

Empowering Patients with Persistent Pain Using an Internet-based Self-Management Program

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■ ABSTRACT:

New strategies are needed to improve access to cognitive and behavioral therapies for patients with persistent pain. The purpose of this randomized, controlled trial was to determine the effectiveness of the Chronic Pain Management Program, an 8-week online intervention targeting cognitive, emotional, behavioral, and social pain determinants. Program efficacy and engagement was evaluated for 92 individuals with a diagnosis of chronic noncancer pain who had a current opioid prescription. Participants were recruited from primary care practices and Internet sites, then randomly assigned to receive access to the intervention either immediately (treatment group) or after an 8-week delay (wait-list comparison). Biweekly self-report measurements were collected using online surveys on pain, depressive symptoms, pain self-management behaviors, and health care utilization during the 8-week trial. Additional measurements of opioid misuse behaviors, pain self-efficacy, and medicine regimens were completed at baseline and week 8. Engagement was evaluated by examining completion of program learning modules. The results from analysis of variance showed that at week 8, the treatment group had significantly greater improvements on pain self-efficacy and opioid misuse measures than the wait-list comparison group. Engagement level was positively associated with improvements in pain intensity, pain interference, and pain self-efficacy. In conclusion, patients on opioids were able to engage and demonstrate positive outcomes using an Internet-based self-management program. Future efforts toward heightening engagement could further maximize impacts.

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Gaps in policy, treatment, education, and research have resulted in shortfalls in pain care (Institute of Medicine [IOM], 2011), and unintended deaths from opioids (Centers for Disease Control and Prevention [CDC], 2013). A majority (60%) of the more than 15,000 annual deaths in the United States from opioid overdose

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occur in patients who obtained prescriptions under current medical board prescribing guidelines (Manchikanti et al., 2012). Providers are charged with increasing selectivity, screening, and monitoring of patients receiving opioids (CDC, 2013). As more scrutiny is aimed toward illegal and inappropriate use of opioids, a critical need exists to investigate and facilitate effective treatments for patients with persistent pain.

Behavioral and cognitive therapies have been well established as effective components of multidisciplinary pain treatment approaches (Eccleston, 2010; Macea, Gajos, Daglia Calil, & Fregni, 2010). Yet patients are most often exposed to pharmacologic interventions aligning with a biomedical model (IOM, 2011; Manias, Bucknall, & Botti, 2005). A biomedical model aims to correct the malfunction and cure the disease (Engel, 1997). It fails to recognize that numerous psychosocial factors contribute to the experience of pain and disability (Turk & Okifuji, 2002). A biopsychosocial approach to pain care is ideal for addressing the complexity of persistent pain, yet difficult to establish because of organizational, educational, and financial barriers (IOM, 2011). It has been postulated that reducing the demand for opioid prescriptions may be achieved by increasing emphasis on psychosocial interventions and nonpharmacologic, nonopioid treatments (Hallinan, Osborn, Cohen, Dobbin, & Wodak, 2011). Access to nonpharmacologic therapies (NPTs) is poor for many patients, particularly in rural and lower socioeconomic communities, as a result of insurance reimbursement structures and limited availability of pain services (IOM, 2011). Novel treatment approaches are necessary to extend access to specialized and effective pain care.

SELF-MANAGEMENT INTERVENTIONS

Self-management programs are designed to assist patients in mastering the tasks needed to live with a chronic condition. Based on concepts of self-efficacy, they aim to increase a person's confidence and ability to exert control over troubling health symptoms. Self-management programs have been touted as an effective means to improve quality of life and health functioning while reducing health care resource utilization (Boyers et al., 2013; Lorig, Ritter, Laurent, & Plant, 2008). Pain self-management interventions are recommended as an essential component of evidence-based clinical practice guidelines for persistent pain (Institute for Clinical Systems Improvement, 2011; Sanders, Harden, & Vicente, 2005).

Online and face-to-face group self-management interventions have demonstrated improved outcomes in

small, specific populations of patients who suffer with pain, such as patients with fibromyalgia, headaches, arthritis, and angina (Lorig et al., 2008; Macea et al., 2010; McGillion et al., 2008). However, no such interventions have been accepted for widespread use in the general population of patients with persistent pain, and no consensus exists on the optimal means to engage patients in pain self-management strategies. Few studies of Internet-based self-management programs have recruited patients with persistent pain from clinical settings such as provider offices and hospitals or specifically targeted those receiving opioid prescriptions (Bender, Radhakrishnan, Diorio, Englesakis, & Jadad, 2011). Additionally, few studies to date have explored the role Internet-based self-management programs may play in reducing reliance on opioid medicines and increasing alternative methods of pain control (Bender et al., 2011). High-quality studies are needed to determine the effects of NPTs on specific patient populations (Shin & Kolanowski, 2010).

Both caution and optimism have been presented in the evaluation of Internet-based self-management programs (Eccleston, 2011). Of concern is that reviews of these programs represent a small evidence base. One meta-analysis of 22 studies found that Internet-based interventions can have greater effects than non-Internet-based interventions when used for specified knowledge or behavior change (Wantland, Portillo, Holzemer, Slaughter, & McGhee, 2004). Bender et al.'s (2011) systematic review of Internet-based pain programs included 17 studies and concluded that providing cognitive and behavioral therapy, moderated peer support, and follow-up support can have positive effects on pain, activity, and treatment costs. The anonymity afforded by the Internet was also believed to be advantageous considering the stigmatization of those with a persistent pain diagnosis. More research is needed to inform enhancements to existing programs and identify optimal delivery methods for lasting effects (Carnes et al., 2012; Foster, Taylor, Eldridge, Ramsay, & Griffiths, 2007; Krause, 2005).

This randomized controlled trial was conducted to measure the effects of an Internet-based self-management program among patients who receive opioids from a primary care provider. The selected program, Chronic Pain Management Program (CPMP), is a self-directed, self-paced Internet-based self-management program intended for a general population of patients with persistent noncancer pain. Prior research demonstrated its ability to decrease pain severity, pain-related interference, perceived disability, depression, and pain-induced fear among participants recruited from

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