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Health-Related Quality of Life in Patients Treated for Choroidal Melanoma

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Background

Primary Aims
- **Characterize adjustment and quality of life in individuals treated for choroidal melanoma**
- **Explore associations of demographic, treatment, and needs variables with quality of life**

Choroidal melanoma (CM) is an intraocular malignancy with low prevalence rate (5 per million). Compared with other cancers, there are relatively few treatment options and treatment is brief. The most common treatment is brachytherapy where a radioactive plaque is inserted into the affected eye in an outpatient surgery and subsequently removed. CM has a 5-year mortality rate of 19%.

Only a handful of studies assess quality of life and contributors to adjustment in this population.

Method & Sample

- Eligible participants were patients treated for CM in the prior five years at the UCLA Jules Stein Eye Institute Ophthalmic Oncology Center
- 171 eligible participants were identified using medical records and were mailed consent forms and questionnaires
- 99 (58% of those eligible) participants (48 female, 51 male) completed and returned the forms
- Participants were mostly white (86%), well educated (M = 15.44 years, SD = 3.08), on average 64 years old (SD = 12.91), married or committed (67%) and had at least one child (79%).
- Treatment information and visual acuity retrieved from medical records

Measures

Treatment variables
- Visual acuity (logarithm of the minimum angle of resolution; logMAR). 0 = 20/20, 1 = 20/200
- Years since diagnosis
- Treatment type: 0 = radiotherapy (brachytherapy or proton beam therapy); 1 = enucleation (removal of the eye)

Explanatory variables
- Cancer Needs Questionnaire short form (CNQ). Ranges from 0 (no need for help) to 100 (high need for help).
  - *"Coping with frustration at not being able to do the things you used to"*
  - *"To be given a full explanation for every test and treatment procedure you go through"*
- Number of physical comorbidities (e.g., diabetes)
- Experienced a stressful life event in the prior 12 months (0 = no, 1 = yes; e.g., an event that is troubling, upsetting, or takes considerable effort to manage)

Outcomes
- Center for Epidemiologic Studies Depression scale (CES-D) Ranges from 0 – 60, 16+ is suggestive of clinical depression
- Concern about Recurrence (CaR). Ranges from 0 – 100, lower values indicate more concern.
  - *"How upsetting is the idea of your choroidal melanoma coming back or spreading?"*

Major Findings

- Unmet cancer needs and number of physical comorbidities were associated with significantly higher levels of depressive symptoms and concern about recurrence.
- Having a recent stressful life event was associated with higher levels of depressive symptoms and marginally higher concern about recurrence.

Estimated values from models with covariates held at their means. Cancer needs was significant for both the CES-D (R^2 = .121, *p* < .001) and CaR (R^2 = .088, *p* < .001). Depressive symptoms were square root transformed and then standardized; the raw values are presented in parentheses.
Note: relationships are linear in the square root metric and nonlinear in the raw metric.
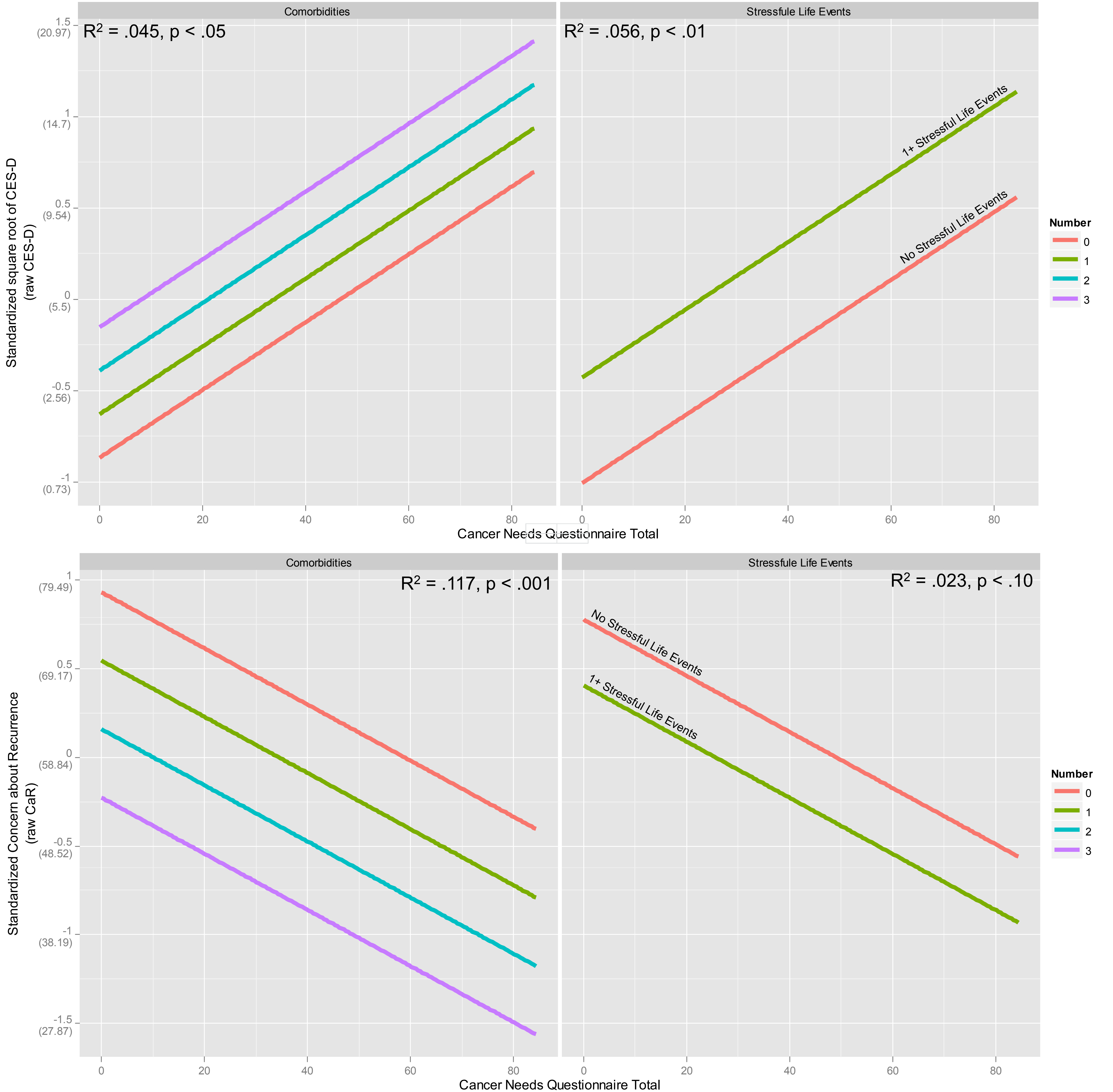
- *Top left:* estimated relationship between depressive symptoms and unmet cancer needs for people with 0, 1, 2, and 3 comorbidities (*p* = .014)..

- *Top right:* estimated relationship between depressive symptoms and unmet cancer needs for individuals who did not have any recent stressful life events (0) and who had at least 1 recent stressful life event (1). The difference between the two lines is significantly different from zero (*p* = .007).

- *Bottom left:* estimated relationship between unmet cancer needs and concern about recurrence for different numbers of comorbidities (*p* < .001). Note that lower values indicate more concern. CaR is presented in standardized and raw units.

- *Bottom right:* estimated relationship between CaR and unmet needs for individuals who had not had recent stressful life event (0) and those who did (1). The effect of stressful life events was not statistically significantly different from 0 for CaR (*p* = .08).

Descriptive Statistics

Outcomes	M (SD)
Concern about Recurrence	58.84 (20.65)
Depressive symptoms (CES-D)	7.69 (8.32)
Explanatory Variables	
Cancer Needs Questionnaire Total	33.24 (19.95)
logMAR	0.27 (0.28)
Years since diagnosis	2.05 (1.47)
Treatment Type	**N (%)**
Radiotherapy	82 (84%)
Enucleation	16 (16%)
Stressful Life Event	
No	32 (32%)
Yes	67 (68%)
Comorbid conditions	
None	31 (31.6%)
One	39 (39.8%)
Two or more	28 (28.6%)

Regression Results for CES-D & CaR

	CES-D	CaR
	B (SE)	B (SE)
Constant	-1.07** (0.35)	1.06** (0.36)
logMAR	-0.45 (0.36)	0.24 (0.37)
Years since Dx	0.06 (0.06)	-0.09 (0.06)
Tx Type	0.31 (0.25)	0.32 (0.25)
Sex	0.04 (0.19)	0.15 (0.19)
Age	-0.02 (0.08)	0.11 (0.08)
Education	-0.039	0.07 (0.13)
Comorbidities	0.24* (0.10)	-0.39*** (0.10)
Stressful Events	0.58** (0.21)	-0.37 (0.21)
ΔR^2	0.25**	0.26**
CNQ	0.46*** (0.11)	-0.40*** (0.11)
ΔR^2	0.12***	0.09***
R^2	0.37***	0.35***
F	F(9, 71) = 4.61, p < .001	F(9, 71) = 4.28, p < .001

Conclusion

- CES-D was not elevated. Concern about recurrence was moderate; somewhat worse than previous samples of CM patients.
- Neither the treatment nor demographic variables were significantly related to depressive symptoms or concern about recurrence
- Number of comorbidities was associated with higher depressive symptoms and lower CaR (i.e., more concern)
- Having a recent stressful life event was associated with higher depressive symptoms, but not significantly associated with CaR
- Total number of unmet cancer needs was associated with higher depressive symptoms and lower concern about recurrence (i.e., more concern) over and above other explanatory variables.

- An average of 2 years after diagnosis, patients treated for CM appear to have adjusted fairly well. Primary risk factors at this stage are not demographic or treatment variables, but stress, comorbidities, and unmet needs.