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Contribution ID: **334** Type: **1 - Scientific Poster**

Preliminary Patterns of Adherence to Remote Exercise During Neoadjuvant Chemotherapy: Insights from the NeoACT Trial

Thursday 23 July 2026 14:25 (20 minutes)

Background:
The Neo-ACT trial is an ongoing, pragmatic RCT evaluating whether structured, home-based exercise during neoadjuvant chemotherapy can improve treatment efficacy in patients with breast cancer. The enrolment target is 712 evaluable participants; as of December 2025, 339 participants have been randomized. The intervention consists of 120 minutes of weekly exercise combining resistance and high-intensity interval training delivered via the Vitala mobile app, alongside encouragement to achieve an additional 150 minutes of moderate physical activity. In real-world settings, insufficient adherence remains a major challenge.

Objective:
To present preliminary data on exercise adherence and its association with exercise self-efficacy during neoadjuvant chemotherapy.

Methods:
Exercise activity was monitored using the Vitala app. A valid exercise session was defined as lasting ≥20 minutes. Adherence was defined as achieving ≥65% of the prescribed exercise dose between randomization and pre-surgery testing. Exercise self-efficacy was assessed at pre-surgery testing using the 9-item Self-Efficacy for Exercise (SEE) scale, measuring confidence to exercise under common barriers. Physiotherapists monitored app activity and contacted patients with low adherence.

Results (Preliminary):
Among 104 participants assigned to and completing the intervention by November 2025, 97 completed the SEE questionnaire. Fifty participants (48%) met the predefined adherence criterion. Adherent participants reported significantly higher exercise self-efficacy than non-adherent participants, both for the total SEE score (Wilcoxon rank-sum test, $p = 5.5 \times 10^{-6}$) and across all individual barrier items (all $p < 0.05$). For example, self-efficacy to exercise when feeling stressed was higher among adherent participants (median 8 [IQR 2]) than among non-adherent participants (median 5 [IQR 7], $p < 0.001$).

Conclusion:
Higher exercise self-efficacy was strongly associated with better exercise adherence, highlighting the importance of behavioural and motivational factors. Preliminary findings suggest that patient heterogeneity and treatment-related side effects may limit adherence to app-based exercise interventions.

Keywords

breast cancer; neoadjuvant chemotherapy; remote exercise; adherence

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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Session Classification: Poster Session