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Guidelines for Chronic Back Pain: An Education Module for Health Providers

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
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Abstract

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Project Submitted in Partial Fulfillment

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Doctor of Nursing Practice

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Abstract

Effective chronic back pain management and patient self-care guidelines are necessary for healthcare providers treating patients with complaints of low back pain (LBP). The purpose of this doctoral project was to provide an evidence-based educational program aimed at improving the knowledge and skills of healthcare professionals regarding the Center for Disease Control (CDC) and American Chronic Pain Association (ACPA) guidelines, emphasizing alternative pain management treatments. The staff education project was supported by the biomedical pain model and chronic care model. A panel of 3 experts including the clinic's board-certified anesthesiologist and pain management specialist, clinical manager, and leading medical director were asked to evaluate the educational program for content and applicability in the clinical setting. Experts all agreed that accurate and up-to-date education content in the staff education program was ready to share with healthcare providers treating patients with chronic back pain in a rural health clinic located in the western United States. After the expert panel evaluation, the program was presented to 36 clinic staff, including physicians and nurse practitioners. A pre/post evaluation was used to evaluate the effectiveness of the program and knowledge of participants before and after the program. Results showed that 35 participants agreed to strongly agreed the education content was useful and informative and all 36 participants agreed or strongly agreed content on the pain management guidelines was clear and concise. Implications for social change included provider knowledge of effective treatment methods for chronic back pain management and the potential for improved patient outcomes through nonpharmacological and non-opioid management.

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Dedication

I would like to dedicate this project to my wife and family. My journey to success took away many evenings and weekends throughout the years and I wanted to thank my wife and children for being patient with me as I studied and worked on assignments in addition to working long hours. Their ongoing love and support kept me focused and motivated throughout the journey.

Acknowledgments

With the successful completion of my DNP project, I would like to acknowledge my DNP chair, Dr. Cheryl McGinnis, and my DNP committee member, Dr. Mark Wells, for their guidance throughout the process. Thank you for all the, patience, advice and support helping me to complete my project.

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Section 1: Nature of the Project

Introduction

Chronic back pain is one of the leading causes of health visits and missed work in the United States (American Pain Society (APS), 2018). The Institute of Medicine (IOM, 2011) claimed that an approximate 100 million people in the United States suffer from chronic back pain. With the abundance of patients needing effective relief from their chronic back pain, healthcare providers including doctors of medicine (MDs), physician assistants (PAs), and nurse practitioners (NPs) are faced with the conflict of either complying with current laws prescribing narcotics for pain relief or identifying more effective and measurable methods to relieving patients' pain (The Joint Commission, 2017). According to the IOM (2011), the pain management industry is estimated at $635 billion dollars annually. Healthcare providers are dutybound to ensure that patients are treated for their chronic pain based on current standards of evidence-based practice protocol.

In a randomized trial, Cherkin worked alongside a number of other professionals to show that physical therapy, yoga, massage therapy, cognitive behavioral therapy, motivational interviewing, lifestyle interventions, and music therapy have the ability to ease pain for patients suffering from chronic pain by relieving if not alleviating pain-related symptoms. Other significant factors considered to help relieve chronic back pain include acupuncture and chiropractic procedures (Cherkin et. al., 2001). Pain associated with chronic back pain can debilitate patients by causing them to be too uncomfortable to eat, too disabled to move, and generally too irritable to enjoy any activities; thus, when

chronic back pain-related symptoms are being controlled effectively, patients improve their quality of living and return to their normal routines (Substance Abuse and Mental Health Services Administration (SAMHSA), 2011). Effective pain management treatment plans can help reduce current issues with opioid abuse due to patients becoming dependent on noneffective prescription pain medications by providing patients with useful resources and alternatives (Healthy People 2020, 2017). Through personal observations at the outpatient medical clinic and research, it is evident that current guidelines for chronic back pain management as provided by the CDC and ACPA are meant to provide prescriptions to pain medications as a last resort when treating chronic back pain; yet, it seems as though healthcare providers are frequently prescribing pain medications before referring patients to alternative pain management methods (CDC, 2018). Evidence-based guidelines are provided by the CDC, the ACPA, and the American Academy of Nurse Practitioners (AANP) to explain evidence-based practices for the effective treatment of chronic back pain. Hence, the purpose of this doctoral project was to develop and present a staff educational module to healthcare providers at an outpatient clinic.

The benefits of having an educational module among healthcare providers will lead to improving their knowledge and skills by using additional resources among patients with chronic back pain that will lead to their improved quality of life, return to the workforce, and reduced healthcare costs among others. Worldwide surveys of healthcare providers, as mentioned by the CDC (2018), continued to reveal a deficit in their knowledge regarding chronic back pain management. Furthermore, findings from

the extensive evidence-based research conducted for this project emphasized the need to improve education and conduct training programs regarding available pain management options to improve care and life quality of patients suffering from chronic back pain.

Problem Statement

Current costs for chronic back pain management are estimated to be $100 billion if not more in the United States in terms of time and expenses for both healthcare professionals and patients (Ramin, 2017). There is a gap in the current knowledge of healthcare providers regarding the medical practices being used to treat pain-related symptoms seeing how current practices lack the use of all potential pain treatments and therapy, whether pharmacological or nonpharmacological (Tick et. al., 2018). Though there are many resources available for pain management, the most common treatment plan for chronic back pain would be a prescription for pain medications, which can include a strong opioids medication. There is an epidemic of patients becoming dependent on pain medications and potentially experiencing substance addiction. Patients suffering from chronic back pain could be experiencing drug tolerance due to their prolonged condition rather than simply having a drug addiction or drug dependency. There are vast shortages of healthcare providers in different rural cities where health providers prefer not to practice due to lower incomes and fewer medical resources. Twenty percent of the country's population lives in rural areas, and the ratio of physicians to patients is 1 to 2,500, which means that 60 million people are dealing with the impact of this shortage of health providers (Slabach, 2018). The practice of pain management and the opioids crisis have been attributed to an existing shortage of pain

management specialists with the current population of healthcare providers leaving rural areas due to lack of medical resources and low reimbursement (McGeary, 2018).

