

## DEMENTIA

## New study puts its FINGER on prevention of cognitive decline

Multidomain lifestyle intervention could prevent cognitive decline in older people at an elevated risk of dementia, according to the results from a large randomized controlled trial (RCT), published recently in *The Lancet*.

“The Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (FINGER) is the first large-scale, longer-term RCT to assess a multidomain approach for reduction of the risk of cognitive decline in elderly, at-risk individuals,” says Miia Kivipelto, who led the study.

Observational studies have implicated modifiable vascular and lifestyle-related risk factors in the aetiology of late-life cognitive impairment and Alzheimer disease (AD), but previous single-domain prevention trials have yielded mainly negative results.

To assess the efficacy of a multidomain lifestyle intervention in maintenance or improvement of cognitive functioning, the FINGER investigators recruited 1,260 individuals who were at increased risk of dementia but had no cognitive problems.

The participants, aged 60–77 years, were randomly assigned to general health advice or a 2-year multidomain intervention comprising dietary advice, an exercise programme, cognitive training, social activities, and management of metabolic and vascular risk factors. All participants underwent comprehensive neuropsychological testing.

At the end of the 2-year follow-up period, cognition was improved in both the intervention and control groups, but global cognitive function was 25% higher in the intervention group, and certain specific cognitive domains, such as executive functioning and processing speed, were notably improved in the intervention arm.

Moreover, the multidomain intervention improved BMI, dietary habits and physical activity levels. The most common adverse event was musculoskeletal pain, and severe adverse effects were rare. Dropout rates were low, and adherence to the various intervention components was high.

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According to Kivipelto, the FINGER study provides a novel and pragmatic model for prevention trials that can be tested and adapted in various settings and populations. “The study has shown that simultaneous changes in several risk factors for cognitive decline exert a protective effect on cognition,” Kivipelto summarizes.

An extended 7-year follow-up is planned for the FINGER participants to provide further knowledge on the long-term effects of the lifestyle intervention. The potential mechanisms of the intervention will be investigated in detail by use of the FINGER biomarker database.

Building on the experience from FINGER, the investigators will also test the efficacy of the multidomain intervention in a project that aims to alleviate cognitive decline in individuals with prodromal AD. “Our final goal is to contribute in defining effective preventative measures,” Kivipelto concludes.

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