

Benefits of a Nature-Based Walking Program for Breast Cancer Survivors: A Pilot Study

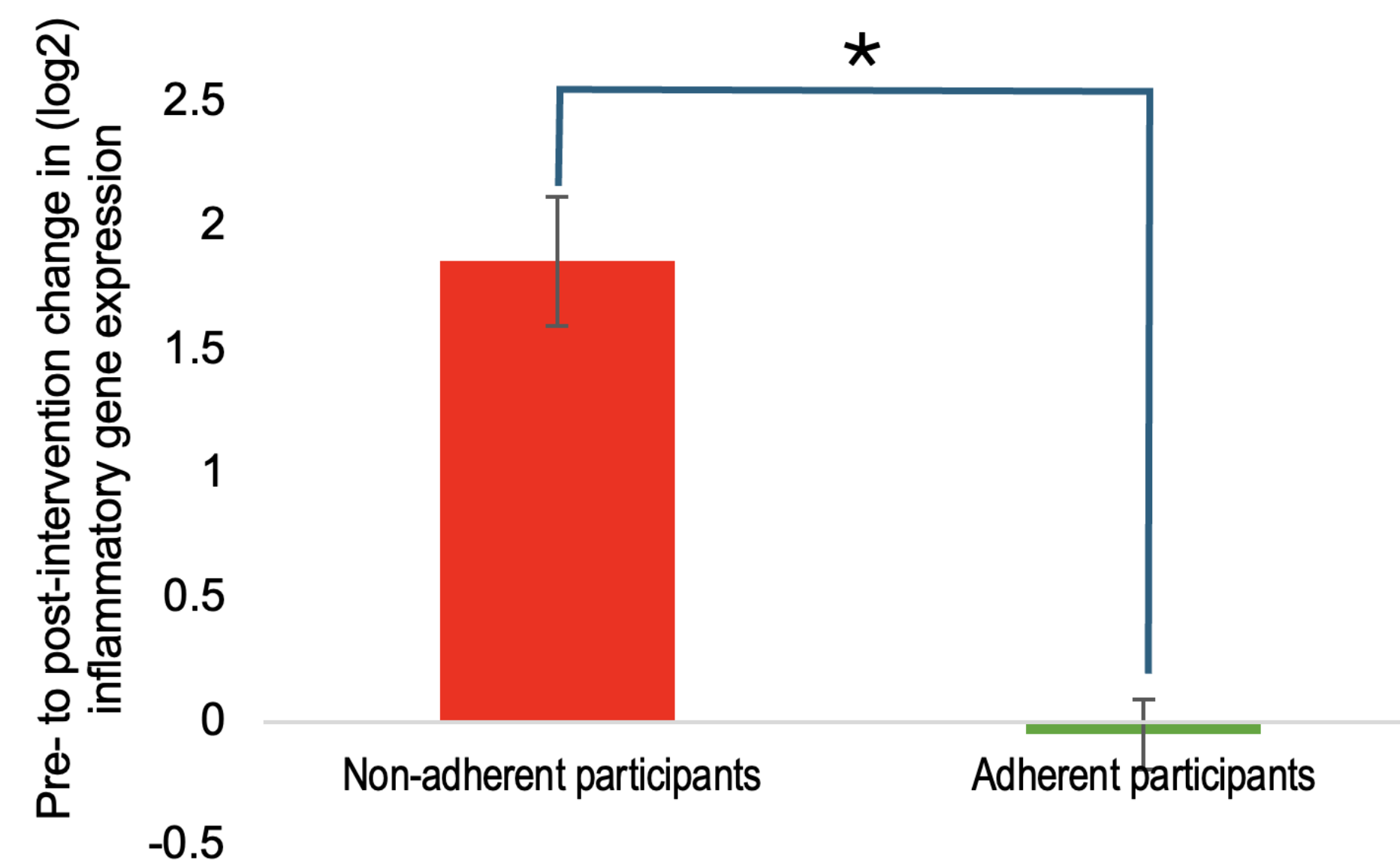
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Introduction

- Numerous benefits of exercise for breast cancer survivors are well-established.
- National guidelines provide clear guidance on the type, intensity, frequency, and duration of exercise goals per week.
- A moderate intensity walking program with a goal of 150 min/week is a standard recommendation.
- However, the **physical environment of *where* this exercise occurs has not been explored for optimal breast cancer survivorship.**
- Emerging research in the general population shows that nature-based exercise regimens have numerous benefits related to immune function, circadian function, psychological well-being, and cardiovascular benefits, among others.
- Given the growing evidence of health benefits of exercise in green space, there is an important need to rigorously examine its potential benefits for breast cancer survivorship.**



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Methods

- Twenty breast cancer survivors who completed active treatment engaged in a moderate intensity walking program in a nature preserve three times per week (50 minutes per session) for 3 months.
- Feasibility was measured through attendance (defined as attending at least 25 out of 36 sessions). Secondary outcomes, measured before and after the intervention, included cancer-relevant biomarkers.
- CTRA gene expression is a set of genes that is upregulated in response to stress or threat. Its dysregulation has significant implications for health and disease.

Results

- Patients (Mage: 56 ± 11) had a history of surgeries (95%), chemotherapy (55%), endocrine therapy (89%), and radiation therapy (65%).
- 14 out of 20 patients met attendance thresholds.
 - 14 patients attended an average of 32.9 sessions.
 - 6 patients who did not complete the study attended on average 12.8 sessions.
- Mean improvements in aerobic capacity (6MWT), strength (dominant hand grip test and 1-repetition maximum leg press), and well-being (FACT-G).
- Adherent participants demonstrated improvements in pro-inflammatory gene expression compared to the non-adherent participants (+1.86 log2 mRNA abundance +/- SE 0.26, p < .001).

Conclusions

- Nature-based walking programs are feasible for breast cancer survivors.
- Appropriately powered randomized clinical trials comparing a nature-based walking program to a gym-based walking program are needed.