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Introduction

Historically, the science of nutrition developed in part from the study of disease entities brought about by inadequate diet. Nutritional status is the condition of health of an individual as influenced by nutrient intake and utilization in the body. Malnutrition is major public health problem in developing countries. Freedom from hunger and malnutrition is a basic human right and their alleviation is fundamental prerequisite for human and national development. Usually referred to as silent emergency, it has devastating effects on children, society and future humankind. The term malnutrition refers to both under-nutrition as well as over-nutrition. Better nutrition means stronger immune system, less illness, better health and productive community. In developing countries like India various forms of malnutrition affect a large segment of population and both macro and micronutrient deficiencies are of major concerns. The school age period is nutritionally significant because this is the prime time to build up body stores of nutrients in preparation for rapid growth of adolescence. Nutrition plays a vital role, as inadequate nutrition during childhood may lead to malnutrition, growth retardation, reduced work capacity and poor mental and social development [1]. In children, protein/calorie deficient diet results in underweight, wasting and lowered resistance to infection, stunted growth and impaired cognitive development and learning. The situation of child malnutrition is also grave in Haryana state according to National Family Health Survey (2005-2006), the prevalence of wasted, stunted and underweight children in this state was found to be 19, 38 and 46 percent, respectively. Most of the research work that has been conducted on nutritional status of children is limited to infants and preschool children only. There is dearth information on nutritional status of school going children particularly from rural areas. Keeping this in view, the objective of present study was to assess the nutritional status of rural school-going children of Hisar district, Haryana.

Materials and Methods

The present study was conducted on school going children in the

age group 7-9 years. Total 200 rural school going children i.e. 100 boys and 100 girls were selected proportionately for the study, from the Govt. Primary School of Mangali and Kaimri villages of Hisar district, Haryana.

Information regarding the socio-economic profile was collected with the help of questionnaire-cum-interview schedule. Food and nutrient intake of children 100 school-going children was recorded using 24 hours recall method for three consecutive days. Cooked food consumed, was converted into their raw equivalents. Mean food and nutrient intake was calculated by taking mean of three days intake and compared with recommended dietary allowances [2].

Nutritional status of all the selected children was assessed by measuring body height (cm), weight (kg) which was compared with the NCHS (National Center for Health Statistics) Standards and the standards given by ICMR (Indian Council of Medical Research) (2008). Height of children was measured by a vertical measuring rod calibrated in centimetres placed on plain floor. Weighing balance calibrated in kilogram and gram was used for taking weight of respondents.

Malnutrition was calculated as normal, mild, moderate and severe according to Gomez classification [3] of weight for age and Waterlow classification [4] for height for age.

Results and Discussion

Food consumption pattern revealed that the daily mean intake of the food groups i.e. cereals, pulses, fats and oils, sugar and jaggery, milk and milk products, green leafy vegetables, other vegetables, roots and tubers and fruits, was found to be significantly ($P < 0.01$) lower than the recommended dietary intake, however the intake of pulses was adequate (60.98%). Similar were the findings of [5-10] who reported that the diets were cereals based and very low frequency of consumption

girls but boys were also affected. Finding of earlier study [16] showed that stunting was higher in boys of Delhi as compared to girls. In girls, prevalence of wasting was higher in comparison to boys as also reported by Chowdhary.

Summary

Food consumption pattern revealed that the daily mean intake of the food groups i.e. cereals, pulses, fats and oils, sugar and jaggery, milk and milk products, green leafy vegetables, other vegetables, roots and tubers and fruits, was found to be significantly ($P < 0.01$) lower than the recommended dietary intake, however the intake of pulses was adequate (60.98%). Regarding the intake of the nutrients viz. energy, protein, fat, β -carotene, B-complex vitamins, vitamin C, iron and calcium was found to be significantly ($P < 0.01$) lower than the recommended dietary allowances, the lowest being iron (28.6%) and Vitamin B₁₂ (7%). It was also observed that the nutrient intake was higher in boys as compared to girls (Table 6).

Anthropometric measurements showed that mean height, weight and skin fold thickness at triceps were significantly ($P < 0.05$) lower than the reference value in both boys and girls and significant difference was found on comparing the anthropometric measurement of boys and girls. Regarding prevalence of malnutrition, it was found that 54.11 percent of the school children were stunted and 55.5% were underweight.

