Health-Related Quality of Life in Advanced Cancer Patients Using Immuno-, Biological and Precision Therapies

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Background and objective: The development of immuno-, biological and precision (IBP) therapies over the last 2 decades has revolutionised treatment for those with cancer, enabling patients to live longer with advanced stages of the disease. However, HRQoL is relatively underexplored within patients using IBPs and as the landscape of advanced cancer treatment is changing, as is the experiences and impacts of these patients. This is particularly important in the context of patient safety as unique side effects caused by these treatments can significantly impact quality of life. This study aimed to evaluate HRQoL and explore any related inequalities.

Method: Data was collected from 460 people with advanced cancer using IBP therapies from 7 hospitals between 2022 and 2023. Functional Assessment of Cancer Therapy (FACT-G) was completed to measure HRQoL. Additional questions were included to address unmet needs identified through prior qualitative interviews with patients and their healthcare professionals. Analysis involved comparison of mean scores and univariate and multivariate regressions to explore relationship and association between different variables and HRQoL.

Results: Preliminary analysis has shown some significant differences in mean HRQoL scores across demographic characteristics. Mean HRQoL score among those who reported to be more concerned financially since their diagnosis (mean = 15.71, SD= 5.22) was significantly lower than those who reported to be less concerned or no different with a mean difference of -10.05 (95% CI: -13.26, -6.84: $p = <0.001$). Regarding employment, mean score of those unemployed (mean = 15.04, SD = 6.03) was significantly lower than those who were employed (mean = 17.01, SD = 4.28, 95% CI: -22.76, -7.49: $p = <0.001$) and those who were retired (mean = 17.87, SD = 4.48, 95% CI: 4.83, 18.36: $p = <0.001$). Older participants consistently reported higher HRQoL across all subscales apart from functional well-being.

Conclusion: This analysis adds to limited evidence on patients using IBP cancer therapies. Findings suggest some groups who may benefit from support to improve HRQoL.

Inequalities in Health-Related Quality of Life in Advanced Cancer Patients Using Immuno-, Biological and Precision Therapies

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1 Introduction

Healthcare Inequalities

"Unfair and avoidable differences in health across the population, and between different groups within society" - NHS England [1]

Health inequalities may be evident by a number of different factors, such as:

- Socioeconomic status – income, employment
- Geographical location – urban vs rural
- Education – health literacy

Recent advances in targeted therapies for advanced cancers have led to improved survival rates, with these therapies becoming increasingly available in recent years [2]. As survival increases, focus is shifting to understand and improve health-related quality of life (HRQoL). However, not all patient experiences are the same, potentially resulting in inequalities to emerge.

New targeted treatments → Increased survival → Focus on HRQoL → Emerging inequalities

Investigating inequalities is particularly important in the context of *patient safety* as unique side effects caused by these therapies can significantly impact QoL

Targeted treatments (TT): interact with molecular/ cellular mechanisms driving tumour growth

2 Aims & Objectives

Explore how HRQoL outcomes differ across patient groups receiving targeted cancer treatments.

3 Methods

Participants: From TARGET study, examining support needs for patients using TT. *n* = 460, 7 trusts between 2022 – 2023. Collaboration with PPIE group PERSPECTIVES [3]

Tool: HRQoL FACT-G survey consisting of well-being subscales emotional (EWB), social (SWB), physical (PWB) and functional (FWB); total score 0 -108 [4]

Data collection: Demographic variables and HRQoL scores

Analysis: Comparison of scores, multivariable and univariable regressions. Tests two-tailed; p < 0.5 considered statistically significant

4 Results

Table 1: Univariable analysis of total HRQoL score by demographic characteristics

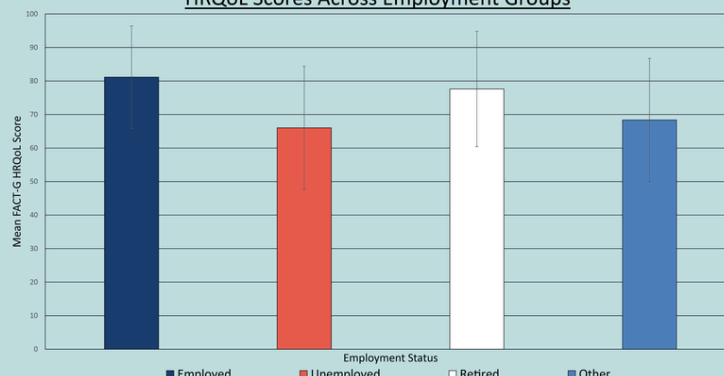| Variable	Statistically Significant?	Findings
Sex	✗	No difference in overall HRQoL between sexes
Age	✓	Older participants had higher HRQoL
Employment Status	✓	Unemployed lower HRQoL
Education	✗	No significance
Financial Concern	✓	Financial stress lower HRQoL

Figure 1: Comparison of mean FACT-G HRQoL scores across employment groups

Employment Group	Unadjusted coefficient	95% CI	P value	Adjusted coefficient	95% CI	P value
Unemployed (ref)	-	-	-	-	-	-
Employed	15.12	[9.46, 20.79]	<0.001	14.44	[8.78, 20.09]	<0.001
Retired	11.6	[6.58, 16.62]	<0.001	4.19	[-1.67, 10.05]	0.16
Other	2.32	[-6.14, 10.79]	0.59	-0.3	[8.66, 8.06]	0.94

- Unemployed participants have significantly lower HRQoL than employed participants, even after adjusting for age. Consistent across all subscales apart from SWB.
- Difference between unemployed and retired participants no longer significant after adjusting for age.

5 Conclusions

- Inequalities in HRQoL identified among range of demographic groups
- Findings suggest employment-related support may be crucial in addressing HRQoL inequalities.

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