Medication reviews should be part of a multifactorial falls risk assessment for older people who have fallen or who are at risk of falls

Do prescribed medicines affect falls risk?

In this article...

- New evidence on the association between the use of medication and falls
- Commentary on this evidence and its implications for practice

Falls and fall-related injuries are a common problem for older people. Many factors can increase the risk of falls and fractures including commonly prescribed medications. The association between medication use and falling is well documented (National Institute for Health Care Excellence, 2013).

**New evidence**

A Swedish population-based, case-controlled study has reconsidered the risk of falls associated with commonly prescribed medicines (Kuschel et al, 2014). A national population register was used to identify people aged 65 years or older who sustained a fall injury requiring hospitalisation in the period between 1 March 2006 and 31 December 2009. Records from the national drug register were reviewed to identify prescribed and dispensed drugs from 20 common medications during the 30 days prior to hospital admission. The prevalence of the 20 most commonly prescribed and dispensed medicines was higher among older people who had been admitted to hospital for a fall injury than in the control group.

Most medications showed a positive association with fall injuries, with the exception of the majority of cardiovascular medications, oestrogens, glucose-lowering drugs, thyroid preparations, NSAIDs in males and constipation drugs in females. Central nervous system drugs all showed a statistically significant increased risk of falls. The association was greatest with opiates, antidepressants, hypnotics and sedatives and other analgesics and antipyretics.

An association with increased risk of falls was also reported with vitamin B12 and folic acid, high-ceiling diuretics (for example, loop diuretics such as furosemide), calcium supplements, drugs for peptic ulcer and antithrombotic agents. Among females, a slightly protective effect was observed for thiazide/low-ceiling diuretics.

**Commentary**

Although the results of this study are based on observational data, which is subject to bias, it found that around half of the 20 most commonly prescribed medications were associated with a higher risk of serious fall injuries in older people. The authors state that, although previous studies have documented the increased risk of fall injuries with central nervous system drugs, high-ceiling diuretics and constipation drugs, this study is unique in that assessments were made in the same population and focus on falls with potentially serious consequences, leading to hospitalisations.

A limitation is that, in an observational study, observed differences in outcomes may be due to differences among the patients, not only the different treatments. The authors did attempt to adjust for several confounding factors. For example, they adjusted for comorbidity, number of medications dispensed, level of education and civil status. However, they acknowledge that residual confounding may still remain. In particular, specific information about comorbidities and the indication for prescription was lacking and no information on over-the-counter or hospital prescribed medicines, drug interactions and adherence to treatment was collected.

The authors suggest that for several drugs the positive association seen with a risk of fall injury may be due to the contribution of underlying disease. For example, it is possible that the increased risk associated with older people taking calcium might be due to the fact that it is prescribed for people with osteoporosis who have a higher risk of serious injury from falling.

In clinical practice, it is important to carefully weigh up the risks of falls and other adverse effects against the benefits when prescribing medicines to older people. Despite its limitations, this study reinforces the NICE (2013) clinical guideline on assessment and prevention of falls in older people, which recommends medication review as part of a multifactorial falls risk assessment for older people who have fallen or who are at risk of falls. NT

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**References**


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