



Topic: Dementia prevention

Title: A multi-domain intervention to prevent cognitive decline in older adults at risk of dementia in Switzerland: A randomized clinical trial

Authors: Ibnidris A.¹, Fadda M.¹, Fiordelli M.¹, Albanese E.¹

¹ Faculty of Biomedical Sciences. Università della Svizzera italiana. Lugano, Switzerland



Background

Dementia is a neurodegenerative syndrome with a significant impact on individuals, their families and society at large. In the absence of a cure, prevention is key. Evidence suggests that the onset of dementia can be delayed with multi-domain interventions that modulate the exposure to modifiable risk and protective factors in elderly at risk. Global initiatives to conduct community-based interventional studies on dementia prevention, based on the success of the original [FINGER](#) trial, demonstrated the efficacy of a multi-domain intervention in maintaining cognitive functioning in at-risk older adults.

The Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability ([FINGER](#)) trial is the first randomized controlled trial (RCT) showing that it is possible to prevent cognitive decline using a multidomain lifestyle intervention among older at-risk individuals. The results from this trial highlighted the value of addressing multiple dementia risk factors as a strategy to protect brain health, promote overall health and functioning, and reduce the risk of developing new chronic diseases



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Objectives

We propose to adapt and test the efficacy of a culturally appropriate intervention based on the FINGER study by aligning it with the WHO guidelines on risk reduction of dementia in Switzerland. We also set out to expand the science in the FINGER study by adding the novelty of testing the efficacy of the intervention on APOE ε4 carriers.



Methodology

We aim to conduct a Swiss multicenter double-blind randomized controlled trial in community-dwelling adults (+60). Inclusion criteria of the FINGER study will be used to identify older adults at risk of cognitive impairment based on their cardiovascular risk profile and cognitive function. Exclusion criteria will include diagnosis of dementia based on the 10/66 dementia diagnostic algorithm. Participants will be screened for APOE status, however, APOE ε4 carriers will not be excluded. The multi-domain intervention will include diet, exercise, cognitive training and vascular risk monitoring. The primary endpoint will be 2-year change in cognitive performance as measured by a comprehensive neuropsychological test battery. In order to understand the mechanisms underpinning the intervention's efficacy, we will integrate the Medical Research Council framework with Theory of Change models for stakeholders and policy makers to express their long-term objectives.



Expected impact

Replications of the FINGER trial's findings are warranted in Switzerland. However, it is also of chief importance to locally adapt and formally explore how and why similar, culturally appropriate multi-domain interventions are efficacious. Moreover, it is critical to assess the potential effectiveness of the intervention in preventing cognitive decline and the onset of dementia in at-risk older adults across diverse settings and to assess the effect of the APOE genotype on cognitive change during a multi-domain intervention.

