Reviewer's report

Title: Falls and fall risk-increasing drugs: A cross-sectional study among elderly patients in primary care

Version: 1 Date: 22 October 2013

Reviewer: Michael Denkinger

Reviewer's report:

For a better format see doc attached

1. Is the question posed by the authors well defined?
   Yes

2. Are the methods appropriate and well described?
   Not all methods, please refer to details below

3. Are the data sound?
   Yes

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
   Yes, data are in total presented in a clear fashion

5. Are the discussion and conclusions well balanced and adequately supported by the data?
   No, please refer to details below

6. Are limitations of the work clearly stated?
   Yes, but not the most important ones, please refer to details below

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
   Yes

8. Do the title and abstract accurately convey what has been found?
   Yes

9. Is the writing acceptable?
   Yes!

OVERALL: Nicely written paper. The strength is the well conducted medication history. However there are some problematic (and as I consider vital) limitations that don’t allow to really draw the conclusion that the authors would like to: falls are associated with FRIDs from the Swedish NBHW list.
In Detail:
Type of comment Comments

Abstract:
Minor The conclusion cannot be made: “would improve the quality of drug treatment in primary care”. Only with regard to the outcome studied, but not in general. Patients could suffer from severe depression or psychotic pathology and might experience better QOL with the prescribed FRIDs.

Background:
Minor The statement “no consensus definition of falls” cannot be made. What is a consensus definition? In a strict interpretation probably the whole scientific community would have to agree on some kind of consensus. The presented consensus is indeed one and should be cited from the Profane group: Lamb S, Jørstad-Stein EC, Hauer K, Becker C. On behalf of the Prevention of Falls Network Europe and Outcomes Consensus Group. J Am Geriatr Soc 2005;53:1618-2 and not from Merck Manual
Minor ODs not explained (only in abstract) and from the intro it is not clear why the differentiation between ODs is made in the analysis as they are just another FRID?

Methods
Major I do not see comorbidity or some sort of indication/disease as an independent parameter that has been controlled for? This is the big issue with medication data: is it the disease (e.g.) depression or the FRID that causes the fall?

Results
Table 2 –
Major Any geriatric assessment? There seems to be a rather high comorbidity, frailty and disability with respect to the setting and the high number of falls but we don’t really know? ADLs? Cognition? Gait speed or timed up and go?

Presentation issues
Minor Fig 3 should be following table 1 as it gets into detail of what kind of medication and its prevalence
Minor Fig 1-2 should rather precede table 3 or be omitted because – although less impressive – no of FRIDs has been shown to be associated with falls in table 3

General aspects
Major Wouldn’t it be interesting to test what kind of FRID really drives the associations? You have high numbers of falls and FRIDs; too little power? At least in a bivariate fashion presented as a figure (instead of fig 1-2)
Major What about dosage? Zolpidem 3.5mg is different from 7mg, the same might account for other drugs, especially ODs which again might explain the missing associations: i.e. Metoprolol <50mg versus 200mg defined daily dosage? You could rate the drugs according to high, medium, low dosing to get a deeper understanding of your total findings.

Discussion

Minor Info on not merging FRIDS and ODs should appear in the methods and background.

Major Here the main problem of the study is nicely discussed: no information on comorbidity. Is there no possibility to get hold on that? At least some geriatric assessments? Otherwise it could also only be some kind of frailty syndrome associated with the number of FRIDS that drive the association.

Limitations

Major I do not see why a fall risk assessment tool would have improved interpretation of the data. It’s the other missing factors discussed above: no data on comorbidity/function/Frailty/activity (should be in the limitations)

Major Further limitations: cross-sectional; falls only addressed by patients report, no prospective fall calendar

Conclusion

Minor See my comment above (OVERALL and abstract)

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests