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## LETTERS



## PREVENTING FALLS IN OLDER PEOPLE IN THE COMMUNITY

# Vitamin D supplements do not prevent falls

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In their state of the art review on falls, Vieira and colleagues conclude that the strategy of supplementing calcium and vitamin D reduces the risk of falls,<sup>1</sup> but their conclusion is based on contradictory evidence. They cite two meta-analyses from 2009 and 2010 of seven and nine trials, respectively, which reported that vitamin D reduced falls, but another from 2012 of seven trials that reported no such reduction in falls.

These analyses have been superseded. Meta-analyses now include 23 trials of >30 000 participants and report no effect of vitamin D, with or without calcium supplements, on falls (relative risk 0.98, 95% CI 0.94 to 1.02; P=0.25).<sup>2</sup> These results reliably exclude a clinically important 10% reduction in falls from vitamin D supplementation.<sup>3</sup> Similar data show that vitamin D, with or without calcium, does not reduce total fractures by 10%,<sup>4</sup> although co-administered calcium and vitamin D prevented hip fractures in two trials in frail elderly women living in residential care.<sup>5</sup>

The interpretation of meta-analyses of vitamin D is fraught with problems. There are more than 50 meta-analyses published on vitamin D, with or without calcium, and falls or fracture. Comparison of these meta-analyses highlights important differences in trial selection, outcome definition, and analytical methods that lead to markedly different conclusions between them.<sup>6,7</sup> The best available evidence from recent meta-analyses,

which include data from all available trials analysed in a standard intention to treat manner, is that vitamin D supplementation does not prevent falls.

Competing interests: We have published and analysed meta-analyses of vitamin D on falls and fractures.

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