

## **Euro-SCD**

### **Subjective cognitive decline in preclinical Alzheimer's disease: European initiative on harmonization and on a lifestyle-based prevention strategy**

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Subjective cognitive decline (SCD) in cognitively normal elderly individuals is now recognized as a pre-mild cognitive impairment (pre-MCI) at-risk state of Alzheimer's disease (AD) dementia. It will be a major target condition for AD prevention trials in the future. Before the start of the project Euro-SCD, comparability of SCD samples across different research sites was poor and the frequency of preclinical AD in SCD samples highly diverse. This was mainly due to the lack of a harmonized protocol for SCD definition and assessment. In this study, existing memory clinic samples of subjects with SCD and with available biomarkers for SCD from three European countries have been analyzed with regard to features of SCD that indicate preclinical AD evidenced by biomarkers.

The main goal of the current project was to (1) create a harmonized protocol for case definition and assessment of subjective cognitive decline (SCD) across European countries with predictable rates of enrichment for preclinical Alzheimer's Disease (AD) and (2) to develop an internet-based, personally tailored, and self-applied lifestyle modification strategy for AD prevention in subjects fulfilling the SCD criteria.

To develop the online lifestyle intervention, we investigated the link between lifestyle and brain health by conducting a systematic review and meta-analysis. Subsequently, in co-creation with the users, we developed an online lifestyle program in an iterative process. We identified factors that could benefit or hinder the use of an online lifestyle program in individuals with SCD in three European countries. Finally, we performed a multicentre evaluation of user experiences of the online lifestyle program. Overall user-experience was moderate to positive. Euro-SCD shows the relevance of applying harmonized criteria to for research on SCD and provides evidence for the feasibility of the use of online self-applied lifestyle programs for brain health promotion in this group.