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Commentary: the association between high dietary intake of docosahexaenoic acid and reduced risk of Crohn's disease – authors' reply

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SIRS, Thank you for the commentary on our article which showed, for the first time, a large inverse association between higher dietary intakes of the dietary n-3 polyunsaturated fatty acid docosahexaenoic acid (DHA) and incident Crohn's disease (CD) using data from a prospective cohort study.^{1, 2}

Our study design is important in nutritional epidemiological work as it removes both recall and selection biases inherent in retrospective case-control studies. Only one other similar prospective investigation exists in this area, the US Nurses' Health Study, which identified 269 incident cases and did not report any associations with total long-chain n-3 PUFA intake and CD.³ This investigation was very well conducted with large numbers of participants and several assessments of habitual diet, but did not specifically report DHA intake. As individual n-3 PUFAs may have differing effects on the inflammatory process, this may explain the discrepancies between the results from the two cohorts.

Our findings are unlikely to be due to recall bias, as all participants were well at recruitment and their diet would not be affected by symptoms. Although in our work, more than one measure of diet would have been preferable, any changes over time would result in spurious under-estimates of effect sizes, rather than false over-estimates. Ideally, other cohort studies are required to investigate DHA, in the aetiology of CD, although we are unaware of any.

An approach to help clarify the effect of DHA is to conduct clinical trials of purely DHA supplementation, as opposed to fish oils in previous studies, in the treatment of CD. Whether the potential effects of DHA are similar in aetiology and on clinical parameters is unknown. However, our epidemiological work would support the further investigation of DHA as a chemopreventive and possibly a treatment option for CD.

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