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The Distribution of Bone Mineral Density in Healthy Women in Tehran

of

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[Keywords](#)

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Abstract: Aim: Correct interpretation of Bone Mineral Densitometry (BMD) measurements requires a population-specific reference range. The aim of this study was to establish Dual Energy X-ray Absorptiometry (DEXA) BMD reference values for healthy women residing in Tehran. Materials and Methods: 566 healthy female volunteers aged 20-40 years from five district areas in Tehran participated in the study. BMD was determined by a LUNAR system. Measurement sites were the spine, femur, leg, arm, pelvis and total body. All measurements were performed by an experienced staff. Prior to each measurement, quality control testing was performed by using the spine phantom of known density. The subject was placed in a technically appropriate position for scanning of each region. Results: Our results showed the spine BMD of Iranian women was about 9.28% higher and femur BMD about 11.9% lower than LUNAR reference values. Peak BMD values for arm, leg, pelvis and total body were 0.7-7% lower than LUNAR reference values. Our values were also different from those of Arab, Caucasian, European, and Turkish women. Conclusions: Diagnosis of osteoporosis and interpretation of BMD in Iranian women should be based on our population-specific reference range. Further studies will clarify the statistical value to use as a BMD reference.

Key Words: DEXA, BMD, osteoporosis, Iranian women

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