IDENTIFICATION OF EXCESSIVE BACK DISABILITY WITH THE FASCHINGBAUER ABBREVIATED MMPI[1]

JAMES C. ROSEN, CHRISTINE JOHNSON AND JOHN W. FRYMOYER

University of Vermont

Tested the accuracy of the MMPI and the FAM for predicting appropriate vs. inappropriate disability (illness behavior) in low back pain patients (N = 123). When the Hypochondriasis and Hysteria scales were used, both versions had a 79% hit rate for inappropriate disability and at least an 80% overall correct classification rate. The resulting brief screening measure included 52 items.

Psychological adjustment generally is believed to contribute to the etiology and prognosis of low back disorders. This has been demonstrated most frequently by the association between the MMPI and the diagnosis and rehabilitation of patients with low-back-related disabilities. In the hope of improving diagnostic accuracy, several investigators have advocated routine use of the MMPI with low back patients (Holmes & Rothman, 1979; Spengler & Freeman, 1979).

Criticisms of the MMPI in this context include practical problems such as its length and seeming irrelevance to the low back patient. Special single MMPI scales that could be used as screening tests do not appear to be valid (Rosen, Frymoyer, & Clements, 1980; Tsushima & Towne, 1979). Two brief diagnostic screening instruments recently have been offered as alternatives. One is a 13-item pain description scale (Leavitt & Garron, 1979). The authors assert that "functional" pain disorders can be distinguished from "organic" pain disorders on the basis of pain complaints. Functional pain supposedly is more intense and more diffuse than organic pain. In their study, Leavitt and Garron (1979) compared patients without organic back disease with patients who had "as yet undiagnosed abnormalities of the spine [p. 302]." Because they provided no external validity for these groupings, there is no support for using this measure of self-reported pain as a screening test for functional pain disorders. The other brief diagnostic method is a 10-minute, 15-item structured interview (Hendler, Viernstein, Gucer, & Long, 1979). In the validation study of this device, there were several methodological flaws. Test scores were determined retrospectively from patient records, and the physicians who rated the physical findings were not blind to the results of the psychological measure. Moreover, the correct classification rate of patients as being with or without definite physical findings was worse than expected on the basis of chance.

Abbreviated versions of the MMPI have been constructed to deal with the practical disadvantage of the length of the full MMPI. The Faschingbauer Abbreviated MMPI (FAM) (Faschingbauer, 1974), for example, is correlated significantly with full MMPI scale scores in back patients (Freeman, Calsyn, & O'Leary, 1977; Turner & McCreary, 1978). In addition, there were group differences on the FAM between pain patients with and without definite physical findings (Turner & McCreary, 1978). However, the concordance rates for code types between the FAM and full MMPI are low, and there is no evidence for interpretive validity on an individual case basis. As a result, some authors conclude that there is no justification yet for the use of the FAM with pain patients (Bradley, Prokop, Gentry, Van der Heide, & Prieto, 1981). The present study reports the accuracy of the FAM, in comparison with the full MMPI, for classifying low back patients on an individual basis as appropriately or inappropriately disabled.

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METHOD

Subjects

Ss were 123 consecutive outpatients evaluated in the low back clinic of a department of orthopaedic surgery at a university health care center. There were 71 males and 52 females. The age range was 17 to 66 years with an average of 37.7 years. The onset of back pain ranged from 1 week to 20 years prior to this study with an average of 4.65 years. The duration of reported symptoms was 3 months or less for 26% of the *Ss* and 6 months or less for 33% of the *Ss*. Diagnoses were as follows: (1) definite disc disease—20%; (2) probable disc disease—9%; (3) possible disc disease—11%; (4) mechanical-structural abnormality—16%; (5) previously operated—10%; and (6) unknown etiology—34%. The diagnostic criteria for each category have been reported elsewhere (Pope, Wilder, Stokes, & Frymoyer, 1979).

Procedure

Ss were classified as having either an appropriate disability (AD) or an inappropriate disability (ID) by one orthopaedic surgeon (J.W.F.) This classification was used because Rosen, Frymoyer, and Clements (1980) showed that the error rate is high when the MMPI is used to predict the presence or absence of physical findings, but that the MMPI is highly accurate when it is used to predict the appropriateness of the disability. They recommend that the MMPI not be used to predict whether a physical basis for pain exists and instead focus on the psychological aspect of the disability.

