

IMPACT OF COGNITIVE AND PSYCHOLOGICAL FUNCTIONING ON QUALITY OF LIFE IN PERSONS LIVING WITH METASTATIC BREAST CANCER

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Introduction:

Cognitive dysfunction and psychological distress diminish quality of life (QOL) in non-metastatic breast cancer survivors. However, little is known about the rates of cognitive dysfunction in MBC or the impact of cognitive dysfunction and psychological distress on QOL in persons living with metastatic breast cancer (MBC). The objective of this cross-sectional study is to quantify cognitive functioning and related psychological symptoms and determine their impact on QOL and social functioning in MBC.

Methods:

We enrolled 40 MBC and collected demographic/clinical history, cognitive outcomes (FACT-Cog [subjective cognition], standardized cognitive testing), PROMIS short forms for anxiety, depressive symptoms, and fatigue, QOL (FACT-G), and the Social Difficulties Index. Descriptive statistics were used to characterize the sample and quantify clinically meaningful cognitive and psychological deficits. Stepwise linear regression models were used to evaluate cognitive and psychological predictors of QOL and social functioning.

Results:

| Demographic Characteristic | Mean (SD) or Frequency (Percentage) |
|-----------------------------------|-------------------------------------|
| Age | 50 (10.7); range 22-69 |
| Minority | 7 (17.5%) |
| Partnered | 14 (65%) |
| Have dependents | 22 (55%) |
| Unemployed (laid off, disability) | 21 (52.5%) |
| Household income <50k | 13 (32.5%) |
| <100K | 22 (55%) |
| Years education | 16 (2.3); range 12-21 |
| Clinical Characteristic | Mean (SD) or Frequency (Percentage) |
| Years since diagnosis | 4.3 (3.3); range 0.26 - 12.1 |
| De novo | 24 (60%) |
| HR+HER2- | 5 (12.5%) |
| HR-HER2+ | 13 (32.5%) |
| Triple Negative | 4 (10%) |
| Inflammatory/other | 8 (20%) |
| Post-menopausal | 33 (82.5%) |

Figure 1. Frequency of cognitive and psychological scores below clinically meaningful thresholds

