

# Trans fats linked to increased endometriosis risk and omega-3-rich food linked to lower risk

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Women whose diets are rich in foods containing Omega-3 oils might be less likely to develop endometriosis, while those whose diets are heavily laden with trans fats might be more likely to develop the debilitating condition, new research published today (Wednesday 24 March) suggests.

The study - which is the largest to have investigated the link between diet and endometriosis risk and the first prospective study to identify a modifiable risk factor for the condition - found that while the total amount of fat in the diet did not matter, the type of fat did. Women who ate the highest amount of long-chain Omega-3 fatty acids were 22% less likely to be diagnosed with endometriosis than those who ate the least and that those who ate the most [trans fats](#) had a 48% increased risk, compared with those who ate the least.

The findings from 70,709 American nurses followed for 12 years, published online in Europe's leading [reproductive medicine](#) journal [Human Reproduction](#), not only suggest that diet may be important in the development of endometriosis, but they also provide more evidence that a [low fat diet](#) is not necessarily the healthiest and further bolster the case for eliminating trans fats from the food supply, said the study's leader, Dr. Stacey Missmer, an assistant professor of obstetrics, gynaecology and reproductive biology at Brigham and Women's Hospital and Harvard Medical School in Boston, Massachusetts, USA.

"Millions of women worldwide suffer from endometriosis. Many women have been searching for something they can actually do for themselves, or their daughters, to reduce the risk of developing the disease, and these findings suggest that dietary changes may be something they can do. The results need to be confirmed by further research, but this study gives us a strong indication that we're on the right track in identifying food rich in Omega-3 oils as protective for endometriosis and trans fats as detrimental," Dr. Missmer added.

Endometriosis occurs when pieces of the womb lining, or endometrium, is found outside the womb. This tissue behaves in the same way as it does in the womb - growing during the menstrual cycle in response to oestrogen in anticipation of an egg being fertilized and shedding as blood when there's no pregnancy. However, when it grows outside the womb, it is trapped and cannot leave the body as menstruation. Some women experience no symptoms, but for many it is very incapacitating, causing severe pain. The tissue can also stick to other organs, sometimes leading to infertility. It afflicts about 10% of women. The cause is poorly understood and there is no cure. Symptoms are traditionally treated with pain medication, hormone drugs or surgery.

In the study, the researchers collected information from 1989 to 2001 on 70,709 women enrolled in the U.S. Nurses Health Study cohort. They used three food-frequency questionnaires spaced at four-year intervals to record the women's usual dietary habits over the preceding year. They categorized consumption of the various types of dietary fat into five levels and related that information to later confirmed diagnoses of endometriosis. A total of 1,199 women were diagnosed with the disease by the end of the study. The results were adjusted to eliminate any influence on the findings from factors such as total calorie intake, body mass index, number of children borne and race.

Long-chain [Omega-3 fatty acids](#) are found mostly in oily fish. They have

been linked to reduced heart disease risk. In the study, the highest contributor was mayonnaise and full-fat salad dressing, followed by fatty fish such as tuna, salmon and mackerel.

Trans fats are artificially produced through hydrogenation, which turns liquid vegetable oil into solid fat. Used in thousands of processed foods, from snacks to ready-meals, they have already been linked to increased heart disease risk. Some countries and municipalities have banned them. The major sources of trans fats in this study were fried restaurant foods, margarine and crackers.

"Women tend to go to the Internet in particular to look for something they can do. The majority of the dietary recommendations they find there are the ones prescribed for heart health, but until now, those had not been evaluated specifically for endometriosis," Dr. Missmer said. "This gives them information that is more tailored and provides evidence for another disease where it is the type of fat in the diet, rather than the total amount, that is important."

Besides confirming the finding, a next step could be to investigate whether dietary intervention that reduces trans fats and increases Omega-3 oils can alleviate symptoms in women who already have [endometriosis](#), Dr. Missmer added.

**More information:** A prospective study of dietary fat consumption and endometriosis risk. Human Reproduction journal.

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