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Adherence to WCRF/AICR guidelines for cancer prevention in participants of the DietCompLyf breast cancer survival study

S. F. Brennan[1], M. M. Cantwell[1], R. Swann[2], C. Robertson[2], A. A. Mulligan[3], M. V. Dwek[2] and J. V. Woodside[1]

[1]*Centre for Public Health, Grosvenor Road, Queen's University Belfast,* [2]*Against Breast Cancer Research Unit, University of Westminster, London, W1W 6UW and* [3]*Department of Public Health and Primary Care, University of Cambridge, Cambridge, CB1 8RN*

Despite increasing breast cancer survival rates there are currently no specific lifestyle guidelines for cancer survivors due to a lack of evidence; instead, they are advised to adhere to the World Cancer Research Fund/American Institute for Cancer Research (WCRF/AICR) recommendations for cancer prevention(1). These guidelines have great potential as they represent overall lifestyle habits rather than isolated behaviours. To date, only one US-based study has examined adherence to these recommendations in breast cancer survivors(2). The present aim is to construct an index based on these guidelines and assess adherence, by clinical and demographic characteristics, in the UK-based DietCompLyf study of breast cancer survival.

Breast cancer patients were recruited from 56 UK hospitals. Detailed information on pathology, treatment and medication was obtained from hospital staff and lifestyle information was self-reported by patients at baseline (9–15 months post diagnosis). Food frequency questionnaires (FFQ) were used to assess post-diagnosis diet and data was processed using the CAFÉ and FETA nutritional analysis programs developed by the Norfolk study arm of EPIC. A scoring scheme was constructed from the WCRF/AICR recommendations (score of 1 = adherence; score of 0 = non-adherence) and adherence to each of the 8 recommendations, including overall adherence, was obtained.

Clinical/demographic data was available for 3157 participants and FFQs were completed by 2801 participants. Potential scores ranged from 0 (least adherent) to 8 (most adherent). The modal score was 3 (30% of participants), whilst the median score was 4 (27.4% of participants). Only 0.5% of participants scored 0 and the highest score obtained was 7 (0.6% of participants). The alcohol recommendation had the highest compliance (77.5%), followed by the physical activity recommendation (67.1%). A high percentage of the cohort did not meet the plant food recommendation (86%), the animal food recommendation (73.4%), nor the energy density recommendation (62.3%). McNemar's Chi-square test was used to compare categorised clinical/demographic characteristics with adherence scores (grouped into 3 categories of total score: 0–2, 3–5 or 6–8). Poorer adherence was observed in older women than younger women ($p < 0.01$) and consequently, those with poorer adherence were more likely to be postmenopausal ($p < 0.01$). Women with higher adherence were more likely to have had axillary node clearance, less likely to be HER2 negative and more likely to have spent longer in education than women with poorer adherence ($p < 0.01$). Although the majority of the cohort are Caucasian (90.3%), some differences by ethnicity were observed ($p < 0.01$).

In conclusion, adherence to all of the WCRF/AICR recommendations was low amongst DietCompLyf study participants. Some differences in adherence were observed by different clinical/demographic characteristics, including a general tendency for better adherence in younger, longer-educated participants. It is possible that the lack of guidelines specific to cancer survivors may have an impact on the perceived relevance of these recommendations in this particular population. Knowledge of the guidelines may also be an issue. Further research is necessary to clarify the association between lifestyle habits and breast cancer survival.

1. World Cancer Research Fund & American Institute for Cancer Research (2007) Food, nutrition and the prevention of cancer: a global perspective, 2nd ed. Washington, DC.
2. Inoue-Choi M, Lazovich D, Prizment AE *et al.* (2013) *J ClinOncol* **31**, 1758–66.

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