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A Comparative Study of Nutritional Status between Government and Private Primary and Middle School Children of Akbarpur

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ABSTRACT

Since the turn of the century, the importance of school health has been recognised. The nutritional status of students is an important aspect of school health care. The purpose of this study was to determine the nutritional condition of government and private elementary school students in Akbarpur. Materials and Procedures: The researchers used a cross-sectional study design. Using a multistage stratified random sampling procedure, some private and some public school were chosen. The height and weight of 400 schoolchildren aged 6 to 12 years were measured. Data on the child's demographics, eating habits, and physical activity, as well as their parent's educational status, employment, and monthly income, were obtained. The nutritional status of children was shown to be influenced by their socioeconomic level, food choices, and physical activity. This study attempts to emphasise the twin nutritional problem of undernutrition among the lower socioeconomic class on the one hand, and the rising obesity pandemic among the wealthy on the other.

Key Words : Diet, Obesity, Overweight, School children, Underweight

INTRODUCTION

The health of children and youth is of fundamental importance. Over one-fifth of our population comprises of children aged 6-12 years that is, the group covering primary and middle school education. As today's children are the citizens of tomorrow's world, their survival, protection, and development are the prerequisite for the future development of humanity. Efforts to greatly increase economic development will be ineffective unless adequate child growth and development is ensured.

Malnutrition, which includes both under-nutrition and over-nutrition, causes a considerable lot of physical and emotional suffering in children and is a violation of their human rights. They both increase the vulnerability of a child to a variety of diseases in later life. Health of children is of great importance as rapid growth occurs during this period. Good nutrition is a basic requirement for good health and a living organism is a product of nutrition.

The primary goal of a community's nutritional assessment is to map out the scope and geographic distribution of both under and over nutrition as a public health issue, to identify and analyse the ecological factors that are directly or indirectly responsible, and to suggest appropriate corrective measures, preferably with ongoing community participation. The nutritional status of children in both government and private primary schools and middle schools in Akbarpur was assessed in accordance with this advice. The study's goal was to examine the nutritional status of kids from government and private schools, as well as to determine the factors that influence their nutritional health.

According to the National Family Health Survey (NFHS), 47 % of children in rural areas are underweight, with the percentage varying by state. The figure was 53% underweight in a 2006 research done by NFHS, which is similar to our figure of 57% underweight in urban schoolchildren. According to a recent study conducted in Bhubaneswar by Patnaik et al., the incidence of overweight was 27.8% in both Government and Private

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Schools combined (private schools- 45.2 % and Govt. schools- 10.5 %). Rashmi et al. found that 61 % of people in rural Bangalore were undernourished.

In a study conducted by Jagadesan et al. in Chennai, the prevalence of overweight was much greater in private schools, with 21.4 % to 3.6 % in government schools. In a study conducted by Goyal et al. in Surat, the percentage of overweight people was found to be 20.45%.

Objectives:

– To compare the nutritional status of government and private primary and middle school in Akbarpur

– To assess the factors associated with the nutritional status.

METHODOLOGY

Socio-demographic examination is mandatory in any research to assess health and nutritional condition in childhood. Body weight, height, arm and calf circumference, and triceps skin fold of children have all been used to determine the health and nutritional state of populations. This is a cross-sectional study of Government, Private and Middle school students of Akbarpur. The study is conducted on a total of 400 children. It includes both boys and girls of age 6-12 years. Out of them 200 are from Government school and 200 are from private school from Akbarpur. Height and weight of all children was measured by a stadiometer and simple weighing machine. Body Mass Index (BMI) was calculated by formula BMI = weight in kgs/ (Height in meter)^2. It is used for population surveys and health status when assessing individual children. BMI provides a good indicator for the levels of body fat and it is known that having a BMI that is too low or too high is associated with an increased risk of ill health in children as well as later in further life. In this study total boys are 224 (56 %) and total girls are 176 (44 %). The nutritional status is assessed by taking BMI into considerations.

An averagely active adolescent child requires roughly 1800 to 2200 calories per day, according to the Academy of Nutrition and Dietetics. Each child in a Government School consumes roughly 1400 calories per day at home, with another 700 calories supplied by the Mid-Day Meal Scheme, making around 2100 calories. This is close to, if not exactly, the daily energy needs. In contrast, a child in a private school consumes around 2400-2600 calories, which is sufficient to meet the physical activity necessity of 200 to 400 calories.

