

Section GROWTH and DEVELOPMENT

EVALUATION OF FOOT ANTHROPOMETRY AND SECULAR CHANGES IN TURKISH CHILDREN AND ADOLESCENTS

Akca Duygu Hilal, Özer Başak Koca

Ankara University, Faculty of Languages, History and Geography, Department of Anthropology, Ankara, Turkey

Evaluation of foot development is important for growth and development as well ergonomics studies. The purpose of the present paper is to investigate age and sex dependent foot anthropometry and secular changes in Turkish children and adolescents. A cross-sectional survey was conducted on 1427 (709 boys and 718 girls) healthy school children aged between 6–17 years from Ankara. Height, foot length and foot breadth were measured according to the standard anthropometric protocols and foot index was calculated. To reveal secular changes on foot growth, the data were compared with Bostancı's study of 1950, which included 1679 healthy school children from Ankara. The results show rapid increment in foot length at 11-13-year-olds for the boys and 9-10-year-olds for the girls. Similar growth pattern in foot breadth was also recorded which followed by a steady increase. Although during early childhood the boys have larger foot dimensions, just before the puberty girls catch up and sexual dimorphism disappear. After the age of 13 years significant difference between the two sexes have been recorded ($p < 0.01$). Positive secular increase was prominent for the foot length and breadth measurements for both sexes but this increment was greater for boys, which can be linked with the different degree of response to the improved environmental conditions. Positive secular changes documented in the present study appear to be a logical outcome of gradual social changes. As a developing country, Turkish population still tends to be diverse, and by taking into account potential social improvement, we might predict a further positive secular trend in growth.

Key words: *Foot anthropometry, secular changes, children and adolescents, Turkey*

Contact information: Akca Duygu Hilal, e-mail: dhakca@gmail.com,
Özer Başak Koca, e-mail: bkozer@ankara.edu.tr

TERRITORIAL VARIATIONS OF THE MATURATION RATES OF HAND AND WRIST BONES IN CHILDREN AND ADOLESCENTS

Batsevich Valery, Mansurov Fayzali, Yasina Oksana

Research Institute and Museum of Anthropology, Lomonosov Moscow State University, Moscow, Russia

This research aims at studying the influence of ecological factors on the maturation rates of hand and wrist bones in children and adolescents. It is based on the radiographs of the left hands, collected in the course of the expeditions of the Institute and Museum of Anthropology through 1964-2013 periods in 19 ethno-territorial child groups, aged 8-17 years, with the total number of 6456 individuals. The Tanner-Whitehouse method (TW-2) was used to determine skeletal maturation. As to the European part of the former USSR the highest rates of skeletal maturation belong to the rural school children of Arkhangelsk region and Karelians of Olonetski region with the exceeding of skeletal age compared to chronological almost through the whole age interval. In the groups of Russians of the Yaroslavl region and Byelorussians the skeletal age falls behind chronological, which is stronger manifested in Byelorussian girls from longevity population (over 0.5 years). Maturation rates of hand skeleton of Chuvashs and Bashkirs are close to each other and 0.25 years lower than British standards. Significant changes of maturation rates of the hand and