Reviewer’s report

Title: Hierarchies of Evidence Applied to Lifestyle Medicine (HEALM): Introduction of a strength-of-evidence approach based on a methodological systematic review

Version: 0 Date: 10 Jun 2019

Reviewer: Zachary Munn

Reviewer’s report:

Thank you for the opportunity to review this very interesting article on hierarchies of evidence in lifestyle medicine.

My first comment is whether or not this work is actually required. There are many areas of clinical practice, public health, nutrition, environmental science and others that make arguments that RCTs are not available or not ideal for their field. This debate has been covered in many areas and it is why modern strength of evidence systems (or certainty of evidence systems) such as GRADE acknowledge this fact and also that in certain cases evidence from non-randomised studies may have higher levels of certainty as compared to evidence from RCTs. As GRADE is increasingly becoming the international standard for establishing strength of evidence, I would encourage the authors to join with GRADE Project groups (GRADE for complex interventions, non-randomised studies, nutrition, environmental evidence and public health) working in this space already rather than encouraging the proliferation of further frameworks it may be best to concentrate efforts on working together for a unified approach.

The systematic review methodology appears sound and well conducted, although it is a limitation that non-English studies were excluded. Additionally, although searching systematic reviews will provide a good overview of some tools, many of these tools will be used in guidelines and not the reviews themselves. I would consider the fact that guidelines were not searched is another limitation of this study - although very understandable given the difficulty searching for guidelines internationally.

Minor Comments

The JBI levels also present different levels of evidence for different kinds of research questions (similar to OCEBM levels) which seems to have been missed.

Major comments

Given the above, it is surprising that GRADE is not recommended to be used when there are no RCTs, as GRADE approaches can deal with the absence of RCTs. It would be useful for some further discussion on this issue.
It is confusing to recommend OCEBM rather than GRADE where no RCTs exist. Firstly, GRADE considers a number of factors (not only study design) to establish certainty (or strength) whereas from my understanding OCEBM mainly considers study design. Although a simple hierarchy considering only study design may have some use (such as for educational purposes or for search filters) they are inadequate to represent ‘strength’ of evidence if purely based on study design alone.

The HEALM table doesn't seem to (explicitly) take into account very important issues such as the magnitude, direction and precision of an effect estimate. As such, it seems quite subjective. Although there is some explanation and a framework suggested, this still seems like it may be difficult to apply and I think one could expect significant variation between groups using the tool.

Despite my qualms regarding the tool and a suggestion that GRADE addresses these issues adequately, I understand the logic behind the development of the tool and can recommend the article for publication. Regardless of the above, this is an interesting paper and should be published to further the discourse on SOE in lifestyle medicine and other fields where RCTs prove difficult.

**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

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If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

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Conflicts to note: I led the redevelopment of the Joanna Briggs Institute level of evidence tools. I am also a director of a GRADE Centre.

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