

The dynamic of choice biomechanics characterizations of the gait of pregnant women

The aim of the study: The aim of this thesis is to detect, which way do change specifics of the gait of pregnant women during 1st, 2nd and 3rd trimester of the pregnancy in consequence of biochemical and biomechanics changes occurring during the pregnancy, and to find prospective common trends of this alternations.

Method: The thesis has a character of an experimental study. It is compiled as a casuistic study. Non-homogeneous group of 6 healthy pregnant women – volunteers took part in this study. It was performed a free-dimensional gait analysis on each subject using Qualisys system, that makes it possible to observe trajectories of markers placed on the body, and ground reaction forces in the stance phase of walking were taken using dynamometric plates Kistler. It was conducted at the end of the each trimester, it means at 14th, 26th and 38th week of the pregnancy. It was observed the width of supporting base, timing of the gait; it means time of separate phases of gait and ground reaction forces acting vertically and anteroposteriorly. It was so calculated impulses of these forces and velocity of the gait.

Results: Ground reaction forces acting vertically and anteroposteriorly and impulses of these forces increase during pregnancy. Changes in the velocity of gait were individual. As concerning to other observed parameters of the gait (width of supporting base, timing of the gait) this study has found 3 different ways, how do pregnant women adapt to the changes occurring during pregnancy in their organism.

Key words: gravidity, kinematics of the gait in 3D, dynamic of the interface foot-base, Qualisys, Kistler