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Research Paper :

Extent of malnutrition and daily mean iron and calcium intake of children in three zones of rural Haryana

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ABSTRACT

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Key words : Malnutrition, Iron, Calcium, Nutrient

Malnutrition can be simply defined as a precipitated stage of disproportion between the demands of the body for a certain nutrient and its intake. Malnutrition is an inclusive term that involves the lack, imbalance or excess of one or more of some 50 or so nutrients that are required by the body. In the United States and throughout the world, poverty or ignorance is leading cause of malnutrition. Lack of available food is a principal cause of malnutrition in the underdeveloped and developed countries of the world but not in North America, Europe and Oceania (Tabassum Ara, 2005). India contributes its 50 per cent of the child population towards under nourishment. Further, due to under nourishment, the development of 188 million children in the villages of India remains stunted from the moment of their birth (Budhiraja, 1999). Among the states, Bihar and Kerala had the highest and lowest prevalence of malnutrition, respectively. Even in Kerala, which had the lowest prevalence, 27 per cent of children below age four were stunted, 28 per cent of children were under weight and 12 per cent were wasted (Mishra et al., 1999). In pre-school children, prevalence of under- nutrition was considerably more for girls than boys (Verma et al., 1980). Malnutrition during critical phases of early growth can lead not only to the stunting of physical growth, but also to sub-optimal intellectual development and poor- neuro-integrative competence in children. Apart from protein malnutrition, vitamin A deficiency and iodine deficiency are also major nutritional problems. Most of the anthropometric measurement of the children were below the reference standards. The

weights of the children were highly correlated with their energy and protein intake (Bains and Mann, 1991). The analysis also revealed that the mean nutrient intake of proteins, carbohydrates, fat calories, vitamin C, calcium and iron was higher in case of children from nuclear families than their joint family counterparts (Srivastava et al., 1992). Diet consumed by a large majority of preschool children was based mainly on cereals and which contain only small amounts of milk and flesh foods diets were deficient in calories, proteins and several essential vitamins and minerals. Incidence of protein- caloric malnutrition and vitamin A deficiency disease particularly high among this age group. Mean daily food intake of cereals, pulses, green leafy vegetables, other vegetables, roots and tubers, milk products, fats and oils, sugar and jiggery and fruits was found lower than their respective recommended dietary intake (RDI) in summer season whereas in winter season, mean daily food intake of milk and milk products provided more than RDI in the diet of pre-schoolers (Jood et al., 2000). Dietary intake pattern of children revealed that food was deficient in energy as compared to RDA for Indians in particulars which ultimately resulted in nutritional deficiency disorders.

METHODOLOGY

The sample for the study comprised of 450 children in the age group of 1-6 years of age representing the three agro-climatic zones, namely, hot and dry, hot and semi-dry and hot and humid of rural Haryana (150 subjects were selected randomly from each identified zone of