

Methods

As part of a multifaceted therapeutic program on the treatment and prevention of osteoporosis, a clinical audit was offered to General Practitioners (GPs) from August to October 2007. Data on fracture risk assessment, risk factor management, drugs used and adherence were collected. Patients were excluded if they did not have a known bone mineral density (BMD) T-score.

Results

Data from 627 GPs and 12 654 de-identified patients was analysed. Most patients in this clinical audit (62%) had a comprehensive assessment completed for risk of fragility fractures or osteoporosis. The use of anti-osteoporotic drug therapy when indicated to prevent or treat osteoporosis was high, averaging 82% (see Table 1). Assessment of dietary calcium intake and risk of vitamin D deficiency was also high at 67% and 94% respectively. However adequate calcium intake (diet and/or supplement) was achieved in less than 30% of women aged over 50 and men over 70 years. GPs reported 78% of patients taking an oral bisphosphonate were educated on its correct administration. GPs had used at least one strategy to improve or maintain medication adherence in 69% of patients (see Table 2).

Table 1. Use of anti-osteoporotic drugs when indicated

Use of anti-osteoporotic drug therapy in patients with osteoporosis (BMD T score ≤ -2.5) with or without a history of fracture	85% 5242 / 6151
Use of anti-osteoporotic drug therapy in patients with osteopenia (BMD T-score ≤ -1.0 to -2.4) with a history of fracture	80% 2235 / 2809
Use of anti-osteoporotic drug therapy in patients using long-term (> 3 months) high dose (> 7.5 mg) systemic glucocorticoids with a BMD T-score < -1.5 and who are postmenopausal women or men > 65 years	81% 892 / 1108

Table 2. Modifiable risk factors

A comprehensive risk assessment completed for fragility fractures or osteoporosis (including age, gender, fragility fracture history, BMD, family history, glucocorticoid use, coexisting conditions, vitamin D status and calcium intake)	62% 7778 / 12654
Relevant strategies used to address modifiable risk factors e.g. regular exercise, reducing falls risk, review of medications	68% 5272 / 7757
At least one strategy used to improve or maintain adherence to drug therapy (e.g. use of memory aids, simplifying drug regime)	69% 7109 / 10364

Figure 1. Use of anti-osteoporotic drug therapy (n = 10 048)

