The Work Instability Scale

Synopsis

The Work Instability Scale (RA-WIS) is a 23-item self-report questionnaire developed in 2003 to assess risk of work instability in people with rheumatoid arthritis (Gilworth et al 2003). Work instability was defined as a mismatch between an individual’s functional ability and his/her work tasks that place the individual at risk for work disability (lowered productivity/pretature job loss, etc). Although the RA-WIS was originally developed to measure work instability in people diagnosed with rheumatoid arthritis, it has subsequently been validated for other musculoskeletal disorders (Roy et al 2011). It has 23 items with a dichotomous response option of yes/no, dealing with the daily demands of work. It has no subscales.

Instructions to client and scoring: Patients are asked to read the question and answer in terms of yes/no only; it is scored by counting the number of Yes responses. The total score ranges from 0 to 23 with a higher score indicating great work instability. The WIS results can be classified into three categories indicating the risk of work instability, low (less than 10), medium (10–17), and high (above 17).

Clinical measurement properties: The RA-WIS has been found to be reliable, valid, and responsive in people with rheumatoid arthritis (Gilworth et al 2003), osteoarthritis (Tang et al 2011), and with work related upper extremity disorders (Williams et al 2007, Roy et al 2011).

Reliability: It has demonstrated high internal consistency (0.92) and test-retest reliability (0.89) in workers with arthritis (Beaton et al 2010). Gilworth et al 2003 also found RA-WIS to exhibit excellent test-retest reliability in RA patients (Spearman’s rho = 0.89).

Construct validity: RA-WIS exhibited acceptable levels of construct validity by demonstrating expected correlation with other work-related scales (r = 0.54 to 0.74) (Beaton et al 2010). In workers with OA, RA-WIS demonstrated moderate to high correlations to both work-oriented (r = 0.55 to 0.77) and disease-oriented (r = 0.70 to 0.79) constructs (Tang et al 2010a).

Predictive validity: The suggested 17 or more cut-point was found to predict transition in work status (relative risk = 1.05, p = 0.04); but the optimal cutoff point for prediction of work transition was found to be > 13 (AUC 0.68, sensitivity = 51%, specificity = 83%) in a population of injured workers with chronic upper extremity disorders (Tang et al 2010b).

Responsiveness: RA-WIS has been shown to exhibit small to moderate SRMs and ES in identifying improved or deteriorated work ability (Beaton et al 2010).

Dimensionality: In the developmental study Rasch analysis suggested that all 23 items represent a single construct, hence the scale can be considered unidimensional in a worker population with RA (Gilworth et al 2003). These findings were later confirmed in a sample of workers with OA by Tang and associate where he found RA-WIS achieved adequate fit to the Rasch model in its original 23-item format (Tang et al 2010a). However, in workers with work related upper limb disorders, Tang and associates have found significant deviations from the Rasch model requirements. They have proposed a 17 item format of the RA-WIS that satisfied RASCH model requirements of unidimensionality, local dependence, and absence of DIF (Tang et al 2011).

Commentary

Work instability is a common problem in musculoskeletal disorders. This necessitates appropriate outcome measures to predict and identify workers who are at-risk of work instability so that treatment plans and work accommodations can be targeted more effectively. RA-WIS is brief and easily scored and shows preliminary evidence of reliable and valid. These factors suggest it may fit the needs and demands of clinical practice. More validation studies are needed to enhance confidence in its use across clinical populations and as a predictive measure.

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References