

Clinical Predictors of Delayed Sleep Onset in Rehabilitation Patients

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BACKGROUND

Sleep disturbances are related to tremendous human and economic costs. Roughly one-half to two-thirds of medical patients report a disturbance in sleep (Taylor et al., 2007) and research consistently supports the relationship between sleep disturbance and chronically painful medical conditions (Currie et al., 2002). These patients account for disproportionate percentage of the \$35 billion expense of chronic insomnia each year (Taylor et al., 2007).

Successfully treated medical/insomnia patients show a significant increase in sleep self-efficacy ratings and a decrease in self-reported levels of distress and pain-related disability (Dworkin et al., 2011). A recent meta-analytic study commissioned by the American Academy of Sleep Medicine suggests that patients with insomnia secondary to chronic medical conditions are best served by cognitive-behavior therapies (e.g. stimulus control therapy, relaxation, paradoxical intention, sleep restriction, and cognitive-behavior therapy; Morin et al., 2006).

In order to make effective use of prevention programming and these empirically-supported psychological treatments for insomnia, providers need to accurately assess the risk of sleep disturbance among their patients (Culpepper, 2006). Since even minor improvements in insomnia may produce noticeable symptom-relief, successful identification stands to substantially reduce patient distress and healthcare expenditures.

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DESIGN, PARTICIPANTS AND METHODS

Design: A Stepwise multiple regression evaluated the ability of BHI-2 scales and pain variables to predict the occurrence of sleep disorders.

Setting: 90 rehabilitation facilities in 30 states.

Ss: 719 patients being treated for pain or injury.

Main Outcome Measure: Patient rating of difficulty with sleep onset.

Table 1. Multiple Regression Results

Step/Variable	R ²	β	ρ
Functional complaints	.282	-.531	.000
Muscular bracing	.331	-.257	.000
Symptom dependency	.351	.186	.000
Maximum tolerable pain	.362	-.113	.000

RESULTS

- Regression results indicated that the overall model significantly predicted the occurrence of sleep disorders ($p < .001$) and accounted for 36% of the variance in scores.
- Significant regression coefficients included: functional complaints, muscular bracing, symptom dependency, and maximum tolerable pain (all significant at $p < .001$).

DISCUSSION

- These results suggest that delays of sleep onset may be associated with the self-perception of being functionally limited or disabled, and with a stress reaction involving physical tension.
- Interestingly though, a higher reported ability to tolerate pain was associated with delayed sleep onset. This may suggest that stoic individuals push themselves harder or decline medications.
- Also, elevated dependency was associated with more rapid sleep onset, suggesting that this coping strategy may not contribute to insomnia.

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