

# Changes of Lifestyle and Risk of Breast Cancer in Women of the European Prospective Investigation into Cancer and Nutrition (EPIC)

Thursday, 23 November 2023 14:28 (12 minutes)

## Introduction

It has been postulated that adopting healthy behaviours such as limiting alcohol consumption, maintaining a healthy weight, engaging in regular physical activity, not smoking, and eating a healthy diet could reduce the risk of breast cancer. Within the EPIC cohort, we previously combined these five lifestyle factors, assessed at recruitment, into a single Healthy Lifestyle Index (HLI) and found that a reduction of 3% of breast cancer risk was associated with each unit increase in HLI. However, regarding the potential impact of changes in these behaviours on the risk of breast cancer, epidemiological data still remain scarce. The objective of the present study is to evaluate the association between lifestyle changes and breast cancer risk among women in the EPIC cohort.

## Methods

Using questionnaire data, collected at baseline and follow-up, the HLI score was calculated by combining information on alcohol consumption, body mass index, physical activity, and smoking status. This score ranged from 0 (unfavorable lifestyle) to 16 (favorable lifestyle). Among 184,799 eligible participants, 4,922 cases of breast cancer were observed over a median duration of 7.05 years after the follow-up questionnaire. Cox proportional hazards models, using age as the time scale, were used to estimate hazard ratios (HRs) with 95% confidence intervals (CIs) for associations between changes in HLI and breast cancer risk. Associations between changes in each of the four components of the HLI, mutually adjusted, and breast cancer risk were also assessed.

## Preliminary Results

Continuous and categorical HLI changes were not significantly associated with breast cancer risk. However, women experiencing an improvement of their BMI component (corresponding to a weight loss) were associated with a 5% lower risk of breast cancer (HR 0.95; 95% CI 0.91-0.99). In premenopausal women, a similar association between an improvement of the physical activity component and breast cancer risk was found (HR 0.92; 95% CI 0.86-0.98).

## Next Steps

An analysis by breast cancer subtypes (estrogen receptor positive or negative, ER+/ER-) is currently on going. The latter is based on competitive risks, notably with the application of the Lunn and McNeil's approach.

**Primary authors:** VASSON, Fanélie (NME Branch - IARC); Dr MATTA, Komodo (NME Branch - IARC); Dr DOSSUS, Laure (NME Branch - IARC); Dr FERRARI, Pietro (NME Branch - IARC)

**Presenter:** VASSON, Fanélie (NME Branch - IARC)

**Session Classification:** Oral Presentations