O115 Two-step screening for anxiety symptoms among solid organ transplant recipients using PROMIS

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Objective: Anxiety among solid organ transplant recipients (SOTr) is associated with poor outcomes. Systematic screening using patient-reported outcome measures (PROM) may identify individuals needing further assessment. We assessed the accuracy and efficiency of two-step screening approaches to identify potentially clinically relevant anxiety among SOTr.

Methods: Adult, stable kidney, kidney-pancreas, and liver transplant recipients in Toronto, Canada completed the Patient-Reported Outcomes Measurement Information System® – Anxiety (PROMIS-A) Computer Adaptive Test, Edmonton Symptom Assessment Survey-revised (ESAS-r), and Generalized Anxiety Disorder-7 (GAD7) questionnaires. Moderate/severe anxiety was defined as GAD7 ≥10. We simulated two-step screening scenarios, as if participants first completed an ultra-brief pre-screener (ESAS-r Anxiety item [ESASr-A]; GAD2; or PROMIS-A screener) followed by PROMIS-A only if pre-screened positive. Different pre-screener cut-offs (ESASr-A 2 and 3; GAD2 2 and 3; PROMIS-A screener ≥ 1), and PROMIS-A cut-offs (PROMIS-A 55-60) were evaluated. Screening performance was assessed using sensitivity, specificity (>80% benchmark). Item burden was assessed for each scenario.

Results: Among 452 participants (241 kidney, 42 kidney-pancreas, 169 liver), mean(SD) age was 54(13) years; 60% male; GAD7 ≥10 in 17%. Among the two-step screening scenarios, the GAD-2 ≥3 followed by PROMIS-A ≥55 yielded the best performance (sensitivity 0.83, specificity 0.95). The PROMIS-A screener ≥1 followed by PROMIS-A ≥58 also performed well (sensitivity 0.87, specificity 0.74). GAD7 had the highest item burden, with 3,164 items completed by the study sample (7/person). For PROMIS-A, participants completed 2,260 items (5/per person). Of the two-step scenarios, PROMIS-A screener ≥1 followed by PROMIS-A reduced burden (1,474 items completed, 3/person) by 53% and 35%, compared to GAD7 and PROMIS-A, respectively. The GAD2 ≥3 followed by PROMIS-A scenario had the lowest item burden, with only 1,297 items completed (3/person) – representing a 59% and 43% reduction, compared to GAD7 and PROMIS-A, respectively.

Conclusions: The proposed two-step screening scenarios demonstrated acceptable screening performance with reduced item burden compared to referent screeners. Patients who screen positive with these approaches, will need further clinical assessment. These results need to be confirmed using clinical diagnosis as the referent – the overlap between GAD2 and GAD7 may have inflated the results of the scenarios including GAD2.