No association between SSRIs and, change in, BMD in an ambulant middle-aged and older population

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Objective

• To study the associations between use of selective serotonin reuptake inhibitors (SSRIs) and femoral-neck bone mineral density (fn BMD), and the change in fn BMD within a population-based cohort of middle-aged and older men and women.

Background

• SSRI are assumed to play a role in bone metabolism via the modulation of serotonin levels.
• Longitudinal studies showed conflicting results regarding the association between use of SSRIs and change in BMD.
• Previous studies used interview data to determine SSRI use.

Conclusion

Our results suggest that SSRIs are not associated with lower BMD or a stronger loss of BMD in men and postmenopausal women.

Methods & Results

Study population

• The Rotterdam study cohort 1 (n=4,608)
• Participants aged ≥ 55 years
• 4 follow-up visits with fn BMD data

Exposure

• SSRIs (pharmacy dispensing data)

Outcome

• fn BMD at the visits (n=14,389)
• Annual % change in fn BMD (n=7,170)

Statistics

• Linear mixed models
• Covariates: age, (Δ) BMI, alcohol intake, smoking, (Δ) lower-limb disability score, thyroid and glucocorticoid medication use.

Results

• Current SSRI use was not associated with BMD, when compared to non-use, in both men and women (figure 1).
• SSRI use between two consecutive visits was not associated with change in BMD over time in men and women.
  • Women: -0.092% annual decline in BMD in SSRI users compared to non-users (95% CI -0.220; 0.036, p=0.16).
  • Men: -0.051% annual decline in BMD in SSRI users compared to non-users (95% CI -0.269; 0.168, p=0.65).

Figure 1. Association between current SSRI use and mean femoral-neck BMD in men and women.

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