

A Study on the Nutritional Status of School Going Children Studying in St. Xavier's School (Telugu Medium) Eluru

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Abstract: *As today's children are tomorrow's world, their survival, protection and development are the prerequisite for the future development of humanity. Without ensuring optimal child growth and development, efforts to accelerate economic development significantly will be unsuccessful. Good nutrition is a basic requirement for good health and a living organism is a product of nutrition. The principle aim of the nutritional assessment of a community is to map out the magnitude of both under and over nutrition as a public health problem and to compare the status of school children studying in private school and government schools and to analyze and to find out the reasons behind malnutrition, under nutrition, overweighted and also over nutritional status or any other deficiencies. Overall objective is to study the status of children in this school and to improve the nutrition of these children, our state and country at large by spreading awareness on the importance of good nutrition and academic performance.*

Keywords: Nutritional assessment, deficiency, obesity, Body Mass Index

1. Introduction

School health has been acknowledged as an important aspect since the beginning of 20th century. Nutritional status is a major component of school health science. The health of children and youth is of fundamental importance. As today's children are tomorrow's world, their survival, protection and development are the prerequisite for the future development of humanity. Without ensuring optimal child growth and development, efforts to accelerate economic development significantly will be unsuccessful. Good nutrition is a basic requirement for good health.

The principle aim of the nutritional assessment of a community is to map out the magnitude of both under and over nutrition as a public health problem and to compare the status of school children studying in private school and government schools and to analyze and to find out the reasons behind malnutrition, under nutrition, overweighted and also over nutritional status or any other deficiencies. The rates of overweight and obesity among children worldwide have been increasing dramatically in the last few years, with similar trends being observed in recent years among children and adolescents from developing countries. When we find so many cases of over nutrition and obesity on one hand, on the other hand approximately 60 million children are under weight in India and child malnourished children in the world live in India.

Nutrition is very important for everyone, but it is especially important for children because it is directly linked to all aspects of their growth and development; factors which will have direct ties to their level of health as adults. For example, a child with the right balance of omega fatty acids in their daily diet has a much better chance at creating a more solid foundation for their brain activity and capabilities later on. Likewise, a child who practices a low fat and cholesterol diet on a daily basis significantly improves their

chances of preventing a heart attack; even if heart disease tends to be hereditary within your family.

Good nutrition will allow them to partake in more activities and with greater enjoyment. People with high levels of health also consistently report that they enjoy elevated feelings of wellness and wellbeing.

Another huge reason why nutrition is so important for children is because they simply don't know enough on their own to naturally choose to eat well. Unfortunately, the foods and snacks that taste the best are usually the worst for our bodies, and a child left to their own devices will almost always choose junk food over fruits and vegetables. Provide them with the right nutrition now and they will learn at an early age what's necessary for good health. This will also help to set them up for a life of proper eating and nutrition, almost certainly helping them to live longer. Countless studies show that what someone learns as a child is then perpetuated throughout their life. Teach them healthy eating habits now and you'll perpetuate a healthy lifestyle for them and put them on autopilot on their way to lasting wellness.

By taking a proper diet which consists of all the major and minor nutrients in a proper balanced state, everyone can maintain a good health. A proper diet also helps to maintain a correct balance of both mental and physical health. But due to lack of proper nourishment, about 1/3rd of children under 3 years of age in the state of undivided Andhra Pradesh (currently divided as Andhra Pradesh and Telangana) were identified as under malnourished (as per NFHS-3, 2005-2006) with 29.8% children are under weight, 38.4% children are stunted, 14.9% children are wasted and 79.6% of the children are anemic. Hence these children start going to school but remain under nourished and uncared.

Volume 7 Issue 6, June 2018

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Some children due to good economic background, lack of outdoor games and other reasons mainly, lack of time for planning a proper diet and these effects the health of children mainly due to consumption of fast foods they become obese and over nourished and also many other complications are seen or noticed in this people or children. So these two conditions are like two sides of a coin which have to be carefully studied and understood.

According to World Health Organization, individuals between 10 and 19 years are considered adolescent. There are many physical and mental changes which results due to the influence of hormones. It is during in this period that the final growth spurt occurs with increase in height and weight. Physical and psychosocial pressures influence adolescents eating habits. Boy's fares better than girls in their large appetite and sheer volume of food leads him to consume adequate nutrients.

