

Health-Related Quality of Life of Canadian Patients with Human Epidermal Growth Factor Receptor 2 (HER2)-Positive Metastatic Breast Cancer

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Objective

- This study aims to generate Canadian-specific health utility (HU) for patients with HER2-positive (HER2+) metastatic breast cancer (mBC) with at least stable disease while being treated with a standard of care therapy

Conclusions

- First study in Canada to assess HU by HER2 status, and results suggest HU may differ for HER2+
- Study results may reflect contemporary HU scores based on changes in the treatment landscape over time, which have not been previously captured
- Pain and discomfort remains a highly relevant unmet need impacting the quality of life in this patient population
- Larger studies should be conducted to confirm findings

Introduction

- The EuroQol 5 Dimension 5 Level (EQ-5D-5L) is a validated tool that assesses health utility (HU) as a self-reported measure of patient health-related quality of life (HRQoL)
- Approved treatments vary by HER2 status for patients with metastatic breast cancer (mBC), which may impact HRQoL
- This study aims to generate Canadian-specific HU for patients with HER2-positive (HER2+) mBC

Methods

- Cross-sectional study including clinical data from patient medical charts and self-reported EQ-5D-5L data was conducted at McGill University Health Centre in Quebec, Canada
- Patient Population:
 - Patients with HER2+ mBC (Stage IV)
 - Patients with at least stable disease and who are on active treatment with a standard of care treatment approved by local health authorities (Health Canada)
 - Patients can be on any line of treatment at any time point
- The EQ-5D-5L is scored across five domains: mobility, self-care, usual activities, pain/discomfort, and anxiety/depression, on 5 levels ranging from 1 “no problems” to 5 “extreme problems”
- The EQ-5D-5L includes a visual analogue scale (VAS) where respondents rank their overall health on scale of 0-100
- Patients may have completed more than one EQ-5D-5L questionnaire over the course of the study, however each data point was considered a unique observation in a progressed disease or stable disease state
- Statistical:
 - EQ-5D each dimension health-state scores were converted using Xie et al., 2016,¹ Canadian algorithm

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Results and interpretation

- A total of 30 patients were consented to participate in the study, representing 84 unique data points
- Three data points were excluded as patients entered a progressed disease state (i.e., no longer had stable disease per eligibility criteria)
- Patient clinical and demographic characteristics are in Table 1

Table 1. Clinical and Demographic Characteristics

	All patients N=84 data points	Mean + (SD) or Proportion (%)
Age, years	84	54.17 (10.56)
Ethnicity		
• Non-Hispanic Caucasian	66	78.6 (%)
• Other/unknown*	18	21.4 (%)
ECOG PS		
• 0	55	65.5 (%)
• 1	18	21.4 (%)
• 2	8	9.5 (%)
• Unknown	3	3.6 (%)
Comorbidities		
• No	46	54.8 (%)
• Yes	35	41.7 (%)
• Unknown	3	3.6 (%)
Molecular subgroup		
• HER2+/HR+	45	53.6 (%)
• HER2+/HR-	39	46.4 (%)
Stage at diagnosis		
• I-III	36	42.8 (%)
• IV	46	54.8 (%)
• Unknown	2	2.4 (%)
Sites of metastases		
• Liver	46	54.8 (%)
• Bone	39	46.4 (%)
• Brain	19	22.6 (%)
• Lung	19	22.6 (%)
• Other (≥1 site allowed)	28	33.3 (%)
Current line of therapy		
• 1	49	58.3 (%)
• 2	22	26.2 (%)
• 3+	13	15.5 (%)
Duration of current therapy, months,		
• 1	48	30.86 (27.39)
• 2	22	9.92 (8.38)
• 3+	12	15.76 (9.63)

ECOG PS = Eastern Cooperative Oncology Group Performance Status; HR = hormone receptor; SD = standard deviation

