

ABSTRACT

Title:

Reference value for handgrip strength and skeletal muscle mass for children aged 4 to 12 years in the Czech republic.

Objectives:

The main aim of this study was to create reference values for handgrip strength dependent on body mass index (BMI) and for skeletal muscle index (SMI) among children in the Czech republic.

Methods:

442 children participated in this study realized in five different places of the Czech republic. There were used bioelectrical impedance analysis to body composition and isometric handgrip dynamometer to handgrip strength measurements.

Results:

Reference values of handgrip strength dependent on body mass index (BMI) and skeletal muscle index (SMI) were calculated. Percentile nomograms for both genders separately are provided according to age from 4 to 12.

Conclusion:

Handgrip strength dependent on BMI as well as SMI increased with age in both genders. Boys showed higher level in both variables, nevertheless, the only in SMI there was a statistically significant difference.

Keywords: Handgrip strength, skeletal muscle mass, BMI, SMI