

Prevalence of low obesity and high under nutrition in socio economic status of school childrens

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Changing trends in body weights in children is important for public health policy. It can be said that children in developing countries presently suffer from double jeopardy of malnutrition. Urban children are afflicted with problems of over-nutrition while rural and slum children suffer from effects of undernutrition. To determine changing trends in nutritional status, body-mass index and obesity in school children aged 11-17 years are considered. All children being admitted in a government school in Warangal, Andhra Pradesh were evaluated in the year 2007 and 2008. Height was measured using a standard tape and weight was measured using a well-calibrated spring balance. 442 school children were examined in the year 2007 and 374 in the year 2008 in classes 6th to 12th. There is an increasing trend in height, weight and BMI with increasing age in both the 2007 and 2008 years. In the year 2007, 11% were overweight and 5% were obese while in the year 2008, 10% were overweight and 6% were obese. Overweight corresponding to adult BMI of 25 to 29.9 kg/m² was present in 2% school children in both the examinations while the prevalence of obesity corresponding to adult BMI of >30 kg/m² was present in very small number (0.2% and 0.3%). At all the age groups there was a high prevalence of wasting in both examination, in 2007 wasting was present in 36.4% school children and in the year 2008 in 26.2% school children. There was a significant decline in prevalence of wasting from the year 2007 (36.4%) to the year 2008 (26.2%). The above results stated the need of urgent dietary intervention programme. Further studies are required to investigate into problem and to supplement the key nutrient which is required to ensure a good nutritional status in children.

Key words : Prevalence, Body mass index, Obesity, Under nutrition and malnutrition.

INTRODUCTION

Childhood obesity is a new epidemic worldwide. In recent years due to burgeoning fast-food industry in developed countries the problem of obesity in children has emerged as a major problem and it has been estimated that more than 50% of children in USA and many Western European countries are overweight or obese (WHO, 2000). In the US, prevalence of overweight doubled among children 6 to 11 years of age between the second National Health and Nutrition Examination Surveys (NHANES) between 1976 and 1980 and the third NHANES conducted in 1999 and 2000 (Dietz, 2004). A similar trend has been observed in Japan and the frequency of obese school children (>120% standard body weight) aged 6-14 years increased from 5% to 10% between 1974 and 1993 (WHO, 2000).

In developing countries such as India, especially in urban populations, childhood obesity is emerging a major health problem. Studies from metropolitan cities in India have reported a high prevalence of obesity among affluent school children (Sundaram *et al.*, 1988; Subramanyam *et al.*, 2002). On the other hand some studies reported a high prevalence of undernutrition among rural school children and children in urban slums (WHO, 2000;

Sachdeva, 2003) It can be said that children in developing countries presently suffer from double jeopardy of malnutrition. Urban children are afflicted with problems of over-nutrition while rural and slum children suffer from effects of under nutrition (Chatterjee, 2002). Changing trends in body weights in children are important for public health policy. This can be either evaluated using a prospective-study design or by sequential multiple cross sectional studies. In accordance with this, the present study was planned to determine the prevalence of low obesity, high undernutrition and to evaluate the changing trends in body-mass index, obesity in school girls aged 11-17 years in classes 6th to 12th.

MATERIALS AND METHODS

All children being admitted to a semi government school in Warangal were evaluated in the years 2007 and 2008. All the parents consented to medical examination of their children. History of medical illnesses, accidents and operations was recorded in a specific proforma. Height was measured to the nearest centimeter using a stadiometer and weight to the nearest half-kilo was measured using a well-calibrated spring balance. Children who agreed to a recent major illness (involving absence