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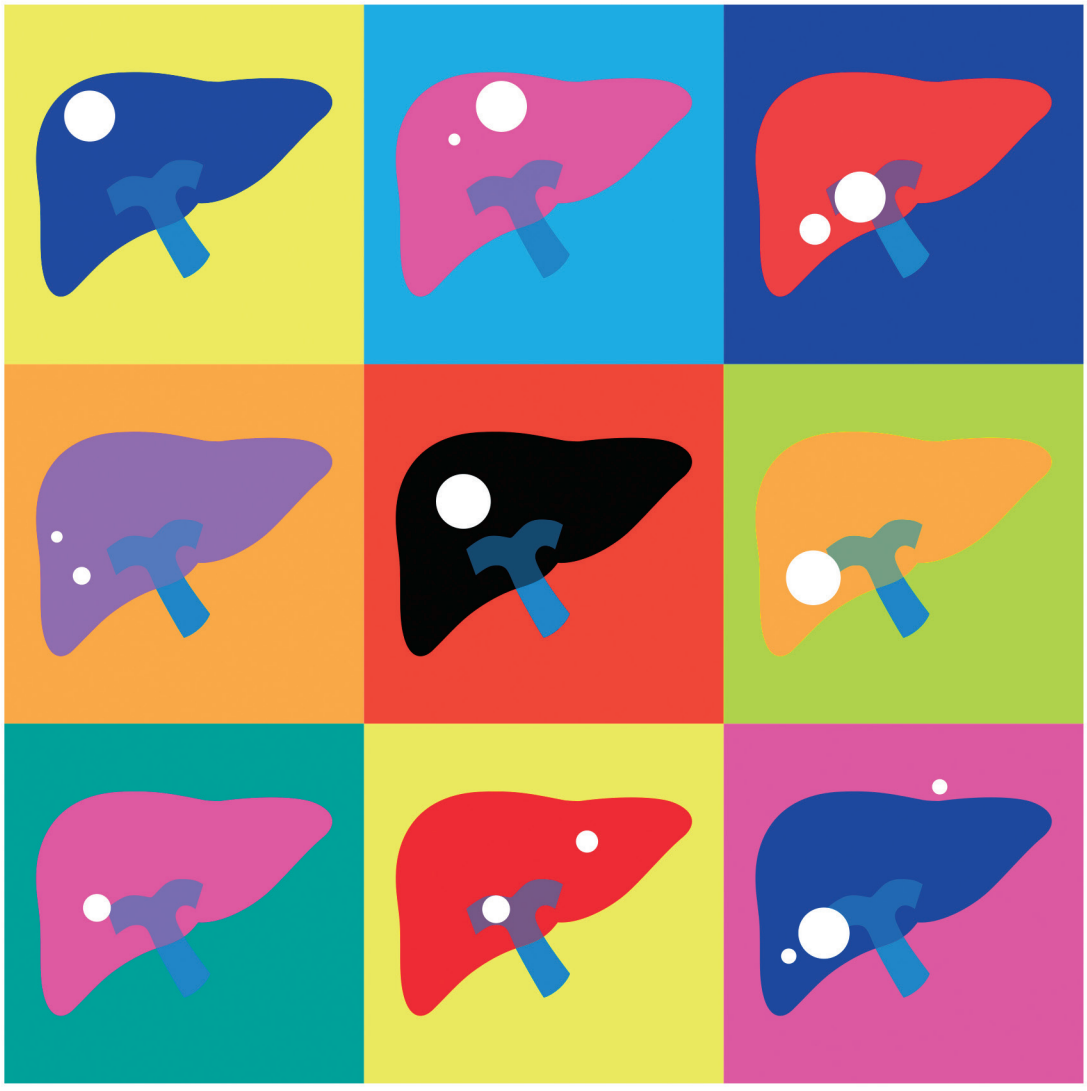

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Letter to the Editor

Non-alcoholic fatty liver disease and risk of dementia: Unmet need for a pooled analysis of cohort studies

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Dear Editor,

We thank Lu et al.[1] for their interest and comments on our recently published paper on the association of non-alcoholic fatty liver disease (NAFLD) with the risk of dementia among older adults.[2] We agree that detecting potential complications of NAFLD may be a critical issue considering the increasing prevalence, and it is important to perform a pooled analysis to better define the association of NAFLD with dementia.[1,3]

Among studies included in the meta-analysis, Labenz et al.[4] defined NAFLD patients by using the International Classification of Diseases 10th revision codes of K75.8 and K76.0, which included nonalcoholic steatohepatitis. The identified proportion for NAFLD was 3.3% (n=248,997) in the study patient selection. The prevalence of NAFLD varied among different study populations and diagnostic procedures in a range of 12.6% to 51% in Korea.[5] The differences in the definition of NAFLD and study population between the study by Labenz et al.[4] and our study may have derived different results.

As for the Swedish study that reported no association between NAFLD and dementia, liver biopsy results were used to define NAFLD.[6] The major difference between their study and our study was the age of the study population. The exclusion of participants aged less than 35 years was done in the sensitivity analysis because these participants may have a low risk of dementia within the follow-up period. However, our study excluded those aged below 60 years from the analytic cohort. In addition, our study also excluded those with a

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history of ischemic heart disease, arterial hypertension, heart failure, renal failure, stroke and transient ischemic attack, intracranial injury, epilepsy, Parkinson's disease, osteoporosis, and depression, which were considered to be associated with the risk of dementia.

Taken together, it may be important to consider heterogeneity in the study population when pooling the association of NAFLD with potential complications, such as dementia. The heterogeneity in the study population may include not only sociodemographic characteristics, such as age, sex, ethnicity, and household income but also underlying comorbidities, such as prediabetes and diabetes.[7] In addition, consideration of a history of diseases that are considered to be associated with incident dementia in inclusion criteria for the study population may be important to better define the independent association of NAFLD with dementia. Therefore, consideration of the heterogeneity of the study population in great detail may better define the association of NAFLD with potential complications in future pooled analyses.

Authors' contribution

All authors contributed in conception of the work and drafting of the article. WK contributed in critical revision of the article. All authors provided final approval of the version to be published.

Conflicts of Interest

The authors have no conflicts to disclose.

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Abbreviation:
NAFLD, non-alcoholic fatty liver disease

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