

The Bottom Line

The Bottom Line is a translation of study findings for application to clinical practice. It is not intended to substitute for a critical reading of the research article.

[Hart DL, Werneke MW, George SZ, et al. Screening for elevated levels of fear-avoidance beliefs regarding work or physical activities in people receiving outpatient therapy. *Phys Ther.* 2009;89:770–785.]

What problems did the researchers set out to study, and why?

Fear-avoidance beliefs have been identified as a particularly important psychosocial factor for individuals with low back pain. Elevated fear-avoidance beliefs have been related to a greater likelihood of developing chronic pain and prolonged disability. Research has suggested that screening for the presence of elevated fear-avoidance beliefs may be useful in identifying patients who are at risk and for altering the patient management strategy to improve the likelihood of a successful clinical outcome. The Fear-Avoidance Beliefs Questionnaire (FABQ) is a 16-item questionnaire that has been used in research as a screening tool for elevated fear-avoidance beliefs. The authors contend that a barrier to adoption of the FABQ as a screening procedure in routine clinical practice is the burden of collecting these data or difficulty in interpreting the results. This study applied item response theory (IRT) to identify the FABQ items that can be used most accurately and efficiently to screen for elevated fear-avoidance beliefs.

Who participated in this study?

The study examined data in an electronic outcomes database that were collected from 17,804 patients with a variety of neuromusculo-skeletal conditions who were evaluated in outpatient clinics across the United States. All of the patients included in the analysis completed at least

part of the FABQ. A total of 3,956 (22%) patients completed the entire FABQ. The mean age of patients included was 50.0 years, 61% of patients were female, and most (95%) were being seen for orthopedic conditions.

What new information does this study offer?

The IRT procedures identified single items from the original 16-item FABQ that could be used to screen for elevated fear-avoidance beliefs related to physical activity and work, regardless of the patients' clinical conditions. These single items were accurate in predicting whether the patient had high or low fear-avoidance beliefs based on the score from the original FABQ.

How did the researchers go about this study?

Patients seen in participating outpatient physical therapy clinics with partial or complete FABQ scores were analyzed. Additional patient data (eg, age, sex, clinical condition, chronicity, and surgical status) were collected. Only data from the patient's initial examination were used. Outcomes of care and process-related variables (eg, number of visits, length of stay, etc) were not examined. The individual items from the FABQ were subjected to IRT analyses that resulted in the identification of single items with the highest degree of accuracy as screening questions. Receiver operating characteristic

(ROC) curves were used to describe the accuracy of the single items in identifying patients with high or low fear-avoidance beliefs based on a median split of the results from the original scores from the entire FABQ. The single item with the greatest accuracy in identifying high fear-avoidance beliefs about physical activity asks the patient the extent to which he or she agrees with the statement: "I should not do physical activities which (might) make my pain worse." The item most accurate for identifying high fear-avoidance beliefs about work asks the patient the extent to which he or she agrees with the statement: "I should not do my normal work with my present pain." These single items were able to correctly classify 91% or 92% of the patients based on the original scores from the full FABQ subscales.

How might the results be applied to physical therapist practice?

The results of this study support the potential usefulness of single items to identify high levels of fear-avoidance beliefs in patients attending outpatient physical therapy across a wide range of clinical or demographic groupings. Accurate and efficient identification of patients at risk for poor recovery due to elevated fear avoidance beliefs may provide an opportunity to modify the treatment plan to address these maladaptive beliefs.

What are the limitations of the study, and what further research is needed?

This study has several important limitations. The researchers had no control over the input of data into the database, and the completeness of the data collected is a common concern with retrospective studies. The decision of the therapist to ask a patient to complete the FABQ is not likely to be a random process and may reflect the bias of the therapist to collect this information on patients perceived to be at risk for elevated fear-avoidance beliefs. This may be particularly evident in the small percentage of the overall sample that completed the work subscale of the FABQ.

Another limitation was the use of a median split of the original FABQ scores to define patients with high versus low fear-avoidance beliefs. The accuracy of the single items was judged against this median split definition of high fear-avoidance beliefs, making the median split definition a “gold standard” for patients at risk due to elevated fear-avoidance beliefs. It is likely that a smaller proportion of patients scoring at the higher end of the FABQ scales are actually those at risk for poor recovery. All studies that seek to identify diagnostic or screening tests require replication and validation in different groups of patients. Identifying efficient and accurate screening tools applicable to most, if not all, patients

encountered in outpatient physical therapy is an important research priority that has the potential to improve clinical outcomes for a subgroup of patients with a poor prognosis due to the presence of elevated fear-avoidance beliefs.

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