



Sex/Gender Disparity in Pain and Pain Treatment: Closing the Gap and Meeting Women's Treatment Needs

Although women are prescribed opioid medications for pain more frequently than their male counterparts, that doesn't mean that their pain management needs are being met.

By Beth D. Darnall, PhD

Roughly 1 in 4 Americans are living with chronic non-cancer pain, and the majority of them are women. Several chronic pain conditions (such as dysmenorrhea, vulvodynia, dyspareunia, and pelvic pain) are women-specific. Other chronic pain conditions, including fibromyalgia,¹ irritable bowel disorder,² migraine,³ arthritic conditions,⁴ complex regional pain syndrome,⁵ and some inflammatory conditions,⁶ are more prevalent in women. In aggregate, women are more likely than men to acquire a chronic pain condition in their lifetime. Moreover, research has shown that women's pain is more intense, occurs more frequently, and lasts for a longer duration of time than it does for men.⁷ In short, pain tends to be a more severe and more complex problem for women.

Women are more likely than men to seek medical attention for a health problem, but this does not always translate into better care. Opioid drugs are one of the most common forms of chronic pain treatment in the US, with empirical data showing that women are prescribed opioids more often for their chronic pain than are men.^{8,9} On average, women are also taking higher doses of opioids than men.⁸⁻¹⁰ Indeed, epidemiological studies show that while prescription opioid use in the US has increased significantly for both sexes, women are leading the pack. This fact raises two important questions: Why are women prescribed opioids more often than men, and what are the consequences of this treatment disparity?

What is pain psychology?

A pain psychologist works with people who have varied chronic pain conditions. Although pain psychologists treat anxiety, depression, post-traumatic stress disorder, and other conditions, pain psychologists also often fill the role of a “pain coach.” Through a clinical interview and testing, the psychologist will identify opportunities to relieve suffering by helping patients learn and use various skills. Such skills are generally focused on learning to shift thoughts and perspective so that stress is better managed. Patients learn ways to calm mind and body, thus providing better control over pain and stress responses. Pain psychologists work with patients to develop functional goals and help remove road blocks to goal attainment. Often, the primary goal of pain psychology is to help patients develop self-efficacy to manage their pain and stress, and to work toward improving their quality of life.

SAVE THE DATE!

4th Annual Women in Pain Conference: Gender Matters

The conference will be held September 16, 2011, at the California Endowment's Center for Healthy Communities in Los Angeles, CA. This year's conference theme is “Reframe Your Pain, Reclaim Your Life.” Presentations will explore “the personal experiences of women living with pain and the challenges they face to maintain mental and physical wellness,” describe Mindfulness Meditation and Guided Imagery and explain how these “consciousness-management” techniques can benefit women in pain, and discuss the importance of pain advocacy.

Five CEUs will be available for Registered Nurses in attendance and the event will be open to all via a live worldwide webcast.

The conference will feature keynote addresses by **Melanie Thernstrom**, author of the *The Pain Chronicles*, and **Beth Darnall, PhD**, pain psychologist/researcher with the Oregon Health & Science University. Presenters will include **David Bresler, PhD**, founder of UCLA's Pain Control Unit; **Marvin Belzer, PhD**, Co-director of UCLA's Mindfulness Awareness Research Center; and **Camille Dieterle, OTD**, Director of the USC Occupation Therapy Faculty Practice.

Go to www.forgrace.org/women/in/pain/C256 for additional information.

Look beyond the pain

One is cautioned from concluding that women are prescribed opioids more often than men because they have more pain. Surprisingly, pain intensity is not the major predictor for opioid prescription. Rather, findings from multiple studies suggest that patient behaviors observed by the physician during the office visit powerfully influence the likelihood that the physician will write the patient an opioid prescription. What are the patient behaviors that lead to opioid prescription? Negative affect,¹¹ psychological distress,¹¹ and pain behaviors¹² (eg, grimacing or bracing) all predict receipt of opioids—and more so for women. Furthermore, anxiety,¹³ depression,¹³ and pain-related dysfunction¹⁴ have all been shown to predict opioid prescription and opioid use in women. As such, psychological and behavioral factors appear to influence the pharmaceutical chronic pain treatment women receive. Importantly, opioids are not approved to treat such psychological or behavioral concerns, so the pathway between psychological and behavioral factors and opioids is a curious one. The logic of the prescribing provider may be a well-intended assumption that pain amelioration with opioids will lead to reduced psychological distress and improved function. However, one need only to look at the data to discover that this assumption is unsupported.

Chronic pain tends to be a condition that is managed, rather than cured. Given this long-term trajectory, the need for proper assessment and treatment of psychological comorbidities and distress in women is underscored. Chronic pain is stressful. For most people, the consequences of living with chronic pain serve to compound the stress. To illustrate a few examples, a person with chronic pain may experience interpersonal difficulties as his or her ability to fulfill a family role is diminished, financial difficulties may arise or worsen as work capacity may be compromised and as medical bills increase, and a patient's sense of self-worth may be diminished by a decline in function. Now a person must deal with the experience of their pain as well as the life impact of their pain.

