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Influence of adiposity on the association of omega-3 and omega-6 intake with mammographic breast density

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Among known or suspected breast cancer risk factors, only a few are modifiable. Therefore, the possibility of reducing breast cancer incidence through modifiable dietary behaviors is highly attractive. Increasing daily intake of omega-3 fatty acids could represent an easy, inexpensive and promising way for reducing the incidence of breast cancer. However, recent data indicate that the protective effect of dietary omega-3 fatty acids, aloneor in ratio with omega-6, on breast cancer risk may be limited to obese women. To further clarify these findings, we examined the association between omega-3 fatty acids and mammographic breast density, one of the strongest breast cancer risk indicators and a promising intermediate marker for this disease. In our population of postmenopausal women, higher daily intake of long-chain omega-3 fatty acids, alone or in ratio to omega-6, was associated with lower mammographic breast density among women with high body mass index, but not among women with low body mass index. The strength of these association and interaction were stronger when body mass index was replaced by waist circumference. Such findings suggest that increased long-chain omega-3 fatty acids intake could be an efficient strategy for breast cancer prevention, particularly among postmenopausal obese women.

Biography

Caroline Diorio completed her PhD in Epidemiology at Laval University in 2005 and was a Postdoctoral fellow at McGill University in 2008. Currently, she is an Assistant Professor at Department of Social and Preventive Medicine at Laval University, Quebec City, Canada. Her research is dedicated to a personalized approach to breast cancer prevention and treatment. She has published several papers in various peer-reviewed journals.

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