The appropriateness of the disability was a subjective judgment, and it was determined by comparing the physical findings (i.e., the neurologic signs, sciatic tension signs, and radiographic findings) with the patient's report of pain and functional incapacitation. To be classified as ID the patient must present with a history of incapacitation that is in excess of that expected on the basis of the physical findings, whatever they may be. Thus, for example, the classification of ID was not exclusive of definite disc disease. Ratings were always relative to the expected course of the low back disorder, taking into account both the presence of "hard findings" for lumbar spinal disease and the duration of the symptoms. This resulted in some acute, i.e., 3 months or less, patients with seemingly insufficient time to develop a significant disability, nonetheless being rated as ID on the basis of an unexpected poor course. Although many combinations of signs and symptoms were possible for the same classification, there was considerable similarity among the patients in each group. The following is the clinical picture of a representative ID patient:

> Upon examination, the patient presents a typical history of sciatic pain with radiating pain distribution below the level of the knee, a positive straight leg raising test producing sciatic distribution of pain, and presence of one or more neurologic abnormalities (i.e., decreased reflex, muscle weakness, atrophy, and sensory loss in typical dermatone distribution). In addition to the anatomic clinical picture, the patient expresses expanded and magnified pain symptoms. Secondary somatic anxiety also might be present. There has been prolonged absence from work and avoidance of other activities that do not place significant mechanical stress on the spine. The patient overprotects his or her back and has an exaggerated sense of bodily vulnerability despite medical reassurance. Although only slightly effective in controlling pain, the patient is overly dependent on palliatives. The patient holds strong negative attitudes and expectations for self-control of pain. The effect is an appearance of a request for sympathy. Lastly, the patient expects relief without his or her own active participation in the back care program.

The orthopaedic surgeon ratings were provided after the patient's first visit to the clinic and without knowledge of the MMPI findings. Blind reratings by the same surgeon

yielded a 92% classification agreement. It was not possible to test for interrater reliability because only one surgeon was available to conduct the ratings.

Each patient was administered the full MMPI. The FAM items for scales K, Hs, and Hy were extracted from the standard protocols and following the procedure developed by Faschingbauer (1974), the Hs and Hy scores were converted to K-corrected T scores. A cutting T score of 70 or above on either the Hs or Hy scales, as recommended by Rosen et. al. (1980), was considered indicative of ID.

Results

The ratings by the orthopaedic surgeon resulted in the classification of 49 patients as ID and 74 as AD. The two groups did not differ significantly in age or in years of onset of low back pain prior to the examination (ID, age M = 37.2; onset, M = 4.7; AD, age, M = 38; onset, M = 4.6).

The correlation between the scales of the FAM and the full MMPI was r = .88 for Hs and r = .90 for Hy.

The accuracy of the FAM in predicting disability compared with that of the MMPI is shown in Table 1. The FAM and the MMPI both correctly identified (hit rate) 79% of the patients with an inappropriate disability (ID). While the MMPI correctly classified patients (N = 123) with either type of disability in 102 cases (82%), the FAM did so in 99 cases (80%); a discrepancy of only 3 cases.

In this sample the best chance prediction would be to classify all patients as appropriately disabled because this group constituted a majority. Based on the base rate for AD, correct classification of patients by chance would be 60%. When this is compared with the 80% accuracy of the FAM, the FAM is a significant improvement upon chance.

Discussion

In this test of the predictive validity of the MMPI for differential diagnosis of low back disorders, the external criteria were complex subjective judgments performed after one, albeit comprehensive, evaluation. The validity of these criteria, also those employed by other investigators, can be questioned with respect to their relationship to actual patient illness behavior. In future investigations, the validity of the external criteria could be enhanced by utilizing more objective variables such as medication use, functional activities, hours of "uptime" and mobility and by requiring an acceptable level of interrater reliability for the physician's ratings and observations.

The validity of this extracted vs. an independent administration of the FAM and of the Hs and Hy scales is uncertain. No study with the FAM specifically has compared extracted vs. independent versions. However, on the basis of other studies of short forms of the MMPI, Faschingbauer (1976) asserts that changes in test context exert little if any influence on scale scores or response tendencies.

The results of this study indicate that when these cut-off rules for Hs and Hy are used, the FAM and the full MMPI are equally accurate in identifying cases of psy-

TABLE 1

Discriminability of Disability

	Hit rate[a]	False positives	Correct decisions
FAM	.79	.19	.80
MMPI	.79	.16	.82

Note.—MMPI = Minnesota Multiphasic Personality Inventory. FAM = Faschingbauer Abbreviated MMPI.

[a]A hit is an Inappropriate Disability with an Hs or Hy T-score $\geq$70.

chologically aggravated back disability. It is also noteworthy that this brief version uses only 52 items, 56% of which present face validity for sick role tendency, denial of good health, and somatic symptom preoccupation.

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