Though there is ongoing research regarding alternative medicines, there are current studies already showing the effectiveness of alternative pain management treatment such as therapies, acupuncture, or chiropractic on chronic back pain-related symptoms. Yet, similar pain medication prescriptions, there are also guidelines for the use of alternative pain management methods. According to the American Hospital Association (AHA, 2019), guidelines and protocols provided by the organizations that specialize in chronic back pain, such as the CDC or ACPA, need to be enforced for the introduction of alternative pain management methods now that the CDC has reported a quadruple increase in sales for prescription pain medications between 1999 and 2014. Thus, whether pharmacological or nonpharmacological in nature, there are guidelines and protocols that healthcare providers need to be aware of when treating patients with chronic back pain. There should be an emphasis on current protocols and guidelines for pain management methods through an educational module designed to improve the current knowledge of healthcare providers regarding chronic back pain management. This staff education project focused on chronic back pain guidelines provided by the CDC and ACPA. Alternative methods for pain management need to be addressed as a means for healthcare providers to offer more effective treatment plans to patients suffering from chronic back pain. Alternative methods can reduce costs associated with chronic back pain and prevent reoccurring visits to emergency hospitals, frequent visits to primary clinics, and disruptions to patients' work, as well as reduce hospital costs due to

low financial reimbursement. The staff education project applied current healthcare guidelines as offered by the CDC and the ACPA for chronic back pain. The goal of the educational program was to improve the current management of chronic back pain being provided at the local rural health clinic through education regarding alternative pain management methods. Participant knowledge was measured through pre and post program questionnaires provided to the participating healthcare providers from the local rural health clinic. Long term results of the project can be measured after graduation using clinic data involving number of patient return visits, number of prescribed pain medications, and number of cases found in the Controlled Substance Utilization Review and Evaluation System (CURES) portal. As a quick explanation, the CURES portal is a database that allows local healthcare providers in California to monitor patients that are potentially red flagged for presenting to multiple providers and pharmacies in search of scheduled medications. This database helps to prevent patients from obtaining too many prescription medications and using it for unintentional uses, such as selling or abusing the medications.

Purpose Statement

Lower back pain is a health condition that debilitates an estimated 50-85% of the world, and chronic back pain is one of the leading causes for employee absences or healthcare costs (Tosunozi & Oztunc, 2017). With increases in opioid abuse due to increased pain prescriptions possibly due to health providers' lack of knowledge and training, the purpose of this project was to provide an evidence-based educational module that will improve knowledge and skills to healthcare professionals including are MDs,

NPs, and PAs working in family and pain management settings. This educational module will provide healthcare professionals with the right knowledge regarding additional pain management treatments and offer more effective resources to patients suffering from chronic back pain. This project focused on an educational module for healthcare providers to help treat patients suffering from chronic back pain. The purpose of this doctoral project was to develop and present a staff educational module to healthcare providers at an outpatient clinic.

The practice focus question that this project asked was: Will a continuing education program based on the chronic back pain management guidelines provided by the CDC and the ACPA increase the knowledge, skills, competency that will result confidence of clinical health providers in prescribing alternative pain management interventions for patients with complaints of chronic back pain as a means to improve the current treatment plans for chronic back pain?

Nature of the Doctoral Project

Both healthcare professionals and patients need to receive information regarding effective pain management methods in order to encourage self-efficacy because back pain is the fifth most common reason for all physician visits as well as the leading cause of disability in American adults (WHO, 2019). The CDC and ACPA provide guidelines and protocols for using prescriptions only as a last resort in treating chronic back pain. With the duty of advanced practice nurses being to advocate for patients, an increased knowledge of the chronic back pain management guidelines as offered by the CDC and the ACPA for the healthcare providers would provide advanced practice nurses and other

healthcare professionals with opportunities to better care for pain patients through proper recommendations and more effective treatment plans. If advanced nurse practitioners and doctors have current knowledge regarding the chronic back pain management guidelines and alternative pain management methods, then this knowledge can be used to refer patients to more effective pain management methods, which will greatly improve their quality of care.

For this project, I developed educational content using the chronic back pain management guidelines offered by the CDC and the ACPA in addition to other sources of evidence per an extensive literature review. My project objective was to develop an educational module that provided healthcare providers with the most current guidelines from the CDC and ACPA regarding alternative pain management treatments that use nonopioids. In other words, for this project, I emphasized guidelines provided by authoritative organizations that oversee chronic pain management while also using evidence-based literature to develop educational content. Evidence will include peer-reviewed journal articles published within the past 10 years from the year 2011 onwards and written in the English language. Search terms were *opioid abuse, back pain, chronic pain, pain management, alternative back pain remedies, chronic back pain, chronic back pain management, patient satisfaction, and pain medication dependencies*. Evidence-based research and current chronic back pain management guidelines as offered by the CDC and the ACPA were used to create the educational module and a pre/posttest questionnaire, which involved a five-point Likert Scale for participant feedback.

Significance

According to the statistics provided by the WHO (2019), patients with chronic low back pain (CLBP) constitute about 5% of all patients with back pain; this population of patients with chronic low back pain accounts for over 75% of the costs for low back pain management and constitutes nearly 80% of all physician visits. With an increase in the knowledge of chronic pain management among healthcare providers, the use of a staff educational module would offer resources to improve quality of patient care for patients suffering from chronic low back pain. If healthcare professionals could provide more resources to patients prior to prescribing pain medications, they would then be able to help patients gain better control of their symptoms. By doing this, patients would frequent doctors' offices less often for pain-related symptoms due to fewer flare-ups, and thus contribute to the reduction of substance abuse due to pain prescriptions. More effective chronic back pain management methods that are implemented at pain management clinics would have a significant effect on decreasing the costs associated with patient care and help to reduce patient disability due to symptoms caused by chronic low back pain.

