

## **Abstract**

**Title:** Pelvis position in 3D space and its influence of stages of pregnancy

**Summary:** The aim of this master thesis is to evaluate changes of the pelvis position of women during pregnancy and if these changes influence the LBP during gravidity.

The research is based on the summary of theoretical findings about the issue of changes during pregnancy which could be responsible for the LBP. The main topics of this part of thesis are anatomy and kinesiology of pelvis, functional vertebral disorders, LBP in gravidity, physiological and biomechanical changes during pregnancy, definition of 3D space with connection to human body and introduction of the 3D kinematic analysis.

10 (9) pregnant women in the age of 26-35 years was evaluated in 3<sup>rd</sup>, 5<sup>th</sup> and 8<sup>th</sup> month of gravidity. The pelvis position in 3D space was objectified with the Qualisys technology and the LBP and the PGP with subjective evaluation of the VAS.

LBP was found in 7 of 10 and PGP in 3 of 10 evaluated pregnant women. Our findings show the tendency to the change of the pelvis position in the sagittal plane in the direction of the forward tilt. In our group of evaluated woman was found the connection between the absolute change of the pelvis position in the sagittal plane and the LBP and the PGP during pregnancy, but to define clear and generally valid connection has to be performed another researches, which should provide the separation of the various factors with the influence on LBP in gravidity. These findings should enable the accurate treatment and prevention of these difficulties during pregnancy.

**Keywords:** pelvis, pregnancy, LBP, 3D, Qualisys