

Bone mineral density in a sample of young Chilean practitioners of different sports [Densidad mineral ósea en una muestra de jóvenes chilenos practicantes de diversas modalidades deportivas]

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Objectives: a) to compare bone mineral density of a sample of young Chilean practitioners of various sports and modalities b) to analyze the bone mineral density function of biological maturation. **Methods:** We studied 146 male adolescents, ranging in age from 10-18 years. Five working groups were organized: Control group (school n = 40), Canoeing (n = 30), Cycling (n = 14), Football (n = 28) and Swimming (n = 34). Weight, height, and trunk-cephalic height were evaluated. Body Mass Index and biological maturation were calculated through years of peak growth rate. Bone mineral density of whole body and percentage body fat was determined by dual energy X-ray absorptiometry (DXA). **Results:** Teens who practiced football showed higher bone mineral density ($1.23 \pm 0.12 \text{ g/cm}^2$) in relation to young cyclists ($0.99 \pm 0.11 \text{ g/cm}^2$), canoeing ($1.09 \pm 0.17 \text{ g/cm}^2$), swimming ($1.10 \pm 0.11 \text{ g/cm}^2$) and control of school ($1.04 \pm 0.14 \text{ g/cm}^2$) ($p < 0.001$). There were differences between the three levels of biological maturation in the four sports modalities and in the control group ($p < 0.001$). Most bone mineral density depending on the somatic maturation was observed in the football players. **Conclusion:** Adolescents who play football showed higher bone mineral density compared to other sports and in relation to the control group. In addition, somatic maturation plays an important role in increasing bone mineral density, especially in football. The results suggest practicing high-impact physical activities before, during and after biological maturation occurs in adolescents of school age. © 2017, Universidad del Norte. All rights reserved.

Adolescents

Athletes

Bone mineral density

Schoolchildren