Patient Rated Wrist Evaluation

Description

The Patient Rated Wrist Evaluation (PRWE) is a region-specific outcome measure that evaluates wrist-related disability. It contains 15 items: five of which evaluate pain (intensity and frequency) and 10 evaluate function (specific activities and usual activities). Information gained from the PRWE can be used to determine the magnitude of wrist-related disability at one point in time and to identify change in disability over time (MacDermid 2007). The PRWE has been translated into Chinese (Wah et al 2006) and German (Angst et al 2005).

Instructions and scoring: Clients are instructed to answer all questions by rating their average pain and level of function over the past week on an 11-point scale ranging from 0 (no pain / never experiences pain / no difficulty) to 10 (worse pain, always experiences pain / unable to do activity). If any of the activities have not been performed, clients are requested to provide their best estimate of their pain or function. Pain and function subscale scores can be produced in addition to a total PRWE score. The pain subscale score, which is computed by summing the responses to the five pain items, produces a score ranging from 0 (no pain) to 50 (continuous, severe pain). To produce the function subscale score, the responses to the 10 functional items are tallied and divided by two. This produces a score which ranges from 0 (no difficulty performing specific or usual activities) to 50 (unable to perform specific or usual activities). Adding the pain and function subscale scores produces the total PRWE score, where 0 is the best score (no pain or difficulty performing activities) and 100 is the worst score (severe continuous pain and unable to perform activities) (MacDermid 2007).

Reliability and validity: The test-retest reliability of the PRWE is high (ICC > 0.90) over the short and long term in patients with a variety of wrist diagnoses (MacDermid et al 1998, Schmitt and Di Fabio 2004). Construct, and convergent validity as well as responsiveness of the PRWE have been evaluated in a various wrist populations, such as in patients with distal radius fractures or carpal fractures, osteoarthritis, rheumatoid arthritis and Kienbock’s disease (MacDermid 2007). The total PRWE score is strongly associated with the Disabilities of Arm Shoulder and Hand (DASH) score (Angst et al 2005) and has moderate to poor strength associations with impairments (e.g. grip strength, wrist motion, dexterity) (MacDermid et al 2002), general health (MacDermid et al 1998, Angst et al 2005), age (Jupiter et al 2002, Murphy et al 2003) and radiological findings (Jupiter et al 2002, Karnezis et al 2005). The PRWE has a similar responsiveness to that of the DASH (MacDermid and Tottenham 2004, Schmitt and Di Fabio 2004, 2005). The smallest change in the total PRWE score that reliably reflects change in disability rather than measurement error is 12 points, where as the smallest difference in the PRWE score which patients perceive as benefit is 24 points (Schmitt and Di Fabio 2004).

Commentary

The PRWE is an outcome measure that is a simple, brief and easy to score. It was systematically developed where by its items were generated from a number of sources, including patients with wrist injuries and clinical experts, the biomedical literature and published upper limb outcome measures. These items were subsequently refined and reduced by expert consensus and pilot testing (MacDermid 1996). The psychometric properties of the PRWE are acceptable and these have been comprehensive examined by its developers and independent researchers (MacDermid 1996).

The PRWE evaluates two components of disability: pain and function. An advantage of using this outcome measure is that it evaluates both pain intensity and frequency. Moreover, pain intensity is evaluated across various activities, such as during repetitive movements and lifting, as well as at rest and when it is at its worse. This provides a more comprehensive picture of pain behaviour. Function is assessed across specific and usual activities. This means that both activity limitations and participation restrictions are evaluated. The specific activities section contains items that may be influenced by the dominance of the wrist injury. This means that the hand that is normally used to perform specific activities may be uninjured or not affected. Although this may contribute to missing data, instructions have been provided on how to deal with unanswered items (MacDermid 2007).

The PRWE was developed for use on clients with wrist disorders. However clients often present with both wrist and hand disorders. The Patient Rated Wrist/Hand Evaluation (PRWHE) has subsequently been developed to address this issue. It contains the same pain and function items as the PRWE but its items refer to the wrist/hand instead of the wrist in isolation. In addition, it contains two questions on hand esthetics (MacDermid and Tottenham 2004). The PRWHE is scored in an identical matter to the PRWE, and as such the esthetics items do not contribute to the total PRWHE score.

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References