AN ANALYTICAL STUDY OF CHILDHOOD MALNUTRITION OF BOYS FROM URBAN SCHOOLS OF HARYANA

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Abstract

The purpose of the study was to explore prevalence of malnutrition in school going boys of urban school of Haryana the study was done on 70 school boys of 10-12 years from urban areas of Haryana and the study shows that 51.42% boys are under nourished and fall in underweight category where as 25.71% of total boys deal with the problem of malnutrition. The sample subject had been delimited to school boys of 10-12 year from urban areas. Digital weight machine and stadiometer were used examine the BMI of the subjects. Very low percentage of boys was found overweight and obese from urban school. Perhaps high demand of knowledge regarding nutritional values and health education is required in the society. Health services and health supervision must be given timely to children to avoid problems like malnutrition.

Keywords- BMI, WHO, Obesity, malnutrition

Introduction

Malnutrition- It is a condition that results eating a diet in which nutrients are either not enough or are too much such that the diet causes health problems. It may involve calories, protein, carbohydrates, vitamins or minerals. Not enough nutrients are called under nutrition or undernourishment while too much is called over nutrition. Malnutrition is often used to specifically refer to under nutrition where an individual is not getting enough calories, protein or micronutrients. Extreme undernourishment, known as starvation, may have symptoms that include a short height, thin body, very poor energy levels. There are two main types of under nutrition; protein energy malnutrition and dietary deficiencies. Protein energy malnutrition has two severe forms: marasmus (a lack of protein and calories) and kwashiorkor (a lack of just protein).

Protein- energy malnutrition (PEM) under nutrition is sometimes used as a synonym of protein energy malnutrition. Kwashiorkor: It is mainly caused by inadequate protein intake resulting in a low concentration of amino acids. It is identified by swelling of the extremities and belly, which is deceiving of actual nutritional status. Marasmus: It is mainly caused by an

inadequate intake of protein and energy. It can result from a sustained diet of inadequate energy and protein and the metabolism adapts to prolong survival.

Malnutrition in children

Here understood as under nutrition is common globally and result in both and long term eversible negative health outcomes in duding stunted growth which may also link cognitive development deficits, underweight and wasting. The WHO estimates that malnutrition accounts for 54% of child mortality worldwide. Another estimate also by WHO states that childhood underweight is the cause for about 35% of all deaths of children under the age of five years worldwide. The main causes are unsafe water, inadequate sanitation or insufficient hygiene.

Method and methodology

The sampling was done by random selection which includes boys of 10 to 12 years of age from urban schools of Haryana. Anthropometric measurements were taken to calculate BMI of the subjects. Weight was measured in the upright position to the nearest 0.1 kg using calibrated electronic balance. Height was measured without shoes to the nearest 0.1 cm using calibrated stadiometer. The instruments required in the study are as follows:

1. A digital weighing machine.

2. Height measuring scale..

 BMI classification – It is to assess how much an individual's body weight departs from what is normal or desirable for a person of his or her height. BMI = Weight (Kg.) / $Height^2$ (m). The WHO classification of BMI are valid when applied to adults, and do not predict health.

Category BMI range Kg/m^2

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Malnutrition	< 16
Underweight	16 – 18.5
Normal	18.5 – 25
Overweight	25 – 30
Obese	30 – 40

Result and discussion

In the present study total 70 subjects were taken from urban school of Haryana in the age group 10-12 years

Table no 1- Urban subjects were arranged according to WHO criteria based on BMI value

Group	BMI	Urban n-70	%
starvation	<16	18	25.71%
under nourished	16-18.5	18	25.71%
normal	18.5-25	30	42.85%
Overweight	25-30	4	5.71%
obese	30-40	0	0%
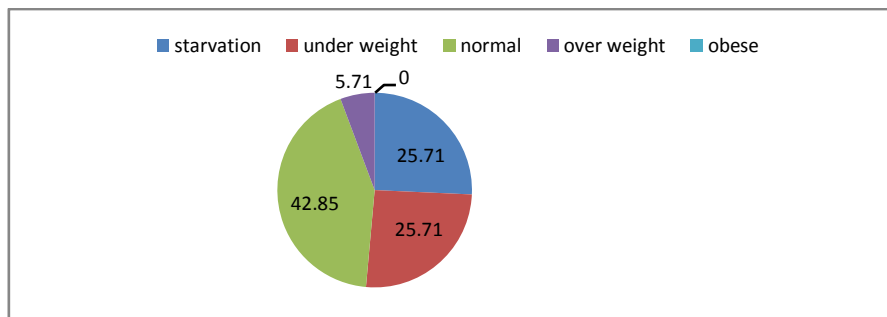
In urban students study 25.71% subjects fall in starvation category and 25.71% subjects fall in under nourished. 42.85% subjects fall in normal category and 5.71% subjects are overweight. Out of 70 subjects 51.42% are under nourished and starvation which is significantly very high where as obese/over weight is significantly very low. 42.85% normal category students show that children are aware about their health and health programmed are helping students to maintain their nutritional status.

