P21 The PROPr and QLU-C10D are more responsive to change than the EQ-5D-5L in cancer patients

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Objective: Health state utility (HSU) scores are used for calculation of quality-adjusted life years (QALY) in health economics. This is especially relevant in oncology considering its high impact on health-related quality of life (HRQoL) and rising costs of newly developed drugs. Established HSU scores often suffer from narrow ranges of measurement which have a negative impact on the responsiveness to change. Using PROMIS® as descriptive system, the PROMIS Preference Score (PROPr) was developed to address this limitation. We empirically compared PROPr´s responsiveness, test-retest reliability, and discriminatory power to the EQ-5D-5L and the QLU-C10D in a sample of cancer patients.

Methods: We collected PROPr, EQ-5D-5L and QLU-C10D from a longitudinal convenience sample of 390 cancer outpatients receiving chemotherapy at enrollment and after 1, 3, 6, and 12 months. Standardized response mean (SRM) and standardized effect size (SES) were calculated retrospectively and prospectively for three different change groups (no change, positive change, negative change). We measured test-retest reliability using the intraclass correlation coefficient (ICC) and area under the receiver operating curve (AUROC) for detection of positive/negative change.

Results: For retrospective responsiveness, effects with all three measures were not significantly different in positive (SRM 0.27-0.38, SES 0.20-0.30) and negative (SRM -0.46- -0.38, SES -0.40- -0.25) change. For prospective responsiveness, effects in negative change were not significantly different (SRM -0.42- -0.29, SES -0.32- -0.24), but in positive change, effects for PROPr (SRM 0.49, 95%-CI 0.39-0.59, SES 0.30, 95%-CI 0.24-0.36) and QLU-C10D (SRM 0.49; 95%-CI 0.40-0.59, SES 0.35; 95%-CI 0.28-0.43) were significantly higher than for EQ-5D-5L (SRM 0.24; 95%-CI 0.14-0.34, SES 0.19; 95%-CI 0.12-0.27). ICC for PROPr was significantly higher (0.86; 95%-CI 0.83-0.88) than for EQ-5D-5L (0.78, CI 0.74-0.81). ICC for QLU-C10D was 0.81 (CI 0.77, 0.84). AUROC for positive change was higher in PROPr (0.68; 95%-CI 0.65-0.71) and even significantly higher in QLU-C10D (0.69; 95%-CI 0.66-0.73) than in EQ-5D-5L (0.62; 95%-CI 0.59-0.65), but not for negative change (PROPr 0.68; 95%-CI 0.65-0.71, QLU-C10D 0.68; 95%-CI 0.65-0.71, EQ-5D-5L 0.62; 95%-CI 0.59-0.66).

Conclusions: The PROPr and QLU-C10D performed better in terms of responsiveness to improvement and test-retest-reliability than the EQ-5D-5L. This evidence supports their use in cost-effectiveness analyses.