

# Omega 3 and antidepressants may help prevent dementia and depression

24 February 2014, by Rachel Gleeson

A University of Sydney study is looking into the effectiveness of omega-3 supplements and the antidepressant, sertraline, in reducing depressive symptoms and cognitive decline in older people, in a bid to prevent the onset of depression and dementia in later life.

The research, led by the University's Brain and Mind Research Institute (BMRI), is evaluating the effects of the two substances in preventing degenerative changes in [brain matter](#), based on the abundance of literature linking [depression](#) with changes in the brain's blood vessels, oxidative stress and with other factors that are known to be protective for the brain.

Depression and anxiety affects three million Australians every year, and between 10 and 15 percent of older people experience depression, while around 10 per cent experience anxiety. Rates of depression among people living in residential aged-care facilities are believed to be much higher, at around 35 per cent.

Alarmingly, one in 10 Australians aged 65 and over had dementia in 2011, while three in 10 Australians aged 85 and over had dementia in 2011. An estimated 322,000 Australians were estimated to have dementia in 2013. Based on projections of population ageing and growth, the number of people with dementia will reach almost 400,000 by 2020, and around 900,000 by 2050.

Study lead, Associate Professor Sharon Naismith, said the work was one of very few projects in the world looking into ways to prevent onset of depression and dementia in older populations.

"Over the last decade, our BMRI team has demonstrated that the cognitive, brain scanning (MRIs) and clinical features of late-life depression are linked with brain disease and cognitive decline," she said.

"These changes are in turn linked to disability, functional decline and progression to dementia.

"Importantly, [major depression](#) in older people can now be detected earlier, through the tracking of [depressive symptoms](#), and there is recognition internationally that prevention trials are now urgently warranted."

The study utilises the "Beyond Ageing cohort", a group of older persons with depressive symptoms who are scanned regularly through MRIs. The first group of 60 older adults 'at-risk' of depression were randomised to receive either omega 3 supplementation or placebo for 12-weeks.

Participants underwent MRI brain imaging, medical and neuropsychological assessments at the start of the trial and again after 12-weeks of supplementation. The results showed that participants taking the placebo had greater brain matter changes (specifically glutathione/creatine ratio in the thalamus) after the 12-week intervention, which, correlated with increased severity of depressive symptoms.

"Our findings offer promise for the prevention of depression in [older people](#) and the brain changes leading to depression, cognitive decline and [dementia](#)," Associate Professor Naismith said.

"We are not always sure what brain white matter change is due to but they can be due to vascular damage (from hypertension, high cholesterol, heart disease) or could instead be inflammatory. The presence of such changes on MRI is commonly seen in people who have depression in later life.

"We hope that the use of fish oils will stabilise this inflammation and support the [brain](#) vascular system, thereby also preventing depression and [cognitive decline](#)."

Provided by University of Sydney

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