

ABSTRACT

The aim of the diploma thesis was to cover the changes in body composition by bioimpedance spectroscopy in Czech breastfeeding women during three periods – 3 weeks postpartum, 3 months and 6 months postpartum.

Eight healthy breastfeeding women were involved in the study. At each examination there were measured anthropometric parameters and bioimpedance spectroscopy parameters by the Body Composition Monitor. Breast milk was also extracted during the study.

We observed a gradual decrease in body weight of monitored women. The median weight loss between the first and third examination was 2,2 kg, the median weight in 6 months postpartum was 1,3 kg higher than the median of prepregnancy body weight, two of the women had lower weight 6 months postpartum than before the pregnancy, the body weight of other six women was higher in a scale between 0,1 kg to 3,1 kg.

There were not proven statistically significant differences in body composition during lactation. A trend of decrease of TBW was observed during all lactation periods. A trend of slight increase of ICW was observed between the 3rd week and 3rd month postpartum, and then the decrease of ICW in the 6th month postpartum. An increase of LTM and BCM was measured between the 3rd week and 3rd month postpartum, those values have shown a decrease again in the 6th month postpartum. The FTI, Fat and ATM levels decreased between the 3rd week and 3rd month postpartum to finally increase in 6th month postpartum.

At the period of 6 months postpartum was found positive correlation between the amount of extracted human milk and LTI ($r = 0,905$; $p = 0,002$), LTM ($r = 0,719$; $p = 0,045$) and BCM ($r = 0,762$; $p = 0,028$).

The study has shown the decrease in subjects body weight and some trends of fluctuations in body composition. Results of the research also proved the correlation between amount of the human milk and fat free mass.

Key words: bioimpedance spectroscopic analysis, body composition, lactation