

Abstract

The early medieval period was a time of great change in Europe. Politically three empires ruled Europe: Charlemagne's Carolingian Empire, the Holy Roman Empire and the Byzantine Empire. During this time early cities began to form in Europe, and new patterns of settlement developed. Great Moravia was a state level society in the southeastern region of the Czech Republic during the late 9th and early 10th centuries. Moravia is located in the center of Europe's three ruling empires of the time. This location influenced rapid change and urban development. Urban populations are subject to much higher disease loads than rural populations, and frequently subject to poor sanitation. Rural populations conversely are susceptible to nutritional stress than urban populations.

This thesis explores the impact of urban development on the health of the inhabitants of Great Moravia. As rural populations shared a similar agricultural profile, they were expected to reflect similar patterns of health and diet. Urban populations had access to a greater variety of food and consistent food availability. Urban populations, however, also had a higher disease load due to crowding and sanitation issues. Historically, Slavic culture practiced male preference which might be reflected in human remains by differences in health indicators between males and females.

The research question is if urban populations were indeed healthier than rural populations due to the greater abundance and variety of foods. In order to do this, rural (Josefov and Lahovice) and urban (Mikulčice-Kostelisko) skeletal populations from the 9th-10th centuries were examined for cribra orbitalia, porotic hyperostosis, and linear enamel hypoplasia. Presence of cribra orbitalia and porotic hyperostosis indicate anemia while linear enamel hypoplasias indicate an interruption in enamel development due to nutritional deficiencies or pathological processes. Three hypotheses were tested: 1) rural populations do not differ significantly in frequency of non-specific health indicators, 2) the urban population differs significantly from the rural populations, and 3) females differ significantly from males in the frequency of non-specific health indicators.

Porotic hyperostosis was only present in three individuals (n=1079) which was not enough to test for significance. Cribra orbitalia had a consistently low frequency in all populations with no significant differences between the two rural populations and among the rural and urban populations. Males and females did not differ significantly in frequency of cribra orbitalia in urban versus rural populations, suggesting the influence of male preference (if practiced) did not impact health significantly. Anemia (often due to chronic parasitic infection and subsequent malnutrition) was likely present in the populations but at a low level and with no sex-based variation. Linear enamel hypoplasia frequency was significantly higher in the urban population, which suggests that the disease load association with urbanization may have trumped the increased access to food resources (or those resources were not as generally available as assumed). In addition, chi-square statistics for linear enamel hypoplasia were significant for males and females in urban versus rural populations, suggesting the influence of male preference (if practiced) did potentially impact health. Significant correlations between age and linear enamel hypoplasia occurrence were found. The urban population also had the most variation in linear enamel hypoplasia age-of-occurrence, perhaps reflecting more variation in the time at which children were weaned. The results of this thesis suggest that despite the advantages of greater wealth and access to greater amounts of food (and food varieties), the population of Kostelisko was under more stress than the rural populations.