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Original Article

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«INVERSED» SEXUAL DIMORPHISM OF THE UPPER FACIAL WIDTH TO HEIGHT RATIO IN BURYATS AND ITS INTERPRETATION IN LIGHT OF NEW METHODOLOGICAL EVIDENCE

Population differences in sexual dimorphism of human facial shape are widely studied in modern scientific literature. One of the facial features that attracts the attention of researchers in the context of sexual differences, as well as mechanisms of sexual selection, is the upper facial width-to-height ratio (fWHR), measured as the ratio of the bizygomatic diameter to the upper height of the face. Until recently, sexual variability of fWHR was considered unidirectional (in men, the values are higher than in women), which was shown in numerous studies performed on modern living representatives of different racial groups. In a number of studies, significant sex differences in this trait were not found. Despite the wide coverage of populations studied to date throughout the world, indigenous groups of Siberia and the Russian Far East still remain virtually unstudied in terms of sexual variability of this facial trait. In one of the recent works, for the first time, the opposite direction of sex differences in fWHR was discovered in the Buryat population, in which women had higher values of the trait than men. In this work, fWHR was measured using photographs taken with standardized head position in the Frankfurt horizontal plane. This method of head positioning during photo shooting is almost never used in Western studies of fWHR. Instead, the natural head position is most often used. One of the recent methodological studies demonstrated that head positioning during photo shooting has a considerable effect on the two-dimensional projection of the facial shape in frontal perspective. Sex differences in shape are more pronounced when the head position is standardized in the Frankfurt horizontal plane. In the present work, we reproduced the results that revealed the opposite direction of sexual dimorphism in fWHR in Buryats on an independent sample of Buryats of the same age using head positioning both in the Frankfurt horizontal and in the natural position. The results confirmed the significant sexual dimorphism of fWHR in Buryats (women have higher fWHR than men) in both variants of head orientation. The methodological aspects associated with the definition of the fWHR are also discussed.

Keywords*: sexual dimorphism, sex differences, facial shape, Buryats, facial width-to-height ratio, fWHR, population differences*

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