Original Research Article

A STUDY TO DETERMINE THE NUTRITIONAL STATUS OF HIGH SCHOOL CHILDREN IN RURAL AREA RAJASTAHAN

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Abstract

Background: Over the past few years in India, childhood overweight and obesity is increasingly being observed with the changing lifestyle of families with inadequate exercises and unhealthy food lifestyles.

Methods: A cross-sectional study was carried out in Government High Schools (8-10th standards) with a sample size of 100. Required number of students from each class was selected using systematic random sampling.

Results: The overweight students were mainly boys and the underweight students were mainly girls. Nutritional value of the majority of students was poor due to consumption of junk foods, lack of exercise, outdoor activities, inadequate intake of food and imbalanced diet.

Conclusion: In the present study, majority of high school students in 8th, 9th, and 10th standards were underweight, and the prevalence of overweight and obesity were less.

Keywords: Overweight, Underweight, Rural

Introduction

Over the past few years in India, childhood overweight and obesity is increasingly being observed with the changing lifestyle of families with inadequate exercises and unhealthy food lifestyles.[1] Obesity can be seen as the first wave of a defined cluster of non-communicable diseases called "New World Syndrome" creating an enormous socioeconomic and public health burden in poorer countries and World Health Organization has described obesity as one of today's most neglected public health problems. Physical inactivity and poor food habits has not only a prime role in its development, but also in the development of chronic diseases such as heart disease, diabetes, hypertension, cancers and osteoporosis in later life.[2] However in the rural India underweight and malnutrition still persists as a major health concern rather than overweight and obesity. Due to inadequate amount of food, improper balanced diet, lack of human resources, financial constraints, gender inequality and physical labor many adolescent age group are vulnerable to underweight. Health concerns such as anemia, especially the female students, protein energy malnutrition, infections, delayed growth and development are some of the major health concerns that may accompany along that.[3]

METHODS

A cross-sectional study was carried out in Government High Schools (8-10th standards) with a sample size of 100. Required number of students from each class was selected using systematic random sampling.

A pre-designed and pre-tested questionnaire was used to interview the study participants to elicit the information based on questions concerning eating habits such as regular intake of fruits, vegetables, junk foods, milk, outdoor/indoor sports, fathers and mother's education and occupation, regularly eating from restaurants.

Anthropometric parameters such as height, weight, hip and waist measurements were also taken into consideration.

The measurement of height (to the nearest 0.5 cm), body weight (to the nearest 0.1 kg), waist and hip circumferences of each student was recorded by following the standard techniques and body mass

index were calculated. The international cut-off points for the body mass index were used, body mass index (BMI) for age >85th and overweight and others who had BMI for age >95th percentile were classified as obese. Institutional ethical clearance was taken.

RESULTS

A total of 100 students from 8th to 10th standard participated in the study. The age ranged from 12 to 16. Out of the 100 students, 50 were male, and 50 were female.

Table 1: Factors for assessing nutritional status

Variable		Total number	Overweight	Underweight	p-value
Overall		100	8	74	
Age (yrs)	12-14	46	5	40	>0.05
	14-16	54	3	34	
Sex	Male	50	6	32	>0.05
	Female	50	2	42	
Dancing	Yes	31	1	39	>0.05
	No	69	7	35	
Eating	Only Veg	62	5	40	>0.05
	Both veg & non veg	38	3	34	

The overweight students were mainly boys and the underweight students were mainly girls. Nutritional value of the majority of students was poor due to consumption of junk foods, lack of exercise, outdoor activities, inadequate intake of food and imbalanced diet.

DISCUSSION

Globally, an estimated 10% of school-aged children, between 5 and 17 year of age are overweight or obese.[1] According to a recent data, the prevalence among adolescent children (14-17 year) was 29% in private schools and 11.3% in government funded schools in 2006-2007.[5]

In this present study, only 8% of the overall study was overweight and none were obese.

In Deshmukh et al[4] reported prevalence of overweight/obesity to be 2.2% of rural area of Wardha District. In a study conducted of a sample size of 3886, 16.6% were underweight with a BMI

The results of this study that focused on the nutritional status of children in high school expose the fact that the percentage of underweight still precedes that of overweight in rural regions of India. Educating the students about daily caloric intake as well balanced diet should be implemented. Formal education also should be conducted to the students by the school especially to girls because majority of

underweight is among them. Mid-day meal program should be effectively practiced with proper food supplementation to prevent malnutrition. Physical education classes should be actively participated by the students. Parent teacher association conferences should be held regarding health education of the students. Through these various processes, preventive efforts can be used for the better health of the future generation.

CONCLUSIONS

In the present study, majority of high school students in 8th, 9th, and 10th standards were underweight, and the prevalence of overweight and obesity were less.

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