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ABSTRACT

To assess the nutritional and anthropometric status, to compared the relationship between socioeconomic statuses (SES) of rural adolescents of West Bengal. A cross sectional survey was carried out among 80 rural adolescent in North 24-Parganas district. Dietary nutritional status was assessed following standard method. Anthropometric measurement like height and, weight and mid arm circumference was measured and the body mass index (BMI) was computed. The new international BMI-based cut-off points were utilized to identify thinness, overweight and obesity. The results reveal that children belonging to high socioeconomic status (HSES) consumed significantly higher amount of dietary nutrient compared to low socioeconomic status (LSES). Moreover, consumption of dietary fat among girls in both SES was similar. Overall, the prevalence of thinness was 47.5%. The prevalence of thinness was higher in LSES (21.3%) compared with HSES (1.3%). Overall, the prevalence of overweight was 16.3%. It was observed in HSES, especially among girls. Similarly, prevalence of thinness was higher among girls (30.0%) in LSES compared to boys (12.5%) from the same SES. The present study shows that nutrient intakes were lower among children with LSES in both sexes. Thus, mean anthropometric characteristics was lower in this group. Consequently, much more emphasis needs to be given to increase the nutrient of their diets especially among adolescents belonging to LSES.

INTRODUCTION

Adolescents are defined as those individuals aged between 10 – 19 years (WHO, 1995) and it is transitional phase between childhood and adulthood characterized by marked acceleration in growth (WHO 2005, Anand et al., 1999). Adolescence is the second most important phase of growth in the life after first year. This is known to be a second phase for growth or catch-up growth for those children who have experienced a nutritional deficit in their early life (Rao, 2001). It is a phase of increased nutritional requirements because during this time they gain up to fifty percent of adult height and skeletal mass (WHO, 1995). It has been reported that the clinical and food composition data, anthropometric studies can provide reliable information needed by both nutrition planners and administrators (Shamssain, 1989). Studies on growth and nutritional status have been well documented in developed countries (Vimleshseth et al., 1979; Jelliffe, 1966).

Several studies on diet and nutritional status including dietary intake have been carried out in different parts of India (Gupta and Saxena, 1977, Mittal and Srivasata, 2006, Rao et al., 2006, Venkaiah, 2002). Although these studies are worth mentioning, most of them focused on tribal adolescent (Mittal and Srivasata, 2006; Rao et al., 2006, Venkaiah, 2002).

In general, information on nutritional status among adolescent in different socio-economic status in India are lacking. Hitherto, national representative data for adolescent nutritional status in India is unavailable. There is a dearth of information relating to the diet and nutritional status of Bengalee adolescents of West Bengal. In view of broader context, the present investigation was conducted to study the diet and nutritional status among adolescents in North 24-Parganas district of West Bengal.

MATERIALS AND METHODS

This cross sectional study was carried out of rural adolescents in the district of North 24-Parganas, West Bengal, India. A total of 80 adolescents, 40 were boys (high socio-economic status (HSES) = 20; low socio-economic status (LSES) = 20) and 40 were girls (HSES = 20; LSES = 20) measured and included in the present analyses. Subjects selected following simple random sampling method. Subjects were asked to stand on the platform of the human weighing machine exerting equal pressure on both feet to note the reading of weight and placed on the ground to measure the height. Weight and height were measured using weighing scale and anthropometric rod to the precision of 0.1kg and 0.1cm, respectively. Mid upper arm circumference (MUAC) is measured mid point between olecranon and acromion process by using fibre tape to the nearest 0.1cm. All

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anthropometric measurement was made and recorded following the standard methods described by Joshi (2002). Body mass index (BMI) is measured by using standard formula: BMI = Weight (kg) / Height (m²). In different angle like questionnaire, interview and recall methods were used to assess the dietary intake of the selected subjects and calculated with local food consumption tables according to the methods described by Joshi (2002). Further, the nutritional (thinness, overweight and obesity) status was assessed based on anthropometry following international reference standards as suggested by Cole et al. (2000, 2007). The data were expressed as mean ± standard deviation. Comparisons of the means of two groups were made by student t-test. Chi-square test was employed to compared the nutritional status between groups. A P<0.05 is considered as significance.

RESULTS

There was no significant differences in mean ages among boys between high (mean = 13.7 years, sd = 0.9) and LSES (mean = 13.6 years, sd = 0.9). Similarly, the mean ages among girls from high and LSES was 12.0 (0.9) and 11.9 (1.0) years, respectively. The mean (sd) in anthropometric characteristics, dietary nutrition and vitamin status among boys and girls are presented in Table 1 and 2. It was observed that all the variables were significantly higher among children belonging to HSES compared to LSES, except height and consumption of dietary fat among girls. Moreover, there was significant sex difference of mean BMI exist in children belonging to HSES (boys=22.3, girls=18.8, t=3.606, p<0.05) and LSES (boys=15.0, girls=13.2, t=2.986, p<0.05).

Overall (sex and SES combined), the prevalence of thinness was 47.5%, out of 22.5%, 11.3% and 13.8% children were found to be thinness grade-I, II and III, respectively. The prevalence of thinness was higher in LSES group (21.3%) compared with HSES group (1.3%). Overall, the prevalence of overweight was 16.3%. It was observed in HSES group, especially among girls. Similarly, prevalence of thinness was higher among girls (30.0%) in LSES group compared to boys (12.5%) from the same SES. It is important to note that, there exists no significant sex difference of nutritional status (Chi-square=5.49, df=4, p>0.05).

DISCUSSION

The data reveals that the nutritional status is largely influenced by the socioeconomic status. Numerous studies in India and abroad have been reported that children of lower socioeconomic background showed a lower intake of Carbohydrate, Protein, Fat, Energy, Iron, Ca, Vitamin-
REFERENCES


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