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Coffee consumption, bone mineral density and incidence hip fracture in Icelandic community dwelling adults

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High consumption of coffee has been suggested to reduce the risk of some late-onset diseases and death [1,2] but also to contribute to the development of osteoporotic fractures [3]. Results of previous studies have been inconsistent [4]. The aim of this study was to investigate associations between coffee consumption and bone mineral density (BMD) and hip fracture incidence.

A prospective study of 4831 Icelandic older adults from the AGES-Reykjavik study was conducted. Participants underwent a detailed clinical examination including BMD measurement at baseline (2002–2006). Hip-fracture cases were then identified through hospital records over a mean follow-up of 7.4 years.

Mean age of the participants at baseline was 76.3 years. Frequent coffee consumption (>6 cups per day) was related to significantly lower BMD at baseline both in men (-13.2 ± 5.4 mg/cm³) and in women (-32.2 ± 5.6 mg/cm³) in an age corrected analysis when compared to ≤ 1 cup/day.

Of male participants 5.7% and of female participants 11.6% suffered from hip fracture during the follow up period. Coffee consumption was not related to fracture risk in men, but in women, high consumption (>6 cups per day) predicted increased hip fracture risk (HR = 2.1; 95%CI = 1.2–4.0; P = 0.016) when compared to ≤ 1 cup/day. Statistical correction for medication, socioeconomics, nutrition and physical activity did not change the results.

Our study indicates that excessive coffee consumption is associated with poorer BMD in both sexes and predicts incidence hip fracture risk in women.

to the study of nutrition, promotes emerging strategies and their potential impact upon nutritional research.

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