

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

A.C. Ham MSc^{1*}, N. Aarts MSc^{1,2*}, R. Noordam MSc^{1,2}, F. Rivadeneira MD PhD¹, G. Ziere MD PhD^{1,2}, M.C. Zillikens MD PhD¹, H. Tiemeier MD PhD^{2,4,5}, N. van der Velde MD PhD^{1,3}, A. Hofman MD PhD², A.G. Uitterlinden PhD^{1,2}, L. E. Visser PharmD PhD^{1,2,6}, B.H. Stricker MMed PhD^{1,2,7}

Contact: a.ham@erasmusmc.nl

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).

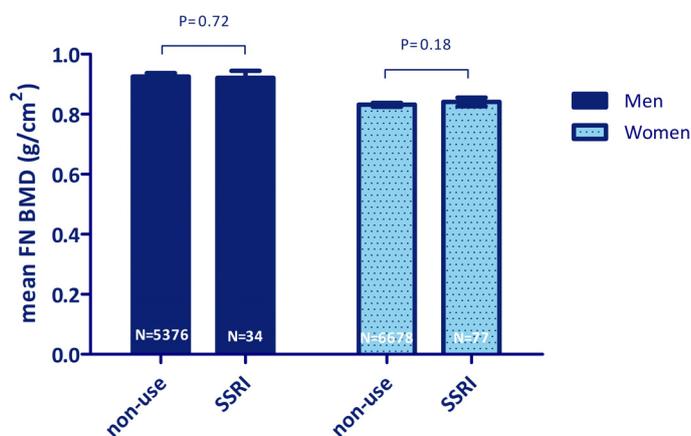


Figure 1. Association between current SSRI use and mean femoral-neck BMD in men and women.

Affiliations:

1. Department of Internal Medicine, Erasmus MC, Rotterdam, the Netherlands. 2. Department of Epidemiology, Erasmus MC, Rotterdam, the Netherlands. 3. Department of Internal Medicine, Academic Medical Centre, Amsterdam, the Netherlands. 4. Department of Psychiatry, Erasmus MC, Rotterdam, The Netherlands. 5. Department of Child and Adolescent Psychiatry, Erasmus MC, Rotterdam, The Netherlands. 6. Apotheek Haagse Ziekenhuizen, HAG, The Hague, The Netherlands. 7. Inspectorate of Health Care, the Hague, The Netherlands