P101 Mapping ICF Concepts in physical therapy goals to PROMIS Physical Function items in chronic lower back pain

Yuxi Jiang, Sang Pak

University of California San Francisco, San Francisco, USA

Objective: This pilot study identifies World Health Organization's International Classification of Functioning, Disability, and Health (ICF) concepts in physical therapy (PT) treatment goals and maps them to PROMIS Physical Function (PF) v2.0 items for patients with chronic lower back pain (cLBP). We assessed the frequency of ICF concepts in PT goal-setting documentation that correspond to specific PROMIS PF items, evaluating concept distribution across mobility and activities of daily living domains.

Methods: We extracted PT goals from 552 physical therapy notes in Electronic Health Records of cLBP patients (n=509). An ICF domain expert manually labeled primary ICF concepts to create a reference set. Natural language processing techniques were then employed and fine-tuned a sentence transformer model to automatically identify ICF concepts in the remaining notes using semantic similarity matching between goal statements and ICF codes. Our previously developed ICF-to-PROMIS PF item bank crosswalk table allowed us to link clinical documentation directly to corresponding PROMIS PF items.

Results: Using our fine-tuned model resulted in 83.7% accuracy (weighted precision: 84.5%, F1 score: 83.9%), we identified 12 second-level ICF codes in PT goal-setting notes that mapped to approximately 60% of the PROMIS PF item bank (97 out of 165 items) for cLBP patients. The ICF chapter "D4 Mobility" was most frequently represented (52.2%), followed by "D5 Self-care" (19.7%) and "D9 Community, social and civic life" (13.9%). Notably, several second-level ICF codes were associated with moderately lower baseline PROMIS PF T-scores (>1 SD below average, mean T-score: 37.1): d450 Walking, d540 Dressing, and d510 Washing oneself.

Conclusions: Mapping ICF concepts from clinical documentation to PROMIS PF items creates a bridge between standardized classification systems and validated patient-reported outcome measures. This approach transforms narrative clinical data into structured information, enabling novel analyses of functional disability and supporting automated extraction of patient functional profiles. The mapping may facilitate more targeted intervention selection based on item-level responses and promote the adoption of PROMIS measures as the standard for functional outcome assessment in rehabilitation.