Table 1 : Food Norms Under Mid – Day Meal

Item	Upper Primary (Class VI to X)	Primary (Class I - V)
Calories	700	450
Protein (in g)	20	12
Rice/Wheat (in g)	150	100
Vegetables (in gr)	75	50
Dal (in g)	30	20
Oil and Fat (in g)	7.5	5

Table 2 : Home Diet in Government and Private School per day

Menu per day	Government School Children	Private School Children
Milk	150 Cal	200 Cal
Breakfast	100 Cal	100 Cal
Rice per day	1000 Cal	1000 Cal
Oil	50 Cal	300 Cal
Vegetables	150 Cal	300 Cal
Curd	-	50 Cal
Junk food	-	600 Cal

The above home diet intake is calculated by surveying both LSES and upper middle class households about their monthly grocery purchases, turning it into calories per month, and substituting it per day for each family member of a four. Individual questionnaires were used to determine how much milk, breakfast, and other extra food they consumed. No additional vitamins or minerals were given to either group.

RESULTS AND DISCUSSION

BMI measurements were taken on 400 students between the ages of 6 and 12 years. There were 200 students from a government school and 200 students from a private school. In the Government school 43 % (86 students) were found to be in normal BMI. There was no indication of obesity or overweight. In government schools, however, 57% (114 students) were underweight. Compared to it in the private school which belong to slightly rich society, the normal BMI showed a higher incidence of 91 % (182 students) and overweight of 9 % (18 students) and no incidence of underweight (Fig. 1 and Fig. 2).

Boys were more likely than females to be overweight, with a ratio of 4.5 % to 2.6 %. Underweight is prevalent in 22.6 % and 21.8 % of girls (Fig. 3).

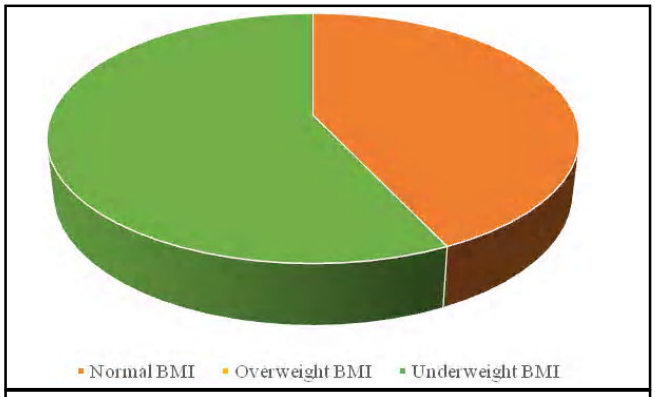

Fig. 1 : BMI in Government School

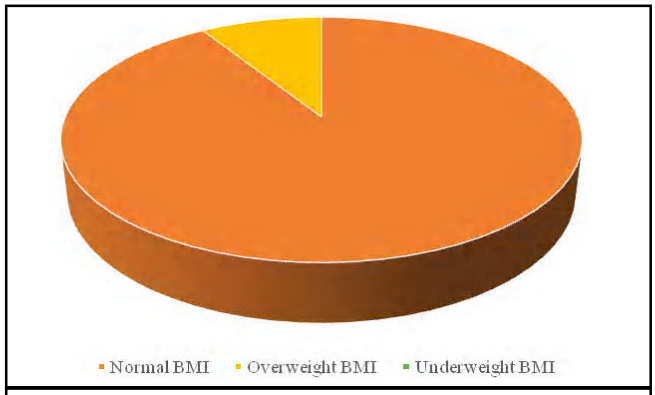

Fig. 2 : BMI in Private School

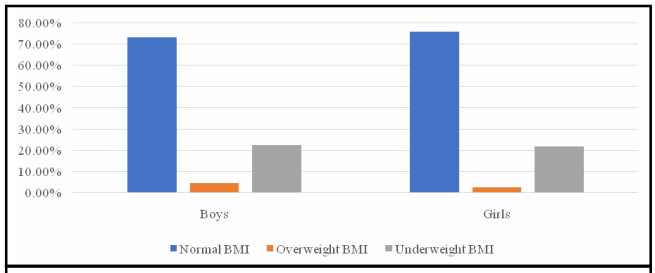

Fig. 3 : Comparison of BMI By Gender

Conclusion:

According to this study higher incidence of overweight of 9% is seen in Private school as compared to Government school. Also there is a marked prevalence of underweight *i.e.* 57% in Government school as compared to Private school. This shows that in the lowest socioeconomic strata, the 700 kcal provided by the mid-day meal scheme, which must be supplemented by diet at home, is not done, most likely due to poverty. In comparison, the lack of underweight in private schools and the prevalence of overweight, though only to a small level of 9%, illustrates the higher socioeconomic class's overindulgence in dietary habits and relatively sedentary lifestyle. Other aspects of one's health should be taken into account as well. In India, improving the Mid-Day Meal Scheme and encouraging children to eat readily available, low-cost energy-giving foods like leafy vegetables and millets will help to enhance school children's nutritional status to some extent. This necessitates the development of meaningful methods to promote a healthy lifestyle among schoolchildren, such as raising awareness of a balanced diet and the appropriate level of physical exercise.

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