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Different types of soy products and their possible benefit and risk associated with dementia in China and Indonesia

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Observational data from Indonesia showed that tempe (a fermented soy product) was associated with better memory function and reduced dementia risk in those over 68 years of age (Hogervorst, 2007). After a 2-3 year follow-up and community consultations, older people had increased their tempe intake which was associated with improved memory (Hogervorst, 2011). Further laboratory experimental studies showed that when OVX rats were given tempe flour, plaque formation markers in serum were reduced and their memory improved (Irsan, 2013). Our assays showed that tempe contains very high levels of phytoestrogens, as well as anti-oxidants, folate and cobalamin (due to fermentation with molds).

High tofu intake (a soybean curd product which does not contain these B vitamins) was associated with lower memory function and increased risk of dementia in both Indonesia (Hogervorst, 2007) and in China (Xin, 2014). At Oxford University we had earlier found that older women who had both high serum folate and high estrogen levels did not score under the cut-off for dementia sensitive tests, whereas those who only had high estrogens with low folate did (Hogervorst, 2003). Possibly folate interacts with estrogens in reducing negative effects of methylation and promoting positive effects of estrogen on neuronal function. These findings offer new opportunities for estrogenic compounds to help improve cognition in the elderly

Biography

Eef Hogervorst is an internationally renowned expert in psychoneuroendocrinology. Eef did her PhD at Masstricht and was subsequently employed (as Blasschko Fellow and then Research Scientist) at the University of Oxford for 5 years working as a neuropsychologist and epidemiologist. She was awarded several grants, fellowships and prizes for her research into the association between hormones and cognitive decline/dementia. She has also worked as a Research Associate Professor at the Donald W. Reynolds Department of Geriatrics (ranked 8th nationally) of the University of Arkansas Medical Sciences USA to investigate rural ageing and memory with hormone expert neurologist Prof Henderson and at the University of Cambridge (Department of Psychiatry, with Profs Huppert and Brayne) as Senior Research Associate, before she obtained a Chair in Biological Psychology at Loughborough University. She is Visiting Professor at the University of Trisakti Jakarta and Adjunct Professor at the University of Indonesia where she works for the Center for Aging Studies to investigate risk and protective factors for dementia in multi ethnic Indonesian cohorts. She has set-up collaborations with several other large multi-centre observational and treatment studies for age-related cognitive decline and dementia (EPIC NORFOLK and MRC-CFAS in the U.K. and the H-ABC, WHIMS and KEEPS studies in the U.S.A) and this work is now also extended to China (Shanghai). She is often invited as a key-note speaker at major international conferences (World Conference on Menopause as chair and keynote speaker 2011 and 2014, European (2012, 2010) and North American Menopause Conferences, ISSAM, Aging Male, Alzheimer's Association ICAD meeting etc to speak about her work in hormones. She has over 200 international peer-reviewed publications and was cited 4152 times. She has received funding from NDA, i4i, Research into Ageing/Help the Aged, Nederlandse Hersenstichting, Alzheimer's Association, MRC, BMS & other industry, and sits on several editorial boards (JAD, JADP etc.) and grant review bodies (EUR-AGE, Horizon, MRC etc).

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