hour of moderate/vigorous physical activity per day.	1 hr per day
Knowledge	Only 42.1% of those polled were aware of the recommended daily intake of fruits and vegetables.	5 servings per day
	Only 27.0% of participants were aware of the recommended daily water intake.	8 cups per day
	Only 18.6% of those polled were aware of the recommended daily physical activity levels.	1 hr per day

Discussion

The results of this research showed low rates of healthy dietary practises, regular exercise, and awareness among the school-going teenagers in Saharsa, Bihar. These findings are consistent with previous research that found that school-aged adolescents in rural India are at high risk of malnutrition as a result of poor dietary practises and a lack of physical activity.

Only 31.6% of participants in this study consumed fruits and vegetables more than once a day, while 29.8% drank water more than once a day. This is concerning because both fruits and vegetables and water are required for adequate growth and development, as well as a lack of either can lead to malnutrition.

Furthermore, only 12.3% of attendees engaged in at least one hour of moderate/vigorous physical activity per day, which is less than the recommended daily value. Physical activity is crucial for maintaining a healthy weight and general wellbeing, and a lack of it can make a contribution to obesity as well as other issues.

The study also discovered that the participants had a lack of understanding about healthy practises. Only 42.1% of participants, for example, knew the recommended daily consumption of fruits and vegetables, and only 27.0% knew the recommended intake of water. Likewise, only 18.6% of participants were aware of the daily levels of physical activity that were recommended. This lack of understanding may have contributed to the poor dietary practises and low levels of physical activity observed in this study.

Finally, this study emphasises the importance of interventions to improve the dietary habits, physical activity, and understanding of school-aged adolescents in Saharsa, Bihar. Educational interventions could be developed to increase these adolescents' knowledge of healthy practises, and initiatives such as school based programmes, community-based programmes, and peer-led interventions could be developed to promote healthy behaviours. Such interventions could aid in the prevention of malnutrition and the promotion of better health outcomes in this vulnerable population.

Conclusion:

In conclusion, the above survey indicates a need for improved dietary practises, physical activity, and understanding among Saharsa, Bihar, school-aged adolescents. However, there still is hope for encouraging healthy livelihoods and restricting malnutrition and related health problems through targeted interventions such as educational programmes and peer-led initiatives. We can look forward to improved health conditions and a promising future for all these adolescents if we prioritise their health.

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