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## Understanding barriers to exercise participation in those living with metastatic breast cancer: insights from the EMBody trial

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**BACKGROUND:** Patients with metastatic breast cancer (MBC) are often excluded from exercise research and programming, despite potential benefits. Given the unique needs and understudied relationship of this population with exercise, we sought to evaluate barriers to participation in supervised exercise for women with MBC.

**METHODS:** Eligible patients (n=60) had stable MBC, were not meeting activity guidelines (<150 minutes MVPA/week) and were invited to a 16-week supervised, virtual exercise intervention. Participants who declined (n=17) were “non-intenders,” and those who agreed (n=43) were “intenders.” Both intenders and non-intenders completed questionnaires assessing MVPA (IPAQ), health related quality of life (HRQoL) and subscales of physical function, anxiety, depression, pain interference and fatigue using PROMIS-29 v.2.1. Exercise motivation (values, self-identity and experience), attitudes, social norms, and perceived behavioral control were measured using validated theory-based surveys. Intenders and non-intenders were compared using MANOVA analyses.

**RESULTS:** Non-intenders and intenders showed no differences in MVPA (p=0.547) or autonomous motivation (p=0.441). Overall HRQoL differed significantly (p=0.015) with intenders reporting higher pain interference compared to non-intenders (p=0.009). Behavioral determinants differed significantly (p=0.012) with intenders reporting higher subjective norms (p=0.013), perceived behavioral control (0.003), and instrumental attitudes toward exercise (p=0.044).

**CONCLUSIONS:** Those who intended to participate reported worse HRQoL and more pain, but had stronger behavioral determinants. Intenders did not differ from non-intenders in MVPA levels or motivation, but perceived more behavioral control, had more favorable instrumental attitudes toward exercise, and felt stronger social support for exercise. Findings suggest participation was driven by behavioral determinants rather than physical health. This supports a need for programs that focus on improving perceived control through education, removing barriers to participation, and strengthening feelings of social support to improve uptake. A qualitative portion of this work will further inform future study design and exercise programs tailored to fit the needs of women living with MBC.

### Keywords

metastatic breast cancer, behavioral determinants, exercise, intention

### Conflict of Interest & Ethical Approval

yes

### Abstract submitters declaration

yes

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