**Supplementary material**

# Title: Responsiveness and convergent validity of QLU-C10D and EQ-5D-3L in assessing short-term quality of life following esophagectomy

## Comparing demographics and quality of life outcomes for excluded respondents

The analysis in this paper only included patients with both baseline (pre-operative) and follow-up (post-operative) quality of life scores on all instruments. Tables A1 and A2 show differences in demographic characteristics and quality of life outcomes for patients included and those excluded from the analysis.

**Table A1 Comparing Demographic characteristics for excluded respondents**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristic** | **Total sample** | **Complete QoL data (n=164)** | **Incomplete QoL data** | **p-value** |
| **Continuous variables [Mean (sd)]** | | | | |
| Age | 63.5 (8.7) | 62.9 (7.9) | 64.4 (9.6) | 0.06 |
| Hospital length of stay (days) | 18.7 (17.1) | 17 (15) | 21.8 (20.1) | 0.08 |
| ICU length of stay (days) | 4.7 (8) | 4 (4) | 5.8 (11.7) | 0.66 |
| Blood loss (ml) | 263.4 (244.9) | 268.1 (256.1) | 255.5 (225.9) | 0.89 |
| Blood transfusion (units) | 0.28 (1.61) | 0.31 (1.98) | 0.22 (0.81) | 0.89 |
| Tumour length (cm) | 3.62 (2.62) | 3.86 (2.66) | 3.24 (2.52) | 0.14 |
| Total pack years | 17.9 (20.2) | 16 (18) | 20.1 (23.4) | 0.50 |
| **Categorical variables** | **N (%)** | | |  |
| Male Gender | 223 (81) | 133 (81) | 90 (80) | 0.88 |
| Hospital length of stay > 10 days | 213 (81) | 133 (81) | 80 (80) | 0.83 |
| Tumour length >3cm | 87 (47) | 58 (51) | 29 (40) | 0.16 |
| **Co-morbidities** |  |  |  |  |
| Hypertension | 105 (39) | 62 (38) | 43 (41) | 0.61 |
| Diabetes | 35 (13) | 21 (13) | 14 (13) | 0.92 |
| Respiratory | 61 (22.6) | 33 (20) | 28 (26) | 0.23 |
| Cardiac | 52 (19) | 27 (17) | 25 (24) | 0.15 |
| Alcohol | 164 (62) | 106 (66) | 58 (56) | 0.1 |
| Smoking | 36 (13) | 22 (13) | 14 (13) | 0.96 |
| Preoperative Radiotherapy | 112 (41) | 67 (41) | 45 (42) | 0.8 |
| Preoperative Chemotherapy | 211 (78) | 129 (79) | 82 (77) | 0.80 |
| **ASA score** |  |  |  |  |
| 1 or 2 | 178 (67) | 111 (68) | 67 (66) | 0.77 |
| 3 | 86 (33) | 52 (32) | 34 (34) |
| **Pathological T staging** |  |  |  |  |
| 0/1/1a/1b/Tis | 112 (43) | 72 (44) | 40 (41) | 0.67 |
| 2/3 | 149 (57) | 92 (56) | 57 (59) |
| **TNM staging** |  |  |  |  |
| 0/IA/IB | 112 (43) | 75 (46) | 37 (37) | **0.01** |
| II/IIB/IIIA/IIIB | 130 (49) | 82 (50) | 48 (48) |
| IIIC/4 | 21 (8) | 7 (4) | 14 (14) |
| **Procedure type** |  |  |  |  |
| Open chest and abdominal approach | 108 (42) | 76 (46) | 32 33.68 | **0.05** |
| Hybrid (thoracoscopic) | 151 58.30 | 88 (54) | 63 66.32 |

