Results: 82 BCS (Mage = 60 (39–84); Msurvivorship = 5 years (0.5–23); Mco-morbidities = 3.5 (0–12); ≥2 functional limitations = 86.6%; Caucasian = 73.2%; African-American = 26.8%) enrolled (82% accrual). Of these, four did not complete the study (2 refused to be wait-listed due to not wanting to wait to garden, 1 withdrew due to family obligations, and 1 was lost to follow-up), resulting in an retention rate of 95% over a 1-year period. All BCS who completed the intervention ($n = 42$) rated their Harvest for Health experience as "Good to Excellent", reported that they would "do it again", and planned to "continue to garden." When asked to rate, on a scale of 1–10 (1 = not at all and 10 = very much), the influence of gardening on motivating behavior change, BCS reported that gardening motivated them to... "eat a healthier diet" (M = 8.38; SD = 2.07), "eat more vegetables" (M = 8.43; SD = 2.08), and "be more physically active" (M = 7.5; SD = 2.73). Conclusions: The vegetable gardening intervention proved to be feasible and provided new knowledge about the influence of gardening on motivating behavior change among BCS. Findings suggest that a mentored home-based vegetable gardening may offer an integrative approach to improve diet, vegetable consumption, and physical activity among BCS. Larger, future studies are warranted.

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Phthalate Metabolites and Postmenopausal Breast Cancer Risk

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Mounting laboratory and animal model evidence supports the potentially carcinogenic effects of phthalates, chemicals used as plasticizers in a wide variety of consumer products (e.g., cosmetics, medications, vinyl flooring). Phthalate metabolites (PMs) are measurable in nearly 100% of the U.S. population, though levels vary widely, and also have been reported in human breast milk. However, prospective data on whether phthalates affect human breast cancer risk is lacking. Methods We conducted a nested case-control study within the Women's Health Initiative (WHI) prospective cohort ($N = 419$ invasive cases and 838 matched controls). Controls were matched 2:1 on age, enrollment date, follow-up time, and study group (WHI clinical trial or observational study). We measured a panel of thirteen PMs and creatinine in two or three urine samples per participant over 1 to 3 years. Multivariable conditional logistic regression analysis was used to estimate risk ratios and 95% confidence intervals (RR, 95% CI) for breast cancer risk associated with each PM, with incorporation of measurement error correction approaches to account for the moderate within-participant variability of PMs. Results Overall, we did not observe statistically significant associations between individual PMs and breast cancer risk in analyses adjusted for matching factors, creatinine, body mass index, smoking status, and race/ethnicity: e.g., mono-2-ethylhexyl phthalate (MEHP; p trend = 0.31; e.g., RR 0.91, 95% CI, 0.62–1.33), monoethyl phthalate (MEP; p trend = 0.16; e.g., RR 0.80, 95% CI, 0.55–1.16 for 4th quartile vs. 1st quartile), monohydroxy-isobutyl phthalate (MHiBP; p trend = 0.11; e.g., RR 0.78, 95% CI, 0.51–1.18 for 4th quartile vs. 1st quartile, and monobenzyl phthalate (MBzP; p trend = 0.11; e.g., RR 0.86, 95% CI, 0.57–1.28 for 4th quartile vs. 1st quartile). Conclusions These results indicate that urinary phthalate metabolite levels are not related to increased breast cancer risk. However, some phthalate metabolites may be associated with decreased risk, possibly through anti-estrogenic actions. Future analyses will explore grouping metabolites by parent phthalate and also will separately evaluate breast cancer risk by tumor estrogen receptor status and explore potential effect modification.

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Family History of Melanoma and Lifetime Patterns of Daytime Hours Spent Outdoors in Melanoma-prone Families

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Longer daytime hours spent outdoors reflect higher ultraviolet radiation exposure, which is a modifiable risk factor of melanoma. Among individuals of melanoma-prone families, we sought to describe lifetime patterns for hours spent outdoors, and to investigate whether having an affected family member with melanoma from an older generation was associated with patterning. Methods: Information on hours spent outdoors on weekdays, weekends, and holidays beginning at age 10 was obtained from individuals from melanoma-prone families. We determined time-weighted average hours outdoors for warmer months, colder months, and the entire year. K-means for longitudinal data was used to identify lifetime patterns. We created a variable to indicate whether there was an existing melanoma in a prior generation of an individual's family. Multinomial logistic regression models were used to examine the association between family history of melanoma and lifetime patterns of daytime hours spent outdoors, adjusting for covariates. Results: We analyzed 2540 individuals from 669 families ascertained across 15 countries, and four lifetime patterns were identified. Three patterns began with moderate hours that (B) decreased slowly ($n = 1014$); (C) decreased sharply until age 20 and then remained low ($n = 572$); or (D) increased at age 20 and remained high ($n = 173$). One pattern, (A) began with few hours that decreased at age 20 then remained very low ($n = 781$). Compared to individuals with the high (D) pattern, individuals with an existing melanoma in a prior family generation were more likely to have the low (A) pattern (OR = 1.92, 95% CI: 1.34–2.76), the moderate and slowly decreasing (B) pattern (OR = 1.72, 95% CI: 1.15–2.57), or the sharply decreasing (C) pattern (OR = 2.01, 95% CI: 1.40–2.87). Similar associations were observed separately in warmer and colder months. Examining lifetime patterns of hours spent outdoors during holidays, we noticed a stronger relationship with family history of melanoma in warmer months than in colder months. Conclusions: As expected, the diagnosis of a melanoma in a prior generation may impact family members' awareness of UVR exposure leading to reduced daytime hours spent outdoors.

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