

IMproving Physical Activity of Cancer survivors through wearable Technology; the **IMPACT** trial.



Lynch C^{1,2}, Barnett FS¹, Bird S², Lythgo N², Selva-Raj I²

¹ Northern Health, Melbourne, Australia ² RMIT University, Melbourne, Australia

Background

- Among breast cancer survivors, physical inactivity increases the risk of cancer recurrence, cancer-specific and all-cause mortality. Increasing physical activity reduces that risk.
- Increasing physical activity is also an effective behavioural strategy for attenuating a decline in physical functioning, enhancing the health-related quality of life, and mitigating cancer-related fatigue.
- The fitness tracker is an emerging and accessible technology that may facilitate behavioural change in physical activity.
- The IMPACT trial aimed to determine the effect of a 12-week intervention using a fitness tracker combined with a behavioural counselling and goal-setting session, in changing the physical activity behaviour of inactive posttreatment breast cancer survivors.

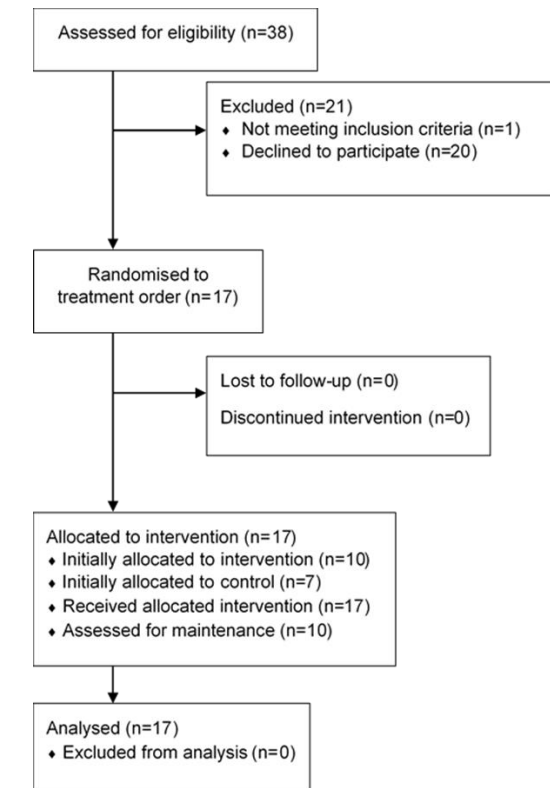


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Method

- **Participants:** Diagnosed with breast cancer (stages I–III), and completed primary and adjuvant treatments within the last five years. Physically inactive (engaging in ≤ 150 minutes of moderate-intensity physical activity/week).
- **Intervention:** Cross-over design. Using a report of baseline physical activity, all were asked to think and record how to increase physical activity and set goals. Participants were provided with a Garmin Vivofit2 fitness tracker and requested to use it for 12 weeks.
- **Measures:** Physical activity was assessed by accelerometry. Estimates of the mean proportion of time spent sedentary and in light-, moderate-, and vigorous-intensity physical activity were calculated. Health-related quality of life was assessed by the Functional Assessment of Cancer Therapy Scales, FACT-General, FACT-Breast, FACT-Anemia), and FACIT-Fatigue.

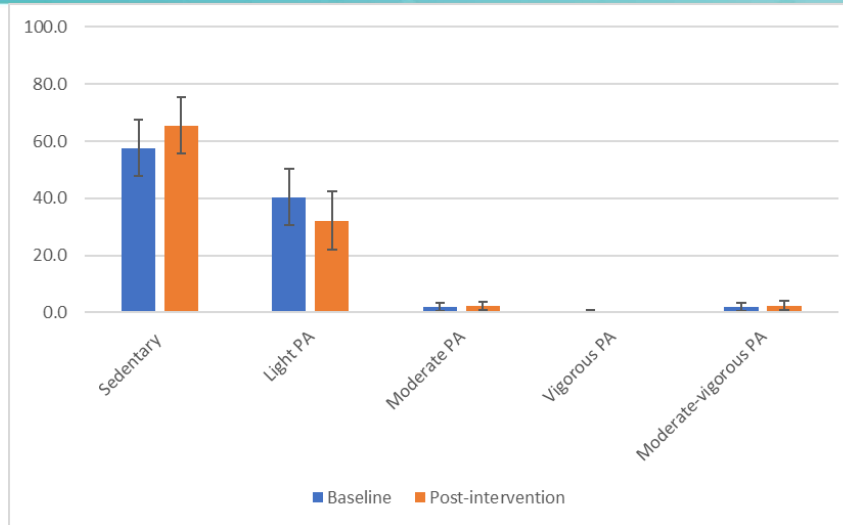
Consort diagram



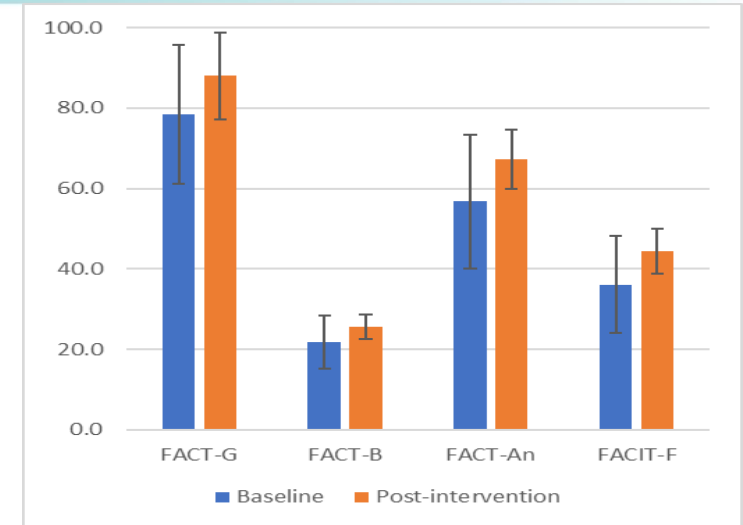
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Results

Mean change in proportions of the day spent in the respective physical activity classification ($n = 17$)



Mean change in health-related quality of life indicators ($n = 17$)



Moderate-to-vigorous intensity physical activity increased to a mean of 4.5 min/day, ($d=0.34$).

Time spent as a proportion of the day in light-intensity physical activity decreased (-8.3%; $d = -0.85$) and sedentary behaviour increased (7.9%; $d = 0.77$). All health-related quality of life indicators increased significantly.

Conclusions: Interindividual differences in the patterns of physical activity behaviour change suggest that only for some, fitness trackers change levels of moderate-to-vigorous intensity physical activity. Intervention alone may be beneficial for health-related quality of life indicators .