Oswestry Disability Questionnaire (ODQ)

Description

The Oswestry Disability Questionnaire (ODQ) was developed to measure disability in people with low back pain (Fairbank et al. 1980). The ODQ has ten sections: pain, personal care, lifting, walking, sitting, standing, sleeping, sex life, social life, and travelling. Modified versions have deleted references to ‘pain killers’ and ‘tablets’ from the Pain and Sleeping sections. In one version the ‘Sex Life’ section has been replaced by ‘Changing Degree of Pain’ (Hudson-Cook et al. 1989) and in another by ‘Employment/Homemaking’ (Fritz and Irrgang 2001). The version used by Davidson and Keating (2002) replaces miles with kilometres in the Walking section. The developers recommend Version 2.0 of the Oswestry (Fairbank and Pynsent 2000), which instructs patients to answer the questions in relation to how their back problem is affecting them ‘today’, rather than the original instructions which do not specify a time-frame.

Instructions to the client and scoring It takes 5 minutes for the patient to complete the ODQ and less than one minute to score. Respondents choose one of six statements that most applies to them in each section. The first statement is scored 0, the second is scored 1, and so on to 5 for the sixth statement. The sum of the section scores is transformed to a percentage score, adjusted for missed sections. The total possible score ranges 0–100 and a higher score indicates worse function. Scores from 0–20% are claimed to indicate ‘minimal disability’, 20–40% ‘moderate disability’, 40–60% ‘severe disability’, 60–80% ‘crippled’, and 80–100% ‘bedbound or exaggerating’ (Fairbank et al. 1980). The term ‘housebound’ is suggested as a more appropriate contemporary descriptor for the 60–80% score range.

Reliability, Validity and Sensitivity to Change Reliability coefficients ranging 0.83 to 0.99 have been reported in 11 studies of test-retest reliability. The standard error of measurement ranges from 4.5 to 6 points. There is a large body of evidence to support the construct validity of the ODQ and the instrument is able to detect statistically significant and clinically important change over time in group data.

Comparison with alternative questionnaires A Canadian study reported similar reliability and responsiveness of the Oswestry, the Quebec, and the Roland-Morris scales, with all these superior to the SF-36 Physical Functioning Scale (Kopec et al. 1995). An Australian study reported similar responsiveness of the Oswestry, Quebec, Roland-Morris, Waddell, and SF-36 Physical Functioning scale, but superior reliability of the Oswestry, Quebec, and SF-36 Physical Functioning scales (Davidson and Keating 2002).

Commentary

Although it was developed 25 years ago the ODQ remains one of the most widely used low back disability questionnaires. It is easy for both patients and clinicians to use and its clinimetric properties are well established. Australian physiotherapy data suggest that a change over a 6-week period of 10 points allows one to be 90% confident that the observed change is beyond measurement error, and a change of between 5 and 9 points is considered by patients to be clinically important (Davidson and Keating 2002). Change of less than 10 points should not be entirely discounted; however, the smaller the change in score the greater the likelihood that variation in scores is due to measurement error. When the initial score is less than 10 points there is insufficient range remaining to detect improvement in scores beyond measurement error (at 90% confidence) and another instrument should be selected for patient assessment. A very high score (>80%) in ambulatory patients is rare and clinicians should explore personal and environmental factors that may magnify patient self-reporting of disability.

There is some evidence to suggest that when the initial score on health status measures is very high, a relatively greater amount of score change may be required before people typically perceive the change to be clinically important, and when the initial score is very low, very small changes may be perceived as important. Oswestry scores are ordinal data and one therefore cannot say, for example, that a person with a score of 60 is twice as disabled as someone with a score of 30, or that a change of 10 points at different points of the scale are necessarily equivalent.

There is no evidence that any particular modified version of the ODQ is superior to another. However, the version with ‘Changing degree of pain’ is not recommended because this is a question about a change in health status while the other questions are about current health status. A limitation of the Oswestry is that, if redirecting patient attention from pain is an important treatment goal, the pain-focused language may be counterproductive.

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References