Reviewer’s report

Title: Prevalence of Potentially Inappropriate Medication Use in Older Drivers

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Reviewer: Petra A. Thürmann

Reviewer's report:

The authors describe an interesting analysis of medication use in older drivers. They focus on the use of PIMs, drugs, which should be avoided in elderly persons, due to different reasons. Some PIMs do have negative effects on vision, cognition, others on blood pressure, falls etc. For PIM selection the 2015 version of Beers criteria have been chosen, which is appropriate für the US drug market and for the time frame of analysis.

In the Methods section it is explained, that a number of PIMs could not be applied due to missing information, usually clinical data, correct diagnoses, lab values etc. In order to fully understand a table should be give, where exactly the PIMs which could be applied, or the PIMs which could not be applied, are listed. Otherwise the percentage of PIMs cannot be compared with other papers, where the full set of Beers criteria could be used.

In addition, some PIMs should be applied for a more detailed analysis, i.e. PIMs with the potential for an influence of driving ability. It is clear that sedatives, sedating antihistamines do have an influence on driving ability, however, estrogen patches clearly not. NSAIDs will most likely not impair the driving process, unless an acute gastrointestinal ulceration occurs during a drive. As a support the drug burden index may give a more relevant picture on inappropriate medications when driving than the overall Beers list.

The most pronounced difference, namely between sexes, bases on the use of estrogens. This explains in addition, why the inclusion of estrogens as "PIMs" does not make sense for this analysis. In many other studies sex-differences in PIM use are described, but because women take mor sedatives and antidepressants (and NSAIDs). This should be analysed in the dataset.

In the discussion the percentage of PIM use is compared with other studies. It would be interesting to see, if PIM use is associated with more accidents. However, for this analysis PIMs should be specified into those with a potential for impairing driving ability and those which do not.
Are the methods appropriate and well described? 
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls? 
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown? 
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review? 
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

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