

ORIGINAL RESEARCH COMMUNICATION

Tea drinking is associated with benefits on bone density in older women^{1, 2, 3}

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Background: Impaired hip structure assessed by dual-energy X-ray absorptiometry (DXA) areal bone mineral density (aBMD) is an independent predictor for osteoporotic hip fracture. Some studies suggest that tea intake may protect against bone loss.

Objective: Using both cross-sectional and longitudinal study designs, we examined the relation of tea consumption with hip structure.

Design: Randomly selected women ($n = 1500$) aged 70–85 y participated in a 5-y prospective trial to evaluate whether oral calcium supplements prevent osteoporotic fractures. aBMD at the hip was measured at years 1 and 5 with DXA. A cross-sectional analysis of 1027 of these women at 5 y assessed the relation of usual tea intake, measured by using a questionnaire, with aBMD. A prospective analysis of 164 women assessed the relation of tea intake at baseline, measured by using a 24-h dietary recall, with change in aBMD from years 1 to 5.

Results: In the cross-sectional analysis, total hip aBMD was 2.8% greater in tea drinkers (\bar{x} : 806; 95% CI: 797, 815 mg/cm²) than in non-tea drinkers (784; 764, 803 mg/cm²) ($P < 0.05$). In the prospective analysis over 4 y, tea drinkers lost an average of 1.6% of their total hip aBMD (-32 ; -45 , -19 mg/cm²), but non-tea drinkers lost 4.0% (-13 ; -20 , -5 mg/cm²) ($P < 0.05$). Adjustment for covariates did not influence the interpretation of results.

Conclusion: Tea drinking is associated with preservation of hip structure in elderly women. This finding provides further evidence of the beneficial effects of tea consumption on the skeleton.

Key Words: Tea drinking • cross-sectional study • prospective study • bone mineral density • fracture • elderly women

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