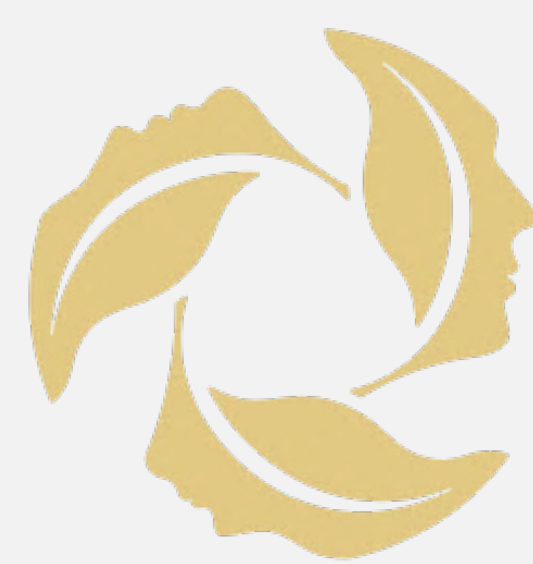


The EQ-5D and HUI-3 demonstrate suboptimal construct validity for patients with head and neck cancer.

Head and neck oncology may benefit from a disease specific preference-based measure.



OBJECTIVE:

- To evaluate the construct validity of two health utility instruments, the **Euro-QoL 5D (EQ-5D)** and the **Health Utilities Index Mark 3 (HUI-3)**, and to compare them with disease specific measures in patients with head and neck cancer.

METHODS:

- Patients were administered the EQ-5D, HUI-3, the EORTC QLQ-C30 & QLQ-H&N35 (EORTC) and the University of Washington Quality of Life Questionnaire (UWQoL).
- Several *a priori* expected relations were examined. The correlative and discriminative properties of the various instruments were examined.
- Spearman correlation coefficients were calculated to assess convergent construct validity between the UWQoL and the EQ-5D and HUI-3.
- The effect size, or standardized mean difference/Cohen’s d, between two groups on a measured outcome was also calculated. Responses from the EORTC were classified into meaningful comparator groups: ‘none/a little bit’ or ‘quite a bit/very much’. The absolute value of effect sizes were categorized as small (0.2-0.5), medium (0.5-0.8) or large (> 0.8)

RESULTS:

- 209 patients completed the four questionnaires. **A significant ceiling effect was observed among EQ-5D responses** (23% reported a maximum score of 1).

Table 1: Quality of Life Scores of the EQ-5D, HUI-3 and UWQoL.

Instrument	Mean	SD	Median	IQR	Min	Max	Ceiling (%)
EQ-5D	0.84	0.12	0.83	0.78-0.88	0.352	1	23.9
HUI-3	0.72	0.25	0.79	0.58-0.79	-0.21	1	7.7
UWQoL							
Physical Domain	80.4	15.7	83.3	70-8-91.7	28.3	100	17.2
Social Domain	78.2	15.7	78.3	67.5-91.7	30.8	100	9.57

RESULTS (CONT):

- The EQ-5D (rho=0.79) and HUI-3 (rho=0.60) had a strong correlation with the social-emotional domain of the UWQoL.
- The EQ-5D had a moderate correlation with the physical domain of the UWQoL (rho=0.42), whereas the HUI-3 had a weak correlation (rho=0.29).
- The EQ-5D and HUI-3 were able to distinguish between different levels of health severity measured on the EORTC QLQ-C30 though not the QLQ-H&N35. Comparatively, the UWQoL was able to distinguish levels of disease severity on both EORTC QLQ-C30 and QLQ-H&N35** (Figure 1).

Table 2: Spearman Correlation Coefficients (rho) for Global Scores Across the EQ-5D, HUI-3 and UWQoL.

