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Assessment of Bone Mineral Density Using Calcaneal Ultrasound Bone Densitometer in College-Going Boys and Girls of District Gurdaspur, Punjab

Manjula Uppal and Rupinder Kaur

S. L. Bawa D.A.V. College, Batala 143505, Distt. Gurdaspur, Punjab, India
E-mail: slbdavc@yahoo.com

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ABSTRACT Attainment of high bone mineral density in younger age is essential for the maintenance of healthy bones in later years of life to escape the morbidity and economic burden associated with it. The present study was carried out to assess the bone mineral state of 300 young adults in age group 16-23 years using calcaneus quantitative ultrasound bone densitometer. Normal bone mineral density was prevalent in 59.3 percent of urban and 58.2 percent of rural subjects. The subjects consuming non-vegetarian diet (64.8%) were slightly better for their bone density compared to those who consumed vegetarian food (62.9%). Moderately active subjects (34.9%) had lesser number of osteopenia cases in comparison to the ones with low level (38.1%) of physical activity. Maximum number of osteopenia cases were observed in underweight (42.9%) and obese II (50%) categories in boys as well as girls (47.8% and 50% respectively). Female subjects with regular menstrual flow were significantly better for their bone density than the ones who had irregular periods. A marked and significant improvement in bone density was observed in both boys and girls with increase in age. However, 7.1 percent of boys and 23.1 percent of girls in age group 22-23 years were found to be osteopenic.