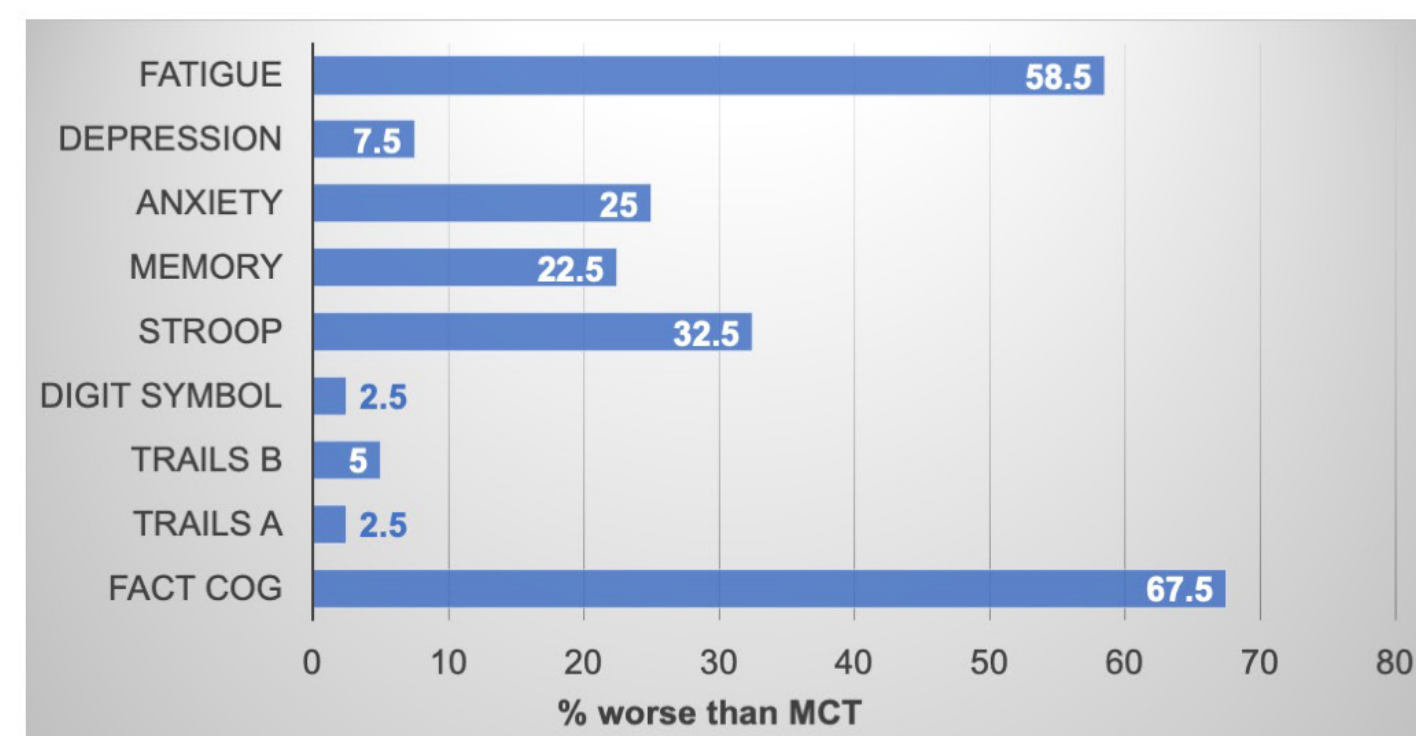


Figure 2. Quality of Life Model

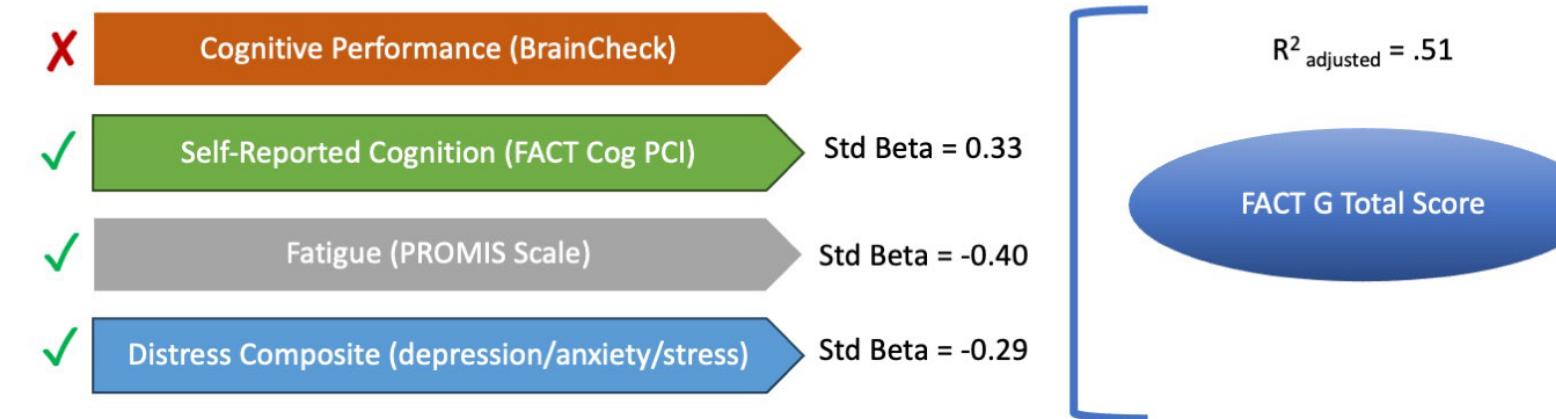
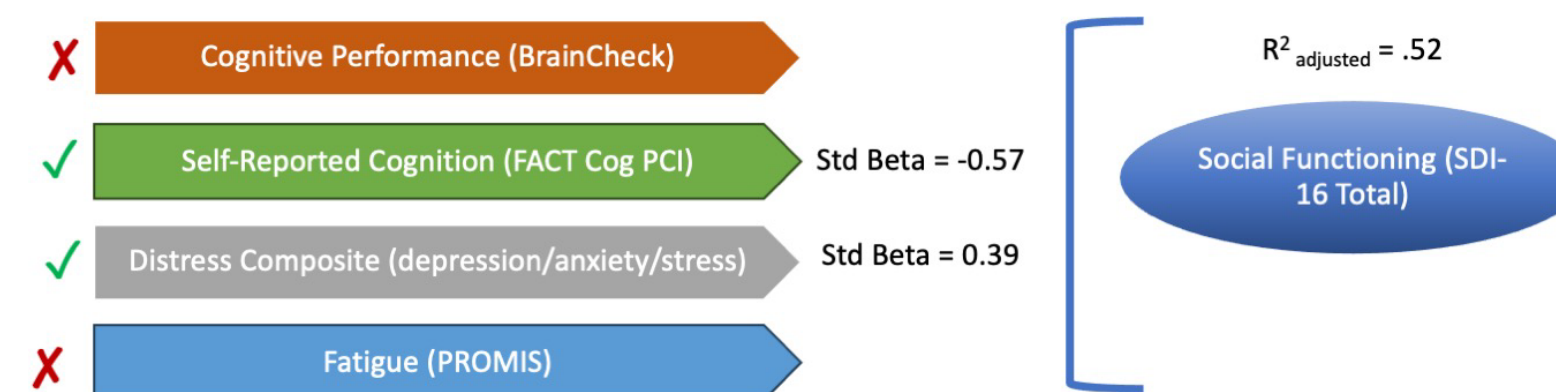


Figure 3. Social Functioning Model



Demographics and clinical characteristics are presented in Table 1. Subjective cognitive impairments were reported by 67.5% and objective impairments found on 1 or more cognitive tests in 46% (Figure 2). Subjective cognitive function, distress, and fatigue explained 50.7% of the variance in QOL ($F(3,35) = 14.01, p < 0.001$, Figure 2) and subjective cognitive function and distress explained 51.5% of the variance in social functioning ($F(2,36) = 21.19, p < 0.001$, Figure 3). Fatigue demonstrated the largest effect in the QOL model and subjective cognitive function the largest effect in the social functioning model.

Conclusions:

Findings suggest that the majority of MBC have clinically relevant cognitive deficits, and that subjective cognitive function contribute to QOL and social functioning, but objective cognitive function may not. These findings provide new critical insights on the importance of cognitive functioning to both QOL and social functioning in MBC. Future research is needed to fully characterize these relationships in a larger sample of MBC.

Acknowledgement and Funding Statement:

This research wouldn't be possible without the patients, survivors, thrivers, metavers who graciously volunteered to participate. This study was supported by IRG-21-135-01-IRG from the American Cancer Society.

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