Update of the "Lifestyle for BRAin health" (LIBRA) index: preliminary results from an umbrella review and Delphi consensus study on modifiable dementia risk factors

Colin Rosenau[1], Sebastian Köhler[1], Martin van Boxtel[1], Kay Deckers[1]

[1]*Maastricht University, Faculty of Health Medicine and Life Sciences, Department of Psychiatry and Neuropsychology, School for Mental Health and Neuroscience, Alzheimer Centrum Limburg*

Corresponding author: Colin Rosenau, Email: c.rosenau@maastrichtuniversity.nl

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ABSTRACT

In recent decades, a dramatic increase in dementia cases has been observed, which is expected to continue over the coming years to a projected total of 78 million cases worldwide by 2030 (Alzheimer's Disease International, 2021). Since there is no curative treatment available, an increasing number of modifiable risk factors has attracted remarkable attention for dementia risk reduction. In 2015, the "LIfestyle for BRAin health (LIBRA) index", was developed based on the results of a systematic literature review and Delphi expert study. (Deckers et al., 2015). LIBRA consists of twelve modifiable risk and protective factors for cognitive decline and dementia and it creates insights into the effects of lifestyle on brain health (Schiepers et al., 2018). Even though this index has been well-validated for cognitive decline and dementia risk in numerous population-based cohorts, it does not include recently emerging modifiable risk factors such as hearing impairment or social contact (Deckers et al., 2020; Deckers et al., 2021; Deckers et al., 2019; Heger et al., 2021; Livingston et al., 2020; Vos et al., 2017). To identify these emerging factors, we conducted an umbrella review to assess all systematic reviews (SR) and meta-analyses (MA) on modifiable dementia factors published between January 2015 and June 2021. The search returned 6,540 hits, of which 463 SR/MA were included for full-text assessment. Preliminary analysis of these papers confirmed the importance of multiple risk factors that were previously included in the LIBRA index such as adherence to a Mediterranean diet and cognitive activity. Additionally, new candidate risk and protective factors emerged that were not previously incorporated in the LIBRA index. These include, but are not limited to hearing impairment, social contact, and sleep disturbances. Their effects on cognition will be investigated and in parallel, a two-round Delphi consensus study will be conducted. In the first round, 25 experts will be asked to list their most important modifiable risk factors. Subsequently, the risk factors identified in the first round and the umbrella review will be ranked in the second round to arrive at a curated risk factor list that will be used for updating the LIBRA index.

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