Improving Chronic Pain Management to Reduce the Opioid Epidemic: A Literature Review

Janina Della-Peruta

Northern Illinois University

Abstract

Prescription opioids contribute to the growing problem that is the opioid epidemic. According to the CDC (2017), approximately one-third of all opioid related deaths are due to prescription opioids. One way that these opioids can be decreased within society is pushing for alternative pain management therapies such as nonpharmacological methods. Data for this was obtained by searching through academic journals with the keywords: nonpharmacologic pain management, alternative therapies, pain management, and reducing opioid use. Periodic re-assessments allowed patients to be evaluated for proper pain management and allowed the opportunity to decrease medications or discontinue them. Through thoracic manipulation, physiotherapy, chiropractor use, acupuncture, and rehab facilities, patients' pain was able to be decreased, and they could the number of opioid medications that they take. Alternative pain management therapies have proven effective at lowering patients pain perceptions and have helped to reduce the number of opioids needed. There are many different options out there that patients need to be made aware of. By increasing the multidisciplinary team, care is more focused, and patients are able to be monitored more efficiently.

Expanding Chronic Pain Management in an Effort to Reduce the Opioid Epidemic

The opioid epidemic in the United States is a growing problem. Roughly, 44 people die every day from prescription opioid overdose (Mitchell & Higgins, 2016). Over one-third of all opioid related deaths are associated with the use of prescription opioids. Opioid overdose deaths have increased fivefold since 1999. In the timeframe of 1999 to 2017, over 200,000 people have died from overdoses related to prescription opioids (CDC, 2017). Overdosing is not the only problem associated with opioids: misuse, abuse, and addiction are all possible risks associated as well (CDC, 2017).

The United States has the highest rate of opioids prescribed per day. There are 46,090 daily doses prescribed per 1 million people (International Narcotics Control Board, 2017). The next highest is Canada, where they have 30,570 daily doses prescribed per 1 million people (International Narcotics Control Board, 2017). Other countries have much lower usage of opioids and also report less pain than residents in the United States. In the United States, there is a huge focus on pain management through the use of medications.

Over 50 million or 20% of adults in the United States claimed they had chronic pain (CDC, 2016). Improper pain management can result in serious health complications and pharmacologic methods are commonly the main focus approach utilized. Many hospitals have patients ranking their pain between one and ten, and then try to keep them satisfied by treating said pain with the use of medications. A significant gap exists when it comes to treating pain, since it is difficult for doctors and nurses to assess the pain that a patient is feeling due to its subjective nature. Pain is oftentimes overtreated by healthcare providers or the wrong method is selected for a patient. It is already known that naloxone can rapidly reverse the effects of overdose (Mitchell & Higgins, 2016). However, that does not provide a solution to the number of

opioids being prescribed on a daily basis. The importance of this research is to compile what other institutions are doing to help manage pain with other methods so that less opioid medications need to be prescribed initially.

Problem Statement

Does promoting the use of alternative therapies decrease both pain and the use of pain medications for patients experiencing chronic pain?

Methodology

Data was obtained by searching the article database CINAHL complete for at least five scholarly, peer reviewed articles that have been written within the past five years. Keywords searched included: nonpharmacologic pain management, alternative therapies, pain management, and reducing opioid use.

Review of Literature

According to Giannitrapani et al. (2018), by expanding the role of clinical pharmacists to help manage pain, chronic pain management is further enhanced within the interdisciplinary teams. By working with primary care providers, clinical pharmacists would be able to take away some of the burden of being primarily responsible for the care of chronically ill patients. This in turns improves both patient satisfaction and overall care. According to the providers interviewed, they felt that increasing clinical pharmacists' roles in caring for patients adds value with monitoring patient safety and activities. It allows the pharmacist to complete periodic reassessment which could provide an opportunity for discontinuing or decreasing doses of opioids. By making the multidisciplinary team more diverse in terms of navigating complex patients, the risk of addiction is then minimized. Barriers exist within this study as the awareness of clinical pharmacists and their scope of practice is low. In order to make this more successful,

clinical pharmacists will need training to have a better understanding of pain and how to manage it. Expanding the role would be a complex process as it will require many resources, training, and support from leadership to allow the successful transition of roles of clinical pharmacists.

Research from Penney, Ritenbaugh, DeBar, Elder, and Deyo (2016) found that many patients thoughts about chronic pain management are solely centered around the use of pain medications, whether they want them or not. The results from their study showed that options for chronic pain treatment are limited or patients may be unwilling to manage self-care or reduce pain medication. This is for many different reasons, but a lot of it just lies with the fact that people do not want to be in debilitating pain. Penney et al. cited that prescribes felt that patients have expectations to have zero pain, which led them to prescribing stronger medications or increasing the dosing. When it comes to chronic pain, one of the easiest and quickest answers is to increase narcotics, but long term this does not pose as a viable solution as it can create further problems for individuals or prevent other treatments from being effective. Acupuncture and chiropractic referrals are some nonpharmacological pain management methods that can be useful. Penney et al. (2016) stated that patients reported they did not have to increase pain medications, and some were able to stop their medications completely after beginning acupuncture therapy. However, acupuncture does not show immediate results. Many individuals needed to go to multiple treatments and then continue a few times a week to have and keep results. It was also difficult to transition those who have already been on pain medications long term. Patients who went the chiropractic route were also able to reduce their meds or stop them completely. They also had an increased range of motion and were able to go back to work. Both chiropractic care and acupuncture require some maintenance period to remain effective. However, many patients still need to take some type of pain medications such as Tylenol or

aspirin. It is costly to keep going so often, and patients need to be dedicated to their treatment process.

