Reviewer's report

Title: Insights into the clinical management of the syndrome of supine hypertension - orthostatic hypotension (SH-OH): The Irish Longitudinal Study on Ageing (TILDA)

Version: 2  Date: 16 April 2013

Reviewer: Ruth Peters

Reviewer's report:

Major compulsory revisions

1. The question is well defined in that it is clearly based on previous work generating a morphological classification of Orthostatic Hypotension (OH). What is less clear is how the classification was generated, how it compares to this population and more generally the characteristics of the population under study in these analyses.

2. Much more explanation needs to be provided with regard to the K-means cluster analysis used, how it is used etc. For example, are cut-off values used to generate the groups or does the method separate out the groups? If the latter, how can you be sure that you truly are finding the same three categories? How will this translate clinically into a way to potentially identify those in each category?

3. With regard to the population, it seems that those who were unable to attend the clinic were excluded? Is this the case and did they differ from those who did attend? Also were partners included in these analyses and if so were they different in age as they were allowed to be lower than the minimum age at entry.

4. Would it be possible to add a flow chart showing the inclusion and exclusion of participants at the different time points, the reasons for exclusion and the numbers included in the analyses? There were 8175 participants >50 and 4467 were analysed so this would be very helpful.

5. Would it be possible to have the baseline characteristics for those who were not included in these analyses – it would be interesting to see whether these people were older/had higher blood pressure etc:

6. Would it be possible to add ranges to the existing table – particularly for age?

7. Given the numbers involved would there be any gain in combining the cardiovascular medications?

8. The average age is quite young at 61-64. Given that this may be something that is more relevant in older adults is it possible to rerun the analyses in those >80 versus those >=80, or 75, or even 70? The younger adults may be diluting an age related effect.

9. It seems odd the OI was less likely to be reported by females and at advancing age – can this be explored further?
10. Please discuss the limitations of this study in greater depth, particularly the population characteristics. Given the age of participants conclusions about older patients should be drawn with care, see in particular the conclusions given in the abstract.

11. In addition as these analyses are cross sectional they are subject to usual issues of extrapolation of association and this should at least be stated in the discussion.

12. With regard to the antihypertensive trials, is there a reason for selecting Syst-Eur, CONVINCE and VALUE? There may be better references for this also, if not to the trial results themselves then to systematic reviews. For example there is a Cochrane review looking at antihypertensive treatment in the elderly.

13. In the conclusion paragraph you mention the potential for the development of guidelines in this area – it would be useful if the clinical application could be further explored earlier. How might clinicians identify such patients in a typical clinic setting?

Minor essential revisions

None

Discretionary revisions

None

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests (Ruth Peters)
I declare that I have no competing interests (Nigel Beckett)