Reviewer's report

Title: Chinese Version of Narcolepsy Severity Scale: A Validation Study

Version: 1 Date: 21 Oct 2019

Reviewer: Carmen Rodriguez-Blazquez

Reviewer's report:

The manuscript is interesting and address a need on the assessment of narcolepsy in Chinese patients. I have several comments on the methodology and statistics:

- I recommend authors to follow Terwee et al (Journal of Clinical Epidemiology, 2007; 60;34-42) and COSMIN taxonomy of measurement properties (www.cosmin.nl) to name, describe and assess correctly the psychometric attributes. For example, "item convergent validity" is not a part of internal consistency. Temporal stability (test-retest reliability) should be measured by means of intraclass-correlation coefficient and kappa index.

- Authors included pediatric patients with narcolepsy. This could introduce a bias in the results, as they may find difficulties to understand and answer the rating scale and may need help from their parents. Please, indicate how many pediatric patients you included and if there were differences in NSS scores between children and adults. If so, I recommend to analyze the results separately.

- In Methods section, please, indicate what subscales and items compose the NSS.

- In Results section, mean NSS score for full sample and histogram does not take part of internal consistency of the scale. It should be better placed in a section on the descriptive statistics of the applied rating scales.

- It is not necessary to display the histogram, this is only for checking the fit of scores to normal distribution. Also, please, indicate if you have used other tests to prove the normality of distribution. If so, parametric statistics should be used.

- The interval for test-retest reliability is too long, it should be no more than 7-14 days long. This should be acknowledged as a limitation.

- Please, change "discriminate" validity to "discriminative" validity.

- Regarding "criterion" validity, the used rating scales should not be considered "gold-standard" for narcolepsy, as they are not measuring it, but related constructs (depression, quality of life, daytime sleepiness, etc.). Please, change the title to "convergent validity", and the text accordingly.
- My main concern is the low sample size. Although authors acknowledge it, and it could be enough for exploratory factor analysis, for confirmatory factor analysis the rule of thumb is at least 10 times the number of measure items, and some authors recommend at least 300 cases to avoid computational difficulties (https://stats.idre.ucla.edu/spss/output/factor-analysis/). I suggest not to include this kind of analysis in the manuscript.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

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

Yes

**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.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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