Oriola

Perceived financial burden and quality of life among patients with cancer

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Introduction

- In a recent meta-analysis of 31 studies in patients with cancer history, all but one study reported that financial toxicity was associated with worse health related quality of life (HQQol) [1].
- Financial burden perceived by patients with cancer is often underappreciated in countries with universal coverage.

Objectives

- To characterize the association between perceived financial burden and HRQoL among patients with cancer in Finland.

Methods

- **Study design and population**: Cross-sectional survey of 538 adult patients with cancer enrolled trough community pharmacies and patient organizations between Apr 2019 and Sep 2020.
- **Data collection:** Electronic self-administered questionnaire.
- **Perceived financial burden:** Assessed with a question "Has cancer negatively impacted your financial situation?" (answer choices: yes, considerably; yes, to some extent; no; cannot say).
- **HRQoL instrument:** Generic 15D instrument with the dimensions shown in **Figure** [2], values ranging between 0 and 1.
- **Data analysis:** The association between perceived financial burden and 15D score was analysed with linear regression adjusted for confounding by gender, time since diagnosis, cancer type and progression, need for assistance, private health insurance, and net income. In addition, mean score of each dimension was determined by perceived financial burden.

Results

- Of the respondents, 27% reported cancer had considerable negative impact on their financial situation while 45% reported some negative impact, and 28% did not report any negative impact (respective categories high, moderate, and low perceived financial burden in **Table 1**).
- In linear regression analysis, an inverse association between perceived financial burden and 15D score was observed when adjusting for net income and other measured confounders (**Table 2**).
- Higher perceived financial burden tended to be associated with lower mean values of each 15D dimension (**Figure**).

Limitations

- The study may be affected by selection bias as the respondents may not represent cancer patients in general.
- Respondent's age was not measured in the survey and may confound the observed associations. However, age and other potential confounders will be available for future analysis through data linkage with national health registries.

Conclusion

- Financial burden is a concern for a significant proportion of patients with cancer.
- Most importantly, the perceived financial burden seems to be associated with reduced HRQoL, independent of patient's net household income.

References

1. Stevanus Pangestu, Fanni Rencz (2023) Comprehensive Score for Financial Toxicity and Health-Related Quality of Life in Patients With Cancer and Survivors: A Systematic Review and Meta-Analysis. Value Health 26:300-31
2. Sintonen H (2001) The 15D instrument of health-related quality of life: properties and applications. Ann Med 33:328–336

Table 1. Patient and cancer characteristics by perceived financial burden

	Perceived financial burden			
Variable	All	High	Moderate	Low
Total respondents, N	538	147	243	148
Female, n (%)	424 (79.2)	124 (84.9)	195 (80.6)	105 (71.4)
Type of cancer, n (%)				
Hematologic cancer	83 (15.4)	17 (11.6)	35 (14.4)	31 (21.0)
Solid tumour	90 (16.7)	29 (19.7)	38 (15.6)	23 (15.5)
Metastatic	136 (25.5)	53 (36.1)	60 (24.7)	24 (16.2)
Cancer has been treater	203 (37.7)	42 (28.6)	95 (39.1)	66 (44.6)
I don't know	25 (4.1)	6 (4.1)	15 (6.2)	4 (2.7)
When diagnosed, n (%)				
< 6 months ago	71 (13.2)	26 (17.7)	26 (10.7)	19 (12.6)
6-12 months ago	107 (19.9)	35 (23.8)	47 (19.3)	25 (16.9)
1-2 years ago	148 (27.5)	39 (26.5)	68 (27.9)	41 (27.7)
3-5 years ago	128 (23.8)	23 (15.7)	67 (27.6)	38 (25.7)
6-10 years ago	44 (8.2)	13 (8.8)	22 (9.1)	9 (6.1)
> 10 years ago	40 (10.8)	11 (7.5)	13 (7.5)	16 (10.8)
Cancer progression, n (%)				
No	337 (62.6)	75 (51.0)	156 (64.2)	106 (71.6)
Yes	87 (16.7)	31 (21.1)	41 (16.9)	15 (10.1)
I don't know	114 (21.2)	41 (27.9)	46 (18.9)	27 (18.2)
Need for assistance, n (%)				
Yes	156 (29.0)	68 (53.7)	53 (21.8)	24 (16.2)
Private health insurance, n (%)				
Yes	64 (11.9)	22 (15.0)	28 (11.5)	14 (9.5)
Net household income, n (%)				
< 2000 €	166 (31.1)	72 (49.3)	67 (27.9)	27 (18.4)
2000€- 3999€	221 (41.5)	52 (35.6)	106 (44.2)	63 (42.9)
≥ 4000€	146 (27.4)	22 (15.1)	67 (27.9)	57 (38.8)
15D score, mean (SD)	0.83 (0.11)	0.76 (0.12)	0.84 (0.10)	0.90 (0.07)
15D score missing, n (%)	17 (3.2)	0 (0.0)	11 (4.5)	6 (4.1)

