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Contribution ID: 223

Type: 1 - Scientific Poster

Meeting Physical Activity Recommendations Attenuates Obesity-Related Functional and Quality of Life Impairments in Women with Breast Cancer

Wednesday 22 July 2026 12:55 (20 minutes)

Introduction: Breast cancer and obesity have been independently associated with functional limitations and reduced quality of life (QoL). However, the extent to which physical activity modifies obesity-related impairments in breast cancer survivorship remains unclear. This study aimed to compare functional performance and QoL across groups defined by obesity status and physical activity level in breast cancer survivors.

Methods: This cross-sectional study included 133 breast cancer survivors classified according to PA level and obesity status. PA was assessed using the International Physical Activity Questionnaire, and participants were categorized as meeting or not meeting PA recommendations (≥ 150 min/week of moderate or ≥ 75 min/week of vigorous PA). Obesity was defined as body mass index (BMI) ≥ 30 kg/m². Functional performance was assessed using the sit-to-stand test and the 6-minute walk test (6MWT). QoL was evaluated using the EORTC QLQ-C30 questionnaire. Linear regression models were used, with active women with BMI < 30 kg/m² as the reference group.

Results: Obesity was associated with impaired functional performance and poorer QoL. In the 6MWT, obese women meeting PA recommendations showed reduced walking capacity compared with the reference group ($\beta = -0.273$; $p = 0.035$). Obesity was also associated with greater interference of fatigue in daily activities ($\beta \approx 0.31-0.34$; $p < 0.01$). When obesity was combined with not meeting PA recommendations, impairments were exacerbated. Obese inactive women demonstrated poorer lower-limb muscle function in the sit-to-stand test ($\beta = 0.264$; $p = 0.021$;) and markedly lower walking capacity ($\beta = -0.464$; $p < 0.001$), representing a larger magnitude of association than that observed in obese active women.

Conclusion: Obesity is associated with worse functional performance, fatigue, and QoL in breast cancer survivors. Meeting PA recommendations partially attenuates obesity-related functional limitations, whereas physical inactivity amplifies these impairments, supporting physical activity promotion as a key component of survivorship care.

Keywords

Breast cancer survivorship; Obesity; Physical activity; Functional performance

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

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Session Classification: Poster Session