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

Ajay Kumar¹ & Sanjay Trama²

¹Assistant Professor, S.A. Jain College, Ambala city
²Assistant professor, S.A. Jain College, Ambala city

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. \( \text{BMI} = \frac{\text{Weight (Kg.)}}{\text{Height2 (m)}} \). The WHO classification of BMI are valid when applied to adults, and do not predict health.

<table>
<thead>
<tr>
<th>Category</th>
<th>BMI range Kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malnutrition</td>
<td>&lt; 16</td>
</tr>
<tr>
<td>Underweight</td>
<td>16 – 18.5</td>
</tr>
<tr>
<td>Normal</td>
<td>18.5 – 25</td>
</tr>
<tr>
<td>Overweight</td>
<td>25 – 30</td>
</tr>
<tr>
<td>Obese</td>
<td>30 – 40</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Group</th>
<th>BMI</th>
<th>Urban n-70 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>starvation</td>
<td>&lt;16</td>
<td>18</td>
</tr>
<tr>
<td>under nourished</td>
<td>16-18.5</td>
<td>18</td>
</tr>
<tr>
<td>normal</td>
<td>18.5-25</td>
<td>30</td>
</tr>
<tr>
<td>Overweight</td>
<td>25-30</td>
<td>4</td>
</tr>
<tr>
<td>obese</td>
<td>30-40</td>
<td>0</td>
</tr>
</tbody>
</table>

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.

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