

# Financial Toxicity and Health-Related Quality of Life Among Urologic Cancer Patients

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## INTRODUCTION

This study examined the prevalence of financial toxicity (FT) its association with health-related quality of life (HRQoL).

## METHODS

- Study design: Cross-sectional, 1<sup>st</sup> May – 30 Nov. 2018
- Total sample size: 429
- Sampling method: Universal sampling
- Study sites: Urology clinics of Sarawak General Hospital (n = 366) and Subang Jaya Medical Centre (n = 63).
- Instrument and validity:

Variables	Cronbach's alpha
Subjective financial toxicity <sup>a</sup>	0.804
Objective financial toxicity <sup>b</sup>	n/a
Health-related Quality of Life <sup>c</sup>	0.995

<sup>a</sup> Adopted from "Prawitz AD, Garman ET, Sorhaindo B, O'Neill B, Kim J, Drentea P (2006) InCharge financial distress/financial well-being scale: Development, administration, and score interpretation. J Finan Counsel Plan 17(1):34-50."

<sup>b</sup> Adopted from "Xu K, World Health Organization (2005) Distribution of health payments and catastrophic expenditures methodology.

<sup>c</sup> Adopted from "Yanez B, Pearman T, Lis CG, Beaumont JL, Cella D (2012) The FACT-G7: a rapid version of the functional assessment of cancer therapy-general (FACT-G) for monitoring symptoms and concerns in oncology practice and research. Ann Oncol 24(4):1073-1078.

- Data collection: Interviewer-administered questionnaire
- Data analysis: SPSS V22

Hypothesis testing	Statistical test
Association between FT and HRQoL in adjusted model	Binomial logistic regression

## RESULTS

**Table 1: Respondents' characteristics (n = 429)**

Sociodemographic characteristics	n (%)
<b>Age years</b>	
< 70	157 (36.6)
70-80	197 (45.9)
> 80	75 (17.5)
<b>Gender</b>	
Male	414 (96.5)
Female	15 (3.5)
<b>Ethnicity</b>	
Malay	50 (11.7)
Iban	65 (15.2)
Bidayuh	67 (15.6)
Chinese	241 (56.2)
Others (Melanau/Indian/Serani)	6 (1.4)
<b>Highest educational level</b>	
No formal education	21 (4.9)
Primary school education	176 (41.0)
Secondary school education	161 (37.5)
Tertiary education	71 (16.6)
<b>Financial dependents</b>	
No financial dependents	282 (65.7)
Have financial dependents	147 (34.3)
<b>Monthly household income (MYR) †</b>	
< 5,000	124 (28.9)
5,000 – 10,000	178 (41.5)
> 10,000	127 (29.6)

**Table 2: Association between financial toxicity with health-related quality of life (n = 429)**

Variables	Health-related quality of life			Spearman rank correlation test	Multivariate logistic regression for score 0-16 vs score 17-28 (n = 423) †
	Score 0 - 16 (n = 155)	Score 17 - 28 (n=274)	P value		
<b>Objective financial toxicity</b>					
Yes	69	31 (44.9)	38 (55.1)	0.097	2.75 (1.09-6.95)*
No	360	124 (34.4)	236 (65.6)		Reference
<b>Subjective financial toxicity</b>					
Average to high (Score 1.0-6.9)	203	108 (53.2)	95 (46.8)	<0.01	4.68 (2.63-8.30)***
Low (Score 7.0-10.0)	226	47 (20.8)	179 (79.2)		Reference

Table 2:

†Model goodness of fit: Hosmer and Lemeshow test,  $\chi^2$  (8) = 16.34, p = 0.038; Cox & Snell R<sup>2</sup> = 0.287; Nagelkerke R<sup>2</sup> = 0.394

††Covariates adjusted in the model include age, gender, marital status, ethnicity, education level, household size, financial dependents, monthly household income and expenditures, living arrangement, employment status, residential area, type of urologic cancer, stage of cancer, duration of cancer, having concomitant chronic diseases, ECOG rating, treatment status, type of hospital attended for treatment, current treatment type, source of payment for treatment expenses, and sufficient coverage of medical insurance.

## DISCUSSION/CONCLUSION

Objective and subjective FT were experienced by 16.1 and 47.3% of the respondents, respectively. Greater objective FT (OR=2.75, 95% CI 1.09–6.95) and subjective FT (OR=4.68, 95% CI 2.63–8.30) were associated with poor HRQoL. The significant association between both objective and subjective FT and HRQoL highlights the importance of reducing FT among urologic cancer patients. Subjective FT was found to have a greater negative impact on HRQoL.