

# Use of Self-management Interventions for Chronic Pain Management: A Comparison between Rural and Nonrural Residents

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## ■ ABSTRACT:

Individuals with chronic pain who live in rural communities often lack access to pain specialists and rely on primary care providers who may be less prepared. Research has indicated that rural residents with chronic pain are more likely to receive an opioid prescription than nonrural residents. Although self-management approaches are available for chronic pain management, it is unclear to what extent rural residents use these interventions. This study compares usage of self-management interventions and opioid-based analgesics for chronic pain management between rural and nonrural residents. This study is a secondary analysis of baseline data from a randomized controlled trial evaluating a telehealth intervention for chronic pain management. Participants, recruited from primary care clinics, were 65 rural residents and 144 nonrural residents with similar demographic characteristics. Differences in the use of self-management interventions, pain intensity, and opioid dose were evaluated between rural and nonrural residents. Rural residents ( $n = 50, 77\%$ ) were less likely to use self-management interventions compared with nonrural residents ( $n = 133, 92\%$ ) ( $p = .019$ ). Opioids were taken for pain relief by 76% of the rural residents compared with 52% of the nonrural residents. A disparity exists in the use of self-management interventions for chronic pain management by rural residents compared with nonrural residents. Further study is needed to determine if this is related to the lack of access to specialists and/or pain management training of primary care providers. Nurses can play an essential role in addressing this

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## disparity by educating patients about self-management interventions.

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Chronic pain is a common problem and a challenge to treat effectively. It is estimated that chronic pain affects 116 million adults in the U.S. population (Institute of Medicine [IOM], 2011) and is the most common reason for seeking health care (Daubresse et al., 2013). Chronic pain is best treated using a multimodal interdisciplinary approach, which may include both pharmacologic and nonpharmacologic self-management interventions (Tompkins, Hobelmann, & Compton, 2017). Disparities may exist in the management of chronic pain in rural communities because of lack of access to primary care providers (PCPs) who have had formal training in chronic pain management. As a result, rural residents may rely solely on PCPs who are often less prepared to manage chronic pain using self-management interventions (Mezei & Murinson, 2011). Moreover, rural residents have a higher likelihood of being prescribed an opioid analgesic compared with nonrural residents (Prunuske et al., 2014). Although self-management interventions are an important part of managing chronic pain, it is unknown to what extent rural residents currently use these interventions compared with nonrural residents.

### Self-Management Interventions

Complementary and alternative medicine therapies may be used in addition to pharmacologic interventions to reduce chronic pain. The National Center for Complementary and Integrative Health (NCCIH) sorts complementary self-management approaches into 2 categories: mind and body therapies (e.g., yoga, meditation, exercise, acupuncture, relaxation techniques) and natural products (e.g., herbs, vitamins, minerals) (NCCIH, 2017). Rural residents may lack access to complementary self-management interventions (Hoffman, Meier, & Council, 2002), whereas pharmacologic interventions are readily available and better covered by insurance (IOM, 2011).

A lack of current research exists on the use of complementary self-management interventions for chronic pain management among rural and nonrural residents. In a 2003 study, a significant relationship ( $\chi^2 = 19.72$ ,  $p = .001$ ;  $n = 595$ ) was found between the use of complementary self-management approaches for pain management and type of community, with 82% of suburban, 77% of urban, and 58% of rural

respondents reporting the use of these treatments (Vallerand, Fouladbakhsh, & Templin, 2003). Of the rural residents, 66% used prescription medications and 18% were taking an opioid analgesic (Vallerand, Fouladbakhsh, & Templin, 2004). The percentage of suburban and urban residents who used prescription medications and opioid analgesics was not reported. Findings from a 2008 survey of 463 patients with chronic nonmalignant pain who received primary care at 12 U.S. academic medical centers in nonrural settings indicated that 52% of patients used complementary self-management approaches to manage their chronic pain (Rosenberg et al., 2008). No association was found between opioid use and self-management intervention usage.

### Chronic Pain Management in the Primary Care Setting

At the patient level, facilitators of patients' chronic pain management in the primary care setting include confidence in one's self-management ability, relationship with their PCP, support from family and friends, and access to services (Lukewich, Mann, VanDenKerkhof, & Tranmer, 2015). Self-management interventions engage individuals to manage their chronic pain. Thus, self-management interventions are an important component of chronic pain management and promote patients to be active participants in their treatment rather than relying only on pharmacologic interventions, which are often opioid based (Boudreau et al., 2009; Olsen, Daumit, & Ford, 2006).

At the community level, the use of complementary self-management interventions for chronic pain management by rural residents can be explained by the Chronic Care Model (Bodenheimer, Wagner, & Grumbach, 2002). The model is an organizational approach for providing high-quality chronic disease care in the primary care setting. Treating chronic pain has similarities to treating other chronic diseases that are managed in the community, health care system, and provider organization, such as a rural clinic (Bodenheimer et al., 2002). High-quality pain care that includes the use of self-management interventions is supported by 6 essential elements: (1) linkages between PCPs and community resources for self-management interventions such as exercise classes, (2) a health care organization that views multimodal chronic pain management as a priority, (3) self-management support that emphasizes the patient's role in managing chronic pain and empowers patients to use self-management interventions, (4) a delivery system that defines the roles and tasks of team members for educating patients about pain intervention options, (5) decision support for integration of evidence-

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