

## **Abstract**

The aim of the diploma thesis is to describe and evaluate the relation of mass proportionality and adiposity in the context of secular changes in body composition of Czech preschool children over the last 25 years. The study was conducted in the form of transversal research between years 2016–2018 at seven kindergartens from Prague and its surroundings and one from Ústí nad Labem. 551 children (271 boys, 280 girls), in age of four to six years, were examined. The data was supplemented by a set of 208 children (101 boys and 107 girls), which were part of a pilot study from 2013–2014. In total, the group comprised 759 children. The actual set of individuals was compared with a representative database of Czech preschool children from the 1990s.

There was no significant difference in the parameters describing weight proportionality in current preschool children, however the proportion of the individual components of the body composition has changed. The fat component increased significantly in six-year-old boys, five-year-old and six-year-old girls. At the same time, we observed insufficient development of active body mass in relation to the reference group. These trends are also evidenced by the increase in the percentage of latent forms of obesity over the past 25 years. The lack of active movement of current preschool children is reflected in a decrease in selected circumferential parameters of the limbs and an increase in the thickness of skin folds, especially in the torso area.

## **Keywords**

Body composition, secular trend, latent obesity, preschool children