

SECULAR CHANGES IN MORPHOLOGICAL STATUS OF THE ABKHAZIANS FOR THE LAST 30 YEARS

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The paper presents the results of anthropological studies of the adult Abkhazian population (aged 20 to 90 years old) of three villages for 30 years. The data were collected in 1980, 1990 and 2010. Secular changes of stature were examined in the pooled data. The results show that Abkhazians, born between 1920 and 1990, reveal the existence of secular trend in stature, with the rate of 0.24 cm for men and 0.85 cm for women for each decade. Secular dynamics of stature for men is not even, whereas for women - it is a gradual increase over the entire historical period. Maximal average values are found in women born in 1981-1990. For men, minimal average values of stature are found for those born in 1931-1940, as a consequence of a difficult period of social upheaval (collectivization, purges, the Great Patriotic War), maximal values - for those born in 1961-1970, as a result of the acceleration process. Men born in 1981-1990 are characterized by a slight decrease in their height as a result of the unfavorable growth conditions in the 1990's. Analysis of the distribution of individual values for stature indicates the continuation of acceleration process and its stabilization for women. Comparative analysis of the skinfolds in the Abkhazians of different generations was also performed, and body mass components (subcutaneous fat and total body fat) were calculated with J. Matiegka's equations. The findings show a marked increase in the skinfold thickness (subscapular, chest, abdominal) in men and women of the 2010 survey, as well as high rates of age-related changes in these traits. The same is true for the fat mass. With each subsequent survey, the younger generation of the Abkhazians is characterized by weaker physical development as demonstrated by hand grip strength. The results of the study show that environmental factors have a strong effect on the physical status of the genetically stable population of rural Abkhazians. In the former longevity population of Abkhazians there is a trend towards acceleration of the age-related changes. This may be explained by the unfavorable socioeconomic processes of the 1990's in Abkhazia.

Key words: *physical anthropology, stature, body weight, body-mass index (BMI), fat mass, secular trend, age changes*

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VITAMIN D STATUS IN NORTHERN INDIGENOUS PEOPLE OF RUSSIA LEADING TRADITIONAL AND "MODERNIZED" WAY OF LIFE

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Vitamin D status in the groups of Northern indigenous people of Russia leading close to traditional (semi-nomadic reindeer herding), post-traditional (in settlements) or "modernized" (in towns) way of life was analyzed. The study groups consisted of 328 Nenets and Komi aged 18-60 years living in the Arctic (66-67°N). Urban Komi (n=101) living in non-Arctic area (57-61°N) formed a control group. The concentration of serum 25OHD, as a transport form of vitamin D, was assessed by the enzyme immunoassay analysis. The group average 25OHD levels in both rural and urban Arctic residents are within the range of the values seen in the non-Arctic urban subjects adjusted for season: 39.7- 47.7 nmol/l. Abandoning traditional lifestyle associates with lower vitamin D levels in the Indigenous Arctic people. Mean \pm standard deviation of 25OHD values among Nenets were lower in those living in the administrative center (a big settlement) with a population of 1460 (32.2 ± 12.90 nmol/l) than in the residents of small settlements (39.6 ± 14.08 nmol/l), and in reindeer herders (42.4 ± 13.45 nmol/l). Komi people living in towns had lower 25OHD concentrations (47.7 ± 12.00 nmol/l) than Komi reindeer herders (68.7 ± 25.20). The transition from semi-nomadic to post-traditional and "modernized" way of life has

lead to a decrease in consuming traditional foods among the indigenous people of the Russian Arctic. Our data support the notion that the traditional northern diet promotes healthy vitamin D levels, while adherence to the “western” type of diet correlates with a lower 25OHD concentration. Supported by 026-F grant of the Perm State Pedagogical University.

Key words: *nutrition, lifestyle, vitamin D, 25OHD, indigenous people, circumpolar regions, Arctic*

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TO THE BIOARCHAEOLOGY OF CHILDREN'S BURIALS FROM GONUR-DEPE BRONZE AGE SITE, TURKMENISTAN

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The aim of this communication is to discuss the results of bioarchaeological investigations of the remains from Gonur-depe tombs, where sub-adult human beings were buried. Gonur-depe is a well-known Bactria-Margiana archaeological complex site (Southern Turkmenistan, III–II mill. BC). The skeletal remains of 37 individuals received from 36 tombs in 2009–2010 excavation are analyzed. The sample has such an age structure: 8.3% belongs to the fetus and newborns, 30.6% - to children less than 1 year, 30.6% - to 1–3 year-olds, 8.3% - to 4–6 year-olds, 11.1% - to 7–9 year-olds, 8.3% - to 10–12 year-olds and 2.8% - to 12–15 year-olds. Cribra orbitalia was the most common stress marker. Distribution of this indicator shows significant differences between the infantilis I and infantilis II age subgroups. Variability of the long bones was considered separately for each age interval. Deviations from the M. Maresh standards were calculated by dividing the individual values of the parameter to the age standard ones. Individual deviations from the age standards vary in the range of 0.73–1.02 (average value – 0.90). Proximal segments of the extremities reveal a greater delay in growth rather than the distal ones. The infants aged 0.2–2 years demonstrate the smallest “lag” from age standards of longitudinal growth rates. Primary distal growth in the sub-adult sample is connected with the dolicho- and mesomorphic types of body proportions (relatively elongated forearm and calf). Overall, the results of bioarchaeological research of the sub-adult burials from Gonur-depe confirm once more the thesis about good adaptation of this ancient group to the local environmental conditions and show that main body proportions of the adaptive types according to Tatyana Alexeeva (in this case – the Arid one) are formed in the early childhood. The investigations are supported by the Russian Fund for Basic Research (project 13-06-00233a).

Key words: *bioarchaeology, children's burials, Arid adaptive type, Turkmenistan, Bronze Age*

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CROW'S INDICES OF DIFFERENTIAL FERTILITY IN RUSSIA'S TWO LARGEST CITIES: INTERETHNIC VARIATION AND SECULAR TRENDS

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Using Russia's 2002 census data, population replacement parameters and Crow's indices of the opportunity for selection have been analyzed in Moscow and St.-Petersburg in 7 cohorts of females with completed fertility (years of birth from the early 20th century till 1962). During the whole time period, average number of births per female (kav) in 5 ethnic groups under study (Russians, Ukrainians, Byelorussians, Tatars and Jews) was less than 2, that is not enough even for simple population replacement. In female 1953–1957 birth cohort kav varies from 1.33 (Jews) to 1.61 (Tatars). Proportion of infertile females (having no births) in two megalopolises is considerably larger (up to 20% in the senior age cohorts) than in populations with traditional culture. Selection component due to differential fertility (If) was high in female cohorts born before the 2nd