Reviewer’s report

Title: Translational research on reserve against neurodegenerative disease: Consensus report of the International Conference on Cognitive Reserve in the Dementias and the Alzheimer’s Association Reserve, Resilience and Protective Factors Professional Interest Area working groups

Version: 1 Date: 05 Oct 2018

Reviewer: Sylvain Moreno

Reviewer's report:

Review BMC paper

Overall, the paper is well suited for the audience of BMC medicine, but I believe it would be more impactful for readers with the following minor changes and comments. The paper touched several crucial points in the aging scientific domain. The authors of the papers are world leaders in the field of aging and medicine. After reinforcing the content of the manuscript, this paper would be a novel and strong contribution to the literature.

Main comments:
I would suggest developing a section on the large movement across scientific domains and geographical areas on collecting longitudinal data. This switch towards longitudinal data (databases) in aging science is considerable and must be discussed in this literature review. The authors mentioned it in one of the section of the manuscript (epidemiology) but it should be expended and discussed. Several efforts have been conducted and published in this domain such as Health Retirement Study in United States or Gateway to Global Aging portal.
Another main comment is to propose concrete solutions to problems such as the need for the animal and human scientific fields to be more linked. The audience of this paper should understand how this could be achievable and what are the concrete potential solutions. The authors have conducted a thorough review of relevant literature in the space of aging, but the overall article would be strengthened by a stronger synthesis of this literature into a more clearly expressed consensus opinion.

Other comments:
Abstract:
The abstract has to be re-written to express the recommendations of the group
I would suggest summarizing the paper recommendations in the abstract and the process by which the group came up with those recommendations (group constitution, group expertise, etc…).
The abstract doesn't reflect the content of the manuscript. For example, legal aspects are not discussed in the manuscript but the abstract conclude that "This will only be possible, if an enabling ethical-legal environment is established across national boundaries."
Putative functional brain mechanism section
I would suggest either moving this section as a final section before the conclusion, or as the first section. I am not sure what of the rationale for having this section discussed between "Epidemiology and genetics " and "Preclinical research and small animal studies".

Conceptual considerations section
This is a very interesting section and well written.

Intervention studies section:
Missing Cochrane studies
I would suggest separating this section in type of intervention: diet (e.g., Omega 3); activities (e.g., exercise, music, etc..) and social factors (e.g., social network).

Recommendation and future directions section
One issue with this section is that it doesn't start with what the title is inferring: recommendations. The text should be closely link with the title of the section.
This section should propose the concrete consensus that emerged from the scientific review and present strong arguments for it.

Another potential contribution of this section would be to describe in one paragraph the simple medical recommendations that emerge from the literature. This knowledge translation effort is missing in the scientific community and has been requested by medical practitioners.

Quality of written English
Please indicate the quality of language in the manuscript:
Needs some language corrections before being published

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