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Relative body mass index as a new tool for nutritional status assessment in children and adolescents with bronchial asthma

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Abstract

© 2017, Nizhny Novgorod State Medical Academy. All rights reserved. The aim of the investigation was to estimate the possibilities of using relative body mass index (RBMI) for determining age- and gender-specific aspects of nutritional status in children and adolescents with bronchial asthma (BA) of different severity degrees. Materials and Methods. The study involved 887 children and adolescents with BA of different severities, aged 5–17 years (61– 215 months), of them 655 were boys. Their body mass index (BMI) was evaluated based on the Z-score criterion and nutritional status was determined as recommended by the World Health Organization (WHO). To unify nutritional status assessment in patients of different age and gender groups, there was introduced RBMI representing the ratio of the patient's BMI to gender- and age-specific median BMI value presented in the WHO reference data. Results. Nutritional status and its relation to BA were studied in children and adolescents using two parameters: the standard nutritional status indicator based on BMI Z-scores as recommended by WHO, and a new parameter, RBMI, representing the ratio of the patient's BMI to gender- and age-specific median BMI value recommended by WHO. No significant nutritional status differences were found in the studied sample of patients with various degrees of BA severity. There was revealed a tendency to a decrease in the proportion of children with normal body weight and an increase in the proportion of overweight children as BA severity increased, $\chi 2=26.82$; $p=0.08$. Conclusion. Using RBMI for assessment of BA patients makes it possible to significantly facilitate clinical data analysis and obtain new data unavailable when standard parameters are applied.

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Keywords

Body mass index, Bronchial asthma, Nutritional status of children, Obesity in asthma, Relative body mass index

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