Bioarchaeological analysis of an agricultural population from late medieval Transylvania

Introduction

Recent excavations in northwest Transylvania uncovered over 160 individuals from a 14th-17th century cemetery. This collection is housed in the Satu Mare County Museum in Romania. Bioarchaeological analysis of this cemetery population has provided demographic and health data for a previously little studied area of medieval Eastern Europe. Lesions indicative of specific and non-specific infectious diseases, nutritional deficiencies, trauma, and degenerative joint disease were scored. These data indicate an archaeological context

The city of Carei, located south of the Somes River in the plains, is first mentioned in historical documents during the 14th century. During 2001 and 2002, archaeological investigations (Satu Mare County Museum) performed trench excavations in the cemetery of the City of Babadag, located in Carei. The cemetery was used both for interments and for burials. Archaeological evidence suggests the city was occupied for 1,100 years, with many inhumations, until its abandonment in the 18th century. About 15% of the cemetery was excavated during the two seasons of excavations (2001 and 2002).

Demographic Profile

The remains of 160 individuals were recovered. Although archaeological excavation techniques and poor preservation affected the recovery of complete burials, subadults are quite common and complete 46% (31 individuals) of the total sample. Of these, 38% were determined as adult males, 38% as adult females, and 24% as subadults (31 males and 37 females). The slight excess of females does not deviate significantly from the sex ratio expected for a rural medieval mound.

Childhood Health

Out of the entire sample, 82 (51%) individuals had no evidence of pathological conditions noted on the observable skeletal elements. Subadults accounted for 49% of these cases, with the remainder in the 0-2, 3-5, 6-10, and 11-18 year old age groups. Five additional individuals were subadults of indeterminate age. The difference in the occurrence of cribra orbitalia and enamel hypoplasia was not significant (K = 8.08, p > 0.05), while the difference in incidence between adult males and females is significant (K = 5.84, p < 0.1).

Cribra Orbitalia

Cribra orbitalia was observed in 16 (36%) of the 42 orbits available for analysis, 10 (44%) of all orbits, 63% of affected orbits) of the affected individuals were subadults. The difference in the occurrence of cribra orbitalia in subadults and adults is significant (K = 8.08, p > 0.05), while adult males and females do not differ significantly in the frequency of hypoplastic lesions (K = 4.74, p < 0.05).

Enamel Hypoplasia

Enamel was preserved in 52 individuals. The maxillary and mandibular central incisors and canines were scored for presence or absence of enamel hypoplastic lesions. Forty-three individuals had at least one of these lesions present for observation. Of these, 42% (n = 18) showed evidence of at least one episodic growth disruption. Twelve of the affected individuals were adults. Subadults exhibit hypoplastic lesions significantly less frequently than adults (K = 8.58, p < 0.05). Adult males and females do not differ significantly in the frequency of hypoplastic lesions (K = 4.74, p < 0.05).

Discussion

The incomplete nature of these remains makes conclusive inferences about health difficult owing to the absence of many elements, which may or may not have been affected by pathological conditions. Thus, sample size was small for several health indices. Mortality rates for children of the 11-12 and 13-15th centuries may be drawn from the data. The age-at-death distribution of the sample, with many more adults than subadults, is consistent with the expected distribution for a medieval agricultural population. However, only seven (4%) infants and eight (5%) adults died before the age of 40 were present, which may not be expected from the model life table of Milner et al. (1989). The low frequency of the youngest and oldest age groups suggests that the fragile remains of very young individuals were not preserved. Adult estimation bias may have occurred for infants and elderly in the age-at-death distribution. However, the large proportions of subadults and older adults in this sample may account for the lack of individuals from very young and young adult age groups. Adult estimation bias may have occurred for infants and elderly in the age-at-death distribution. However, the large proportions of subadults and older adults in this sample may account for the lack of individuals from very young and young adult age groups.

Conclusion

This collection from Transylvania offers insight into the health of the peasantry in Eastern Europe during the late medieval ages. These data indicate that biases incurred from preservation, archaeological recovery, and age estimation methods may account for the low proportion of infants and elderly in the age-at-death distribution. However, the large proportions of subadults and older adults in this sample may account for the lack of individuals from very young and young adult age groups. Adult estimation bias may have occurred for infants and elderly in the age-at-death distribution. However, the large proportions of subadults and older adults in this sample may account for the lack of individuals from very young and young adult age groups.

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References
