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Significant changes in dietary intake and supplement use after breast cancer diagnosis in a UK prospective multicentre study

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The diagnosis of cancer can motivate survivors to alter their lifestyle habits⁽¹⁾. As there is evidence to suggest that diet plays a role in breast cancer progression and overall mortality⁽²⁾, healthcare providers need to be aware of what changes patients are willing to make in order to inform and encourage them. However, a few studies have reported pre- and post-diagnostic lifestyle behaviours.

Semi-quantitative food frequency questionnaires, which were developed by the UK study arm of the European Prospective Investigation into Cancer study⁽³⁾, were completed by a cohort of 1760 breast cancer patients participating in the UK prospective DietCompLyf study approximately one year after diagnosis. The questionnaires include 130 food and beverage items in addition to questions on milk and cereal consumption, cooking/eating habits and supplement use and were used to evaluate dietary intake and supplement use before and after the diagnosis of breast cancer. Food items were combined to form food groups based on previously reported classification of foods⁽⁴⁾ and similarity in nutrient content and culinary use. The daily intake of kilocalories, macronutrients and common micronutrients were also derived. Mean and standard deviations of energy-adjusted nutrient and food intake were estimated. Paired *t*-tests were used to determine whether changes pre- and post-diagnosis were significantly different from zero. Chi-squared (χ^2) tests were used to compare the proportion of supplement users before and after diagnosis.

The intake of fruit, vegetables, wholegrain foods, cereal, lean sources of protein, nuts and tea increased significantly post-diagnosis ($P < 0.05$). Conversely, after diagnosis, the consumption of high-fat, high-sugar products, red meat, coffee, some alcoholic drinks and refined grain products was significantly decreased ($P < 0.05$). Post-diagnosis, vitamin and mineral intake increased with the exception of retinol and calcium. Supplement use was highly prevalent pre-diagnosis (59%), increasing to 64.2% after diagnosis. Fish oils, multi-vitamins and minerals and evening primrose oil were most often used and the proportion of users significantly increased ($P < 0.05$) after diagnosis. The percentage of women using oestrogenic botanical supplements (OBS) was small but more than doubled to 9.7% after diagnosis ($P < 0.05$). Specific reference to hormonal-related use on the product label was made by less than a third of named OBS.

British women participating in the DietCompLyf study reported significant changes in dietary intake and supplement use after their breast cancer diagnosis. These findings contribute to our understanding of female cancer survivors' attitudes towards dietary changes which are crucial for developing and implementing recommendations.

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