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Peak Bone Mass Measurement in Iranian Healthy Population

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Abstract:

Background: Osteoporosis is a disabling disease characterized by compromised bone strength, which predisposes a patient to increased risk of fracture. The aim of this study was evaluation the pattern of bone mass in Iranian healthy population. Methods: The study was performed between December 2000 and May 2001 on one thousand three healthy Iranian sub-jects who currently live in Tehran. They were selected randomly by cluster random sampling among men and women of 10-76 yr from 50 clusters. The volunteer people were referred to the Bone Mineral Density BMD unit of EMRC. The partici-pants were recalled for three times and the response rate was 83%. BMD was measured by DXA using Lunar DPX-MD device. Results: Females achieved maximum lumbar BMD up to 25-35. Femur BMD maximized in 30 to 35 and after 45 the inten-sity of bone loss increased. Female peak bone mass in lumbar region was 1.19 ± 0.12 g/cm² and in femur was 1.02 ± 0.12 g/cm². Male peak bone mass in lumbar region occurred between ages 25-40 yr, Male's femur BMD maximized in 20-30. In male peak lumbar bone mass was 1.22 ± 0.16 g/cm² and femur was 1.08 ± 0.15 g/cm². Osteopenia was recog-nized in 50% and 48.8% of women above 50 in spine and total femur, respectively, however these percentages were 37.1% and 34.8% among male subjects. Conclusion: Iranian BMD values sufficiently different from other countries to warrant a separate reference sample with which to compare individuals for the purpose of diagnosing osteoporosis and osteopenia according to the WHO criteria.

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