Missing data: gender, n=3; net income, n=5

Table 2. Associations of perceived financial burden and net income with 15D score, adjusted for all other variables listed in Table 1

Variable	Beta coefficient	95% confidence interval	p-value
Perceived financial burden			
High	-0.094	-0.112-(-0.071)	<.0001
Moderate	-0.050	-0.070-(-0.031)	<.0001
Low	Reference		
Net household income			
< 2000 €	-0.026	--0.048-(0.004)	0.0215
2000€- 3999€	-0.007	-0.026-0.013	0.5038
≥ 4000€	Reference		

Missing data: n=24

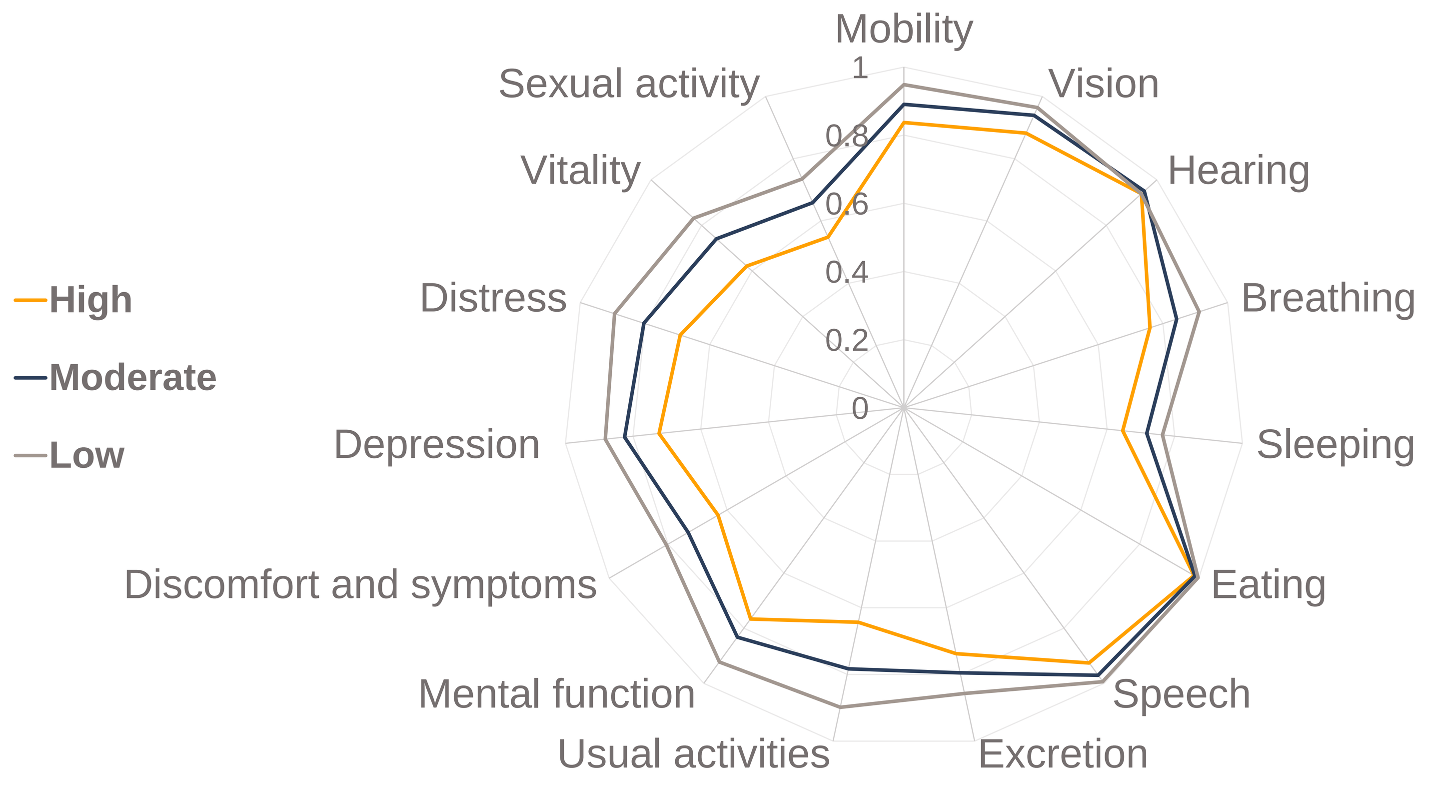

Figure. 15D profile of the study population by perceived financial burden

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