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Trans fatty acids from industrial processed foods may be associated with greater risk of developing ovarian cancer

Lyon, France, 2 July 2020 – New results, published today in the journal *Cancer Epidemiology, Biomarkers & Prevention*¹ by scientists from the International Agency for Research on Cancer (IARC) and partners, suggest that higher intakes and circulating levels of trans fatty acids from industrial processed foods and from deep-frying fat may be associated with a greater risk of developing ovarian cancer.

The researchers analysed data from the European Prospective Investigation into Cancer and Nutrition (EPIC) cohort, which included 1486 incident cases of ovarian cancer, to prospectively investigate the association between individual intake of fatty acids from various food sources and the risk of developing ovarian cancer.

“Although a few small-scale studies had already suggested a potential link between the consumption of trans fatty acids and the risk of ovarian cancer, the evidence was still inconclusive. This is the first Europe-wide prospective study showing a relationship between intake of industrial trans fatty acids and development of ovarian cancer,” says IARC scientist Dr Inge Huybrechts, one of the authors of the study. “Previously, dietary intakes of industrial trans fatty acids have been associated with higher risk of breast cancer in the EPIC cohort. In addition, positive associations between intakes of trans fatty acids and prostate cancer and colorectal cancer have been reported in the scientific literature.”

To date, experimental data on the effects of industrial trans fatty acids on cancer development are limited. This hinders the interpretation of biological pathways underlying the association between intake of industrial trans fatty acids and development of ovarian cancer.

However, data from both experimental and epidemiological studies have suggested that industrial trans fatty acids affect obesity, oxidative stress, and inflammation.

“Industrial trans fatty acids are associated with obesity and inflammation, which are known risk factors for ovarian cancer and which could explain, at least partly, the positive association between these fatty acids and ovarian cancer,” says IARC scientist Dr Véronique Chajès, an author of the study.

Ovarian cancer, which accounted for 295 414 new cases and 184 799 deaths in 2018 worldwide, is the eighth most common cancer type and the eighth most common cause of cancer death in women. Because the incidence of ovarian cancer is rising worldwide, prevention strategies are urgently needed; however, few preventable factors have been identified.

¹ Yammine S, Huybrechts I, Biessy C, Dossus L, Aglago EK, Naudin S, et al. (2020). Dietary and circulating fatty acids and ovarian cancer risk in the European Prospective Investigation into Cancer and Nutrition. *Cancer Epidemiol Biomarkers Prev*. Published online 2 July 2020. <https://doi.org/10.1158/1055-9965.EPI-19-1477>

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“These new findings are in line with the World Health Organization (WHO) recommendation to eliminate industrial trans fatty acids from foods,” says Dr Marc Gunter, head of the Section of Nutrition and Metabolism at IARC. “This study provides new evidence that reduction in the consumption of industrially processed foods, including fast food, could help reduce the risk of ovarian cancer and many other chronic diseases, including other cancer types, that are related to higher consumption of industrial trans fatty acids.”

Note to the editor

The European Prospective Investigation into Cancer and Nutrition (EPIC) is one of the largest European prospective cohort studies focused on nutrition, lifestyle, and cancer. The EPIC study includes 521 330 participants recruited between 1992 and 2000 from 23 centres across 10 European countries.

For more information, please contact

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The International Agency for Research on Cancer (IARC) is part of the World Health Organization. Its mission is to coordinate and conduct research on the causes of human cancer, the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control. The Agency is involved in both epidemiological and laboratory research and disseminates scientific information through publications, meetings, courses, and fellowships. If you wish your name to be removed from our press release emailing list, please write to com@iarc.fr.