**Diet of oily fish may help cut risk of dying from bowel cancer**

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A diet high in fatty acids from oily fish might reduce the risk of dying from bowel cancer. But experts caution the findings are preliminary.

New US-based research indicates there might be a link between high dietary omega-3 fatty acids from oily fish and a lowered risk of death in bowel cancer patients.

The findings, published today in the journal Gut, examined participants of two longitudinal studies.

They were questioned every second year on the frequency of foods in their diet.

More than 1600 participants of the studies developed bowel cancer: those who consumed at least 0.3g of omega-3 fatty acids a day had a 41 per cent lower risk of dying from the disease, compared with patients who reported they ate less than 0.1g daily.

The researchers note that because the findings were observational, they cannot draw firm conclusions about cause and effect.

Study participants who ate more omega-3 from oily fish were also more likely to be physically active, take multivitamins, drink alcohol and to consume more vitamin D and fibre.

But the researchers, from Massachusetts General Hospital in Boston, said if the findings could be reproduced in other studies, patients with bowel cancer might benefit from boosting their oily fish intake to help prolong their survival.

Previous experimental research had shown that omega-3 polyunsaturated fatty acids could suppress tumour growth and curb blood supply to malignant cells.

The researchers based their findings on 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.

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. Categories for each nutrient ranged from "never or less than once a month" to "six or more times a day".

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: higher doses were associated with lower risk, the findings showed.

This held true even after taking account of intake before 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 per cent 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 per cent lower risk of dying from bowel cancer; while a reduction in daily intake was associated with a 10 per cent heightened risk of death from the disease.

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

Although noting it was an observational study, so no firm conclusions could be drawn about cause and effect, the researchers say that the 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 polyunsaturated fatty acids among patients with bowel cancer," they conclude.

New Zealand researchers have also responded to the study with caution.

Professor Ann Richardson, of the University of Canterbury's School of Health Science, noted the researchers' points that the studies were observational and that more work is needed in a larger population.

She also said a reference study of alcohol as a factor "associated with a lower risk of bowel cancer" could be misleading, as alcohol increased the risk of colorectal cancer, and the risk increased with the amount of alcohol consumed.

The most recent estimate of the effect of alcohol on bowel cancer comes from a pooled analysis of 66 epidemiological studies, where heavy drinking -- more than four drinks a day -- was associated with a 44 per cent increase in the risk of bowel cancer, Professor Richardson said.

"Lifestyle factors that could lower people's risk of developing bowel cancer are reducing obesity, hazardous drinking, smoking and consumption of red and processed meats, and increasing physical activity."

Professor Wayne Cutfield, of the University of Auckland-based Liggins Institute, said the possible mechanism by which omega-3 supplementation protected against bowel cancer mortality is not clear in the study.

"However, as the authors of this interesting study suggest, further large intervention studies are required to evaluate whether there is indeed a causal relationship between omega-3 intake and reduction in bowel cancer mortality.

"It is too early to include omega-3 supplementation in the treatment arsenal of bowel cancer."

Bowel Cancer New Zealand welcomed the study.

The nationwide patient-led charity recommended that all Kiwis strive for a healthy diet, take exercise and restrict their alcohol consumption to reduce the likelihood of bowel cancer.

"New Zealand has among the world's worst bowel cancer death rates," spokesperson Sarah Derrett said.

"The clearest, and evidence-based, step to reducing unnecessary deaths is the Minister of Health's decision to implement a nationwide screening programme - a programme that will screen both men and women.

"We are losing 1200 people a year to bowel cancer. Screening will save hundreds of New Zealanders' lives."

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