Clinical Significance and Predictors of Treatment Response to Cognitive-Behavior Therapy for Insomnia Secondary to Chronic Pain

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We examined individual responses to cognitive-behavior therapy for insomnia in 51 persons with chronic pain to determine the rate of clinically significant change and to identify predictors of successful treatment response. Outcome measures consisted of the Pittsburgh Sleep Quality Index (PSQI) and diary measures of sleep latency and sleep continuity. Using reliable change indices, 57% of participants were statistically improved on the PSQI after 7 weeks of treatment, but only 18% were considered fully recovered from their sleep problems. No demographic variables predicted treatment response but persons who reliably improved on the PSQI had a lower sleep self-efficacy at baseline. Improvers showed a significant increase in sleep self-efficacy ratings and a decrease in self-reported levels of distress and pain-related disability. These results suggest that patients with insomnia secondary to chronic medical conditions can be helped with cognitive-behavior therapy, although most individuals continue to have mild or subthreshold sleep problems at posttreatment.

KEY WORDS: chronic pain; insomnia; cognitive-behavior therapy.

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Cognitive-behavior therapy (CBT) for primary insomnia has received good empirical support in the last 10 years (Edinger et al., 2001; Espie et al., 2001b; Lichstein and Riedel, 1994; Mimeault and Morin, 1999; Morin et al., 1994, 1999b; Murtagh and Greenwood, 1995; Perlis et al., 2000). Recent studies also suggest that CBT for insomnia results in better long-term symptom reduction than pharmacotherapy, which for many years has been the front-line treatment for insomnia in primary care settings (Edinger and Wohlgemuth, 1999; Morin et al., 1999a). More recently, CBT has been applied to challenging groups of insomnia sufferers such as older adult insomniacs (Morin et al., 1999a) and persons with chronic pain (Currie et al., 2000). Nonetheless, critical reviews of nonpharmacologic approaches in general have questioned the clinical significance of individual patient outcomes (National Institutes of Health Technology Assessment Panel, 1996). Although group means show statistical change from pre- to posttreatment, the reliance on aggregate statistics to measure outcome does not reveal the proportion of individual participants who either benefit to a clinically significant degree or who become “normal” sleepers. Similarly, the identification of patient characteristics that predict a successful treatment response requires further clarification.

Determining who actually improves from treatment trials is emerging as an important issue in psychotherapy research in general (Jacobson et al., 1999). Several alternative statistical methods of calculating individual change have been proposed but as yet there is no clear consensus as to the best method. However, an approach proposed by Jacobson and Truax (1991) known as the reliable change index (RCI) is the most widely used. This approach involves examining the change from pre-to posttreatment made by each participant and determining if the observed change is beyond the limits of chance variation, given the reliability of the assessment instrument. A major advantage of the RCI is that a specific statistical test can be computed, which accounts for error variance due to measurement. This allows for a concise estimate of change in the individual patient.

A second approach to measuring clinically significant change involves determining whether the participant’s level of function after treatment falls within the normal range. The appeal of this method is that posttreatment data are evaluated within the context of normal functioning for the target symptom of treatment. The drawback is that sometimes even clinically valuable therapy may not result in clients functioning within the normal range; they may be improved, but not necessarily recovered. Combining these two approaches—i.e., identifying patients who show both a reliable improvement from baseline and posttreatment scores in the normal range—may result in a more accurate set of criteria for defining clinically significant change. In