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"Bone mass density in normal Iranian population - Shariati Hospital (1996) "

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Abstract:

Introduction: The bone mass density (BMD) may vary in different countries due to different genetic and environmental factors. This study was performed to determine the BMD of the normal population in Iran. **Methods and Materials:** Subjects were selected randomly from different works and social classes in Tehran (from the lowest to the highest). For each decade and sexes, 20 normal subjects were selected (140 men and 140 women). BMD was measured with a Hologic 1000 plus machine by dual energy x-ray absorptiometry (DEXA) method for the lumbar spine (L1, L2, L3, L4, L1-L4) and the femoral neck (neck, trochanter, intertrochanter, ward, total). Data were treated by polynomial approximation (3 rd degree). The obtained curves were compared with the standard Hologic curves for Caucasians. **Results:** In female the peak bone mass (PBM) was 1.019 g/cm² for the lumbar spine and 0.832 for the femoral neck. In male the peak bone mass (PBM) was 0.987 g/cm² for the lumbar spine and 0.907 for the femoral neck. The BMD of both lumbar spine and femoral neck were lower than the Hologic standards. For the lumbar spine the mean difference was 6.5 percent (2 to 21 percent, CI=1) for women and 13.8 percent (2 to 36 percent, CI=1.45) for men. In femoral neck the mean difference was 5.4 percent (2 to 16 percent, CI=0.96) for women and 4.6 percent (1 to 14 percent, CI=0.96) for men. **Conclusion:** The BMD of the lumbar spine and the femoral neck was lower in Iranian compared to the Hologic standards for Caucasians. This was seen in all age groups and in both sexes. It was less pronounced for the PBM in spine was lower in men than woman. The lower BMD of the spine in men was also seen in a cohort of patients with different diseases (inflammatory and non-inflammatory).

Keywords:

[Bone mass density](#) . [Hologic standards](#) . [Absorptiometry](#)

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