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Sex Estimation Using Cervical Measurements of Molar Teeth in an Iranian Archaeological Population

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Abstract : In the field of human osteology, sex estimation is an important step in developing biological profile. There are a number of methods that can be used to estimate the sex of human remains varying from visual assessments to metric analysis of sexually dimorphic traits. Teeth are one of the most durable physical elements in human body that can be used for this purpose. The present study investigated the utility of cervical measurements for sex estimation through discriminant analysis. The permanent molar teeth of 75 skeletons (28 females and 52 males) from Hasanlu site in North-western Iran were studied. Cervical mesiodistal and buccolingual measurements were taken from both maxillary and mandibular first and second molars. Discriminant analysis was used to evaluate the accuracy of each diameter in assessing sex. The results showed that males had statistically larger teeth than females for maxillary and mandibular molars and both measurements ($P < 0.05$). The range of classification rate was from (75.7% to 85.5%) for the original and cross-validated data. The most dimorphic teeth were maxillary and mandibular second molars providing 85.5% and 83.3% correct classification rate respectively. The data generated from the present study suggested that cervical mesiodistal and buccolingual measurements of the molar teeth can be useful and reliable for sex estimation in Iranian archaeological populations.

Keywords : cervical measurements, Hasanlu, premolars, sex estimation
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