Adolescents who eat high calorie and high fat foods become over weight and obese. Skipping meals at home and consuming foods that are junk also contribute to overweight. They may snack between meals. They may also include fruits and vegetables in their diets. ICMR surveys (2003) showed that 70% of adolescents are anemic. Anemia is the most common in all groups of adolescents irrespective of social class. Anemia is more common in poor class since intake is poor mainly due to non availability of healthy foods. In higher classes personal likes and dislikes and food taboos lead to anemia. Studies carried out by NNMB (2003) in the rural population revealed that the prevalence of under nutrition among adolescents, as assessed by weight for age is about 40-50% and that of iron deficiency anemia is about 70%.

One of the best and effective methods to improve individuals' health status is health promotion program. Schools are considered as perfect settings for health promotion among children and school staff. Most countries have established screening programs to implement health promotion in their educational system as well as to identify children who have early signs of health problems. The number of countries that have implemented School health screening program is increasing, which allows early intervention and providing the specialists' treatment. For example, Sekhar et al. have reported that school-based hearing screening is currently required in 67% of the United States.

2. Review of Literature

To analyze the relation between nutritional status on food habits Dietary data were collected through a validated food frequency Questionnaire specific to children and adolescent. We observed high frequency of overweight according to body mass index per age (20.1%) and body fat percentage as well as physical inactivity among school children. We also found low scores on the recommended scores in 77.2% of students. (J Pediatr)

This paper reviews available literature on nutritional status of Indian school children 6-18 years from middle and high socio economic status (MHSES). Other micronutrient

deficiencies including, folate, riboflavin, niacin, vitamin C, vitamin A, and vitamin B12 were also present based on biochemical parameters in one study and clinical signs of deficiency in three other studies. Overweight and obesity were prevalent among 8.5-29.0% and 1.5-7.4% respectively among school children, as indicated by 11 studies. Predominant components in children's diet were cereals and pulses, followed by milk and milk products; the fruits and vegetables component was comparatively lower (Srihari G, Eilandu A, Muthayya S, Kurpad AV, Seshadri S).

Malnutrition and poor health among school children is the common cause of low school enrolment, high absenteeism, early dropout and poor classroom performance. This study was conducted to assess the various morbidities and nutritional status among school children. This descriptive study was conducted during year 2013 in a higher secondary school located in a coastal area of Pondicherry. A total of 714 students were interviewed and examined. A pre-designed and pre-tested questionnaire was used to interview and examine all the participated students. Body weight and height were measured using standardized procedures. WHO criteria for classification of nutritional status was used. Among all age groups and both sexes, the observed BMI was lower as compared to the reference values. The prevalence of underweight among children of 5-9 years was (30.7%) and (1.1%) were severely underweight. The prevalence of stunting was 10.4%, including 0.1% of severely stunted children. A total of 30.7% children were thin (low BMI for age). Pallor (39.5%), myopia (34.9%) and dental caries (14.7%) were the common morbidities observed among children. The pallor was observed more commonly among girls and this difference was statistically significant (p value <0.05). (Sherin Billy Abraham, Ramesh Chand Chauhan, Muthu Rajesh, Anil Jacob Purty, Zile Singh)

Cross-sectional study design was adopted. One private and one government school were selected using multistage stratified random sampling method. A total of 1566 school children aged 6-12 years were measured for height and weight. Data on demographic details, dietary habits, and physical activity of child and education status, occupation, monthly income of their parents were collected. Of 1566 children, 385 (24.5%) were underweight, 132 (8.4%) were overweight, and 65 (4.1%) were obese. Majority of underweight children 226 (32.5%) were found in government school. Except for two overweight children in government school, all overweight and obese children were found in private schools. Socioeconomic status, dietary habits, and physical activity of the child were found to be the determinants of their nutritional status. This study attempt to highlight the dual nutritional problem, under-nutrition among the lower socioeconomic class on one hand and growing epidemic of obesity among the affluent on the other. (NC Ashok, H S Kavitha, P Kulkarni).

3. Methodology

A pre tested questionnaire was used to assess the nutritional status of children studying in St. Xavier High School (Telugu Medium), Eluru. Data related to food habits, anthropometric measurements, physical activity,

qualification, occupation, monthly income of parents were collected. By using data of height and weight BMI was calculated by using the formula given below

$$BMI = \frac{\text{weight (kgs)}}{\text{height (m}^2\text{)}}$$

Based on the BMI value children were graded as

- Grade III - > 40
- Grade II - 30-40
- Grade I - 25-29.9
- Not obese- < 25

4. Results & Discussion

Table 1: Distribution of subjects based on BMI

S.No	BMI Range	No. of students (30)	Percentage (%)
1	20-25(Normal)	9	30
2	<20(Underweight)	16	53.3
3	>25(Obesity)	5	16.6

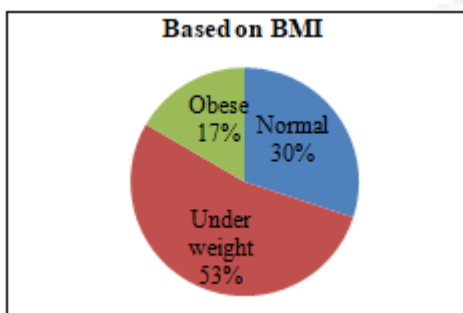


Figure 1: Percentage distribution of students

Present study reveals that 30% of students are found to be normal, 53.3% are found to be underweight and 16.6% of students are obese. From the data it is found that more than half of the children under this study are considered suffering from nutritional deficiency.

