MEASUREMENT PROPERTIES OF PAINDETECT: RASCH ANALYSIS OF RESPONSES FROM ADULTS WITH NEUROPATHIC PAIN

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INTRODUCTION / AIM

painDETECT (PD-Q) is a self-reported assessment of pain qualities developed as a screening tool for pain of neuropathic origin (NeP). Rasch analysis is a strategy for examining the measurement characteristics of a scale using a form of item response theory. We conducted a Rasch analysis to consider if the scoring and measurement properties of PD-Q would support its use as an outcome measure.

METHODS

Rasch analysis was conducted on PD-Q scores drawn from a cross-sectional study of the burden and costs of NeP. The analysis followed an iterative process based on recommendations in the literature, including examination of sequential scoring categories, unidimensionality, reliability and differential item function. Data from 624 persons with a diagnosis of painful diabetic polyneuropathy, small fibre neuropathy, and neuropathic pain associated with chronic low back pain, spinal cord injury, HIV-related pain, and chronic post-surgical pain was used for this analysis.

RESULTS

PD-Q demonstrated fit to the Rasch model after adjustments of scoring categories for four items, and omission of the time course and radiating questions. The resulting seven-item scale of pain qualities demonstrated good reliability with a person-separation index of 0.79. No scoring bias (differential item functioning) was found for this version.

DISCUSSION / CONCLUSIONS

Rasch modelling suggests the seven pain-quality items from PD-Q may be used as an outcome measure for persons with NeP. Further research is required to confirm validity and responsiveness in a clinical setting.

OTHER AUTHORS

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