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: 10 April 2013

Reviewer: Michael R Rockwood

Reviewer’s report:

In this interesting, well-written report from the inception cohort of the well-known TILDA investigation, Romero-Ortuno and colleagues (and Professor Rose Anne Kenny as senior author) describe orthostatic hypotension and its correlates in a representative sample of community-dwelling older adults. Its aims were to operationalize the morphological classification of orthostatic hypotension in a larger population, and to inform further longitudinal TILDA studies on orthostatic hypotension and orthostatic intolerance.

Major revisions:

1. Clearly this paper has associated many individual factors with orthostatic hypotension. Given that this is a complex disorder involving a number of body systems, it seems prudent to include an analysis of the impact of frailty. If this cannot be done analytically in TILDA, then further consideration should at least be given to this in the Discussion. For example, older adults without measured hypertension, who are not on an anti-hypertensive medication, appear to have high physiological reserve in general. [Rockwood MR, Howlett SE. Blood pressure in relation to age and frailty. Can Geriatr J 2011;14(1):2-7.] Unsurprisingly then, many of the people with OH have other many health deficits as well (some of which are remediable, as the authors note). Together, these deficits can combine to make the person frail and when frailty is taken into account, the specific influence of OH on risk is greatly attenuated, even becoming no longer statistically significant. [Rockwood MR, Howlett SE, Rockwood K. Orthostatic hypotension (OH) and mortality in relation to age, blood pressure and frailty. Arch Gerontol Geriatr 2012;54(3)e255-260.]

2. There will be a lot of interest in understanding how a clinically derived analysis of OH translates in a population setting, and whether the fact of the OH coming to clinical attention is incidental to its risk or essential to it. As the authors point out, only a longitudinal study would allow the clinical importance of OH and OI to be better understood. It is striking, however, that the most clinically relevant features (blackouts and fainting) are not significantly related to the MOH state in this setting. This would seem to merit further acknowledgement in the Discussion.
Discretionary Revisions

1. Usefully, the authors present a lot of information (Tables 1-4) to show the MOH cluster analysis and the influence of many potential confounders on MOH-3 and OI. Many of the items listed, however, appear not to be significant, and go without (or with very little) comment in the paper. Perhaps these tables might be reduced in the body of the paper to focus on a few specific effects, while the remainder might be better presented in an appendix for the reader with a specific interest in the topic.

2. The dotted line used in the figure to represent MOH-3 is difficult to differentiate from the one used to represent MOH-1.

**Level of interest:** An article of importance in its field

**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.