Methods

Data sources: MEDLINE and the Cochrane Controlled Trials Register (1960 to February 2004), EMBASE/Excerpta Medica (1991 to February 2004), and the American Society for Bone and Mineral Research conference abstracts (1995–2002); bibliographies of relevant studies; and experts in the field.

Study selection and assessment: randomised controlled trials (RCTs) that compared prophylactic use of any type of vitamin D with a control condition in community-dwelling or institutionalised older people (mean age of study participants had to be ≥60 y) and included a methods section that stated how falls (the outcome) were defined and ascertained. Individual study quality was assessed using specified criteria that included allocation concealment, blinding, and withdrawals.

Outcomes: low-trauma falls defined as unintentionally coming to rest on the ground, floor, or other lower level.

Main Results

5 RCTs (n = 1237) (mean age 70 y, 81% women) met the selection criteria. Comparisons included cholecalciferol (800 IU/d) plus calcium (1200 mg/d) with calcium (1200 mg/d) (2 RCTs); cholecalciferol (400 IU/d) plus calcium (800–1000 mg/d) from dairy products with placebo (1 RCT); calcitriol (0.5 μg/d) with placebo (1 RCT); and 1α-calcidiol (1 μg/d) with placebo (1 RCT). Meta-analyses using fixed and random effects models showed that fewer participants in the vitamin D group than in the control group had ≥1 fall (table). Furthermore, a sensitivity meta-analysis of the 10 “potentially appropriate for inclusion RCTs” (n = 10 001) showed that fewer participants in the vitamin D group than in the control group had ≥1 fall (relative risk reduction 13%, 95% CI 4 to 20).

Conclusion

Prophylactic use of vitamin D is effective for reducing falls in older people.

A modified version of this abstract appears in ACP Journal Club.