Reviewer's report

Title: Modifiable Cardiovascular Disease Risk Factors as Predictors of Dementia Death: Pooling of Ten Cohort Studies

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Reviewer: Andre Pascal A Kengne

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Modifiable cardiovascular disease risk factors as predictors of dementia death: pooling of ten general population-based cohort studies.

In this manuscript, the authors have investigated the association of a range of cardiovascular risk factors with death from dementia, and for comparison purpose with mortality from CVD. While CVD risk factors were associated with CV death as expected, only age, sex, non-HDL cholesterol and BMI were found to be associated with dementia death.

This study is based on a large sample and large number of events, and accordingly a good statistical power to examine the study question. However, by focusing focusing essentially on mortality, it is possible that the study failed to uncover some important associations. It is likely for instance that CVD risk factors are more associated with dementia occurrence than mortality in the context of dementia (which could be due to many other factors). The nature of the data does not allow the authors to investigate the association of CVD risk profile with dementia occurrence itself. They should probably acknowledge this as a limitation of the study.

Other points:

The choice of methods for pooling in meta-analysis based on the results of tests of heterogeneity is a fishing trip. While it is good for the investigators to perform the test of heterogeneity and report the results, the choice of the method for pooling the data should be pre-specified and dissociated from the results of the tests of heterogeneity.

What happens if the authors allow the four significant risk factors for dementia in the same multivariable model? They should maybe run this analysis and report the results.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.