

Standardized Norms for Block's Criteria for Psychosocial Risk In Patients Being Treated for Pain and Injury

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Abstract

INTRODUCTION: Research has determined that the outcome of invasive treatments for pain is influenced by psychosocial variables. Block and colleagues¹ developed one well-known method of presurgical psychological evaluation, which categorizes patients into risk levels ranging from 1 (low risk), to 5 (high risk). However, this method has lacked standardized psychometric norms, and some of its criteria had never been explicitly defined.

METHODS: The Battery For Health Improvement-2 (BHI-2)² was selected for use in the development of these norms because 1) it is a standardized test, 2), it is normed on both patients in physical rehabilitation and community members, and 3) it is a single instrument that can assess almost all of Block's individual criteria.

BHI 2 profiles and other information were gathered from 527 patients in treatment for pain or injury, and 725 community members from 106 sites in 36 US states. This method used posters to recruit patients, and was IRB approved.

Using these data, a standardized method was developed to calculate Block's criteria. Block's five-level risk score was calculated by employing BHI-2 scale cutoffs of one standard deviation above the mean using the patient norms, and using similar cutoffs for content areas and critical items. The scoring algorithms for psychological risks are found in Table 1, medical risks in Table 2, and adverse clinical features in Table 3.

When calculating Block's overall risk category, two of the medical risks could not be assessed using the data available in this study. As these risk factors would have been expected to be present in a significant percentage of the patient subjects, Block's medical risk cutoff scores¹ were all reduced by one so as to avoid a spurious reduction of the overall risk score.

RESULTS: The demographics of the two norm groups closely approximated that seen in the US census (Table 4). The mean, standard deviation, median and mode of the Block component scores are found in Table 5. Similarly, the mean, standard deviation, median and mode for the Block category scores for both patient and community norm groups are found in Table 6. The frequency with which each category was observed in medical patients is listed in Table 7.

CONCLUSIONS: Standardization is an important part of clinical assessment. A limitation of this study is that these means and norms would not apply to other methods of assessing Block's criteria. Further research is needed to develop standardized methods for the assessment of patients with chronic pain.

REFERENCES:

1. Block AR, Gatchel RJ, Deardorff WW, Guyer RD. *The psychology of spine surgery*. Washington DC: American Psychological Association; 2003.
2. Bruns D, Disorbio JM. *Battery for Health Improvement 2 Manual*. Minneapolis: Pearson; 2003.

TABLE 1		
Psychosocial Risk Factors		
Risk factor	BHI-2 criteria	Weighted score
Pain sensitivity	Somatic Complaints T > 59 or Pain Fixation < -4	2
Depression, chronic	Severe Depression T > 59*	2
Depression, reactive	Grief Depression T > 59*	1
Depression, pathological	Depression T > 59 and (Borderline, Dependency or Maladjustment) T > 59	4
Anger	Hostility T > 59	2
Anxiety	Anxiety T > 59	2
Catastrophizing	Pain Fixation T > 59*	2
Job dissatisfaction	Job Dissatisfaction T > 59	2
Workers' compensation	BHI 2 Demographic	2
Litigation	BHI 2 Demographic	2
Spousal solicitousness	Lack of Support T < 41**	1
No spousal support	Family Conflicts T > 59	1
Abuse and abandonment	Survivor of Violence T > 59	1
Substance abuse	Substance Abuse T > 59	2
Psych history	If critical item 45, 72, 107, 114, 118, 131, 151, or 172 > 1	2

* Equal to high or very high category
** Equal a low or very low category

TABLE 2		
Medical Risk Factors		
Risk factor	BHI-2 variable	Weighted score
Pain 6-12 months	BHI 2 Demographic	1
Pain > 12 months	BHI 2 Demographic	2
Highly destructive surgery	-	2
Nonorganic signs	Somatic Complaints T > 59	4
Abnormal pain drawing	Pain Complaints T > 59	2
2 or more prior spinal surgeries	BHI-R Demographic	2
1 prior spinal surgery	BHI-R Demographic	1
Prior medical problems	BHI 2 Critical Item Bhi2 40 R558	2
Smoking	BHI-R Demographic	2
Obesity	-	1

TABLE 3		
Adverse Clinical Features		
Risk factor	BHI-2 variable	Weighted score
Inconsistent pain behaviors	Pain Complaints T > 59	1
Medication seeking	If critical item 46 > 1 R204	1
Staff splitting	Splitting T > 59*	1
Noncompliance	If critical item 52 > 1 R24	1
Threatening behavior	Aggressiveness** or Violent Ideation** T > 67	1
Defeatist resignation	Perseverance < 28***	1
Deception	Defensiveness < 28***	1
Personality disorders	Borderline, Dependency or Maladjustment T > 59	1

* Equal to high or very high category
** Equal to very high category
***Equal to a very low category

TABLE 4			
Composition of Norm Groups Compared to US Census			
	U.S. Census	Community Norms (N = 725) %	Patient Norms (N = 527) %
RACE			
White	75	75	82
Black	12	12	7
Asian	3	3	1
Native American	1	1	3
Hispanic	9	9	5
Other	0	0	1
Not reported	-	0	1
EDUCATION			
Less than high school graduate	28	27	13
High school graduate	32	32	26
Some college or technical school	22	23	40
College degree or more	18	18	19
Not reported	-	0	2
AGE GROUP			
18-24	17	13	14
25-44	53	50	62
45-65	30	37	29
GENDER			
Male	49	46	44
Female	51	54	56

TABLE 5						
Block Risk Score Norms For Patients N=527						
	Mean	Std. Deviation	Median	Mode	Minimum	Maximum
Psychosocial Risks	7.01	5.49	6	4	0	23
Medical Risks	3.23	2.64	3	0	0	11
Adverse Clinical Features	0.26	0.68	0	0	0	6

TABLE 6							
Block Category Norms							
	N	Mean	Std. Deviation	Median	Mode	Minimum	Maximum
Patient Sample	527	2.42	1.26	2	2	1	5
Community Sample	725	1.56	0.93	1	1	1	5

TABLE 7		
Block Category Frequency		
Category	Frequency	Percent
1	141	26.8
2	187	35.5
3	86	16.3
4	63	12.0
5	50	9.5
Total	527	100.0