Stakeholders

When first experiencing acute pain symptoms, many patients tend to ignore the symptoms and simply rely solely on prescription pain medications or over the counter (OTC) pain relievers to alleviate the symptoms instead of addressing the bad habits or poor body mechanics that could have caused the acute pain, which then leads to their condition worsening to chronic back pain (American Association of Physicists in

Medicine (AAPM), 2018). When a patient suffers from chronic back pain, it is their goal to reduce symptoms and be able to return to their normal routine as pain-related symptoms can debilitate their ability to move freely and comfortably (ACPA, 2017). According to the AAPM (2018), an estimated 20% of American adults have experienced disrupted sleep due to pain-related symptoms. Hence, pain eventually takes over patients' lives and keeps them from enjoying a good quality of life (ACPA, 2017).

Since patients' families and communities surrounding patients are closest, these two populations would be the next stakeholders to benefit from better self-management treatment plans for chronic back pain. When a loved one is suffering from pain, it is difficult for others to enjoy their usual activities as well. If a neighbor is constantly in pain and becomes dependent on drugs, it can cause concerns for other neighbors. Though the patient is the main person affected by the pain, actions and decisions caused by their pain could become problematic for any individuals that are around the patient in terms of the healthcare costs, the effect on their time schedules, the effect on their transportation schedules, in addition to their mental wellbeing due to fears of drugs, discomfort, and behaviors.

Healthcare professionals are greatly affected by patients suffering from chronic back pain since they are frequently seen for additional help if pain continues to cause them discomfort. According to the CDC (2016), an estimated 11.5 million people in the United States were reported for misuse of prescription pain medications in 2016. Healthcare providers are concerned about issues involving patient addiction and report

insufficient training for prescribing opioids, which can fuel issues with opioid abuse among patients suffering from chronic back pain.

Healthcare providers at the local clinic were also considered stakeholders in this project. They treat patients with chronic back pain and have a need for information on current evidence-based practice guidelines for pain management. Providers should have the knowledge and understanding of patient needs for medical services relating to low back pain. By having a better knowledge of current guidelines and protocols for treating chronic back pain, the implementation of an education program would help healthcare providers better align their care plans and be objective in terms of patient expectations.

Other stakeholders involved in the process of chronic back pain management include health insurance companies. Insurance companies influence the types of treatment available to patients through the disbursement of funds since these funds are used to reimburse providers and provide coverage for patient treatments Insurance companies can affect chronic back pain patient management when they prefer reimbursing prescription medication costs over costs of alternative pain management methods (Tompkins, 2017). According to the Johns Hopkins University Bloomberg School of Public Health (2018), major insurance companies missed important opportunities to steer patients towards safer and more effective treatments than prescription opioids. The current opioid abuse epidemic may be caused by coverage policies for drugs treating CLBP. This directly affects patients in rural areas because community hospitals lack possible resources and lack of reimbursements creates barriers

for certain chronic back pain management treatments due to lack of funding. Yet, insurance companies would not participate at the local level for this project.

Implications for Positive Social Change

As personally observed at the local rural health clinic where the initiative for this project began, the success of more effective pain management methods would benefit all stakeholders, including clinic patients, patients' families, clinic healthcare providers, and the community. Since back pain affects at least 70% of US adults at any given time, an educational module regarding chronic back pain management has the potential to improve quality of life for patients who suffer from back pain or have the possibility of suffering back pain in the future. The use of a staff education program for chronic back pain management in an outpatient rural clinic has the potential to benefit the population of labor workers and patients suffering from chronic back pain by providing knowledge regarding resources and alternative treatments for chronic pain. With chronic back pain being the second leading cause of disability and the most common reason for lost workdays in the United States, accounting for the loss of approximately 149 million workdays per year and costing about $100 to $200 billion annually (Patrick et. al., 2014), the educational module should emphasize a multimodal approach that includes pharmacological and nonpharmacological treatment measures. Therefore, additional information on more effective pain management methods would mean fewer sick days taken, less office visits made for pain-related symptoms, less possibilities for patients to become dependent on pain prescriptions, and less resources being expensed for pain-related symptoms.

Summary

With the current epidemic involving overuse of pain medications, there is a need to provide healthcare providers with knowledge regarding more effective pain management methods to improve quality of care. In Section 1, I discussed the practice problem, purpose of this project, and project significance. Section 2 will include concepts and relevance to nursing practice.

Section 2: Background and Context

Introduction

Working in a busy health clinic in a rural area of California has provided me with insights into issues regarding current pain management methods. The majority of patients are farmers and labor workers, and pain tends to be a common complaint. Improper self-care and ineffective treatment plans cause patients to return to clinics for frequent medication refills and additional services for their chronic pain-related symptoms (Tick et. al., 2018). This is an initiative to improve quality of care for patients suffering from chronic back pain at a local rural health clinic through addressing healthcare providers' lacking knowledge regarding nonpharmacological pain management methods for treatment of chronic back pain that has no etiology or origin. Section 2 will include background information on the topic of chronic back pain, current literature and guidelines, and concepts and models used to support this DNP project.

Concepts, Models, and Theories

In the healthcare industry, it is very important to use evidence-based practice through research, literature analysis, and actual application. Regarding chronic back pain, it is essential for healthcare professionals to fully understand the extent of patient needs and to be able to offer patients more effective pain management methods. Mareno (2015) said that better healthcare and patient outcomes come from better understanding the needs of patients while being aware of expectations for relief. This staff education project will be supported by the biomedical model of pain and chronic care model (CCM).

Biomedical Model of Pain

Bendelow (2013) emphasized the need for healthcare professionals to stop viewing pain as a string of nerve reactions and start viewing it as physical discomfort that patients are suffering from. The biomedical model of pain addresses the need for healthcare professionals to fully understand patients' pain so that they are able to successfully manage symptoms. Pain is subjective to the patient and requires attention specific to each symptom's triggers.

The symptoms of each patient suffering from chronic back pain is subjective, as it differs with each patient's scenario. The biomedical model of pain emphasizes the need for healthcare providers to view pain from a more constructive light. Patients who suffer from chronic back pain experience different levels of discomfort, and healthcare providers need to fully understand this if they are to create a fully effective treatment plan.

An interprofessional or intradepartmental approach to chronic pain management is essential as patients suffering from chronic pain will need resources and care from different specialists, whether physical therapy, pharmacy, internal medicine, surgery, or social work for assistance. Each specialist from each department needs to fully understand the needs of the patient if they are to be able to provide the most effective care for the patient. Therefore, the use of a biomedical model of pain would help healthcare providers to better understand and, thus, better treat pain.

