

THE FRAGILE LIVES OF SARMATIAN CHILDREN: EARLY-LIFE STRESS AND MORTALITY IN PAST COMMUNITIES OF THE GREAT HUNGARIAN PLAIN

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Background: Studying past childhood health and disease remains a vital and highly informative, but still challenging and underrepresented, area of archaeological research. While over the past 20 years there has been a significant increase in the study of children and childhood in archaeology and bioarchaeology, less attention has been paid to children from the Barbaricum.

Objective: By integrating palaeoproteomic techniques with bioarchaeological approaches, this study redirects attention from the Roman Empire to the often-overlooked ‘barbarians’ beyond its borders to examine sex-based differences in childhood health east of the Roman limes.

Subjects and methods: 137 nonadult individuals (≤ 20 years-old) from 18 archaeological sites on the Great Hungarian Plain have been selected for macroscopic documentation of oral pathologies and childhood stress indicators, identified based on well-established criteria and scored as present or absent. Working with archaeological skeletal remains of pre-pubertal individuals makes osteological sex estimations based on morphological techniques very unreliable and problematic; therefore, we applied a streamlined mass-spectrometry workflow for sex identification, targeting amelogenin peptides from dental enamel using a minimally destructive acid-etching method and high-resolution LC–MS/MS with a parallel reaction monitoring assay.

Results and conclusions: Preliminary results show that these individuals had a high incidence of stress episodes during early life: boys and girls were similarly affected. Most affected individuals experienced multiple stress episodes during childhood, with as high as 7 or 8 for some. The fact that some children had linear enamel hypoplasia occurring even in utero and during the first year of life (both girls and boys), points to the fact that their mothers were under serious physiological stress. These episodes were severe enough to affect the foetus or the baby, confirming that in the past, as today, children (along with infants and pregnant women) carry most frequently the burden of malnutrition, infection, disease, and often death.

Keywords: Bioarchaeology; Palaeoproteomics; Amelogenin; Linear enamel hypoplasia; Roman Period.

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