

Analysis of Facial Index in Latvian Residents from Different Regions Based on 1930s Data

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Abstract

Objectives: This study aims to analyse the facial index using data from the 1930s, collected from individuals in various regions of Latvia.

Materials and Methods: Anthropological expeditions led by J. Primanis were conducted in Piebalga (1936), Jūrmala of Vidzeme (1937), and the Zemgale district (1939). Measurements included morphological facial height (MFH) and facial width (FW), both recorded in centimeters. The facial index (FI) was calculated by dividing the morphological facial height by the facial width, multiplied by 100, and expressed as a percentage. A total of 6,289 adults were analysed.

The median and interquartile range (IQR) were used to describe non-normally distributed data.

Results: The study included 2,672 males (42.49%) and 3,617 females (57.51%). The median FI for males was 84.83 (IQR: 81.18–88.30) in Zemgale, 84.17 (IQR: 80.79–87.60) in Jūrmala of Vidzeme, and 85.71 (IQR: 81.63–89.66) in Piebalga. For females, the median FI was 82.03 (IQR: 78.42–85.27) in Zemgale, 82.96 (IQR: 79.41–86.67) in Jūrmala of Vidzeme, and 83.21 (IQR: 79.41–87.31) in Piebalga.

The Kruskal – Wallis test showed statistically significant differences in the distributions of FI between the regions for both males and females ($p < 0.001$). Pairwise comparisons revealed significant differences between Piebalga and Zemgale ($p=0.005$) and between Piebalga and Jūrmala of Vidzeme ($p < 0.001$) for males, while for females, differences were significant between Zemgale and Jūrmala of Vidzeme ($p = 0.001$) and between Zemgale and Piebalga ($p < 0.001$).

Conclusions: The facial index reveals significant differences in cranial morphology among Latvian residents across regions during the 1930s. These findings indirectly suggest a different origin and low population mobility between regions in Latvia during this period.

