Medications and osteoporosis in the community - some missing, some inappropriate

FRI0397

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Introduction

As the population ages, the prevalence of osteoporosis and fractures increases. Medications form part of the treatment for osteoporosis however some may be missing (that is medications not taken), while others may be inappropriate. The aim of this study was to determine the prevalence of osteoporosis and medication use in a population-based cohort study conducted in Australia, the North West Adelaide Health Study.

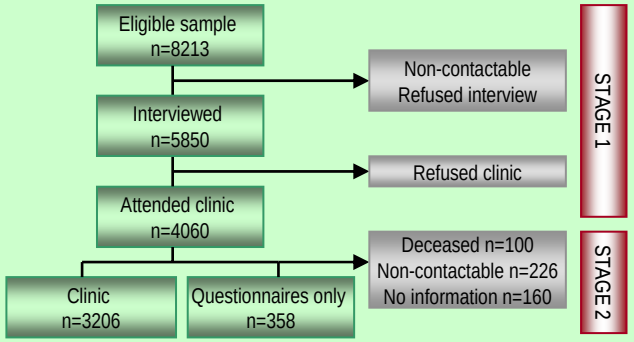
Methods

Stage 1

In Stage 1, all households within the north west region of Adelaide with a telephone connected and the telephone number listed in the Electronic White Pages were eligible for random selection. Within each household, the person who had their birthday last and was aged 18 years or older, was selected for interview and invited to attend the study clinic. Of those interviewed (n=5850), 69% participated in the clinic visit (n=4060). Data were obtained from self-reported questionnaires and biomedical measurements.

Stage 2

Of the 4060 participants in Stage 1, 100 had died, leaving 3960 to be contacted, of which 81% (n=3206) attended the Stage 2 clinic.



Osteoporosis and Medications

The self-reported prevalence of osteoporosis and falls were collected using a Computer Assisted Telephone Interview (CATI) survey and fracture information from the self-completed questionnaire. All medications that participants were taking, including complementary and alternative medicines, were recorded at the clinic visit. Those aged 50 years and over, who attended the clinic were offered the opportunity to have a DXA scan.

Results

There were n=3502 participants who responded to the CATI component of the study. Overall, there were 3.8% (95% CI 3.2-4.5) and 8.8% (95% CI 7.5-10.4) of those aged 50 years and over, reported that they had been told by a doctor that they have osteoporosis.

Among respondents who had a fracture as a result of a fall from a standing height or less in the last five years, 16.8% (95% CI 12.2-22.6) had been told by a doctor that they had osteoporosis and 12.0% were on benzodiazepines, medications that are known to increase the risk of falls.

Of the participants who underwent a DXA scan, 3.6% (95% CI 2.6-4.9) had osteoporosis as defined by a T-score of -2.5 or less and 15.0% (95% CI 13.0-17.3) were osteopenic (T-score less than -1.0 and greater than -2.5). Of the participants 50 years and over with self-reported osteoporosis, who had a DXA scan, only 9.0% had a bone mineral density in the osteoporotic range.

Of those reporting that they had been told they have osteoporosis, 43.9% used bisphosphonates, with alendronate the most commonly used (65.4%, Figure 1).

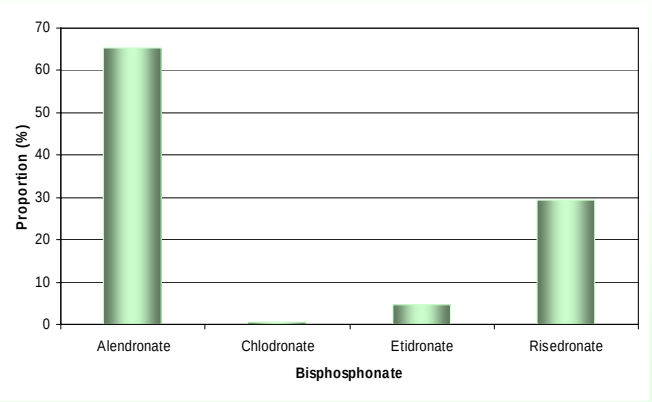


Figure 1. Proportion taking each type of bisphosphonate

However, only 12.1% of those stating they had osteoporosis and taking a bisphosphonate also took both calcium and Vitamin D. Of those with osteoporosis and taking a bisphosphonate, 31.4% were also taking proton pump inhibitors which might suggest gastroesophageal problems and 44.9% had renal disease (using the Cockcroft-Gault equation to calculate the glomerular filtration rate (GFR), with renal disease defined as an estimated GFR of less than 60 mL/min per 1.73m2).

Conclusions

Medication is an important part of osteoporosis treatment and fracture prevention, although among those whose doctor had told them they had osteoporosis and those who had suffered a minimal trauma fracture, opportunities to use appropriate medications were missed and inappropriate medications were used.