Chronic Care Model

Mareno (2015) explains that the CCM belongs to a group of models categorized as chronic disease models (CDMs), which are models or methods of care used to improve outcomes of chronic diseases. The five common CDMs are the CCM, improving chronic illness care (ICIC) model, innovative care for chronic conditions (ICCC) model, Stanford model (SM), and community-based transition (CBT) model. Each CDM contains features that differentiate them from one another; yet, all five models involve self-management and emphasize the use of health systems approaches.

The CCM was relevant to my DNP project because the model incorporates all of elements addressed in the CDM in terms of interdepartmental care, self-management approaches, and training or education for patient treatments for chronic back pain. The CCM involves promoting a team approach that supports effective chronic pain management through training and education of all individuals involved with patients suffering from chronic back pain. Patients suffering from pain will encounter multiple specialists from various departments with regard to their symptoms; thus, teamwork improves performance, effectiveness, efficiency, morale, and job satisfaction. Use of the biomedical model of pain would help healthcare providers have a better understanding of the subjective nature of pain-related symptoms. Providers could then apply an effective treatment plan by following the CCM.

The issue of chronic back pain being treated ineffectively needs to be analyzed, and an educational module must be designed with relevant content provided by authoritative pain organizations such as the CDC and ACPA. Successfully implementing

an educational module for chronic back pain in the workplace was vital for the betterment of the quality of patient care since symptoms of chronic pain can be detrimental to many patients. A training program with the educational module must be developed and then implemented to the workplace. Lastly, the entire process must be evaluated for relevance and effectiveness through the use of anonymous questionnaires that allows participants to rate the educational module. Upon success of the project, all stakeholders will benefit from its positive impact, and there will be improvements in terms of quality of care for chronic back pain patients.

Relevance to Nursing Practice

Doctoral projects need to have evidentiary support. Current literature and clinical practice guidelines contain relevant evidence-based practice approaches for providers managing chronic pain. Databases and search engines were used to find research related to chronic back pain management. The databases used to search for chronic pain management literature were: The National Library of Medicine, Cochrane Database of Systematic Reviews, Cumulative Index to Nursing and Allied Health Literature (CINAHL), ProQuest Nursing & Allied Health Source, MedLine, and Ovid. Key search terms were: *opioid abuse*, *back pain*, *chronic pain*, *pain management*, *alternative back pain remedies*, *chronic back pain*, *chronic back pain management*, *patient satisfaction*, and *pain medication dependencies*. All articles included in this study were in English, published in peer-reviewed journals with full text between 2011 and 2020. Using the applied criteria, a search of scholarly journals about non-cancerous chronic back pain management provided a total of 1,350 results. A review of 200 abstracts and 100 full-

text articles was conducted. Of these results, 56 articles qualified for a more extensive review, and 30 articles were included in this DNP project.

Implications of Chronic Back Pain

Articles on chronic back pain provided insight on current pain statistics regarding cost, barriers, and possible treatment plans. A 2012 study estimated that 70% of patients with chronic pain are managed in primary care and, although chronic back pain made up 22% of presenting conditions, it was estimated that 40% of chronic pain patients did not achieve pain relief (Jamison & Edwards, 2012). The common focus of the articles being researched recommended training in the use of assessment tools and the appropriate prescription of opioids as an effective approach to managing chronic back pain (Jamison & Edwards, 2012).

The World Health Organization (WHO, 2019) estimated that one in 10 individuals are affected by chronic back pain. Similar to the country-specific statistics, chronic back pain is named the most common reason for work absences and disability claims (Traeger, Buchbinder, Elshaug, Croft, & Maher, 2019). More than one in three adults claim that back pain impacts everyday activities, including sleep (Traeger et. al., 2019). Research also showed that females are more affected by chronic back pain than males; one out of three females experience chronic back pain while only one in four males experience chronic back pain (Traeger et. al., 2019). Studies reported to the WHO (2019) also provided statistics that 28% of health care for low back pain in Australia and 32% of health care for low back pain in the United States of America were discordant with clinical guidelines. There is a current gap in the pain management industry and the

common practice is for patients to receive pain prescriptions, which emphasizes the need for education within the healthcare provider population in regard to chronic back pain management (ACPA, 2017). Current research supports the need to emphasize guidelines and protocols for chronic back pain management as there are studies that provide evidence towards the ineffectiveness of pain prescriptions due to the potentials for increased drug tolerance, drug dependencies, drug abuse, and drug addiction (APS, 2017). Studies also showed the effectiveness of non-pharmacological pain management approaches and the need for healthcare professionals to be aware of the existence of these non-medicated resources (Manchikanti, Helm, Singh, & Hirsch, 2013). Patients suffering from chronic back pain could become opioids drug dependent as evidence by certain health providers and specialists are not aware of clinical protocols and guidelines to follow caring for this patient.

The statistics and personal observations presented in the local clinic setting indicated a practice gap in using current pain management guidelines on the management of chronic back pain. There was an opportunity for local clinic providers to improve their knowledge on how to effectively apply guidelines to treat patients with chronic pain. With the complexity of chronic back pain, it was essential to utilize concepts, theories, models to explain the various implications of chronic back pain management.

Chronic Back Pain Management

Chronic back pain is a significant problem for many patients seen in primary care, and it was accurately described by Salzberg and Manusov (2013) as a complex condition to treat and manage due to the lack of an etiology, such as cancer, fracture, or herniated

disc. The experience of pain affects the patients' physical, mental, and social well-being, and patients will present more frequently to the office if the symptoms are not treated effectively. Thus, it is vital that healthcare providers are educated on the various alternative pain management methods and have their knowledge refreshed after a certain period of time.

A 2011 study totaling 228 adults was conducted in the Washington, USA as mentioned by the Group Health Research Institute (Sherman, Cherkin, Wellman, Cook, Hawkes, Delaney, & Deyo, 2011). This study randomized the group of participants into 3 groups: one group practiced yoga, one group performed conventional stretching, and the last group was given a self-care book for treating chronic back pain. After the 12 weeks study was completed, results concluded that yoga was superior to the use of a self-care book; yet, stretching was the most effective treatment for chronic back pain as it offered patients relief that last at least several months (Sherman et. al, 2011).

