

BODY COMPOSITION IN RUSSIANS AS ASSESSED BY BIOIMPEDANCE ANALYSIS: THE POPULATION REFERENCE DATA AND SOME COMPARISONS

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819,808 Russian males and females aged 5-97 years, who represented nearly 0.6% of the total Russian population, were assessed cross-sectionally in 2010-2012 by the same type of bioimpedance meter, ABC-01 'Medas'. The measurements were done in 220 Health Centers from 52 out of 83 federal subjects of Russia. The smoothed reference centile curves for anthropometric and BIA variables, such as height, weight, BMI, body fat (BF), fat-free mass (FFM), skeletal muscle mass (SMM), body cell mass (BCM) and other (33 variables in total) were provided based on extensions of the Cole and Green LMS method realized in the software package GAMLSS. At the age interval 5-25 years, our data on median weight and height showed good agreement with the updated 2002 data on the ICRP reference man. As compared to the IOTF reference population, the BMI distributions in children were shifted towards excess weight, with the average BMI z-score +0.41 for boys (29.1% of them being overweight and 12.5% obese) and +0.19 for girls (23.3% overweight and 8.0% obese). 2.9% of male and 3.0% female children were undernourished. The age-standardized prevalence of obesity in adults according to the conventional WHO criteria was 22.5% in men, and 31.9% in women. Our data indicated an increased risk of metabolic syndrome, with the maximum in women aged 55-65 years and the likelihood of developing the disease in this group being 4-5 times higher than in the age range 18-25 years. In male adults aged 50 years and elder, the metabolic syndrome risk was 1.5-2 times less than those in the females. In contrast, the age-standardized prevalence of high disability risk in Russian males aged 50-85 years was more than twice as much as the corresponding value in the females (12.7% vs 5.4%). Generally, our data show a significant interregional variation suggesting the presence of varying health conditions and epidemiological risks.

Key words: *body composition, bioimpedance analysis, large database, Russian population, reference data*

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MASTOIDITIS: A CASE FROM LATE OTTOMAN PERIOD SKELETAL REMAINS

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Mastoiditis is an inflammation of the cells in the mastoid region of the temporal bone, and may occur nearly after two weeks of the beginning of acute otitis media. Otitis media is one of the frequently encountered complications, and can lead to deafness when it spread to the surrounding areas. Distribution of the inflammation may cause complications over large endocranial sinuses, lead to meningitis and extradural or the brain abscess, as well. Corruption of drainage of the mastoid cells is the basic pathophysiological mechanisms leading to mastoiditis. Characteristic clinical findings are auricular proptosis, retroauricular erythema and others where the most common symptoms are persistent otalgia, fever, and poor nutrition. Acute mastoiditis is a

disease more common in children. The present study identifies pathological changes in the pneumatized cells of the mastoid process based on macroscopic, light microscopic, radiological and x-ray computed tomography investigations in human skeletal remains from the Late Ottoman Empire Period in Karacaahmet Cemetery, İstanbul, Turkey. During the examinations from Karacaahmet Skeletal Collection, a mastoiditis case was diagnosed, which is so far the first known from Ottoman collections. The skull belongs to an adult female subject. It is suggested that further paleopathological investigations are needed in the incidence of the infectious ear diseases to reflect living and health conditions of ancient Anatolian populations.

Key words: Mastoiditis, infection, skull, paleopathology, Anatolia

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STATURE ESTIMATION FROM THE RADIOGRAPHS OF METATARSALS IN TURKISH POPULATION

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To determine stature is as important as the determination of sex and age when analyzing and identifying the remains of skeleton. Stature, in an approximate and widespread manner, is being determined on the femur and tibia lengths, which are the long bones that directly affect the stature. However, when long bones are not available or they are found in a very bad state of preservation that does not permit any estimation of stature, then other bones of the body are also being used for this purpose. The aim of this study is to determine stature with the help of metatarsals in Turkish population. In this study, by using the x-ray films for the metatarsals bones of 100 women and 100 men, the Bayesian regression equations have been produced for 5 metatarsal bones. The coefficients of correlation existing between the metatarsal bones and stature, together with the standard errors of these equations, have been examined at length throughout this study. The results of the studies conducted by other researchers (Byers, Akoshima and Curran, 1989) have been compared with the results of our study.

Key words: metatarsal, stature, regression, forensic anthropology

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SEXUAL DIMORPHISM OF MORPHOLOGICAL FEATURES IN HIGHLY QUALIFIED FREESTYLE WRESTLERS

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For the analysis of sex differences in the morphology of freestyle wrestlers data of 133 women and 88 men were used. The program included 69 absolute and relative indicators of total body size, body proportions, girths, body mass components. The degree (%) and direction of sexual differentiation of each characteristic in women athletes compared to male athletes and their variability (σ , ν) were analyzed. The direction of the gender difference was determined by the dominance of the average values (X) of the traits and their variability (σ , ν) in one sex group over the other. The coefficient of sexual dimorphism (CSD) by E.G. Martirosov (1976) and S. Bailey (1981) was determined for each individual trait. While the prevalence in men was designated by the sign "+", the predominance of values characteristic for women had the sign "-".