

ANALYSIS OF DISTANTIA CRISTARUM AND DISTANTIA SPINARUM IN LATVIAN FEMALE RESIDENTS FROM DIFFERENT REGIONS BASED ON 1930S DATA

Lasma Asare^{1,2} and Janis Vetra¹

¹Riga Stradins University, Institute of Anatomy and Anthropology, Department of Anthropology, Riga, Latvia; ²Riga Stradins University, Statistics Unit, Riga, Latvia

Background: Distantia spinarum and distantia cristarum are external pelvic measurements used in obstetrics. Historically, external pelvimetry was used as a screening tool because very small external pelvic measurements may suggest a generally small pelvis.

Objectives: This study aims to analyse distantia cristarum and distantia spinarum using data collected in the 1930s from individuals across different regions of Latvia. The findings provide a reference for comparison with contemporary populations and improve our understanding of anthropometric changes over time.

Materials and methods: Anthropological expeditions led by J. Primanis were conducted in Piebalga (1936), Jurmala of Vidzeme (1937), and the Zemgale district (1939). These included measurements of distantia cristarum (DC) and distantia spinarum (DS) measured in centimetres. The median and interquartile range (IQR) described non-normally distributed variables.

Results: The study included 3,801 adult females. The median DS for females was 26.0 cm in Zemgale and 25.0 cm in Jurmala of Vidzeme and 26.5 cm in Piebalga. The median DC for females was 29.5 cm in Zemgale, and 28.5 cm in Jurmala of Vidzeme and 30.0 cm in Piebalga, respectively. The Kruskal-Wallis test showed statistically significant differences in distributions of DC and DS between the regions ($p < 0.001$). Pairwise comparisons found significant differences between Jurmala of Vidzeme and Zemgale ($p < 0.001$) and between Jurmala of Vidzeme and Piebalga ($p < 0.001$) in both measurements, while there were significant differences of DS also between Zemgale and Piebalga ($p = 0.006$); there were not significant differences of DC between these two regions ($p > 0.999$).

Conclusions: The distantia cristarum and distantia spinarum reveals significant differences in body structure among Latvian female residents across regions during the 1930s. The results indicate a different set of factors (genetic, environmental, etc.) that determine the development of the skeleton, including the pelvic bones, in different regions of Latvia in the 1930s.

Keywords: Distantia cristarum; Distantia spinarum; Historical data.