Abstract

The study is primarily focused on testing of the method which assesses sex from pubis. This method was originally proposed by Phenice (1969). Klales et al. (2012) modified this method in their study. They suggested to improve of the Phenice (1969) technique by extending the evaluation scale of three morphological traits from two values – present / absent to five development stage. Our study assumes that the success of Phenice (1969) method is related to the degree of sexual dimorphism of evaluated population. So the extension of evaluation scale will not lead to increased accuracy and will occur to decrease relibility of the method also.

Intraobserver error was evaluated for Phenice (1969) a Klales et al. (2012) methods on the sample of isolated pelvic bones from Department of anthropology and human genetics of Charles university in Praque in first time. After we evaluated the whole sample, which consist of 200 three-dimensional models of pelvic bones. These models were segmented from CT images of adult individuals from contemporary French population. This sample was statistically evaluated by Cohen kappa, accuracy, senzitivity and specificity using confusion matrix and relationship between specificita and senzitivity was tested by ROC curves and area under curve (AUC).

Results show that Phenice (1969) method shows good intraobserver agreement between two set of assessments of traits and also shows substantial degree of accuracy (85 %). Klales et al. (2012) method shows poor intraobserver agreement between two set of assessment of five-degree scale of development of traits and also accuracy was lower (83 %). The ROC analysis also confirms these conclusions.

Results confirm our hypothesis. Klales et al. (2012) method does not reach higher accuracy and also method´s reliability is substantially decreased, so extending the evaluation scale will not lead to improvement Phenice (1969) technique. This conclusion is related to our assumption, that Phenice (1969) method´s success is probably related to the degree of sexual dimorphism pubis of evaluated population.

Key words:

Phenice (1969) method, pubis, sexual dimorphism, sex assessment, the reliability and accuracy of method