Reviewer’s report

**Title:** Loneliness and social isolation causal association with health-related lifestyle risk in older adults: a systematic review and meta-analysis protocol

**Version:** 0  **Date:** 04 May 2018

**Reviewer:** Thom Ringer

**Reviewer's report:**

Thank you for the opportunity to review this protocol for a systematic review, titled "Loneliness and social isolation causal association with health-related lifestyle risk in older adults: a systematic review and meta-analysis protocol."

It addresses a topic (social isolation and loneliness in older adults) that the authors demonstrate has public health and clinical relevance. They also demonstrate that the review addresses a gap in the literature. It is well organized and makes use of validated systematic review tools. It will be of interest to researchers in gerontology and sociology, and, depending on the strength and relevance of its findings, to a lay audience. Notionally, it is suitable for inclusion in this Journal.

Accordingly, I recommend resubmission with major changes. Notably:

1. The search strategy should be expanded in a number of ways highlighted below, including bibliographic review, grey literature search, and Pubmed.
2. Consider tandem abstract screening and extraction.
3. Significantly shorten the manuscript, guided by the example of protocols recently published in this Journal.
4. Relatedly, reduce the level of background detail to one appropriate to a generalist audience.
5. In terms of presentation, make sentences shorter, and more clear by using active rather than passive voice.

More detailed edits are proposed below my signature.
NOTE: When resubmitting, ensure the protocol registered with PROSPERO is updated.

I look forward to reviewing a revised manuscript.

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BACKGROUND

65: "… the health impacts of either phenomenon."

69: "… feel lonely despite having an adequate quantity of social relationships."

71: "… adverse mental health outcomes …"

120-140: For a generalist audience, I don't think you need this level of detail about postulated mechanisms by which loneliness / SI produce ill health.

142-167: Try to shorten this section. I do not think you need to address the findings of every key review. Enough to state in general what the deficits are.

169-180: As mentioned, too much detail about causes/pathways here. I think you could limit this to a single sentence, and include it earlier.

METHODS

Inclusion-Exclusion Criteria:

You may identify more covariates as you get familiar with the body included studies.

Search Strategy:

A few suggestions that may improve your yield:
* Search Pubmed.
* Review the bibliographies of studies that have undergone full-text review for additional sources.
* Do a grey literature search for theses, prepublication manuscripts, publications that aren't indexed, etc.
* Poll a sample of experts to ask if they are aware of any key publications.

249: If possible, see if you can objectively justify the restriction to English language studies. You could for instance do an initial scan and report that it shows, e.g., that 95% of potentially responsive studies are English language. If the inverse, this would be problematic.

253: It would be preferable to do tandem screening of abstracts and data extraction by two reviewers. If not feasible, explain why.

Quality & Critical Appraisal:

What tool will you use to appraise interventional studies, if any?

DISCUSSION

358-371: This is redundant in light of the background section. I think it can be shortened to two or three short sentences.

Level of interest

Please indicate how interesting you found the manuscript:

An article whose findings are important to those with closely related research interests

Quality of written English

Please indicate the quality of language in the manuscript:
Not suitable for publication unless extensively edited

**Declaration of competing interests**

Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?
4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?
5. Do you have any other financial competing interests?
6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

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