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Screening for problematic low back pain: STarT

Michael E. Robinson* and Steven Z. George

University of Florida, USA

Back pain continues to be a costly and vexing public health problem leading to considerable suffering and loss of productivity. The study from Wideman et al. in this issue of PAIN and the body of work with a screening tool for assessing risk and tailoring treatment for back pain (STarT Back Screening Tool) preceding it, represent an important advance in providing a tool with strong potential for predicting outcome based on brief assessment of risk factors associated with poor prognosis for back pain [6]. Perhaps what is most compelling about the STarT Back Tool is the opportunity to identify patients at high risk for poor outcomes and offer, tailored psychologically informed treatment that results in improved outcomes when compared to standard care approaches [3].

Wideman et al. provide additional support for the use of the 9 item STarT Back Tool over full length questionnaires for depressive symptoms, disability, fear, and catastrophizing (ranging from 7 to 24 items). The reference questionnaires represented similar constructs to those included in the STarT Back Tool, so this study represents another test of its construct validity. Their analyses set a relatively high bar for success by requiring that the STarT Back Tool predict outcomes beyond that captured by the longer reference questionnaires. The new tool did so, and when the other instruments were not included in the regression models, the STarT tool predicted substantially large and clinically meaningful proportions of variance in outcome measures. This is an important finding because the STarT Back Tool was designed as a quick screening tool for primary care settings. Though speed of administration is important, the shortened tool must still capture clinically relevant information. The STarT Back Tool appears to meet that goal. In settings where there are time constraints and reimbursement pressures, ease of use for both patient and provider is critical. The STarT Back Tool appears to meet these goals too, although the study itself does not provide a direct metric of time to complete, or ease of administration.

The STarT Back Tool was originally designed for risk assessment but Wideman et al. addressed the sensitivity of the STarT Back Tool to treatment change in their current paper. Correlations of change scores between the STarT tool and longer measures of psychological distress indicated a sensitivity to change in disability, pain, and global improvement (particularly in the High Risk STarT subgroup). This suggests that the STarT Back Tool may have value for treatment monitoring in determining whether a favorable outcome is likely. The authors' data indicated that a STarT Back Tool change of 3 to 5 points (or a one category improvement) was likely to result in clinically meaningful improvements providing a reasonable treatment target in response to initial treatment. Patients not improving this amount could be considered candidates for additional treatment focused on psychological distress to prevent transition to chronic stages of low back pain.

Another notable strength of this study is the use of a primary care sample of patients with low back pain. Primary care settings represent the most likely medical setting for early intervention or referral of patients, and may provide an opportunity for altering the course of chronicity or reducing the high costs for chronic back pain. Though the primary care setting is a strength of the study, readers should realize that results of the present study may not generalize to other treatment settings that commonly encounter patients with low back pain. To this extent, additional work to establish the generalizability of the STarT Back Tool in other clinical settings would be helpful. For example there are some reports supporting the use of the STarT Back Tool in physical therapy [2], chiropractic [4], and secondary spine care settings [5]. While this work in other settings offers promise of wider generalizability for the STarT Back Tool, much more work needs to be done in these settings before clinical recommendations can be made.

The authors address a number of limitations of their work and the questionnaire. One concern of the STarT Back Tool is the lack of assessment of constructs that might be related to adaptive coping, or resilience, including positive mood or self-efficacy. Thus, the predictive models provided by Wideman et al. are not likely to represent complete models of risk. Another limitation in both the current analyses and previous work with the STarT Back Tool is that the use of categorical designations of risk may not represent the underlying distributions of STarT Back Tool scores. Future work with the tool may benefit from examining risk as a continuous metric, instead of compromising the underlying distribution for expediency. The data supporting the treatment monitoring aspect of the STarT Back Tool is encouraging, but there will be an inevitable loss of precision in measuring specific psychological constructs. As a result the STarT Back Tool may not be the best choice in determining whether a particular intervention reduces pain catastrophizing as opposed to fear of reinjury. Finally, in these analyses the determination of clinically meaningful outcomes for pain and disability were not based on patient centered definitions of improvement [1]. Given that patient centered definitions of improvement in these constructs may be larger than those that result from “clinically meaningful improvement” [7] it would be interesting to determine how the STarT Back Tool performs in clinical settings that used patient centered definitions of treatment success.

In summary, the new Wideman et al. study demonstrated that the STarT Back Tool shows good construct validity compared to reference questionnaires, sensitivity to treatment change, and holds promise as an effective tool to screen low back pain patients in primary care settings. Overall these findings reinforce the importance of considering the number of risk factors when predicting outcomes, and supports the notion that the STarT Back Tool is best characterized as a global, screening tool to identify people at risk for developing problematic back pain, and who may then be appropriate for psychologically informed treatment. Thus, the STarT represents an important tool for efficient identification of psychological distress in primary care settings and can lead to the administration of treatment strategies that avoid overuse of expensive care, or the under treatment of more complicated back pain.

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