ABSTRACT

The aim of this work was to process opportunities of bioelectrical impedance analysis (BIA) for determination body composition of pregnant women. There is quite small findings about this issue, so it was an effort to prove the usefulness of the BIA method during pregnancy and than to clarified the changes of body metabolism in women during pregnancy.

The study included 10 pregnant, primipara, women with a physiological pregnancy. The screening was performed by the method of bioimpedance analysis of body composition, which records the amount of water, muscle and fat mass in the body.

The measured values recorded an increase in mass of all examined women on average of 13.4 ± 4.1 kg. Our results also recorded progressive increase in the amount of total body water (TBW), extracellular water (ECW) and intracellular water (ICW) especially during the last trimester of pregnancy.

The results analysis showed the tightest correlation between the values of R_e and ratio of TBW P/h^2 ($p = 1{,}23*10^{-20}$; $r = -0{,}98057$) and of R_i and ratio of ICW P/h^2 ($p = 4{,}52*10^{-20}$; $r = -0{,}97859$), too.

The evaluation of measurements between the first and third trimester has shown statistically significant difference in values X_c/waist.

It has been shown that using the BIA method is justified in period of pregnancy and it is clinically useful in evaluating of physical changes in the metabolism of pregnant women, which are important for the proper development of the fetus.

Keywords: bioelectrical impedance analysis, pregnancy, changes in metabolism during pregnancy