Puntumetakul, Pithak, Namwongsa, Saiklang, and Boucaut's (2019) study evaluated two different groups- one group who received thoracic manipulation and another who received thoracic manipulation followed by a massage. All of the treatments took place using the same therapist who had training and prior experience with spinal manipulation. Both groups had six sessions over the course of three consecutive weeks. All of the participants were also provided with education regarding neck care, such as safe sitting and lifting postures. Both groups of fifteen people each showed significant results with the reduction of chronic neck pain. The group who received the massage along with thoracic manipulation presented with slightly improved results, with an average of 9.54 on the visual analogue scale (VAS) scale compared to the VAS score of 20.44 from the thoracic manipulation only group. These patients also experienced increased elbow range of motion. This study only looked at short term effects of the dual interventions, and more studies need to be done regarding the long-term effectiveness of thoracic manipulation combined with massage therapy.

According to Morris, Pellow, Solomon, and Tsele-Tebakang (2016), physiotherapy combined with a homeopathic drug therapy could be an effective remedy for chronic lower back pain caused from osteoarthritis. Participants in this study were divided into two groups, one treatment group who received the homeopathic medicine with physiotherapy, and a control group who received a placebo in place of the other medications. The physiotherapy consisted of massage, thermal therapy, and joint mobilization every two weeks for six weeks. To determine the effectiveness of the interventions, participants range of motion and pain perceptions were analyzed during every 2-week visit. They also recorded how much pain medications the

participants took within that two-week time frame. In regard to pain, both groups showed a significant improvement after the treatments, with the group receiving homeopathic therapy slightly more improved. The oswestry disability index (ODI) scored for the treatment group showed a significant decrease in comparison to their baseline as well as the control group. The treatment group also had a significant increase in ROM as compared to baseline and the control group. Both groups were able to significantly decrease the use of pain medications during the study as well. This study suggests that homeopathy could be a beneficial treatment for those with chronic pain from osteoarthritis wanting alternative therapies.

A study from Gorge, Zieham, and Farin (2017) tested how likely patients were to utilize different aspects of healthcare after attending either an inpatient or outpatient rehabilitation setting. Healthcare utilization was measured from six months prior to rehab. Participants then averaged about twenty days in a rehab setting and were re-evaluated six months later to determine the effectiveness. Questionnaires included sociodemographic information, medical, and psychological factors. Pain was assessed using the visual analogue scale, while pain function and disability was evaluated with the ODI. A questionnaire was also used to assess for pain-related impairment and coping; it used three constructs, psychological impairment, behavioral coping, and cognitive coping, to obtain the data. There was a total of 440 participants in the study after some dropped out and others were excluded for various reasons. Healthcare utilization was higher in men and those who worked fewer hours of, had a higher score in pain-related helplessness and depression, or fewer activity beliefs and that remained consistent among those individuals six months after their rehab. The most commonly used resources afterwards were physiotherapy and psychotherapy and that did not decrease much from baseline; however, the use of all other services was significantly decreased. These results are important because they

can help reduce direct costs related to chronic back pain, benefiting both patients as well as insurance.

Discussion

Many patients reported a dislike to having to take pain medications, even if they did need them, due to the negative stigma that comes along with the use of opioids. There are many different options that patients could be educated about, and through these studies, their effectiveness has been shown. Patients receiving the nonpharmacological methods reported a decrease in pain along with a decrease in the use of opioid medications. While many nonpharmacological methods were effective, the use of chiropractors and acupuncture did require a maintenance period in order to keep the results originally experienced. Not every method was effective for every patient, as well; however, there are many different options out there that patients need to be educated for. Patients who were already taking opioids long-term had a difficult time being weaned onto other methods. This is due partly to the tolerance already built up within their bodies. In order for maximum success with alternative therapies, early introduction in the treatment process would need to occur. Allowing clinical pharmacists to do the periodic re-assessments when patients refill their prescriptions permits care to be more focused. This increase in the multidisciplinary team puts more eyes on the patient and they are monitored more efficiently for any signs of misuse or addiction. It would also provide opportunities to decrease medications when able.

Conclusion

Promoting the use of nonpharmacological pain management methods decreases both pain and the use of pain medications for patients facing chronic pain. There are many options available for patients use, such as thoracic manipulation, physiotherapy, acupuncture,

massage therapy, chiropractor use, and going through rehabilitation. The studies that took place on the subjects all reported a moderate decrease in pain from patients, with some showing increased range of motion and ability to go back to work. Many patients were able to cut down on opioids, or switch to other medication such as Tylenol. This literature compiles important studies that show the effectiveness of alternative therapies and why they need to be educated to patients about. Unfortunately, many of these methods are costly and do require maintenance to keep the results earned. Also, many of these studies took place outside of the United States in countries where less chronic pain is reported. In the future, more studies need to be done on how to properly educate patients on different methods available to them. This also means that time with physicians need to be increased so that they have the time to actually educate patients', rather than rely on prescription drugs.

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