Reviewer's report

Title: Measurement properties of the Minimal Insomnia Symptom Scale (MISS) in an elderly population in Sweden.

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Reviewer: Julie E Byles

Reviewer's report:

This paper identifies that sleeping problems can be common and not insignificant among older people. The authors set out to determine if a simple three-item self-report scale, the MISS, can validly identify those who have insomnia. This three-item scale has been extracted from a larger 25-item scale which has been tested in another age range and now the question is whether the same results apply to older persons. The project is well justified and this is a reasonable question to address as shorter scales can be useful in epidemiological and clinical contexts.

The three item MISS has reasonable psychometric properties according to the coefficients provided in the text. These coefficients suggest coherence across the three items. Floor and ceiling effects are appropriately low.

In testing criterion validity, the proxy gold standard is the response to three other items of the longer scale. This standard was chosen as the items relate to impairments in the ICSD-2. However, the authors agree that this measure may not be sufficient to really test the validity of the MISS as a screening test.

Major comments

The data are from a self-complete survey that was sent to participants in the Swedish National Study on Ageing and Aged care. The description of the sampling frame is not clear. There seems to be a set of 10 cohorts which have been pooled for this study and grouped into three aged categories for analytic purposes. The categories are not consistent with the listed cohort ages (which category, for example, includes the 90 year olds?). Also, because the original sampling strategy is not described, it is not clear whether the participants are meant to be representative of the population. Is the age and sex distribution of the sample, or the participants, a reflection of the age and sex distribution of the over 65 portion of the population? This point is important for interpretation of prevalence data.

The results indicate that a higher cut-point for MISS should apply in older populations. Did the validation in younger populations use the same gold standard? Given that a different cut-point appears to be required for people over 65 years, should the cut-point also vary for each of the age categories in this study, or by gender?

The paper could be re-written so that information is presented in a more logical manner. At present it is hard to identify much of the information that is needed to
understand the methods and interpret the results. There is also a lot of repetition.

**Minor comments**

The title of Table 5 refers to Incidence of insomnia. Incidence is not measured in this study.

**REVISION REQUIRED**

I would recommend a decision regarding publication once the comments have been addressed. At present the paper is too disorganised and does not contain sufficient clear detail regarding the methods.

**AN ARTICLE OF LIMITED INTEREST**

The findings are of interest, particularly for those doing survey research with older people. The clinical application of the MISS is not yet substantiated in the absence of assessment against a better gold standard. This paper could be a basis for further more rigorous testing of the MISS.

**Level of interest:** An article of limited interest

**Quality of written English:** Not suitable for publication unless extensively edited

**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