ABSTRACT

The aim of this study was to evaluate the production of breast milk in relation to the body composition of Czech breastfeeding women and to compare the results to similar studies. Six breastfeeding women participated in this specific part of the longitudinal study, undergoing 4 examinations during a 9-month lactation period.

Anthropometric methods were used to measure basic body parameters. Furthermore, body composition was assessed using dual bioimpedance analysis with a digital scale and spectroscopic bioimpedance analysis using the Body Composition Monitor device.

According to Friedman´s nonparametric paired test, statistically significant differences between the examined periods were found in BMI values (p = 0.029), BSA (p = 0.019), waist circumference (p = 0.048) and hip circumference (p = 0.031). These values fall below the significance level of 0.05.

According to Spearman´s correlation, breast milk production positively correlated with pre-pregnancy weight (p = 0.003, r = 0.817), pre-pregnancy BMI (p = 0.002, r = 0.847), pregnancy weight (p = 0.044, r = 0.624), bone mass measured by BIA (p = 0.020, r = 0.697), basal metabolism measured by BIA (p = 0.028, r = 0.670), FM mass measured by BIA (p = 0.034, r = 0.651), chest circumference (p = 0.003, r = 0.825), waist circumference (p = 0.025, r = 0.680), forearm circumference (p = 0.009, r = 0.757), mid-thigh circumference (p = 0.040, r = 0.632), wrist width (p = 0.024, r = 0.686), femur epicondyle width (p = 0.037, r = 0.642), bone mass (p = 0.031, r = 0.697) pre-pregnancy BSA (p = 0.005, r = 0.830), BMI (p = 0.044, r = 0.661), TBW (p = 0.020, r = 0.733), ECW (p = 0.020, r = 0.733), ICW (p = 0.016, r = 0.748). A significant negative correlation with breast milk production was found only with weight gain during pregnancy (p = 0.054, r = -0.601).

The study demonstrated significant correlations between breast milk production and parameters measured using anthropometric methods and bioimpedance analysis. The production of breast milk in relation to the body composition of the examined women was described.

Keywords: breast milk production, body composition