Reviewer's report

Title: Cognitive Health Begins At Conception: Addressing dementia as a lifelong and preventable condition

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Reviewer: laura fratiglioni

Reviewer's report:

The authors briefly summarized the evidence supporting their view that lifelong prevention strategies towards factors such as lifestyles, health behaviors, and balanced diets may be an effective way to tackle the burden of dementia, given that there is currently no cure for the disease. This short paper is interesting and well written. We offer the following comments for authors to consider.

1. Metabolic risk factors: There is indeed rather strong evidence supporting the involvement of metabolic risk factors at middle age or late-life, such as diabetes, serum lipids, blood pressure, and obesity, in the development of late-life dementia, which is disproportionately presented in this paper. In particular, these metabolic risk factors are missed in Figure 2.

2. Early-life factors in the risk of late-life cognitive function and dementia: The authors tried to summarize evidence supporting the view that “dementia risk begins at birth”. However, compare to evidence supporting the role of midlife risk factors in late-life dementia, it sounds that the evidence for possible effects of prenatal and early-life factors on dementia, such as maternal smoking and diets in pregnancy, low and high birthweight, and childhood self-control, has generally been weak, limited, and indirect. While this suggests that more research efforts are needed to investigate early-life environmental factors for late-life dementia, it is relevant to acknowledge it.

3. References: The authors may wish to update the references, for example, the reference no. 12 (1991) can be replaced with a new one, e.g., Lobo A, et al. Neurology 2000;54(11 Suppl 5):S4-9.

Minor Essential Revisions for all comments above.

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I/We declare that I/we have no competing interests.