

Lower risk of bowel cancer death linked to high omega 3 intake after diagnosis

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A high dietary intake of omega 3 fatty acids, derived from oily fish, may help to lower the risk of death from bowel cancer in patients diagnosed with the disease, suggests research published online in the journal *Gut*.

If the findings can be reproduced in other studies, patients with [bowel cancer](#) might benefit from boosting their oily fish intake to help prolong their survival, say the researchers.

Previous experimental research has shown that omega 3 polyunsaturated [fatty acids](#) (PUFAs)—namely, [eicosapentaenoic acid](#) (EPA), [docosahexaenoic acid](#) (DHA), and docosapentaenoic acid (DPA)—can suppress tumour growth and curb blood supply to malignant cells (angiogenesis).

The researchers base their findings on the participants of two large long term studies: the Nurses' Health Study of 121,700 US registered female nurses, aged between 30 and 55 in 1976; and the Health Professionals Follow Up Study of 51,529 male health professionals, aged between

40 and 75 in 1986.

All participants filled in a detailed questionnaire about their medical history and lifestyle factors when they joined the studies, and this was repeated every two years subsequently.

The information requested included any diagnosis of bowel cancer and other potentially influential factors, such as height, weight, smoking status, regular use of aspirin and non-steroidal inflammatory drugs, and exercise taken.

Data on what they ate were collected and updated every four years, using Food Frequency Questionnaires, with categories for each nutrient ranging from 'never or less than once a month,' to 6 or more times a day.'

The completeness of the data was above 95% for each of the questionnaires in both studies through to 2010.

Among 1659 participants who developed bowel cancer, 561 died; 169 of these were classified as deaths from the disease during an average monitoring period of 10.5 years. Other major causes of death included cardiovascular disease (153) and other cancers (113).

Participants with a higher dietary intake of omega 3 from oily fish were more likely to be physically active, take multivitamins, drink alcohol and to consume more vitamin D and fibre. They were also less likely to smoke—all factors associated with a lower risk of bowel cancer.

But those who had been diagnosed with bowel cancer and whose diets contained higher levels of marine omega 3 had a lower risk of dying from the disease. Omega 3 intake, however, was not linked to a lower risk of death, overall.

The extent of the reduced risk seemed to be linked

to dose, with higher doses associated with lower risk, the findings showed. This held true even after taking account of intake prior to the diagnosis, as well as other potentially influential factors.

Compared with patients who consumed less than 0.1 g of omega 3 fatty acids daily, those who consumed at least 0.3 g daily after their diagnosis, had a 41% lower risk of dying from their disease.

This reduced risk applied to food sources and supplements, although few people used omega 3 fish oil supplements, the researchers point out.

The association between marine omega 3 intake and lowered risk of death seemed to be particularly evident among those who were tall, had a BMI below 25, or who didn't take regular aspirin.

And increasing intake of marine omega 3 by at least 0.15 g daily after diagnosis was associated with a 70% lower risk of dying from bowel cancer; while a reduction in daily intake was associated with a 10% heightened risk of death from the disease.

Similar patterns were evident for death from all causes (13% lower and 21% higher, respectively) in those who either increased or decreased their intake after diagnosis.

This is an observational study so no firm conclusions can be drawn about cause and effect, but the researchers say that their findings provide the first line of population based evidence for the potentially positive impact of [oily fish](#) omega 3 fatty acids on bowel cancer survival.

"If replicated by other studies, our results support the clinical recommendation of increasing marine omega 3 PUFAs among patients with bowel cancer," they conclude.

More information: Marine omega-3 polyunsaturated fatty acid intake and survival after colorectal cancer diagnosis, [DOI: 10.1136/gutjnl-2016-311990](#)

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