

Determination of Nutrition-Dependent Micronutrient Deficiencies Among School-Age Children

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Abstract:

Nutrition is one of the most important determinants of the health of the population. Proper nutrition ensures the growth and development of children, contributes to the prevention of diseases, prolongs life, increases performance and creates conditions for adequate adaptation to the environment.

Keywords: school-age children, nutritional status, micronutrients, overweight.

Introduction

The aim of the study was to study the nutritional status of overweight school-age children.

Materials and Methods of Research

130 schoolchildren were divided into 2 age groups: children 8 years 6 months – primary school age (subgroup A) and children 14 years 6 months – secondary school age (subgroup B). As a result of anthropometry, 1A (relatively healthy group) included children with height and body weight at the median level, or within ± 1 standard deviation (1CO) according to the standards of anthropometric indicators. Group 2A included children with an increase in weight and body mass index (BMI) in relation to age within +2CO of the median according to the standards (overweight children). Clinical signs of micronutrient deficiency were detected in 34.2% - 37.3%, respectively, in students of groups 1A and 1B, while among representatives of groups 2A and 2B the figure was 51.3% - 53.7%. Clinical signs of micronutrient deficiency were noted in both the primary school age group and the secondary school age group. A diet that did not correspond to age characteristics was observed both among overweight schoolchildren and among schoolchildren with a weight within the normal range, respectively: (32.4% - 51.4%). Changes were also noted in a decrease in the frequency of meals (43.7% - 63.7%), breaks between meals of 5-8 hours or more (23.7% - 49.3%), skipping meals (29.3% - 33.3%), which leads to a decrease in the frequency of consumption of basic products and dishes and a decrease in the level of nutritional status. The correlation of

the indicators of the diet with the indicators of the physical development of schoolchildren has been established.

A deficit in calorie intake was found in 59.5-74.8% of pupils, proteins in 62.8-74.6%, fats in 21.1-37.2%, vitamin C in 89.5-96.3%, vitamin B in 47.3-52.5%, which is characteristic of the insufficient nutritional status of children. A statistically significant correlation between the frequency of consumption of biologically valuable products and dishes and the prevalence of clinical signs of micronutrient deficiency in school-age children has been established.

Findings

Clinical signs of micronutrient deficiency were detected in 54% of primary and secondary school students, with a high prevalence of signs in overweight children (51.3% - 53.7%). Age-inappropriate diets were 39% more common among overweight schoolchildren (32.4% - 51.4%). Nutritional deficiencies were noted in both age groups, with a higher incidence in overweight children of 36% to 57%. Use of biological testing methods The inclusion of nutritional factors in the system of social and hygienic monitoring of nutritional factors ensure the identification of signs of micronutrient deficiency at an early stage, allow for the timely development of proposals for the correction of nutrition, and objectively assess the effectiveness and effectiveness of the measures taken.

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