Abstract

Objective: The aim of this study was to investigate changes in dietary intake, anthropometric parameters and markers of oxidative stress in 40 women who underwent surgery, chemotherapy or radiation therapy for breast cancer. Methods: Pretreatment and post-treatment measurements included data collected through a food frequency questionnaire, weight and height to calculate the body mass index (BMI) and oxidative stress markers assessed from blood reduced glutathione (GSH), serum antioxidant capacity (AC), plasma thiobarbituric acid reactive substances (TBARS), serum lipid hydroperoxides (LH) and plasma carbonyls. Differences were compared using paired Student's t-test or paired Wilcoxon's test. Results: A significant increase (P < 0.05) in the intake of the food groups: meat and eggs, dairy products, beans, oils and fats, as well as food from the subgroups: red meat, milk and other dairy products rich in fat, fruit rich in vitamin C and vegetable fats was found after treatments. There was a significant increase in body weight (P < 0.05), BMI (P < 0.05), levels of TBARS (P < 0.0001), LH (P < 0.005) and carbonyls (P < 0.0001) and a significant decrease of levels of AC (P < 0.005) and GSH (P < 0.0001). Conclusion: Breast cancer diagnosis and treatments were associated with dietary intake changes and increased body weight, BMI and oxidative stress. These potential changes have important implications for preventive nutrition counseling.

Keywords

Breast cancer, Dietary intake, Anthropometric parameters, Oxidative stress, Treatment.