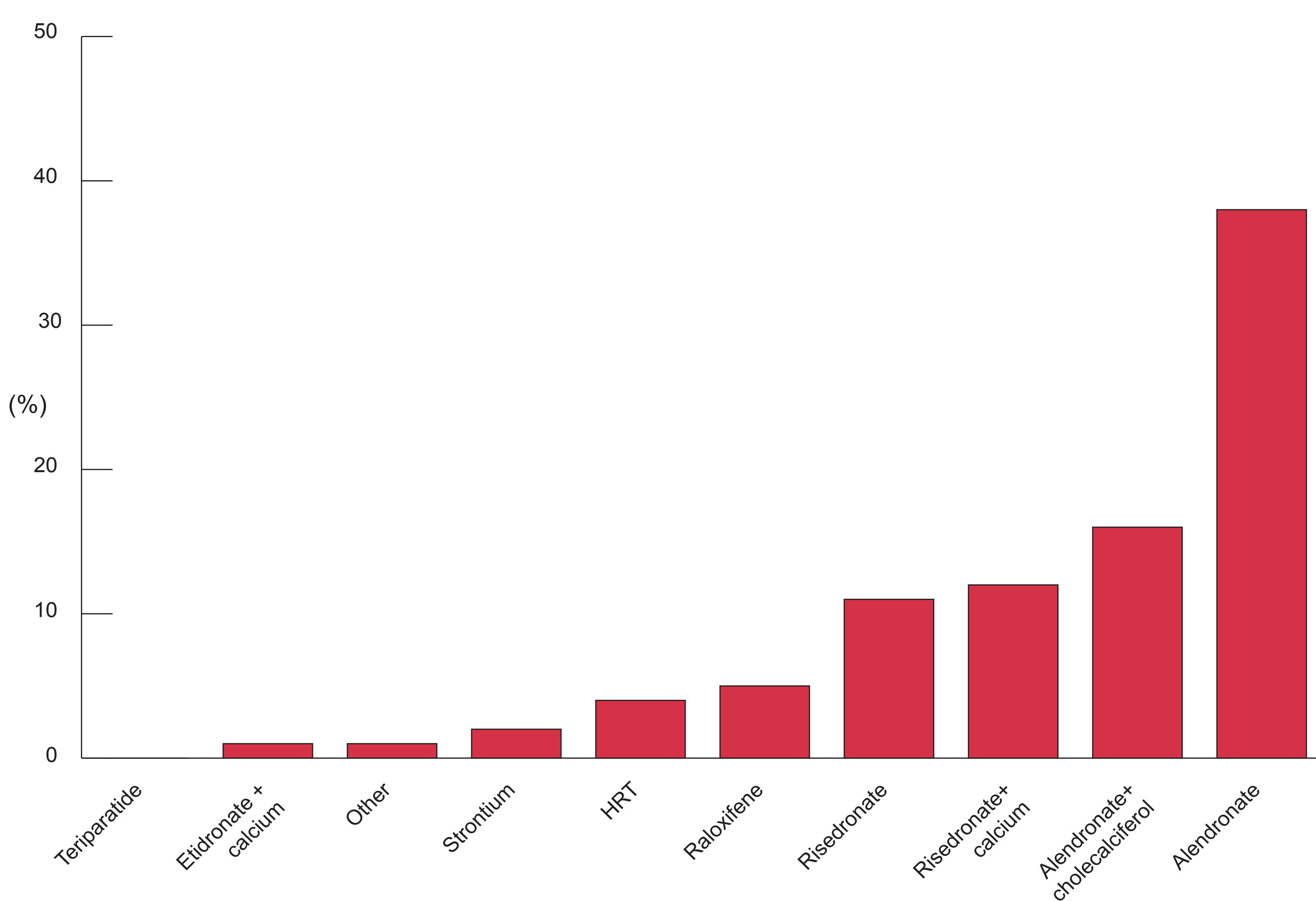
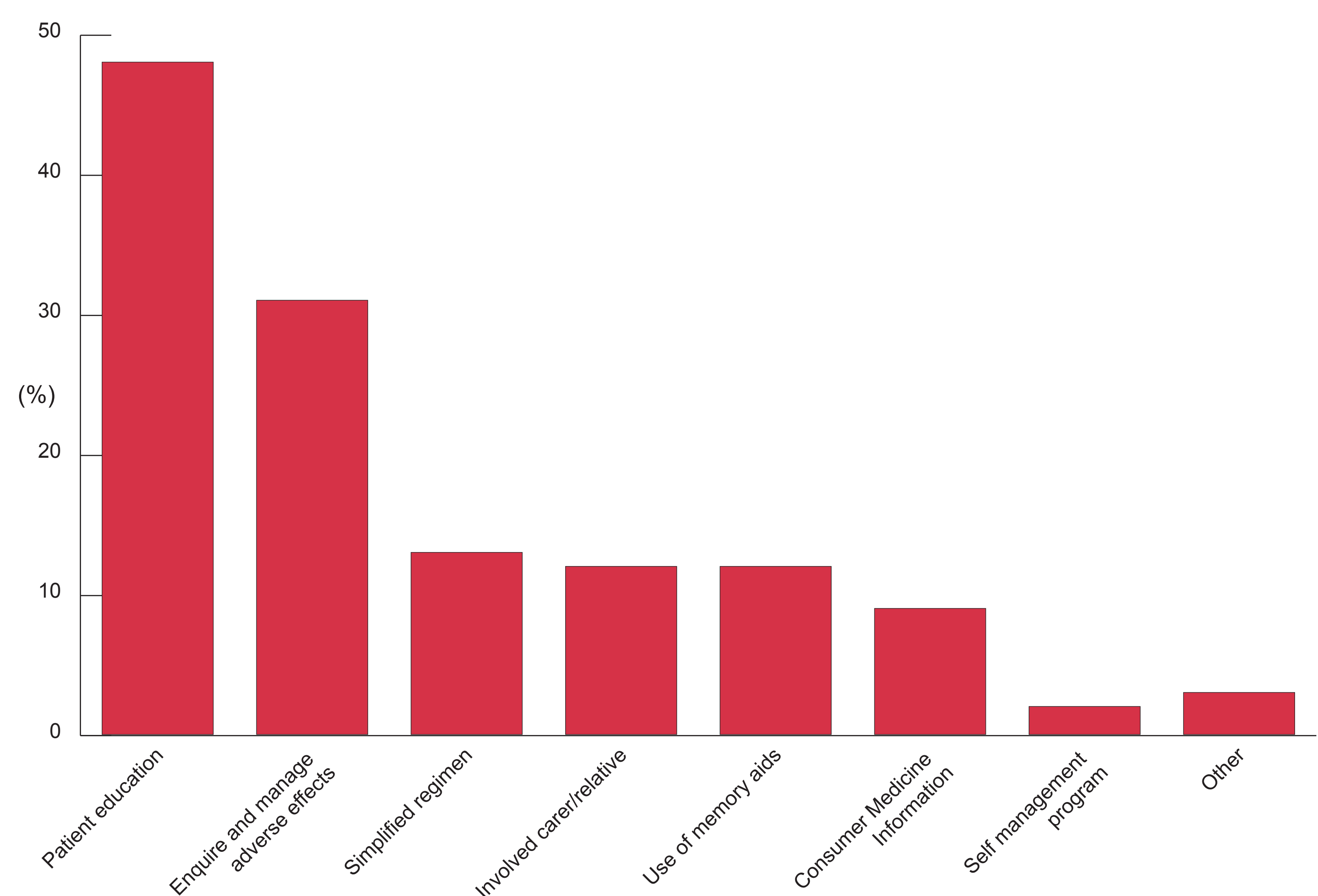


Figure 2. Strategies to improve or maintain adherence (n = 10 364)



Addressing modifiable risk factors

Vitamin D deficiency reduces calcium absorption and increases the risk of osteoporosis, falls and fractures, especially in the elderly.³ However only 43% of patients identified as having moderate to severe deficiency in this audit were using a sufficient maintenance dose of vitamin D supplement to correct the deficiency (1000 IU or 25 micrograms/day).

A recent review of the literature concluded that falling, not osteoporosis, is the strongest single risk factor for fractures in elderly people.⁴ Reducing falls risk in those with a history of recurrent falls was a common strategy (78%) used or planned for these elderly patients; however medication review was less commonly employed at only 35%. Medications such as hypnotics, antipsychotics and analgesics contribute to overall falls risk in the elderly.

Improving adherence to osteoporosis therapy can improve BMD scores and lower the rate of fractures. 88% of patients had adherence to drug therapy assessed and patient education was the most common supportive strategy used to improve or maintain medication adherence (see Figure 2).

Conclusions

This clinical audit suggests a high rate of appropriate prescribing of anti-osteoporotic medication in patients most at risk of osteoporotic fracture:

- low BMD (T-score ≤ -2.5)
- previous fragility fracture
- patients on long-term systemic corticosteroids

However this represents a sub-group of the population who have had a BMD investigation. Even in this high risk group, it appears that ensuring adequate calcium intake remains a gap in best practice.

References

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