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How Bad is Your Back?

With a high prevalence of people in the United States experiencing back pain (approximately 34 million), it's worth the effort to investigate how to best examine the back to provide the most beneficial care from a physical rehabilitation perspective.

Co-morbid conditions and an increased prevalence of psychological distress often present along with back pain.[1] It has also been reported that participation in risky health behaviors is more apparent in adults with low-back and/or neck pain. As often is the case in people with back pain, there is a reduction in their ability to perform tasks that are essential to overall independence and quality of life.

Having an outcome measure to accurately assess function, outside of patient self-report, is desirable as it allows clinicians to rely less on the patient's perceived limitations and more on actual limitations in function. The Back Performance Scale (BPS) is purported to be one such measure, devised to provide the clinician with objective information to choose the best treatment approach.

The BPS is comprised of five tests: Sock test, Pick-up test, Roll-up test, Finger-to-floor test, and Lift test. The five activities are performed from various starting positions, which, as indicated by the developers of the test, allow gravity to influence the body. They also indicate that some of the activities are performed with the knees flexed vs. straight, giving a better assessment of overall trunk function in conjunction with the interaction of the individual with the environment and the task at hand.[2] After observing the tasks, each test is scored using ordinal scales ranging from 0 to 3. The sum of the scores, ranging from a score of 0, indicating no activity limitation, to 15, indicating major activity limitation, constitutes the BPS score.[3-4]

Psychometric Properties of the BPS

The psychometric properties of the BPS were examined in two separate studies.[2,4] Discriminative ability was assessed by examining individuals with back pain vs. those with other types of musculoskeletal pain. It was found that individuals with back pain scored higher (thus had more limitations) than individuals who had pain in other areas (neck and shoulder) and in individuals who had unspecified musculoskeletal pain. Clients with back pain who were receiving worker's compensation at one-year post rehabilitation also scored higher than clients who had returned to work at that same time.[4]

The ability of a scale to detect meaningful change, or responsiveness of the BPS, was examined and found to be adequate, even more so than using each of the five tests separately. The effect size for change was .31-pre/post test in individuals with back pain who did not have any change and 1.33 pre/post in individuals with back pain who did show change on the BPS. With an improvement in scores of 2.5 on the BPS, sensitivity was 67 percent and specificity was 70 percent.[4]

Intertester reliability was high for all five tests (range k=0.90–1.0) and for the sum score of the BPS (k=0.91). Test-retest ranged from moderate to high (k=.55 to .83). Concurrent validity of the BPS was examined using two tests for difficulty with daily functioning, the Der Funktionsfragenbogen Hannover (FFbH-R)[5] and the Roland-Morris Disability Questionnaire (RMDQ).[6] A high correlation between the FFbH-R and the BPS was found (Spearman's rho = .825; p<. 01) and a moderate correlation between the RMDQ and the BPS (Spearman's rho = .454; p<. 01), indicating that the BPS was able to measure disability in back pain.

Normative data has been established for the BPS by testing 150 individuals ranging in age from 18 to 69 years who were not experiencing back pain at the time of testing. The mean score on the BPS for these individuals was .84+/-1.4. The youngest age groups (<50 years) scored 0 or 1. An increased likelihood of scoring 1 or higher on the BPS was found with increasing age and BMI as well as self-reported low physical fitness.[3] Clients with acute back pain demonstrated with higher BPS scores (mean =9.6+/-2.7) than clients who had longer lasting pain (mean=6.4+/-3.8).[7]

The Back Performance Scale appears to be effective in detecting clinical changes in clients who demonstrate with back pain. The developers of the scales conducted fairly rigorous statistical analyses in order to establish reliability (intertester; test-retest) and validity of the five tests and sum scores on the BPS. Additionally, discriminative ability and responsiveness were examined and found satisfactory. It is unclear how long the five tests that comprise the BPS take to administer, but should vary dependent upon the severity of back pain.

In clients who have back pain, having a measure that will help therapists narrow down activities that affect normal function is beneficial, as it allows for more targeted treatment. Doing this will help the client have a better quality of life, as well as allow physical therapists to predict the likelihood of back pain in some clients, thereby helping them take preventive measures to delay or avoid this issue. ■

References available at www.advanceweb.com/pt or by request.

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