

ANTROPOMETRIC PROPORTIONS AND BODY COMPOSITION IN YOUNG INDIAN AND NIGERIAN FEMALES

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Study objectives. The aim of the study is to establish the constitutional proportions of the axial and appendicular skeleton among female Indian and Nigerian students.

Methods and material. The routine anthropometric measurements among Indian (58 people) and Nigerian (72 people) females (18-21 y.o.) were done. Total body fat percentage was calculated according to the Durnin J., Womersley J. equation (1974) and total body muscular mass according to the Kuczmarski R.J, Flegal K.M. equation (2000).

Data underwent the statistical analyses with the determination of the correlation coefficients. Results. Indian females have more proportional bodies due to the strong correlations between the lengths of their extremities (forearm / hand length rx/y 0.68, hand / total upper limb length rx/y 0.88, foot / total lower limb length rx/y 0.63). In Nigerian females, relative disproportions between the length and width of the extremities were found (width dominates on the upper, length – on the lower limbs).

Obtained data reveals that the Indians have the less body weight, but greater total body fat (12.00% while the Nigerians have 11.19%). Indians were in average shorter than Nigerians by 7.58 cm, they have less body weight, but greater total body fat (12.00% vs the Nigerians 11.19%). Average Indian females accumulate body fat at the upper body (triceps skin folds thicker than in Nigerians in 0.26 cm). Nigerians expose more muscular bodies: total muscular mass of the shoulder girdle in Nigerians is 19.76 kg, in Indians is only 16.02. Total muscular body mass in Nigerians is more than in Indians by 3.49 kg. Total muscular mass in Nigerians negatively (rx/y -0.56) correlates with the body fat percentage and skinfolds' thickness. In Nigerians more subcutaneous fat occurs on the calf, where the skin folds thicker than in Indians by the 0.5 cm.

Conclusion. Indian females have relatively more proportional design of the body due to the presence of the strong correlations between the length of the upper and lower extremities. Nigerian females have disproportions between the length and width of their extremities. Nigerian females have more muscular bodies, while the Indians accumulate more body fat and less muscular mass.