A 2013 study presented by the Clinical Journal of Pain (2013) provided insights to the effectiveness of cognitive behavioral therapy on patients suffering from chronic back pain. This study totaled 90 patients, who were randomly assigned to 2 controlled groups: one consisting of a multidisciplinary program that combined exercise with cognitive-behavior therapy and the other group consisting of exercise alone. Booklets containing the Roland-Morris Disability Questionnaire Scale (primary outcome), the Tampa Scale for Kinesiophobia, a pain numerical rating scale, and the Short-Form Health Survey at different periods of time, such as before the trial, 5 weeks after the trial started, 12 months after the trial started, and 12 months after the trial finished. The results of this

study concluded that the group undergoing cognitive behavioral therapy in addition to the standard exercise had a more effective treatment and longer-lasting relief from their chronic low back pain.

There are several hurdles to improving the outcomes of patients suffering from chronic back pain; hence, the education program should also provide knowledge about addressing possible barriers that prevent a patient from accessing the needed resources for their pain-related symptoms. If healthcare professionals have more knowledge on the general and specific pain management guidelines including barriers to the compliance of the guidelines, then healthcare professionals will be more equipped in dealing with chronic back more efficiently (Tick et Al., 2018).

CDC Guidelines

Maclaren (2019) defined drug tolerance as a person's diminished response to a drug due to its repeated use. People can develop tolerance to both illicit drugs and prescription medications because tolerance is a physical effect caused by the repeated use of a drug, though it is not necessarily a sign of addiction (Maclaren, 2019). According to the National Institute on Drug Abuse (NIDA, 2019), drug dependence refers to the situations where patients experience withdrawal symptoms that can range from mental symptoms to physical symptoms, which can be life threatening when the medication is stopped (NIDA, 2017). The NIDA (2019) defines drug addiction as a chronic relapsing brain disease that is characterized by the compulsiveness in drug seeking and use despite knowledge of the harmful consequences; in other words, drug addiction is a long-term

uncontrollable or overwhelming need to use a drug, which can return unexpectedly even after a period of improvement or sobriety.

The CDC provided healthcare guidelines on treating chronic back pain and states that the use of prescription pain medications should be the last resort when treating chronic back pain, (see Appendix D). Yet, as the opioid overdose crisis continues to rise, the CDC was also raising awareness on the misapplication of the stated guidelines. In fact, the CDC emphasized the fact that there is advice from the guideline that is sometimes overlooked yet is considered critical for the safe and effective implementation of the recommendations. According to the CDC (2018), the guideline is intended for healthcare providers that treat patients 18 and older, who are suffering from chronic pain, yet lack the diagnosis of active cancer, acute sickle cell, or post-surgical. Additionally, the CDC (2018) stated that opioids should be started on the lowest dose if used, should not be increased to higher dosages unless absolutely necessary, and should not be tapered or stopped abruptly when prescribed. It is important to note that the CDC still requires the healthcare provider to use their best clinical judgement when working with each patient to ensure the safest and most effective treatment plan, which is specific to each given back pain condition of each patient.

The guidelines for chronic back pain management as stated by the CDC (2018) can be summarized in a few points. First, healthcare providers need to determine when to initiate or continue opioids for chronic pain. Though there is a major emphasis on the need to reduce the current opioid crisis, the CDC (2018) urged healthcare providers to not misinterpret their guidelines since the needs of each patient is subjective to that patient

and completely cutting medication could have costly risks to the patient. Of course, there is an emphasis to try non-pharmacologic therapy and nonopioid therapy before prescribing opioids; yet, if the patient is already taking medications, then tapering or keeping low doses of the medication can be an effective treatment for certain patients. The CDC (2018) also emphasized the need to have follow-ups with the patients no matter what the chronic back pain management method. Healthcare providers need to constantly check the medication dosages for patients taking pain medications in terms of bloodwork and effectiveness; healthcare providers also need to follow up with patients that are undergoing non-pharmacological and nonopioid pain management methods as a means to measure effectiveness.

ACPA Guidelines

When researching guidelines on chronic back pain management, it is important to consider all factors that may affect the efficacy of treatment for chronic pain. Factors, which will also be detailed later in the project as barriers to treatment, include but are not limited to: the cost of the treatment, transportation, communication, and the support that patients need to receive from family, friends, or caretakers. There is evidence that patients with chronic back pain would remain a challenge for healthcare providers in terms of prescribing opioids due to the gray area between drug tolerance and drug abuse (ACPA, 2017). The guidelines provided by the ACPA recommend that unless there is a history of osteoporosis or steroid use, the healthcare providers try all effective treatments prior to ordering x-rays since about 90% of patients will substantially improve in the first month (ACPA, 2017). The guidelines also recommended the healthcare provider to order

an MRI or CT scan to look for spinal stenosis or a herniated disc if the patient's back pain had lasted for more than four weeks and was accompanied by leg pains (ACPA, 2017). It is essential that the provider take a careful, slow approach to treating a patient with chronic back pain as a patient should be given resources to self-care for the symptoms prior to being given prescription medications (ACPA, 2017).

Research states that one in three patients report that they continue to suffer from their pain-related symptoms for at least one year after the initial complaint (ACPA, 2017). Studies also showed that the 5% of patients who are disabled by their chronic back pain accounted for 75% of the overall costs associated with low back pain (ACPA, 2017). Thus, like the guidelines provided by the CDC, guidelines provided by the ACPA emphasize the fact that there is not a single treatment that is effective for all patients suffering from chronic back pain (ACPA, 2017). Due to the risks of dependency, the guidelines suggested the trial of non-pharmacological pain management methods prior to the use of prescription pain medications. Some examples of non-pharmacological pain management methods include but are not limited to: acupuncture, chiropractic, physical therapy, cognitive behavioral therapy, and massage.

