

## **P107 Evaluating construct validity of the patient-reported outcomes measurement information system 16-item profile in total laryngectomy patients**

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**Objective:** The Patient-Reported Outcomes Measurement Information System® (PROMIS®)-16 Profile assesses eight health-related quality of life domains using two items per domain. The PROMIS-16 was developed using data from a sample of 5775 general population respondents and demonstrated strong psychometric properties in a second cohort of general population respondents. In this study, we evaluated construct validity of the PROMIS-16 domain and summary scores among total laryngectomy patients.

**Methods:** A total of 253 total laryngectomy patients were recruited from Massachusetts Eye and Ear Hospital, International Association of Laryngectomees, and two online laryngectomy support groups between July 2023 and March 2024. The PROMIS-16, EQ-5D-5L, and University of Washington Quality of Life Questionnaire (UW-QoL) were administered. We examined hypothesis-based construct validity of the PROMIS-16 domain and summary scores through their associations with UW-QoL scores and EQ-5D-5L index scores using Pearson product-moment correlations. We evaluated hypotheses, generated based on prior evidence, regarding the magnitude of 130 associations, using standard correlation thresholds: low ( $r < .30$ ), moderate ( $0.30 \leq r < 0.70$ ), or high ( $r \geq 0.7$ ) correlations.

**Results:** Among the participants, 65% were male, and the median age was 69 years (IQR: 62 – 74). Most of the patients were White (93%), non-Hispanic (98%), and residing in the United States (88%). The mean domain scores ranged from 46.6 (SD=11.8) for cognitive function to 53.8 (SD=7.1) for social roles. The physical and mental health summary score means were 49.7 (SD=7.8) and 51.6 (SD=7.8), respectively. Eighty-seven percent of associations conformed with our hypotheses. As expected, except for cognitive function, all PROMIS-16 domain scores were significantly associated with those of UW-QoL, with absolute correlations ranging from 0.23 to 0.69, and with the EQ-5D-5L scores, with absolute correlations ranging from 0.29 to 0.74. The physical and mental health summary scores were significantly associated with all UW-QoL domain scores (range: 0.31 to 0.62), as well as the EQ-5D-5L index scores (range: 0.40 to 0.71).

**Conclusions:** Construct validity of the PROMIS-16 domain and summary scores was demonstrated in patients who underwent total laryngectomy providing support for the usefulness of the PROMIS-16 in clinical samples.