Obesity in children in the regions of Russia

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Introduction. The upward steady trend in the prevalence of obesity in the pediatric population during the last decades is a significant medical and social problem.

Objective. Purpose of our research was to study the prevalence of obesity among schoolchildren living in various regions of Russia.

Methods. Totally 5701 schoolchildren (2668 boys and 3033 girls) had been enrolled in the cross-sectional study with the use of random sampling techniques at the All-Russian Children's Center "Orlyonok". All investigated children were subdivided into two subgroups: I — elementary school children aged 7 to 11 years; II — middle school children aged 12 to 16 years. We measured length and weight of the body and calculated body mass index (BMI). We diagnosed obesity if BMI value was above 95 percentiles in accordance with the standards centile scale 'WHO Growth Reference 2007'. Data was analyzed using the statistical package "STATISTICAv.7.0 © STATSOFT, USA". The results are presented as P [CI]%, where P is the percentage, CI is the 95% confidence interval for share. Analysis of statistical significance of differences performed using Pearson χ^2 test (with Yates's correction).

Results. Obesity was diagnosed in 5.6 [5.3–5.9] %. of schoolchildren. We have identified the following relationships between age, gender, place of residence and obesity. There were more than 16.9 [16.2–17.6] % of boys with obesity than 5.2 [4.8–5.6] % of girls ($p < 0.001$). There were more girls with obesity in group I (7.8 [6.6–9.0] %) than in group II (4.7 [4.4–5.1] %; $p = 0.0056$); the boys have no differences between the groups. More obese children were from Ural (15.4%), Southern (12.5%) and North Caucasian (12.1%) federal districts; lower in Far East (6.2%), Volga (7.1%) federal districts.

Conclusion. It is important to continue analysis of the factors leading to deviations in the nutritional status of children.