Alternative Pain Management Methods

Alternative pain management methods have been mentioned several times throughout this project. There are many methods and resources that a healthcare provider can refer patients, if they had the knowledge of the methods and resources. Studies have shown effectiveness in several alternative pain management methods and the CDC (2018) endorsed the need for healthcare providers to refer patients to non-

pharmacological and nonopioid therapies prior to prescribing stronger narcotics for pain management. One of the named methods would be acupuncture, which has been used by more than 3 million Americans for a variety of health conditions (Tick et al., 2018). Acupuncture is the act of placing thin needles on specific points in the body; acupuncturists believe that these needles help correct the energy imbalances in the body while western doctors believe that the placement of the needles stimulates natural chemicals in the body called endorphins which block pain signals. Another alternative pain management method would be massage since this therapeutic technique relaxes the muscles and tissue in the body by stimulating blood circulation. Similarly, chiropractic techniques are seen as effective for certain patients suffering from chronic back pain through spinal manipulation. Other alternative techniques also focus on the brain's ability to control pain receptors through relaxation, which will release certain hormones such as serotonin and endorphins to block pain signals (Tick et al., 2018). Some examples of relaxation would include but not be limited to: cognitive behavioral therapy, hypnosis, breathing techniques, and yoga. With the positive feedback from multiple studies and the endorsement of the CDC in regard to alternative pain management methods, healthcare providers need to have awareness to these alternative treatments and balance the number of pain medications with referrals to these techniques.

Gaps in Chronic Back Pain Management

Specific literature on chronic back pain provided insights on the current gap in practice regarding the effectiveness of chronic back pain management methods. The current gap in chronic back pain management refers to either the lack of knowledge for

alternative pain management methods or the failure to follow the current guidelines for chronic back pain management. Studies that focused on specific populations and specific interventions offer insight to pain management approaches that may be more effective for the given patient population; yet, whether it be due to a lack of knowledge for these alternative approaches or a failure to refer patients to alternative approaches before prescribing strong pain medications, the quickest treatment for patients suffering from chronic back pain is to begin taking prescriptive pain medications (CDC, 2018). In addition to the more specific population information, the specific literature was used to identify theories and models that would be able to help explain the reasons for the gap in medical practice, whether it be the lack of comprehension for pain or the emphasized necessity for an inter-disciplinary team effort when treating chronic back pain. As mentioned, the Chronic Care Model was designed to provide team-based patient-centered care and provide a sense of urgency to encourage positive change (Shirey, 2013). I used this Chronic Care Model as a guidance to link chronic back pain and guidelines established to align my project towards knowing health providers barriers and their perspective in treating chronic back pain patient. According to the specific literature, the measurement for success on a newly implemented education program or training would be the ability of healthcare professionals to see the recovery of the patients that were suffering from chronic back pain, which will then be able to help close the gap between current guidelines for chronic back pain management and actual treatment plans being practiced at the moment.

Costs

Chronic back pain management affects its stakeholders in a variety of ways. Costs can be financial, physical, emotional, or mental. The CDC (2018) estimated a total financial burden of $78.5 billion annually due to the misuse of prescription opioids; this number includes healthcare costs, productivity lost, addiction treatments, and criminal justice involvement. Ineffective chronic back pain management also helped increase the mortality rate of 47,000 Americans due to opioid overdoses and the rate of 1.7 million people suffering from substance abuse disorders (CDC, 2018). Montgomery (2017) showed that the majority of costs fall on the patients in terms of financial burdens, emotional burdens, and physical burdens. The overall economy of Japan also experienced a cost through productivity lost due to one reason: the ineffective treatment of the pain-related symptoms. An estimated 70-85% of all individuals experience back pain and an approximated 60% of those individuals had used some form of pain medication to relieve their symptoms at some point. Studies showed that individuals suffering from chronic back pain are absent from work an average of 4 more days annually when compared to individuals not suffering from chronic back pain (Montgomery et al., 2017). Similar to the situation in Japan, chronic back pain costs $100 billion annually in the United States with two-thirds of that cost being lost wages and lost productivity (Fickler & Keemink, 2018).

Barriers

Chronic back pain is the single leading cause for disability claims and the most common reason for missed work due to its ability to immobilize a patient (APS, 2018).

Chronic back pain accounts for more than 264 million lost work days annually in the United States and it costs American patients at least $50 billion in healthcare costs annually in addition to the estimated $100 billion that it costs the overall economy with lost wages, lost productivity, and disability claims (APS, 2018). Though chronic back pain is the third leading cause for frequent visits to the health clinics (NAME OF AUTHOR? YEAR?), there are many barriers that reduces the ability of patients to receive the resources needed to treat their pain-related symptoms and healthcare providers need to be aware of these barriers when creating a treatment plan for the patients.

Barriers can be caused by a variety of reasons: financial, physical, emotional, or even social. Financial barriers refer to the list of costs associated with chronic back pain management. Research articles noted that many alternative pain management methods in addition to certain medications were not covered by insurance companies (IOM, 2011). Financial barriers can also affect healthcare providers as seen through the local rural health clinic, where management urges healthcare providers to prescribe pain medications despite ineffectiveness due to the issue that insurance companies will not reimburse the clinic for referrals or alternative pain management methods (Warshaw, 2017).

Physical barriers refer to the ability of patients to travel to their appointments due to their pain-related symptoms. Emotional barriers can refer to the diminished mental capability of the patients due to patients developing depression, anxiety, or other distress due to their pain-related symptoms giving them a reduced quality of life. Social barriers

can refer to patients no longer being able to enjoy their normal activities or the fact that patients presenting to the office in chronic back pain has most likely been dropped off or accompanied by a family member or friend due to the symptoms that they are suffering from. Therefore, the healthcare providers need to take into account that the patients will need to have accommodations considered when making referrals or making appointments for treatments. These barriers also need to be mentioned in the discussion of emphasizing the guidelines stated by the CDC on treating chronic back pain, especially since the CDC still requires healthcare providers to use their best clinical judgement to create a treatment plan based on the knowledge that they have personally gained through their professional provider-to-patient relationships.

