Reviewer's report

Title: Associations of Sleep Quality and Sleep Duration with Frailty and Pre-frailty in an Elderly Population Rugao Longevity and Ageing Study

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Reviewer: Sean Martin

Reviewer's report:

The authors provide a cross-sectional analysis from a large, prospective cohort of elderly Chinese women & men examining the influence of self-reported sleep parameters on the risk of frailty (and pre-frailty), after appropriate adjustment for potential confounders. This is an area of interest that has only received moderate attention, and subsequently this analysis would be a welcome contribution if a number of issues were addressed. Namely:

- The discussion of previous analyses on the association between sleep and frailty needs further work. While the authors address a few of the major studies (and would obviously not be expected to address all previous research), there does seem a number of omissions whose inclusion in the introduction or discussion would better contextualise where this analysis sits and better inform the reader of the state of evidence between sleep and frailty (e.g. PMIDs: 30379304; 30270714; 30569070; 26832127)

- On a related point, the authors claim this analysis is the first study to examine the effect of sleep on pre-frailty, but there appears at least one other study (Morgan K, Hartescu I. Sleep Med. 2019 Feb;54:231-237). They should further check the veracity of this claim.

- The C-PSQI appears relatively well-validated in a patient sample with primary insomnia (PMID 16155782). What evidence is there that this item is applicable to an otherwise healthy cohort. Should other cut-points be considered?

- The section on possible mechanisms is informative, but it would be useful for the authors to indicate how their own results reflect on likely mechanisms for the association between sleep quality/ duration & pre/frailty?

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?
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Yes

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