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Fruit and Vegetable Intake and Bone Mineral Density in Residents of Villages Surrounding Tehran

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Abstract:

Osteoporosis is a major health problem because of the large health care costs associated with its clinical consequences. It is therefore of great importance to identify modifiable risk factors. We investigated association between fruit and vegetables intake and bone mineral density in rural population of Tehran surroundings. Subjects were a subgroup of a large study on prevalence and causes of vitamin D deficiency in rural population surrounding Tehran, capital of Iran. Fruit and vegetable intake of 82 subjects whose bone mineral density (BMD) was measured and had a 24 hour food recall, was assessed. Weight and height were measured by standard methods. BMD was measured by Dual X-Ray (DXL) (Calscan) method at the heels. Osteopenia and osteoporosis rate in women older than 50 years were 55.5% and 33.3% and in men were 69.2% and 7.7%, respectively. Fruit intake was not correlated with BMD. Vegetable intake was positively associated with BMD just in women. According to interquartile range of vegetable intake women were grouped as those consuming less than 1.5 servings of vegetables per day and those consuming more. The women reported consuming more than 1.5 serving of vegetables had significantly higher T-score (-1.1±0.8 compared with -1.9±1.0, P<0.01). Those consumed more vegetables had high intake of some nutrients such as vitamin C, vitamin A, potassium, magnesium, zinc, folate, iron, sodium, calcium and phosphorus but none of them except for vitamin A (r= 0.03, P<0.05) was correlated with BMD. High consumption of vegetables positively affected bone mineral density in rural women and daily intake of at least 1.5 servings of vegetables could positively affect osteoporosis prevention.

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