**Table A2 Comparing Quality of life outcomes for excluded respondents1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Quality of life measure** | **Total sample** | **Complete QoL data** | **Incomplete QoL data** | **p-value** |
| **Baseline (7 days before esophagectomy)** | | | | |
| EQ-5D-3L | 0.85 (0.15) | 0.85 (0.15) | 0.84 (0.15) | 0.71 |
| QLU-C10D | 0.80 (0.17) | 0.81 (0.16) | 0.80 (0.18) | 0.90 |
| EORTC summary score | 84.3 (12.7) | 84.3 (13.1) | 84.6 (11.9) | 0.90 |
| **Follow – up (42 days after esophagectomy)** | | | | |
| EQ-5D-3L | 0.69 (0.18) | 0.69 (0.16) | 0.69 (0.24) | 0.15 |
| QLU-C10D | 0.52 (0.22) | 0.52 (0.22) | 0.53 (0.24) | 0.50 |
| EORTC summary score | 62.4 (18.5) | 62.5 (17.9) | 61.9 (21.0) | 0.83 |

1The analysis in this paper only included patients with both baseline (pre-operative) and follow-up (post-operative) quality of life scores on all instruments. This table shows differences in quality of life for patients included and those excluded from the analysis. There were no differences in quality of life between the two groups

## Additional files on Complete case analysis

### Distribution of QoL scores for each instrument (complete cases)

**Fig A1 Baseline QoL (7 days before esophagectomy)**

Chart, histogram

Description automatically generated

**Fig A2 Follow-up QoL (42 days after esophagectomy)**

Chart, histogram

Description automatically generated

**Fig A3 Distribution of the mean difference in QoL scores for each instrument**

Chart, bar chart, histogram

Description automatically generated

**Table A3 Correlation (significant) between QLQ-C30 and EQ-5D-3L domains at follow-up (42 days after esophagectomy)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | EQ-5D utility score | Mobility | Personal care | Usual activities | Pain/discomfort | Anxiety/depression |
| EORTC total score | 0.7060 | -0.4217 | -0.2622 | -0.5656 | -0.2145 | -0.5238 |
| Global health score | 0.5469 | -0.3222 |  | -0.5245 | -0.1599 | -0.3803 |
| **QLQ-C30 Functional scales** | | | | | | |
| Physical function | 0.6630 | -0.5970 | -0.3891 | -0.6068 |  | -0.3346 |
| Role function | 0.6500 | -0.4355 | -0.2613 | -0.6716 | -0.1716 | -0.3255 |
| Emotional function | 0.6787 | -0.3047 | -0.1863 | -0.4392 |  | -0.7170 |
| Social function | 0.5831 | -0.3311 | -0.2786 | -0.5563 | -0.1914 | -0.3600 |
| Cognitive function | 0.4623 | -0.2863 | -0.1952 | -0.3894 |  | 0.3807 |
| **QLQ-C30 Symptoms** | | | | | | |
| Fatigue | -0.5572 | 0.3723 | 0.2344 | 0.4642 |  | 0.3786 |
| Nausea and vomiting | -0.3845 | 0.1809 |  | 0.2469 | 0.1821 | 0.3524 |
| Pain | -0.4445 | 0.2446 |  | 0.3310 | 0.5548 | 0.1846 |
| Insomnia | -0.3385 | 0.2567 | 0.1926 | 0.2763 |  | 0.3241 |
| Appetite loss | -0.3470 | 0.2106 |  | 0.2769 |  | 0.3235 |
| Dypnoea | -0.3473 | 0.3627 | 0.2285 | 0.3114 |  | 0.1968 |
| Diarrhoea |  |  |  |  |  | 0.2082 |
| Constipation |  |  |  |  |  | 0.1846 |
| Financial problems | -0.2465 |  |  | 0.3281 |  | 0.1856 |
| **OES symptom scales** | | | | | | |
| Dysphagia | -0.2992 | 0.2608 | 0.1713 | 0.2373 |  | 0.2502 |
| Eating difficulties | -0.4121 | 0.2647 |  | 0.2815 |  | 0.3353 |
| Reflux |  |  |  |  |  |  |
| Pain |  |  |  |  | 0.2476 |  |
| Swallowing saliva |  |  |  |  |  |  |
| Choking and swallowing |  |  |  |  |  |  |
| Dry mouth | -0.2660 |  |  | 0.2192 |  | 0.2157 |
| Taste | -0.1882 | 0.1758 |  |  |  |  |
| Coughing |  |  |  | 0.1881 |  | 0.2238 |
| Talking | -0.1735 |  |  |  |  | 0.2138 |