Local Background and Context

This doctoral project was conducted in a primary care clinic setting located in a rural area in the western United States. The clinic employs approximately 40 healthcare providers, including physicians and nurse practitioners. Additional clinic staff include registered nurses, medical assistants and medical technicians. Each provider tends to approximately thirty to forty patients per day with six out of ten patients presenting with pain-related issues. Of those patients presenting for initial complaints of pain, about half of those patients return for ongoing complaints of pain. As a healthcare provider in California, it is essential to check the CURES database being managed by the Department of Justice for patients that have been flagged for prescription shopping or abusing narcotic medications including routine drug screen. Of the given number of patients being treated for pain inside the primary medical clinic with pain specialists, two or three

patients show flagged in the system per week as shopping for prescriptions. This statistic does not include the patients that were treated by the healthcare providers, both MDs and NPs, that specialize in internal medicine. Hence, an education program on current pain management guidelines could offer an opportunity for healthcare providers to treat chronic back pain using evidence-based practice, including alternative approaches to pain management, as a means to reduce the need to prescribe strong pain medications.

Role of the DNP Student

The role of the DNP student was to improve the quality of patient care and increase knowledge of healthcare providers regarding alternative pain management methods as outlined by the AACN and mission goals of Walden's DNP program in terms of leadership, advocacy, and prevention. There is a desire among healthcare providers to create a positive social change regarding alternative pain management methods and current pain management guidelines, which is aligned with the AACN DNP Essentials II, V, and VI. To DNP Essential II entails organizational and systems leadership for quality improvement regarding to the structure of the education program, DNP Essential V focuses on health care policy for advocacy in health care regarding the improvement of chronic back pain management methods, and DNP Essential VI emphasizes the need to have inter-professional collaboration for improving patient and population health outcomes regarding the need for all healthcare providers to work as a team when caring for chronic back pain patients.

Role in the DNP Project

I am a board-certified Family Nurse Practitioner who has worked at a rural health primary clinic since 2016 as a primary care mid-level provider. I have an interest in chronic pain management due to my experiences working at various pain clinics prior to my job with the current rural health clinic. On average, I see a minimum of 28 patients per day. Most of these patients suffer from pain due to various causes and a good percentage of these patients report the ineffectiveness of the pain medications being given. I am one of two individuals on site who has special clearances to prescribe specific narcotics, such as buprenorphine or suboxone, being used to treat dependence or addiction to opioids. I work closely with the main pain management specialist to devise more effective pain management methods for the patients. Management has also become involved with the process because several primary care providers at the clinic have raised their concerns for the lack of guidelines regarding the treatment of chronic back pain. Thus, as a practicing Family Nurse Practitioner and a DNP student, my role in this DNP project would be to act as the leader for the development and implementation of the staff education project.

A staff education module would help to increase knowledge on the importance of effective chronic back pain management not only for healthcare providers, but also the medical staff and other departments that will come in contact with the patients. An educational module would present clinic providers with alternative pain management methods which may be applied to patients with chronic pain. This DNP project aligned

the current recommendations for chronic pain management provided by the CDC with the opportunity of providing more effective pain management methods.

Summary

Section 2 discussed the concepts and theories that applied to the DNP project. The literature review was also discussed in Section 2 with regard to guidelines, costs, and barriers. Moreover, the literature review discussed different aspects of the project in terms of relevance of the DNP project, search strategies, and my role in the DNP project. Section 3 will discuss the project in more detail. Section 3 will include the project design, Institutional Review Board (IRB) process, and steps for project implementation.

Section 3: Collection and Analysis of Evidence

Introduction

LBP can affect people of all ages, from children to the elderly, and is a very frequent reason for medical consultations or office visits. The purpose of this DNP project was to develop and present an educational module to healthcare providers at a rural outpatient clinic in California to address gaps in knowledge involving chronic back pain management. Section 3 will include the project design, protections, participant information, and data analysis.

Practice-Focused Question

As emphasized throughout this DNP project, chronic back pain is a crippling health condition that affects many patients, both locally and globally. Chronic back pain has been named on the list of top five reasons for disability and missed work. The practice-focused question in which this project was based on was as follows: Will an education program based on pain management guidelines provided by the CDC and ACPA increase the knowledge, skills, and confidence of clinical health providers? The purpose of this DNP project was to help improve the knowledge and skills of healthcare providers at the local rural health clinic by informing them of the current evidence-based practices.

Definitions of Key Terms

Chronic back pain: Back pain that persists for 12 weeks or longer. Chronic back pain continues to persist despite the initial injury or underlying cause of acute LBP being treated (Kawi, 2014).

Continuing Medical Education (CME): Required educational activities which serve to maintain, develop, or increase knowledge, skills, and professional performance of healthcare providers. This process ensures that healthcare providers offer the best and most effective services to patients, the public, and professionals.

Drug Addiction: The NIDA (2019) defined drug addiction as a chronic relapsing brain disease that is characterized by compulsiveness in drug seeking and use despite knowledge of harmful consequences. Drug addiction is a long-term uncontrollable or overwhelming need to use a drug, which can return unexpectedly even after a period of improvement or sobriety.

Drug Dependence: The NIDA (2019) defined drug dependence as patients' inability to function properly without the named drug. Withdrawal symptoms can range from mental to physical symptoms which can be life threatening when the medication is stopped.

Drug Tolerance: MacLaren (2018) defined drug tolerance as physical effects caused by repeated use of a drug. Drug dependence and drug tolerance are not necessarily signs of addiction.

Evidence-Based Guidelines: A set of recommendations made available to healthcare providers that outlines treatments and care for specific medical conditions.

Evidence-Based Practice: A conscientious integration of best research evidence, clinical experience, and patient values and needs in the delivery of quality and cost-effective healthcare.

Sources of Evidence

According to the American Psychological Association (APA) (2020), sources of evidence need to meet a list of requirements to be deemed as credible for projects. Among those requirements, research articles need to be from reliable sources, which is based on the expertise of the author and the vetting standards of publications. The criteria for sources of evidence followed these very requirements to ensure credibility and accuracy to the research conducted in this DNP project.

For this DNP project, the sources of evidence involve chronic back pain management. Research conducted for this DNP project will help to provide insights on the gap in practice for chronic back pain management and provide a stronger foundation for the implementation of a staff education program on current protocols or guidelines for chronic back pain management. Databases used in the literature search were the National Library of Medicine, the Cochrane Database of Systematic Reviews, CINAHL, ProQuest Nursing & Allied Health Source, MedLine, Ovid, and MedLine Library. Guidelines applied to educational content were taken from the ACPA, APS, CDC, and WHO.