Table 2: Based on Likes and Dislikes

S. No	Category	No. of students (30)	Percentage (%)
1	Junk	10	33.3
2	Vegetarian	6	20
3	Non vegetarian	14	46.7

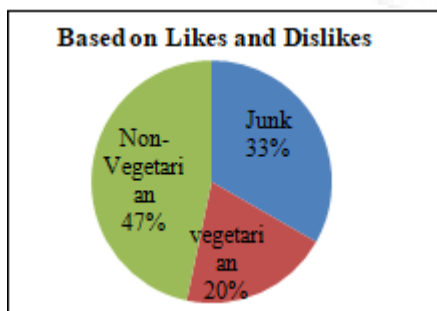


Figure 2: Percentage Distribution of students

Based on the likes and dislikes it is observed that 33.3% of the total students(30) preferred junk food, 20% of them liked vegetarian foods and 46.7% of them like Non-vegetarian food.

By the above data and the findings during this study it was concluded that the main contributing factor for underweight

may be their economic status of the parents who are basically daily wage workers, jute mill workers and auto drivers etc.

5. Conclusion

Even though the screening programs in schools are routine in many countries, still a large number of patients with different problems can be found at school age and adolescence. By doing so, we intent to provide evidence for the policy makers to focus on nutrition of school children, irrespective of the type of background and school they belong to. Good nutrition will allow them to partake in more activities and with greater enjoyment. People with high levels of health also consistently report that they enjoy elevated feelings of wellness and wellbeing. This study attempt to highlight the dual nutritional problem, under-nutrition among the lower socioeconomic class on one hand and growing epidemic of obesity among the affluent on the other. (NC Ashok, H S Kavitha, P Kulkarni).

School health has been acknowledged as an important aspect since the beginning of 20th century. Nutritional status is a major component of school health science. The health of children and youth is of fundamental importance. As today's children are tomorrow's world, their survival, protection and development are the prerequisite for the future development of humanity. Without ensuring optimal child growth and development, efforts to accelerate economic development significantly will be unsuccessful.

Good nutrition is a basic requirement for good health and a living organism is a product of nutrition. Nutrition is very important for everyone, but for children it is directly linked to all aspects of their growth and development; factors which will have direct ties to their level of health as adults. It is a period of increased nutritional requirements because it is during this time that they gain up to 50% of their adult height and skeletal mass."

A pre-designed and pre-tested questionnaire was used to interview and examine all the participated students. Body weight and height were measured using standardized procedures. WHO criteria for classification of nutritional status was used.

A group of 30 school going children were assessed to know their nutritional status of children attending St.Xaviers High School (Telugu medium) .

The Height and weight of students were measured by using standard techniques. From the above information the BMI was calculated. By using the formulae given below

$$BMI = \frac{\text{weight (kgs)}}{\text{height (m}^2\text{)}}$$

Present study reveals that 30% of students are found to be normal, 53.3% are found to be underweight and 16.6% of students are obese. Among all age groups, it was observed that BMI was lower as compared to the reference value. With a proper diet which consists of all the major and minor nutrients in a proper balanced state, everyone can maintain

good health. A proper diet also helps to maintain a correct balance of both mental and physical health.

Based on the likes and dislikes, 33.3% of the total students (30) preferred junk food, 20% of them liked vegetarian foods and 46.7% of them Non-vegetarian food. We observed high frequency of overweight according to body mass index per age (20.1%) and body fat percentage as well as physical inactivity among school children. Predominant components in children's diet were cereals and pulses, followed by milk and milk products; the fruits and vegetables component was comparatively lower. Socioeconomic status, dietary habits, and physical activity of the child were found to be the determinants of their nutritional status. This study attempts to highlight the dual nutritional problem, under-nutrition among the lower socioeconomic class on one hand and growing epidemic of obesity among the affluent on the other. The results show that there is a need for intervention not only at the school level and even at household level to bring about some real change. It is suggested that the health sector may play a role in integrating nutrition in other programs.

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