



An Alternative Approach to Solving the Opioid Epidemic: Expanding the Use of Non-Pharmacologic Techniques for Acute and Chronic Pain Management

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Abstract

Following the introduction of new guidelines for the management of acute perioperative pain and chronic non-cancer pain, the use and abuse of opioid analgesic drugs for the treatment of acute and chronic pain has increased at an alarming rate in the USA. Presently, millions of Americans are using prescription opioid analgesic for non-medical reasons. The pharmaceutical industry continues to promote newer opioid formulations for treating chronic pain, and the current pharmaceutical market for 'add on' drugs to treat opioid-related side effects actually exceeds the sales of opioid analgesics! More importantly, prescription opioids are a gateway to other more dangerous drugs of abuse (eg. heroin), leading to a rapidly rising number of deaths due to overdosing and increasing cost to the healthcare system for the emergency treatment of opioid-related complications. Attempts to curb the current drug abuse crisis involving the use of even more drugs is a highly questionable practice. Clearly, practitioners need to consider alternative therapies for managing acute and chronic pain in the future.

Keywords

Opioid epidemic; Alternative analgesic therapies; Non-pharmacologic therapies

Commentary

The annual number of overdose deaths involving prescription opioids has nearly quadrupled since 2000 and this increase parallels the marked growth in the quantity of opioid pain relievers being prescribed for the treatment of acute and chronic pain [1]. One in every five cancer patients are at risk for opioid use disorder. Prescription opioid addiction and misuse have also contributed to resurgence in heroin use and the spread of HIV and hepatitis C [2].

In a call to action to end the opioid epidemic in this country [3], the US Surgeon General has recommended following the Center for Disease Control (CDC) guidelines for prescribing opioids for chronic

pain. In the "Turn the Tide Rx Pocket card which Dr. Murthy mailed to 2.3 million clinicians in this country, there was no mention of the use of non-pharmacologic therapies like electroanalgesia and laser therapy to treat chronic pain. However, in the recent FDA response to the opioid crisis, Califf et al. [4] emphasized that more alternatives to opioid analgesics are clearly needed, including non-pharmacologic treatments. According to the FDA leadership, "non-pharmacologic approaches to pain treatment were identified as an urgent priority." The CDC has also recently emphasized the importance of finding non-pharmacologic alternatives to opioid analgesic medications for treating chronic pain. In a more recent publication from the CDC, [5] the authors reported how patients initially given a one-day supply of opioid medication had a 6% likelihood of still using the drug a year later. However, that number rose to roughly 10% for patients given a two-day supply, and was 45% for patients given a 40-day prescription.

Alternative pain therapies like acupuncture have been used to treat pain for centuries. However, the use of non-pharmacologic electro-analgesic techniques has failed to gain widespread acceptance in the medical community despite numerous studies documenting their efficacy [6]. The healthcare industry (e.g., 3rd party payors) indirectly discourages the use of alternative therapies by refusing to provide adequate reimbursement to healthcare providers of these non-traditional treatments. More importantly, the drug industry and their distributors continue to promote new 'magic bullets' to treat medical disorders, including prescription-induced opioid addiction, to patients and healthcare providers. Although many different types of electro-analgesic techniques can provide effective short-term pain relief, the treatment procedures themselves can be labor-intensive. In contrast, low-level laser therapy (LLLT) and high-intensity laser therapy (HILT) can be administered by a technician using a simple 'point-and-shoot' technique and provides longer lasting analgesic effects as compared to electro-stimulation for acute and chronic pain [7]. In a pilot study involving a powerful high-intensity laser device (Phoenix thera-lase, Dallas, Texas), we were able to successfully treat patients who had become addicted to prescription opioid-analgesic medication after undergoing surgical procedures [8]. More recently, we reported using HILT treating a woman with drug-resistant fibromyalgia [9]. This patient was also able to discontinue her use of opioid analgesic medications. We have also demonstrated the benefits of HILT in patients using non-opioid analgesic medications treating long-standing pain due to a variety of degenerative joint diseases [10]. It is clear that physicians and nurses need to emphasize the use of non-opioid analgesic therapies in the management of acute and chronic pain [11].

The growing importance of opioid dependency after surgical procedures was emphasized in a recent article by Goesling et al. [12] These investigators reported that prescription opioid analgesic use often continued after joint replacement surgery despite the fact that the patients were no longer experiencing pain in the joint. In a retrospective study involving over 390,000 outpatients over the age of 66 years who had undergone minor ambulatory surgery procedures (e.g., cataract surgery, laparoscopic surgery, hernia repair, varicose vein stripping), Alam et al. [13] reported opioid-naïve patients receiving an opioid analgesic medication within 7 days after undergoing a minor surgical procedure were 44% more likely to

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continue using opioids one year after the operation. Data supporting an association between perioperative opioid use and subsequent chronic postoperative opioid use are accumulating. Recently it was reported that there is a ~6% incidence of new persistent opioid use after both major and minor surgical procedures [14]. The factors associated with increased risk of prolonged postoperative opioid use after surgery include younger age, lower income, diabetes and chronic use of benzodiazepines and antidepressant drugs [15]. Additional risk factors for chronic opioid use after surgery include male sex, history of drug or alcohol abuse, use of benzodiazepines and antidepressant drugs, and patients undergoing major arthroplasty procedures [16].

In a recent article published in TIME magazine (Park A, A new paradigm for opioid addiction: more drugs TIME magazine, October 2016), the author described a new paradigm for treating opioid addiction which involves giving Suboxone (a combination of buprenorphine, a partial opioid agonist and naloxone an opioid antagonist). The use of novel combinations of opioid-containing compounds, including agonists and partial agonists, to treat acute and chronic pain, as well as opioid dependency, is a fairly predictable 'solution' to the opioid epidemic offered by the manufacturers of opioid-containing medications (and their lobbyists in Washington DC). Unfortunately, repeating the same pharmacologic (opioid) based approach to pain management and expecting a different result is the definition of insanity and will not solve the current opioid crisis. Of importance, Barnett et al. [17] reported in a recent issue of the New England Journal of Medicine that long-term opioid use was increased in previously opioid-naïve patients who received treatment in an emergency department from high (vs. low)-intensity opioid prescribers. Altering the prescribing habits of physicians and their surrogates to emphasize the role of non-opioid analgesic drugs and innovative non-pharmacologic approaches for treating acute and chronic pain would be a first important step in controlling the current opioid crisis [11].

Hopefully the medical community will wake up to the fact that 'simply giving more opioid medication' is not a long-term solution to the current crisis in this country; it is simply adding fuel to the fire! In the new clinical practice guidelines for the management of back pain [18], the Clinical Guidelines Committee of the American College of Physicians endorsed the use of non-invasive treatments like laser therapy for treatment of acute, subacute and chronic low back pain. As Professor Kehlet and I suggested more than a decade ago, encouraging more liberal use of opioid analgesics in acute and chronic pain management is a potentially dangerous proposition [19]. Clearly, more innovative non-pharmacologic solutions involving an integrative approach to pain management are needed to curtail the current opioid epidemic in this country [20].

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