## P14 Psychometric properties of Dutch-Flemish PROMIS pediatric measures in the Dutch pediatric oncology population (8-17 years)

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**Objective**: Each year, approximately 600 children are diagnosed with cancer in the Netherlands, impacting their physical, mental, and social health. The Patient-Reported Outcomes Measurement Information System® (PROMIS®) offers a promising approach to assessing these outcomes due to its strong psychometric properties and international applicability. This study evaluates the psychometric properties of PROMIS Pediatric measures in Dutch pediatric oncology patients aged 8–17 years to support their implementation.

**Methods**: Pediatric oncology patients (*n*=100) completed PROMIS Pediatric item banks for Anxiety v3.0, Depressive Symptoms v3.0, Peer Relationships v3.0, Mobility v3.0, Fatigue v3.0, and Sleep Disturbances v1.0, as well as Global Health v1.0 scale, Anger 9a v3.0 short form, and Pain Intensity item v1.0. Additionally, they completed two PedsQL modules as legacy instrument. Measures were administered twice with a two-week interval. Construct validity was assessed by comparing PROMIS T-scores with PedsQL subscales. Reliability of item banks, extracted short forms, and simulated Computerized Adaptive Testing (CATs) was evaluated based on the number of participants with a standard error (SE) of measurement ≤0.32 (reliability ≥0.90). Efficiency ($(1\text{-}SE(\theta)^2)/n_{items}$) was calculated to compare measures' performance relative to the number of administered items. Test-retest reliability was assessed using the Intraclass Correlation Coefficient (ICC>0.70 considered acceptable).

**Results**: Preliminary analyses (first measurement *n*=50; second measurement *n*=28) confirmed construct validity, showing alignment between PROMIS measures and PedsQL subscales. Reliability was high around the sample mean and extended into clinically relevant ranges. PROMIS CATs were most efficient. Test-retest reliability was acceptable, with ICCs between 0.65 (Peer Relationships) and 0.90 (Fatigue). Mean T-scores ranged from 44.8 to 50.8 (*SD*=8.6–10.7).

**Conclusions**: This study provides insights into psychometric properties of PROMIS Pediatric measures in the Dutch pediatric oncology population, supporting their implementation and improving patient-centered outcome assessments. At the time of the congress, data collection will be complete (*n*=100), allowing full evaluation of psychometric properties.