Nutritional status of the Iranian children with physical disability: a cross-sectional study

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Background: Malnutrition can potentially prone a disabled child to further morbidities thus imposing further suffering to the affected child and his/her family. This is the first report on the nutritional status of physically disabled children from Iran. Methods: A total of 290 physically disabled children aged 6-12 years old, of both sexes, and from all specialized schools in Tehran, Meshed and Rasht were enrolled in a descriptive cross-sectional study. Dietary assessment was performed for disabled children using 24hr and food-frequency questionnaires. Weight and height were assessed and body mass index (BMI) was calculated for all subjects. Results: In disabled children, while the mean energy intake was more than 90% of the amount required, mean calcium and iron intakes were 75.8% and 58.7% of the corresponding required amounts. Despite absence of significant difference in energy and fat intake, the intakes of protein, calcium and riboflavin were significantly lower in girls than in boys. Z score of weight showed that over 40% of disabled girls and boys were underweight. Comparison with anthropometric data from other studies showed that low weight was more prevalent in disabled than in non-disabled children (p<0.001). Moreover, both disabled boys and girls had significantly shorter statures than their non-disabled counterparts. Conclusions: Malnutrition (low weight and stunting) is quite prevalent among Iranian children with motor disabilities and it is more prevalent in girls than in boys. It seems that poor food composition is a more important contributing factor than total low calorie intake. These data warrants further studies.

Key Words: nutritional assessment, disabled child, anthropometry, malnutrition, diet

INTRODUCTION

A disabled child needs proper nutritional care as much as, if not more than, a non-disabled child. Malnutrition can potentially prone a child to further morbidities, and thus imposes further suffering to the affected child, his/her family and the whole community, both emotionally and financially. However, many factors may predispose a child (disabled or non-disabled) to malnutrition even in developed countries with high health standards. In developing countries with various degrees and forms of malnutrition being common among the whole population, prevalence of nutritional problems in disabled children could be inevitably even higher.

Evaluation of the occurrence of malnutrition in physically disabled children could be technically problematic. Current anthropometric methods, though usually very informative and easy to use in non-disabled children, are not always feasible in physically disabled children. Height, for instance, cannot be measured correctly in vertebral or lower limbs malformations. For this reason, other body measures like arm length (AL), tibia length (TL), arm span (AS), knee length (KL), demispan (DS), and halfspan (HS) have been used as the predictors of actual height in physically deformed as well as hospitalized subjects. Dietary data, on the other hand, is needed to furnish a sound basis for developing and implementing nutritional care plans for disabled children. There is a convincing body of evidence for nutritional problems in disabled children. Nutritional deficiencies in a disabled child may emanate from feeding problems but this is not the whole story as many children with physical disability may have no feeding problem but may still have some degrees of nutritional deficiencies for some other reasons.

In Iran, many of the mentally and/or physically disabled children are taken care of in boarding centers mostly associated with the Iranian Ministry of Health. However,