Conclusion

In the present study we found the prevalence of malnutrition is high in urban students as more than 50% students are starvation and under nourished. The study also suggests that normal weight rates remain high in urban students and overweight/obese rates remain low in urban students. The study shows the risk of mental and physical growth this can be due to lack of hygiene, unsafe water, and lack of nutrition diet and unawareness of health issues (malnutrition) in urban students. In some cases total body fat % is much below the prescribed limit. Social attention has to be given for their overall nutrition.

Reference:

Styne DM. Childhood and Adolescent Obesity. PCNA 2001; 48: 823-847.

Must A, PF Jacques, GE Dallal, CJ Bajema, WH Dietz. Long-term morbidity and mortality of overweight adolescents. A follow-up of the Harvard Growth Study of 19 1922 to 1935. N Engl J Med 1992; 327: 1350-1355.

Obesity: preventing and managing the global epidemic. Report of a WHO consultation. Geneva, World Health Organisation 2000 (WHO Technical Report Series, No.894).

Kissebah AH, Freedman DS, Peiris AN. Health risks of obesity. Med Clin North Am 1989; 73: 111-38.

Baron RB. Obesity in chapter on nutrition, edited by Tierney Jr. LM, McPhee SJ, Papadakis MA, Current Medical Diagnosis and Treatment 2003, 42nd Ed, New Delhi, Lange Medical Books/McGraw–Hill, 2003; 1224-7.

Després JP, Lemieux I. Prud'homme D. Treatment of obesity: need to focus on high risk abdominally obese patients. Br Med J 2001; 322: 716-20.

Keys A, Fidanza F, Karvonen MJ et al. Indices of relative weight and obesity. J Chronic Dis 1972; 25: 329-43.

Pouliot MC, Despre's JP, Nadeau A et al. Visceral obesity in men. Associations with glucose tolerance, plasma insulin and lipoprotein levels. Diabetes 1992; 41: 826-34.

Hakim AS. Medical complications of obesity, SB Gupta (ed), Medicine Update Associations of Physicians of India, Mumbai, 2002; 12: 480-2.

Colditz GA, Willett WC, Stampfer MJ et al. Weight as a risk factor for clinical diabetes in women. Am J Epidemiol 1990; 132: 501- 13.

Klesges RC, Coates TJ, Brown G. Parental influences on childrens' eating behavior and relative weight. J Appl Behav Anal 1986; 16: 371-378.

Robinson TN. Reducing children's television viewing to prevent obesity. A randomized controlled trial. JAMA 1999; 282; 1561- 1567.

Avula Laxmaiah, Balakrishna N, Kamasamudram V Mohanan N. Factors Affecting Prevalence of Overweight Among 12- to 17- years-old Urban Adolescents in Hydrabad, India. Obesity 15:1384-1390 (2007).

Centers for Disease Control and Prevention: Overweight children and adolescents 6–19 years of age, according to sex, age, race, and Hispanic origin: United States, selected years 1963–65 through1999–2000

Ogden CL, Flegal KM, Carroll MD, Johnson CL: Prevalence and trends in overweight among US children and adolescents, 1999– 2000. JAMA 288:1728–1732, 2002.

Sung RYT, Tong PCY, Yu CW, Lau PWC, Mok GTF, Yam M-C, Lam PKW, Chan JCN: High prevalence of insulin resistance and metabolic syndrome in overweight/obese preadolescent Hong Kong Chinese children aged 9–12 years. Diabetes Care 26:250– 251, 2003.

Booth ML, Wake M, Armstrong T, Chey T, Hesketh K, Mathur S: The epidemiology of overweight and obesity among Australian children and adolescents, 1995–97. Aust N Z J Public Health 25:162–169, 2001.

Booth ML, Chey T, Wake M, Norton K, Hesketh K, Dollman J, Robertson I: Change in the prevalence of overweight and obesity among young Australians, 1969–1997. Am J Clin Nutr 77:29–36, 2003.

McCarthy HD, Ellis SM, Cole TJ: Central overweight and obesity in British youth aged 11 16 years: cross sectional surveys of waist circumference. BMJ 326:624–627, 2003.

Steinberger J, Daniels SR: Obesity, insulin resistance, diabetes, and cardiovascular risk in children: an American Heart Association scientific statement from the Atherosclerosis, Hypertension, and Obesity in the Young Committee (Council on Cardiovascular Disease in the Young) and the Diabetes Committee (Council on Nutrition, Physical Activity, and Metabolism). Circulation 107:1448–1453, 2003.

Steinberger J, Moran A, Hong CP, Jacobs DR Jr, Sinaiko AR: Adiposity in childhood predicts obesity and insulin resistance in young adulthood. J Pediatr 138:469–473, 2001.

Reddy KS, Prabhakaran D, Shah P, Shah D. Differences in body mass index and waist: hip ratios in north Indian rural and urban population. Obes Rev 2002; 3: 197-202.

Chadha SL, Gopinath N, Shekhawar S. Urban rural