

Effects of Dried Plum (Prunes) on Bone Density and Strength in Men

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Objectives: Traditionally, osteoporosis has been viewed as a disease mostly affecting women, but cases in men are increasing. Fractures due to osteoporosis can lead to a decreased quality of life in vulnerable populations and lead to increased mortality in men. Although several studies of male and female animals and adult women have demonstrated bone protective effects of dried plum (prunes), no human study has evaluated the effect of dried plum on bone health in men. The objective of the current study was to examine the long-term effects of 100 g dried plum on bone density and strength in men.

Methods: Sixty-six men (50–79 years old) were randomly assigned into two treatment groups for 12 months: (1) 100 g/day of dried plums; (2) control (0 g/day dried plum). Bone mineral density was measured at baseline, 6- and 12-months at the total body, hip, lumbar spine, and ulna

via dual-energy x-ray absorptiometry (DXA). Evaluation of volumetric bone density and strength of the left tibia occurred at baseline, 6- and 12-months using peripheral quantitative computed tomography (pQCT).

Results: There were no statistically significant changes in bone mineral density (BMD) from baseline to 6 months and 12 months for total body, spine (L1-L4), right and left hip BMD in the control group (0 g/day dried plum) or 100 g/day dried plum group. Modest beneficial effects of dried plums were observed for changes in bone geometry as detected by pQCT including a tendency for BMD to increase as well as increases in periosteal and endosteal circumferences at the 66% region of the tibia, which may promote greater bone strength.

Conclusions: Dried plums have the potential to improve bone morphometry of the proximal tibia in healthy adult men when consumed for 12 months. Future studies should examine the impact on men with low bone density to further evaluate the bone protective effects of dried plum in male populations.

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