

Food2Learn: Randomized control trial investigating influence of krill oil supplementation on learning, cognition, and behaviour in healthy adolescents. Design presentation

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Food2Learn: Randomized controlled trial investigating influence of krill oil supplementation on learning, cognition, and behaviour in healthy adolescents.

Design presentation

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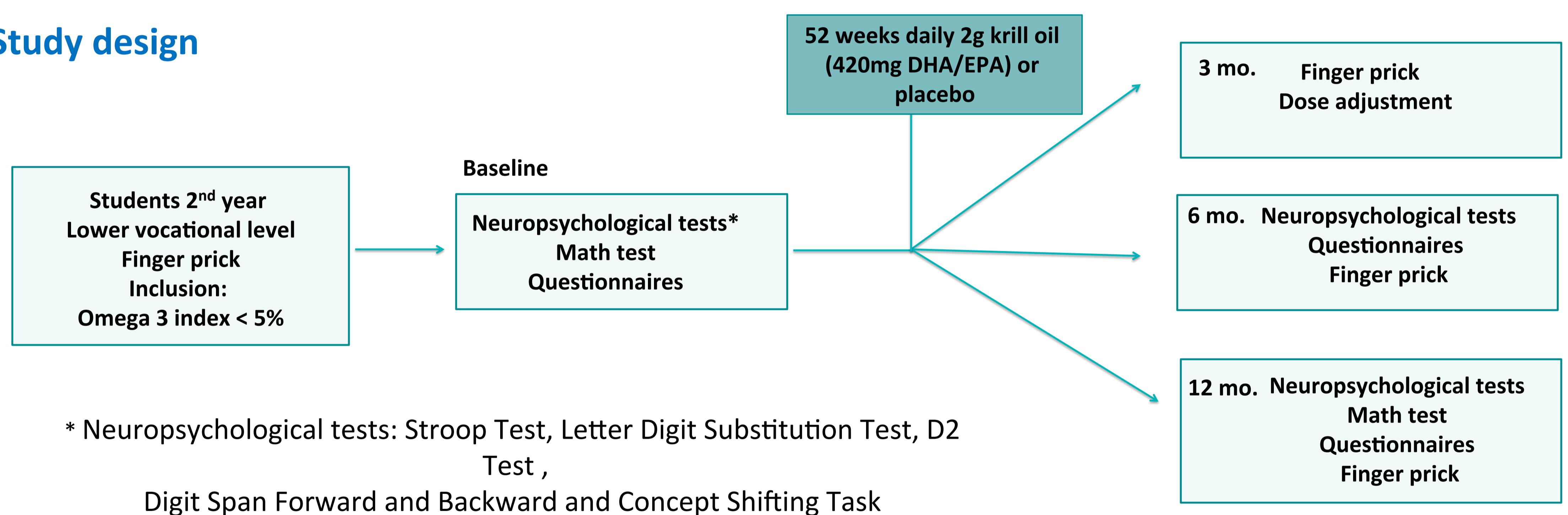
Introduction

The impact of n-3 LCPUFA supplementation on cognitive function is hotly debated. While some studies have found positive effects in children with learning difficulties and elderly people with cognitive impairment, other studies have found no, or even negative, effects. The adolescent brain has been largely neglected. The observational studies that investigated this age group have found positive associations between fish consumption (source of n-3 LCPUFA) and academic achievement. Krill oil, abundant in n-3 LCPUFA, mostly bound to phospholipids, possibly favours brain tissue uptake of these n-3 LCPUFA¹ and thus learning, cognition and behaviour.

Objective

The goal of this study is to determine the influence of krill oil on cognitive function, academic achievements, and mental well-being of healthy adolescents.

Study design



A total of 350 adolescents aged 14-15y attending lower vocational training with a omega 3 index <5% will be recruited. Subjects will receive daily supplementation with a starting dose of 2g krill oil (containing 420mg EPA/DHA) or a placebo for 52 weeks. The omega-3 index is monitored via a finger prick at baseline, and after 3, 6 and 12 months. Supplement dose will be adjusted after 3 months to reach an omega-3 index between 8 and 11% (placebo analogously).

Currently 129 subjects are participating with an average omega-3 index of 3.81. We only had to exclude 7 subjects because of a too high omega-3 index.

Added scientific value

This project will shed light on the influence of daily krill oil supplementation (containing n-3 LCPUFA) on cognitive function of adolescents, an age group that has been largely unstudied.

Strengths and unique features of this study are:

- A pre-selection of participants based on low omega 3 index (<5%).
- A dose adjustment after 3 months.
- The first study to investigate cognitive effect of krill oil.
- The first study to look at the influence of krill oil on *healthy* adolescents.

Declaration of Interests

C. von Schackky is owner of OmegaMatrix, who is partly funding this study.

K. Berge is R&D director at AkerBioMarine, who is partly funding this study.

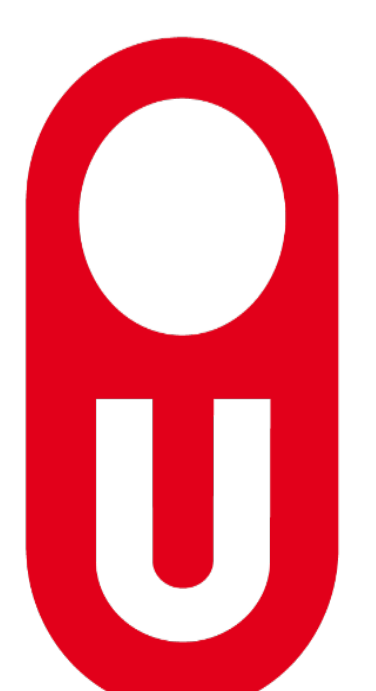
References

¹ Konogai 2013, Clinical Interventions in Aging

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