	EQ-5D	HUI-3	UWQoL Physical	UWQoL Social
EQ-5D	1	-	-	-
HUI-3	0.68	1	-	-
UWQoL Physical	0.42	0.29	1	-
UWQoL Social	0.79	0.60	0.58	1

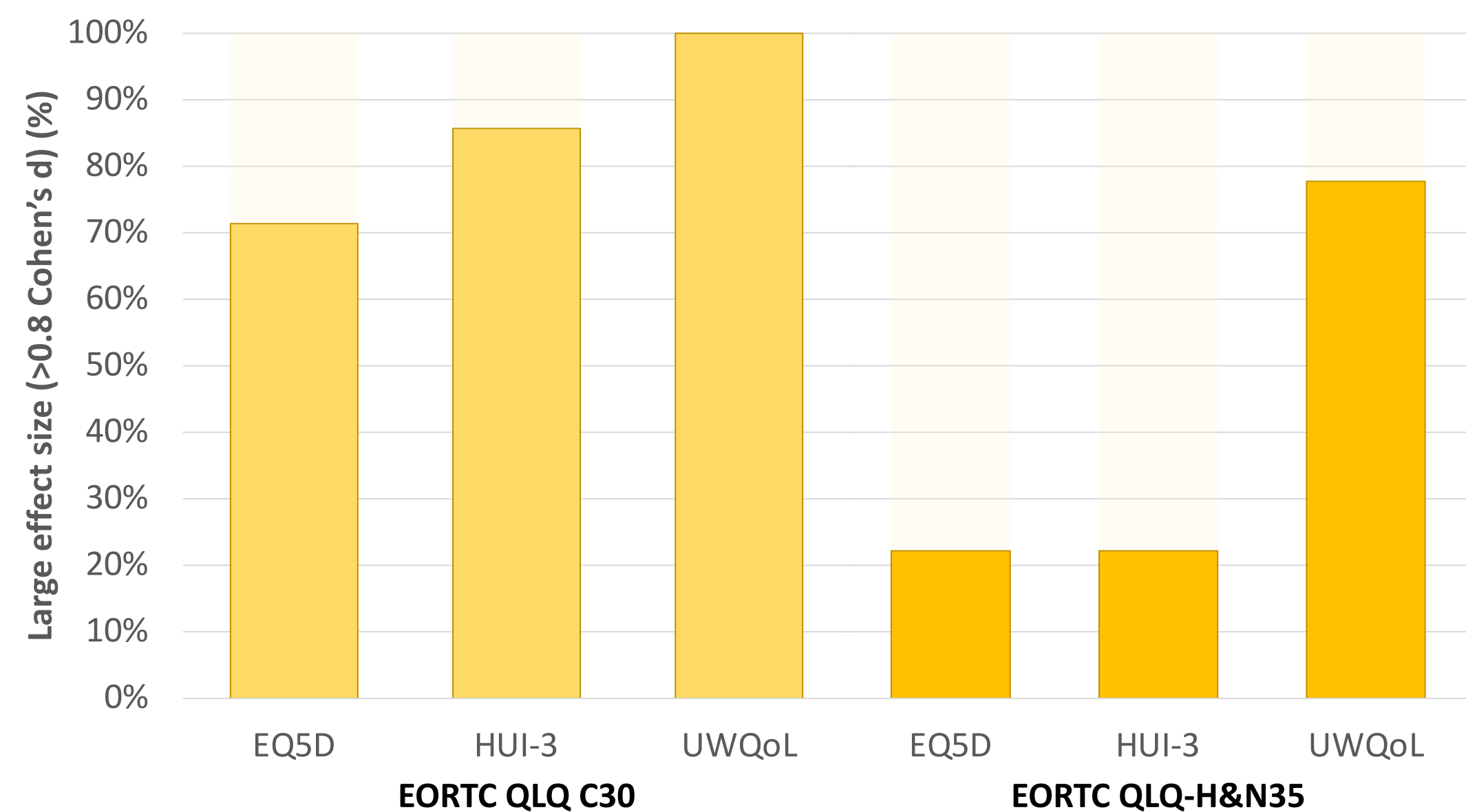


Figure 1: Relationship between selected items from EORTC QLQ C30 (7 items), EORTC HN35 (9 items) and the EQ-5D, HUI-3 and UWQoL.