Abstract

Thesis aims to analyze some auxological aspects of menarche in a sample of peripubertal school-aged Prague girls. Sample PRAHA 2012 consists of 293 girls from Prague within the age ranging from 11,00 - 14,99 years. Ascertained median age of menarche 12,4 years is significantly lower ($p = 0,0004$) than median of Prague population - 13,04 years, respectively lower than median age of menarche of Czech population - 13,00 years according to data from the last national anthropological survey (CAV 2001). Our investigation suggests a "break off" in long-term stagnation age of menarche (minus 0,6 year) at least in a urban population in Czech Republic. According to our findings deceleration age of menarche wasn't accompanied by increase of average body height or other nutritional characteristics (body weight, BMI, arm circumference, thickness of skinfolds) in comparison with actual pediatrics standards. Though, there is a clearly evidence that participant´s body composition affected age of menarche. A comparison of premenarcheal (n = 139) and postmenarcheal (n = 154) girls of the same age showed statistically significant elevated values in body weight (42,5 kg, 47,6 kg vs 56,3 kg, 54,1 kg), BMI (17,6 kg/m², 18,3kg/m² vs 21,3 kg/m², 20,7 kg/m²) and percentage of body fat (19,4%, 19,7% vs 24,5% a 23,1%) at postmenarcheal girls within both examined age groups (12 – 12,99 and 13 – 13,99). Our results contribute to a long-term discussion about stronger linkage between age at menarche and BMI and body fat as with calendar age and also suggest halt in increasing body height in Czech big-city girls. „Perimenarcheal median girl" from sample PRAHA 2012 is 12,4 years old, its BMI is 18,9 kg/m², and has 21% body fat.

Key words: menarche, puberty, body composition, the percentage of body fat, BMI, secular trend, premenarcheal versus postmenarcheal girls