

Sexual maturation type and body structure of girls

Anthropologiai Közlemények 54 (2013), 13–23.

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Abstract: The aims of the study were 1) to characterize sexual maturation in pubertal girls, 2) to demonstrate alterations in body composition of athletes and non-athletes by the level of maturation, 3) to examine differences in somatotypes.

1150 athlete and 1030 non-athlete girls were studied. Breast development was rated according to Tanner's suggestions. Data for menarche were collected by "status-quo" method. Quartiles were used to separate early and late maturers. To obtain body components the Drinkwater-Ross method was applied. Somatotype was determined by the Heath-Carter method.

Athletes ripened later than non-athletes. In both groups late maturers had consistently less relative fat mass and more muscle mass than their early maturing counterparts. Somatotype of early maturing athletes was balanced. Late maturers had meso-ectomorph body build. Non-athletes with early breast development were extremely endomorph. Late maturers were balanced endomorph.

Keywords: Athletes; Sexual maturation; Body composition; Somatotype.