*Other included Arab, Hispanic, and Southeast Asian

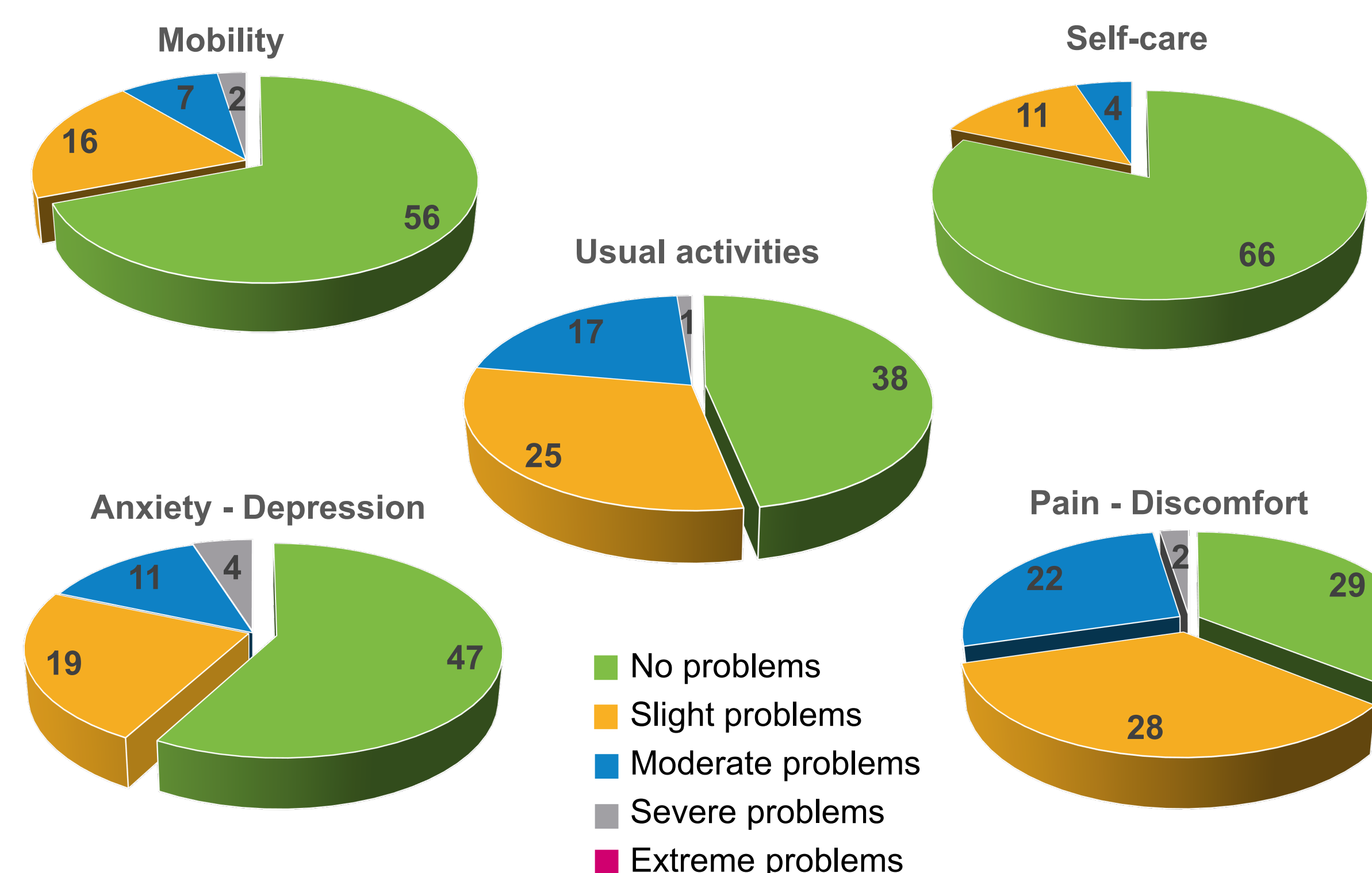
Table 2. Mean health utility scores overall and across various subgroups

	Data Points (n)	Average HU	SD
Overall HER2+ population	81	0.83	0.14
ECOG PS			
• 0-1	70	0.83	0.14
• 2	8	0.74	0.10
• Unknown	3	0.95	0
HR Status			
• Positive	44	0.81	0.14
• Negative	37	0.85	0.13
Stage at diagnosis			
• I-III	34	0.81	0.16
• IV	45	0.84	0.12
• Unknown	2	0.79	0.11

ECOG PS = Eastern Cooperative Oncology Group Performance Status; HR = hormone receptor; HU = healthy utility; SD = standard deviation

- The mean HU reported in this study was 0.83 for patients with stable (i.e., not progressing), HER2+ mBC on active standard of care treatment
- Lower HU was reported for patients with lower performance status
- HU values were similar for patients irrespective of their hormone receptor status or stage at diagnosis

Figure 1. Distribution of scoring on the five levels across the five domains of the EQ-5D-5L



- Around 50% of patients reported some (slight, moderate, or severe) problems with pain and discomfort, which was followed by 43% of patients who reported some problems with usual activities
- Over a third of patients had slight, moderate, or severe problems with anxiety and depression
- Over half of patients had no problems with self-care or mobility
- No patients reported extreme problems on any of the EQ-5D-5L domains

Table 3. Mean VAS Score

	Data Points (n)	Mean	SD
EQ-5D VAS	81	77.31	16.97

Discussion

Key Points

- The mean HU value reported in this study (0.83) among patients with HER2+ mBC is higher than reported in other Canadian literature²⁻³
 - This could be due to the proportion of patients on first line (58.3%) where the median duration of therapy was 30.9 months. Patients on their first line of therapy and who were on therapy for longer suggests they were having a good response to therapy and their disease was better controlled. For these reasons, HU may appear to be higher due to the influence of this patient subgroup.
- However, published Canadian studies did not look at HU by HER2 status and were also conducted prior to the availability of newer targeted therapies, and the influence of these therapies on HU may not have been previously captured.
- Patients reported slightly higher scores on the VAS (77.3) to previously reported literature³, indicating patients' ranking of overall health has remained steady
- Lower HU values reported in patients with worse ECOG PS, as expected
- Half of patients reported some (slight, moderate, or severe) problems with pain and discomfort
- Could be due to the high (46%) incidents of bone metastases
- Limitations:** This study was limited by a small sample size and a heterogenous patient population (patients could be on any therapy at any point in time).

Acknowledgements

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Disclosures

Simran Shokar is an employee of AstraZeneca.
 Dr. Tarek Hijal is a consultant to multiple pharmaceutical companies including AstraZeneca
 Dr. Jamil Asselah is a consultant to multiple pharmaceutical companies including AstraZeneca

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