

# Study questions omega-3 for brain function

By Stephen Daniells, 28-Apr-2010

## **Daily supplements of omega-3 fatty acids may not benefit brain function in older people, says a new randomised trial.**

Two years of supplementation with 200 mg eicosapentaenoic acid (EPA) and 500 mg of docosahexaenoic acid (DHA) did not significantly affect the cognitive performance of people aged between 70 and 79, according to findings published in the *American Journal of Clinical Nutrition*.

The study challenges previous findings from other studies that supported a role for the omega-3 fatty acids in brain health. Recently at the Alzheimer's Association 2009 International Conference on Alzheimer's Disease (ICAD 2009) in Vienna, scientists reported that daily DHA supplements may improve both memory function and heart health in healthy older adults. The study was funded by Martek Biosciences.

The new study – the Older People And omega–3 Long-chain polyunsaturated fatty acids (OPAL) Study – was funded by the UK's Food Standards Agency (FSA).

In an email to NutraIngredients, lead author Dr Alan Dangour from the London School of Hygiene and Tropical Medicine said: *"Our findings do indeed challenge other studies that support the role of omega-3 fatty acids in cognitive health - but that evidence is becoming more inconsistent, and none of the previous studies (except the similarly negative van de Rest 2008) was an randomised controlled trial (RCT).*

*"Cross-sectional and cohort studies can only tell us about association - RCTs are required if we are to ascribe causality between an exposure and an outcome,"* he added.

In addition to no cognitive enhancement in the omega-3 group, the authors also note that no cognitive decline was observed in the placebo group, which received olive oil for two years. Furthermore, both groups were considered to be DHA sufficient, as measured by blood levels of the omega-3 fatty acid.

Commenting on the finding that both groups were DHA sufficient and that the control group did not experience any decline in cognitive function, Dr Dangour said he did not think that this was sufficient evidence to establish causality.

## **Study details**

Dr Dangour and his co-workers recruited 748 70-somethings with healthy cognitive function and randomly assigned them to one of two groups: The placebo group received capsules containing olive oil, while the intervention group received capsules containing omega-3 fatty acids (200 mg EPA plus 500 mg DHA).

The group that received the omega-3 capsules had higher blood levels of EPA and DHA at the end of the study, compared with the placebo group. However, cognitive function, measured using the California Verbal Learning Test (CVLT), did not change in either the omega-3 or placebo groups after two years of supplementation, said the researchers.

## Long enough?

The study was described as “*well-designed and well-executed*” by Harry Rice, PhD, director, regulatory & scientific affairs for the omega-3 trade association GOED (Global Organization for EPA and DHA Omega-3s).

*“Unfortunately the study failed to provide evidence of a benefit of fish-oil supplementation on cognitive function in cognitively healthy older people,”* said Dr Rice. *“This does not mean, however, that there are no cognitive benefits associated with fish oil supplementation in this or any other population. What this means is that under the experimental conditions employed that no benefits were demonstrated.*

*“While there are many factors that may account for the current results, I’m inclined to believe that it was associated with the duration of intervention,”* he added. *“The subject population was cognitively healthy, so the expectation was not of improved cognition, rather attenuation of cognitive decline. Given that cognitive function did not change from baseline in either the treatment or placebo groups suggests that the duration of intervention was too short.”*

The researchers recommended further trials with longer intervention periods or longer follow-up, and particularly in populations with lower fish intakes, or in people with mild cognitive impairment. Dr Dangour told this website that he is not planning a longer-term trial at present.

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*“Effect of 2-y n-3 long-chain polyunsaturated fatty acid supplementation on cognitive function in older people: a randomized, double-blind, controlled trial”*

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