Because the experience of pain is stressful and absorbs a significant portion of coping reserves, one's ability to cope with the many other life stresses is reduced. As stress increases and adaptive coping diminishes, psychological distress and comorbidities are more likely to be expressed. And under these conditions, physical pain will increase in tandem, thus completing a bad cycle of pain-distress-pain.

It's unsurprising that stress/distress and pain

are so closely related. The International Association for the Study of Pain (IASP) defines pain as “an unpleasant sensory and an emotional experience associated with actual or potential tissue damage”. Chronic pain is pain that persists beyond three months of expected healing in the case of injury, or pain that simply lasts for three months in the case of idiopathic pain. The IASP definition reminds us that our psychological experience is built into the very definition of pain. Indeed, cognitive, emotional, and behavioral factors powerfully influence the experience of pain, our level of distress regarding pain, the trajectory of pain, and response to pain treatments. This may be more true for women, given that women's brains are wired to be more attuned to the emotional aspects of situations.^{15, 16} Women with chronic pain may have greater levels of psychological distress.¹⁶⁻¹⁹

Treating women's pain better

Perhaps the most important thing physicians and other pain care providers can do for their female chronic pain patients is to properly assess their ability to cope with their pain and other life stresses. Generally, referral to a pain psychologist is optimal, if such local resources exist (see sidebar). The pain psychologist will assess coping patterns and develop a plan to help the patient self-manage her own physiological and psychological stress responses. Research shows that cognitive, emotional, and behavioral factors strongly influence pain and response to pain treatment. Therefore, the cognitive, emotional, and behavioral factors must be treated so that the patient is empowered with the understanding, skill set, and support to make concrete changes that lead to improved quality of life and reduced need for pain medication. In other words, patients can learn to address some of the underlying factors that maintain or promote pain, rather than passively taking medication and remaining dependent on clinicians to provide them with ‘relief’.

Studies have shown that women are more influenced by their thoughts and expectations related to pain than are men.^{20, 21} For instance, women who expect pain relief from a placebo pill tend to experience greater pain relief than men.²¹ Some data suggest that women who are stressed by thinking negatively about their pain may be more likely to express pro-inflammatory cytokines in their blood following such a stressor.²⁰ By working with a pain psychologist or pain coach, women may learn, in a structured way, how to harness the power of their thoughts and their expectations and to begin channeling this power in a positive way toward the goal of reducing pain and distress.

Chronic opioid use is associated with unique consequences for women

Chronic opioid use is not without varied iatrogenic consequences, such as constipation and tolerance. While a comprehensive review of these consequences is beyond the scope of this article, some relevant female-specific factors are highlighted here. For instance, chronic opioid use is associated with dysregulation of the endocrine system.²¹⁻²⁴ Because the endocrine system influences the experience of pain, it is possible that opioid-induced endocrinopathy is a primary pathway by which pain worsens over time.

One study found that women of reproductive age who took opioids long term experienced opioid-induced amenorrhea.²³ Amenorrhea carries risks of its own, including compromised bone health and infertility.²⁵ A subset of reproductive age women on opioids maintain their fertility and providers should monitor these patients for pregnancy plan-

ning. Patients should be informed that opioids carry teratogenic risks, including low birth weight, premature birth, hypoxic-ischemic brain injury, prolonged QT syndrome, neonatal withdrawal syndrome, and neonatal death.²⁶ When possible, patients should be weaned off opioids prior to pregnancy.

Opioids have been shown to disrupt levels of testosterone, estradiol, and dehydroepiandrosterone sulfate (DHEAS) in women. Even post-menopausal women can experience significant opioid-induced endocrinopathy on chronic opioid therapy.²³ Providers should monitor patients' hormone levels and may consider a baseline hormonal panel for women prior to initiating opioid therapy to be used as a reference point. The endocrine system is known to impact mood, cognition, insulin secretion, cardiovascular events, sexual function, bone loss and fracture risk (particularly in older women). Referral to an endocrinologist may benefit the patient. Physicians and clinicians

may monitor for symptoms and may judiciously consider whether the potential benefit of opioids outweighs the known risks.

Lastly, women should understand the likely risks of treatment before treatment is initiated. Before opioids are prescribed, female patients should understand the relevant endocrine risks. Education regarding these treatment risks should be provided by the prescribing physician/clinician. Taking time to review the medication risks may provide the clinician with an opportunity to highlight some alternate evidence-based non-pharmacological treatment options, such as pain psychology and cognitive behavioral pain care, meditation, physical therapy, and gentle yoga.

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