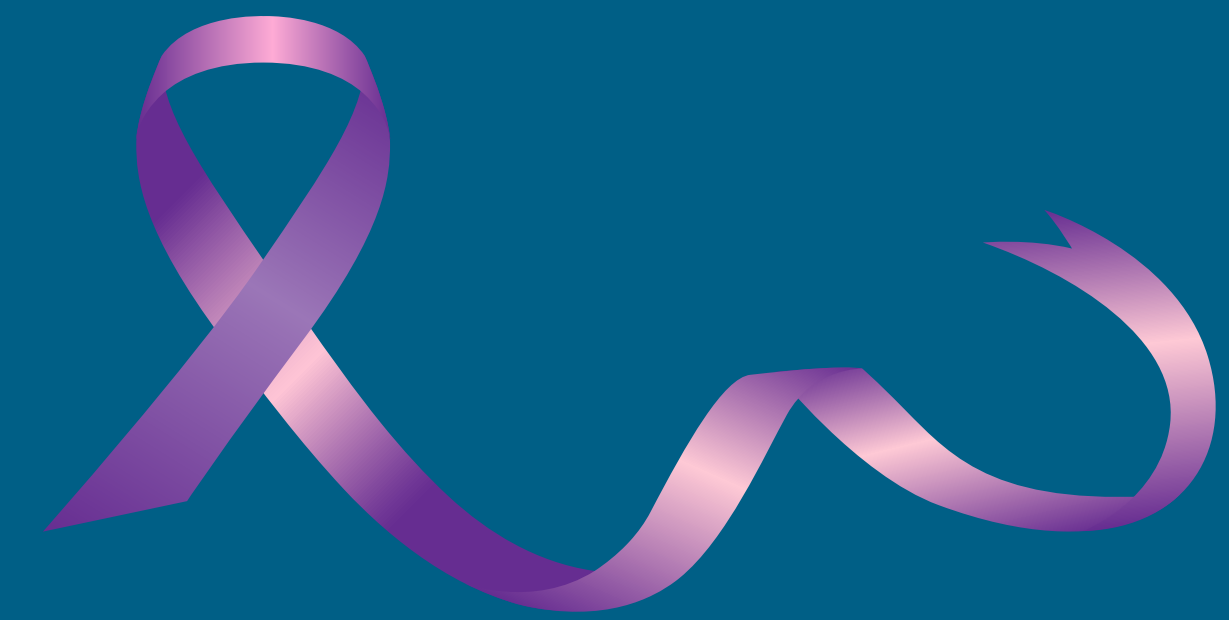


COGNITIVE PATIENT REPORTED OUTCOMES IN PERSON'S LIVING WITH METASTATIC BREAST CANCER

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Introduction:

There is scant research on the cognitive impact of living with metastatic breast cancer. The objective of this study is to describe cognitive patient reported outcomes (PROs); clinical differences in cognitive PROs, and ways persons living with metastatic breast cancer (“MBC”) cope with cognitive changes.

Methods:

We used a cross sectional design and mixed methods approach. Demographic and clinical history, cognitive PROs (FACT-Cog, PROMIS Cog), and 1 open ended question, “**What strategies have you tried to cope with and/or manage cognitive symptoms?**”, were collected via online surveys. We described the sample and cognitive PROs with descriptive statistics; explored clinical/sociodemographic differences in cognitive PROs with independent samples t-tests; and qualitative content analysis (with inductive coding) to identify themes.

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Table 1. Sample Demographic and Clinical Characteristics (N=34)

Characteristic	
Age	
22 to 45	11 (32%)
46 to 55	10 (29%)
56 to 69	11 (32%)
Years Education	16 (2.3)
Less than 16 years education	11 (32%)
Employed	16 (47%)
Annual household income <\$100K	19 (56%)
Partnered	22 (65%)
Time since diagnosis	4.2 (3.5)
Ethnic/Racial Minority	6 (17.5%)
MBC Diagnosis Type	
De novo	22 (65%)
Recurrent	12 (35%)
MBC Receptor Type	
Hormone receptor+ and HER2 receptor-	4 (12%)
Hormone receptor- and HER2 receptor +	12 (35%)
Triple Negative	3 (8%)
Post-Menopausal (naturally or treatment related)	31 (91%)

Abbreviations: HER2: human epidermal growth factor receptor; MBC: metastatic breast cancer

Table 2. Themes from Qualitative Content Analysis (n=29)

Theme	Description	Exemplar(s) Quotes
Compensatory Strategies	Strategies to compensate for cognitive deficits such as making lists, using smartphone alarms, calendar reminders, planners	“[I] make lists, set audible reminders on my calendar on phone and computer, put a list by the door to remember keys, money, phone, grocery list, burners turn off, thermostat off”
Patience/Grace with Self	Described taking one moment/day/week at a time; managing expectations; being grateful for what they can still do; being patient with self; and managing energy throughout the day	“I try to do heavy brain things in the morning when I first wake up because as day goes on, I have brain fatigue.” “I always am grateful and choose to always focus on that”
Cognitive Stimulation	Playing brain games, doing crossword puzzles, and reading	“Doing crossword puzzles and playing brain games with the Lumosity app.”
Mind/Body/ Exercise	Engaging in yoga, meditation, mindfulness, and forms of cardiovascular exercise	“Taking spinning and yoga classes at home, meditating every night, talking to a therapist”
Seeking Social Support	Telling others, primarily partners and family members, about their cognitive changes and need for help	“Sharing frustration, and being open about symptoms and frustrations with family and friends”

Results:

34 MBC completed surveys (See Table 1.) FACT Cog Total scores were on average 97.7 (SD 26.9), FACT Cog PCI scores were 53.8 (SD 16.3), and PROMIS Cog scores were 35.9 (SD 6.7). FACT Cog total and PCI were significantly worse for MBC with recurrent breast cancer (compared to *de novo*, *p*'s = 0.005), but no other clinical (e.g., age, time since diagnosis, tumor type, comorbidity) or sociodemographic (e.g., income level, race/ethnicity, employment status, education) differences in cognitive PROs were found. 29 participants provided qualitative data. Five themes emerged from the qualitative content analysis (See Table 2).

Conclusions:

We found that cognitive PROs were elevated (more than published clinical thresholds) for MBC in this sample and that recurrent metastatic breast cancer (versus *de novo*) may be a cognitive risk factor. MBC currently employ compensatory strategies, cognitive stimulation, mind/body exercise, patience with self, and support from others to cope with cancer-related cognitive changes. Clinicians should monitor for cognitive PROs when caring for MBC, and future research should focus on developing evidence-based interventions to improve cognitive PROs in this population.