DOI: 10.4274/gulhane.galenos.2022.50490
Gulhane Med J 2023;65:63-4

Comment on "Caffeine intake and bone mineral density in postmenopausal women"

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Date submitted:
13.09.2022
Date accepted:
08.12.2022
Online publication date:
15.03.2023

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Keywords: Caffeine, postmenopausal osteoporosis, femur, fracture, women

Dear Editor,

Reading the manuscript by Adıgüzel and Köroğlu (1) titled "Caffeine intake and bone mineral density in post-menopausal women", I realized that the average consumption of caffeine in their population was 229.7±119.5 mg, and more than one-third of their patients were classified "high consumers". The authors identified that the mean femoral neck T-score was significantly lower among high caffeine consumers, with the amount of daily caffeine intake showing a negative and moderate correlation with femoral neck T-scores.

Emokpae and Brown (2) have defined caffeine as a stimulant in many beverages affecting the reproductive system, interrupting fertilization and implantation, with several other studies mentioning its adverse effects, and as a compound without a universally accepted "safe dose" for humans. They also mentioned high-caffeine energy drinks being increasingly popular, and the withdrawal symptoms after cessation of caffeine, such as headaches, nausea, and irritability.

Berman et al. (3) concluded that caffeine exerts various biological effects that may adversely affect bone mineral density, possibly by competitive inhibition of adenosine A2 receptors and inhibition of vitamin D receptor activity, increasing osteoporosis and fracture risks in older adults, especially among post-menopausal Caucasian females consuming 2 or more cups of coffee daily.

Adıgüzel and Köroğlu (1) have suggested that the major strength of their study was the assessment of caffeine consumption by an experienced dietician, making their data more valuable. It has been shown that countries consuming the highest amount of caffeine have the highest incidences of both osteoporosis and hip fractures worldwide (3).

Encouraging women, particularly in the postmenopausal period, to follow and control their daily caffeine intake may protect them from hip fractures and possibly from other osteoporotic fractures. The amount of caffeine in commercially available drinks is provided by the suppliers either on the product label or on the internet. There are already useful mobile phone applications to follow caffeine intake.

The economic cost of hip fractures has been reported as an important issue in developed countries, even estimated to be higher than that of other diseases with high disabling potential, such as Parkinson's disease, rheumatoid arthritis, and stroke. The costs increase substantially when additional expenses of work loss and rehabilitation are added (4).

The work by Adıgüzel and Köroğlu (1) is appreciated for emphasizing the need for improving public awareness of the potential risks of high caffeine intake from a different view. In this context, follow-up of daily caffeine intake and taking reasonable amounts are warranted especially for post-menopausal women, with the hope of reducing the overwhelming cost of hip and other fractures on health expenditure worldwide.

Ethics

Peer-review: Internally peer-reviewed.

Financial Disclosure: The author declared that this study received no financial support.

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