

Depression and Anxiety May Accelerate Burden in Care Partners of Patients with Parkinson's Disease: Findings from a Neuropalliative Clinical Trial

Glickman AJ¹, Macchi ZA², Sillau SH², Katz M³, Pantilat SZ⁴, Kluger BM^{5,6,7}

Departments of ¹Psychiatry and ²Neurology, University of Colorado School of Medicine, Aurora, CO, USA; ³Department of Neurology, University of California San Francisco Medical Center, San Francisco, CA, USA; ⁴Division of Palliative Medicine, Department of Medicine, University of California, San Francisco, San Francisco, CA, USA; ⁵Department of Neurology, ⁶Center for Health + Technology University of Rochester, and ⁷Department of Medicine, Palliative Care Division, Rochester, NY, USA; ⁸University of Rochester, Rochester, NY, USA

Significance

- Care partner burden worsens mental and physical health, quality of life, overall disease management, and healthcare utilization for both care partners and people with Parkinson's disease and related disorders (PDRD)¹
- Cross-sectional studies show associations between care partner burden and psychological well-being, quality of life, and Parkinson's disease severity²
- Research gap: What risk factors worsen care partner burden over time?

Methods & Materials

- Design: Longitudinal observational study
- Recruitment: Data from care partner/patient dyads enrolled in a neuropalliative, multi-site, community-based pragmatic trial
- Statistical analysis: Linear mixed regression models with outcome = 12-month rate of change in self-reported burden, measured by the Zarit Burden Inventory (ZBI)

Results

Table 1. Baseline Patient & Care Partner Characteristics

Characteristic	Patients		Care Partners	
Age, mean (SD)	74.5	(8.5)	67.6	(11.3)
Gender, self-identified as male, No. (%)	200	(66.7)	71	(23.7)
Race/Ethnicity, No. (%)				
African American	2	(0.7)	0	(0.0)
Asian	7	(2.3)	8	(2.7)
Native American	2	(0.7)	3	(1.0)
Caucasian	286	(95.3)	282	(94.0)
Other	3	(1.0)	3	(1.0)
Hispanic/Latino, No. (%)	12	(4.0)	15	(5.0)
Education, college degree, No. (%)	182	(61.7)	180	(60.8)
Care partner relationship to patient, No. (%)				
Spouse/partner	-	-	231	(77.3)
Son, daughter, or in-law	-	-	48	(16.1)
Paid Caregiver	-	-	3	(1.0)
Other	-	-	17	(5.7)
Disease/caregiving duration, years, mean (SD)	9.0	(7.5)	5.0	(5.1)
Patient's primary diagnosis, No. (%)				
Idiopathic Parkinson's disease	203	(67.7)	-	-
Dementia with Lewy bodies	35	(7.0)	-	-
Progressive supranuclear palsy	21	(4.0)	-	-
Multiple systems atrophy	15	(5.0)	-	-
Corticobasal degeneration, probable	12	(11.7)	-	-
Dementia present, No. (%)	49	(16.3)	-	-
Cognition, MOCA score, mean (SD)	21.2	(6.1)	-	-
Disease severity, UPDRS-3 score, mean (SD)	26.7	(11.3)	-	-
Anxiety, HADS-A score, mean (SD)	7.5	(3.9)	6.8	(3.9)
Depression, HADS-D score, mean (SD)	7.8	(3.8)	4.6	(3.5)
Quality of life, QOL-AD score, mean (SD)	35.1	(6.5)	-	-
Care partner burden, ZBI, mean (SD)	-	-	16.5	(8.6)

Abbreviations: M = mean; SD = standard deviation; MoCA = Montreal Cognitive Assessment; UPDRS-3 = Unified Parkinson's Disease Rating Scale-Motor section; HADS = Hospital Anxiety and Depression Scale; QOL-AD = Quality of Life in Alzheimer's Disease scale; PDQ-39 = Parkinson's Disease Questionnaire 39; ZBI = Zarit Burden Interview.

Table 2. Linear mixed regression models of baseline variables and ZBI scores at 6 & 12 months

Care Partner Characteristic	6 Months	12 Months
	Beta (95% CI), t-value	Beta (95% CI), t-value
Age (10 years)	-1.87 (-2.83, -0.90), -3.80***	-1.14 (-2.14, -0.14), -2.25*
Perceptions of patient's QOL (QoL-AD CG; 5 units)	-3.31 (-4.10, -2.51), -8.18***	-2.46 (-3.31, -1.60), -5.67***
Depression (HADS-D; 3 units)	2.82 (1.93, 3.72), 6.24***	2.29 (1.31, 3.26), 4.62***
Anxiety (HADS-A; 3 units)	2.57 (1.76, 3.37), 6.28***	2.31 (1.44, 3.18), 5.24***
Patient's health problems affecting CG iADLs (1 unit)	1.46 (1.03, 1.88), 6.73***	1.24 (0.76, 1.73), 5.07***
Patient Characteristic	Beta (95% CI), t-value	Beta (95% CI), t-value
MoCA score (5 units)	-1.4 (-2.88, 0.11), -1.82	-2.08 (-3.72, -0.44), -2.50*
Fall in past 3 months (yes/no)	3.05 (0.79, 5.30), 2.66**	3.41 (1.06, 5.77), 2.86**
Fall requiring medical treatment in past 3 months (yes/no)	3.60 (0.32, 6.88), 2.16*	5.43 (2.05, 8.82), 3.16**

*p < 0.05, **p < 0.01, ***p < 0.001; Model adjusted for treatment arm, disease severity, baseline ZBI score, and primary diagnosis

Discussion

- Consistent with established relationship between burden and psychological and physical health of care partners and patients
- Advances the science by establishing that these factors are intertwined not only at baseline, but also over time

Implications & Future Directions

Treating PDRD care partners' depression and anxiety may have additional benefits:

- Slow the increase in burden over time
- Ultimately improve PDRD disease severity

Future directions:

- Clinical trials to test effects of interventions targeting care partners' depression and anxiety
- Developing integrated care models to screen and facilitate care for depression and anxiety in PDRD care partners

References

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