Malnutrition in Children 0 - 5 Years Old

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Abstract: Malnutrition refers to deficiencies in quality and quantity in a children intake. The term malnutrition covers two broad groups of conditions. One is ‘undernutrition’ which includes: stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals). The other is overweight, obesity and diet-related non communicable diseases. Malnutrition affects children in every country and is still an evident problem, especially in children 0 – 5 years old. The aim of the study we are going to present below is to evidence the subtypes of malnutrition and the different problems we face every day in our clinical practice with the malnourished patients.

Keywords: malnutrition, children 0-5 years old, WHO z~ score, education

1. Introduction

Talking about malnutrition (independently of the subtype) we generally value the nutritional status in anthropometric terms, using for this, the standards defined from the World Health Organisation (WHO). WHO has defined the optimal criteria of well growth in children 0-5 years old. This allows us to use standard criteria such as z-score or standard deviation instead of anthropological parameters such as (weight, height, index of body mass, upper arm circumference etc.). According to the z-score or standard deviation the subtype of malnutrition are as follow:

a) Deficiency in growth
Acute malnutrition – underweight (> 2DS low weight for age, according to WHO definitions)
• Marasmus – severe lost in weight
• Kwashiorkor – bilateral oedema
• Marasmus et Kwashiorkor

Cronic malnutrition – stunting (> 2DS low height for age, according to WHO definitions)
Cronic and acute malnutrition – wasting (thin for his height)

b) Micronutrient deficiencies or insufficiencies
c) Overnutrition
• Overweight (between 2DS and 3DS weight for age, according to WHO definitions)
• Obesity (> 3DS weight for age, according to WHO definitions)

2. Material and Methods

This is a retrospective study, performed in children hospitalized during January - December 2017 in the department of Pediatric General Medicine, University Hospital Centre ”Mother Teresa”, Tirana, Albania. There was a total of 840 children included in this study, all aged between 0 – 5 years old. The height, the weight, feeding, gender, social economic status of the parents, maternal level of education, demographic data, morbidities, hospital permanency were evaluated. Malnutrition was measured by the standards of WHO growth.

3. Results and Discussion

In our study are included 840 children. 180 of them or 21.4 % are affected at least from 1 subtype of malnutrition (wasting, stunting or underweight) as showed in the table below:

Table 1: Subtypes of malnutrition

<table>
<thead>
<tr>
<th>Malnutrition type</th>
<th>No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight (1)</td>
<td>100</td>
<td>55.56 %</td>
</tr>
<tr>
<td>Stunting (2)</td>
<td>80</td>
<td>44.44 %</td>
</tr>
<tr>
<td>Wasting (1+2)</td>
<td>62</td>
<td>34.44 %</td>
</tr>
</tbody>
</table>

As shown from the table, underweight is the most common form of malnutrition in children aged 0 – 5 years old.

Considering the gender of the patients the result are as below:

Table 2: Distribution by gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>100</td>
<td>55.56 %</td>
</tr>
<tr>
<td>Female</td>
<td>80</td>
<td>44.44 %</td>
</tr>
</tbody>
</table>

From the geographic data analised about were this patients live we took the results below:

Table 3: Geographic distribution

<table>
<thead>
<tr>
<th>Geographic distribution</th>
<th>No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban area</td>
<td>72</td>
<td>40 %</td>
</tr>
<tr>
<td>Rural area</td>
<td>108</td>
<td>60 %</td>
</tr>
</tbody>
</table>

As shown from the table, living in rural areas it’s a risk factor in developing malnutrition. Analising the maternal level of education we had the results below:

Table 4: Maternal level of education

<table>
<thead>
<tr>
<th>Level of education</th>
<th>No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any level of education</td>
<td>22</td>
<td>12.2 %</td>
</tr>
<tr>
<td>Compulsory education</td>
<td>18</td>
<td>10.0 %</td>
</tr>
<tr>
<td>High school</td>
<td>134</td>
<td>74.5 %</td>
</tr>
<tr>
<td>University</td>
<td>4</td>
<td>2.2 %</td>
</tr>
<tr>
<td>Baby from orphanage</td>
<td>2</td>
<td>1.1 %</td>
</tr>
</tbody>
</table>
As shown from the table, the level of education of the mother is very important to prevent malnutrition.

Other important issues we want to bring to your attention from this study are:

- The hospital permanency of malnourished children is higher than in other patients.
- Malnourished children have almost always had at least another hospitalization before. Parents refer they are obligated to bring them to the doctor very often, probably due to the higher frequency of morbidity they have respect to other children who don’t have malnutrition problems.
- About 5% of these patients had done none of the obligatory vaccines.
- They are more often affected from the intestinal infections and in the second place are the respiratory infections.
- Secondary anemia is a very often comorbidity in malnourished children.
- Low birth weight favors malnutrition.
- Exclusive breastfeeding or cow milk is a very important factor in developing malnutrition.

4. Conclusion

Malnutrition is still a common problem in our country and a big amount of our daily work consists in treating morbidities in malnourished children. Low birth weight, low level of education and occupation, exclusive breastfeeding or cow milk feeding, are some of the more important predisposing factors of malnutrition. Improving knowledge of parents, and health care professionals in nutrition is a very important measure in order to reduce malnutrition among children.

References


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