

# Fear Avoidance Beliefs Questionnaire (FABQ)

## Description

The emergence of the biopsychosocial model of low back pain (LBP) led Waddell et al (1993) to develop the Fear Avoidance Beliefs Questionnaire (FABQ). The FABQ assesses patient beliefs with regard to the effect of physical activity and work on their LBP. It consists of 16 items and patients rate their agreement with each statement on a 7-point Likert scale (0 = completely disagree, 6 = completely agree). The original factor analysis revealed two subscales: the work subscale (FABQw) with 7 questions (maximum score = 42) and the physical activity subscale (FABQpa) with 4 questions (maximum score = 24). A higher score indicates more strongly held fear avoidance beliefs. It takes approximately 10 minutes to complete.

**Reliability and validity** Test-retest reliability of the FABQpa is acceptable (ICC = 0.72 to 0.90) (Pfungsten et al 2000, Chaory et al 2004). The test-retest reliability of the FABQw is high (ICC = 0.8 to 0.91) (Holm et al 2003, Staerkle et al 2004). The total FABQ has excellent test-retest reliability (ICC = 0.97) over a 30-minute period (Kovacs et al 2006). The FABQ correlates with measures of disability (eg Roland and Morris Disability Questionnaire) (correlation coefficient FABQ 0.52, FABQw 0.63, FABQpa 0.51) and with another measure of fear-avoidance (Tampa Scale of Kinesiophobia [Kori et al 1990] correlation coefficient FABQw 0.53, FABQpa 0.76) (Crombez et al 1999; Kovacs et al 2006). The FABQw is related to length of time off work (Fritz and George 2002).

## Commentary

The FABQ is a useful questionnaire to assess fear avoidance beliefs. The psychometric properties of the subscales are better established than the total FABQ so use of the subscales may be preferable. The FABQpa may be more appropriate for patients who do not work. However, Kovacs et al (2006) suggest there may be a ceiling effect for the FABQpa as 23.9% of their sample scored the highest score possible. This was not seen for the total FABQ or FABQw.

The majority of reliability and validation studies have been undertaken in chronic LBP populations but recently there has been interest in its ability to predict long term disability in acute populations. Results have been contradictory in this area with some studies showing that it can be used to identify acute low back pain patients at risk of poor outcome (Fritz and George 2002) but others have shown it not to be a useful predictor in this patient group (Grotle et al 2005).

At present there are no values to define what constitutes an elevated FABQ score. Crombez et al (1999) suggest that a FABQpa > 15 (based on the median score of the population studied) should be considered an elevated score but this requires further validation. Fritz and George (2002) found that a FABQw > 34 identified patients at risk of not

returning to work four weeks post injury in patients with acute work-related LBP. However these authors emphasised that more research is needed to establish cut off scores for 'at risk' patients. Establishing such values would improve the usefulness of the instrument in the clinical setting.

The change in FABQ scores that reflects a clinically important change in beliefs has not been established. Changes in FABQ have been shown to correlate with changes in disability following treatment (Woby et al 2004) indicating a relationship between the two. Further research in this area may help to explain patient responses to treatment.

The role of fear avoidance beliefs in the development of long term disability has been gaining importance in recent years. It is important that this psychological factor is assessed so that treatment can address unhelpful beliefs that may contribute to the development or maintenance of disability. The FABQ is a reliable and valid measurement that can be used for this purpose although further research into its use as a diagnostic tool is warranted.

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# The Whiplash Disability Questionnaire (WDQ)

## Description

The Whiplash Disability Questionnaire (WDQ) (Pinfold et al 2004) is a 13-item questionnaire designed to measure disability caused by whiplash associated disorders (WAD). Items address current pain levels, personal care, role performance (work/study/home duties), mobility (driving/public transport), sleep disturbances, tiredness, social and leisure (sporting and non-sporting) activity, emotional (sadness/depression, anger, anxiety) and concentration impairments. The WDQ was developed in response to a study by Hoving et al (2003) where 71 patients completed a semi-structured interview addressing problems associated with their WAD. When the identified problems were compared to items on the Neck Disability Index (NDI, Vernon and Mior 1991) and the Northwick Park Neck Pain Questionnaire (NPQ, Leak et al 1994) it was found that the NDI and NPQ did not address important areas such as social and emotional problems, thus decreasing their validity for use in a population with WAD.

**Instructions to the client and scoring** The WDQ takes only 5–10 minutes to complete and score and requires no special training to administer. Clients circle a number on an 11-point scale (0–10) for each item anchored by descriptors at each end-point. Scores for each item are added to give a total

score out of 130. It should be noted that in a subsequent study descriptors relating to tiredness/fatigue, sadness/depression, anger and anxiety have been altered slightly to reflect how often these feelings are experienced rather than how much of the feelings are experienced (Willis et al 2004).

**Reliability, validity and sensitivity to change** The WDQ has excellent content and construct validity. Pinfold et al (2004) demonstrated excellent internal consistency (Cronbach's alpha = 0.96), sound factor structure, no substantial floor or ceiling effects and excellent response rates when tested on 101 patients with WAD. The validity of the WDQ was also strengthened by consultation with members of the Victorian Transport Accident Commission Medical Panel including practitioners in the fields of physiotherapy, musculoskeletal medicine, occupational rehabilitative medicine, chiropractic, clinical psychology and psychiatry. Short (24 hour, ICC = 0.96) and medium (one month, ICC = 0.93) term reliability were ascertained by Willis et al (2004) who tested 63 physiotherapy clients with WAD. Correlation between WDQ change and client perceived change over one month was  $r_s = 0.64$  while the minimum detectable change (90%) was calculated at 15 points.

## Commentary

As neck pain is reported in up to 95% of clients with WAD, neck pain disability questionnaires are often used for assessing the functional impact of WAD. These include the NDI, the NPQ, the Copenhagen Neck Functional Disability Scale (Jordan et al 1998), and the Neck Pain and Disability Scale (Wheeler et al 1999). However, these all have limitations in their applicability to clients with WAD as they were not developed from and/or tested on populations with WAD, did not have input from a range of clinical experts during development, or do not include items relating to emotional health, social activity or fatigue.

To date, all three studies related to the WDQ have been performed using clients presenting to private physiotherapy practices, thus making the WDQ relevant for this population. The WDQ has been shown to have excellent validity, reliability and responsiveness when used to measure disability associated with WAD. In this context, disability is used to cover impairments, activity limitations and participation restrictions in an environmental context. It is easy for clients to understand and complete as long as they are fluent in English. Clinicians can be 90% confident that a change of at least 15 points over a one month period is

not due to measurement error. Changes less than 15 points may still reflect true change in the client although less confidence would be associated with these smaller changes. Although Pinfold et al (2004) claimed that there were no significant floor effects, 11 of 101 participants (11%) scored 15 points or fewer on the WDQ. For these clients there would be insufficient range to be 90% confident that any improvements were not due to measurement error.

Further research into the WDQ would be useful to ascertain its scale properties (eg ratio or ordinal) and to compare its responsiveness in comparison to other neck questionnaires used in testing clients with WAD. Testing on WAD populations outside of the private physiotherapy sector would also confirm its appropriateness for other groups.

In summary the WDQ appears to be an excellent tool for measuring disability caused by whiplash associated disorders. Physiotherapists, in particular, can use the WDQ in a clinical setting, confident that it has the validity, reliability and responsiveness to be a key measure of treatment outcome.

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