Panel of Experts for the Doctoral Project

An expert panel review of the content will generate an evaluation of program content (see Appendix A) and lead to possible changes to the education content of the presentation prior to staff presentation. Criteria for individuals in the panel of experts were that they have knowledge, expertise, and influence at the clinic to ensure the smooth implementation of the education program. This panel of experts will be a small team that consists of the clinic's board-certified anesthesiologist/pain management specialist,

clinical manager, and leading medical director, since these individuals are familiar with both current clinic practices and current guidelines for chronic back pain management. The expert panel review of content would be based on comparisons between current clinical practices and current guidelines provided by the CDC and ACPA.

Evidence Generated for the Doctoral Project

Evidence was generated through staff pre and post program testing. Healthcare providers were asked to rate their knowledge regarding current guidelines and protocols for chronic back pain management (see Appendix B). Once the first anonymous questionnaire was completed, healthcare providers who agreed to participate in the education program were to be given the staff education program that discussed current guidelines and protocols as provided by the CDC and ACPA (see Appendix C).

Participants

Forty healthcare providers, including 20 medical directors and 20 family nurse practitioners working at a rural outpatient clinic in California were asked to participate. These healthcare providers currently treat clinic patients for chronic back pain on a daily basis. All participation was voluntary with staff being able to withdraw from participation at any given time in the project. Participants were provided the Consent for Anonymous Questionnaire prior to starting the program. All questionnaire responses were anonymous, and results will be kept for 5 years.

Procedures

An anonymous questionnaire was provided to each participant before and after the staff education program. Prior to the implementation of the staff education program, each

participant was asked to complete the survey questionnaire (see Appendix B) to assess the current knowledge of participating healthcare providers regarding topics mentioned in the staff education program. The survey questionnaire involved a five-point Likert scale to rate their knowledge on the topic. The scale ranged from a score of 1 (strongly disagree) to 5 (strongly agree). After the staff education program was presented, the survey questionnaire (see Appendix C) was provided as a posttest to evaluate the program and participant knowledge on the education content from the staff education program. All responses were recorded anonymously. Results were presented using descriptive statistics and graphical representation.

Protections

All data in this DNP project was de-identified and will remain anonymous. All questionnaires were kept secure, during and after the collection of data. Additionally, completion of all questionnaires was kept anonymous to ensure participants of their overall privacy during this process. Prior to implementing the project, Walden IRB approval was obtained. A site agreement form (see Appendix F), was signed by the site administrator to provide site approval for the implementation of the education program as part of the Walden IRB approval process.

Analysis and Synthesis

Descriptive statistics were used to describe the patient sample in this DNP project. Demographic subject information included age, gender, healthcare provider role (MD vs NP), and the area of expertise, as shown in Appendix H. Data was collected through the use of the anonymous questionnaire. Each participant was given the staff education

program to review prior to being given the anonymous questionnaire, which can be seen as the expert rating tool. Participants used the provided Likert Scale to rate the content of the staff education program based on the information provided on the current guidelines for chronic back pain management. Upon the completion of their feedback, each questionnaire was labeled with a numbered label and secured in a locked location to ensure the confidentiality of the participant. Once all of the participants had submitted their questionnaires, a standard descriptive analysis was used to summarize the data collected.

Summary

Many steps were taken to ensure the reliability of sources and credibility of data collected since certain criteria needed to be met before a source could be considered as reliable. For the implementation of a staff education program, it was essential to understand past studies and statistics as a means to improve the current knowledge on the topic and to ensure effective treatments based on the given guidelines of the CDC and the ACPA. The process of completing the DNP project must also be verified as compliant with all protocols and ethics guidelines as a way to protect all participants and their privacy. All results from the questionnaires were de-identified and kept in a secure location. Descriptive statistics, such as graphs and charts, was used to describe the data. Yet, prior to the collection of data, all aspects of this DNP project were reviewed by the DNP chair committee, the Walden IRB, and had a signed agreement with all involved parties including the outpatient rural clinic.

Section 4: Findings and Recommendations

Introduction

The local problem regarding ineffective chronic pain management methods has led to increased healthcare costs and decreased quality of life for patients who are suffering from chronic back pain. In the hospital-based rural clinic where this project took place, the majority of patients are labor workers and suffer from chronic back pain. Though the CDC and ACPA have provided guidelines and protocols on how to care for patients suffering from chronic back pain more effectively, there continues to be a gap in practice regarding prescribing strong opioid medications over the use of nonopioid and nonpharmacological techniques. The practice-focused question for this DNP project was: Will a continuing education program based on the chronic back pain management guidelines provided by the CDC and the ACPA increase the knowledge, skills, competency that will result confidence of clinical health providers in prescribing alternative pain management interventions for patients with complaints of chronic back pain as a means to improve the current treatment plans for chronic back pain? The purpose of the doctoral project was to provide an evidence-based educational module to clinic healthcare professionals working in family and pain management settings. A staff education program was designed to improve current knowledge and awareness of healthcare providers regarding current protocols and guidelines for providing effective chronic back pain management. Section 4 will include findings and implications of the staff education program.

Findings and Implications

Panel of Experts

A panel of experts was emailed a copy of the staff education presentation and reviewed the education material prior to the presentation being shared with participants. The panel of experts consisted of three individuals: the clinic's board-certified anesthesiologist/pain management specialist, clinical manager, and leading medical director. These individuals were asked to participate in the panel of experts due to their expertise on the topic, status at the clinic, and positive influence on the smooth implementation of staff education presentations. The panel of experts was provided the staff education presentation (see Appendix G) and asked to review the education content to ensure accuracy of the material being shared.

The anonymous questionnaires that were sent to the panel of experts used a five-point Likert Scale with a score of 1 indicating strong disagreement and a score of 5 indicating strong agreement (see Table 1). The anonymous questionnaire included 10 questions for the panel to review the quality and accuracy of the content in the staff education presentation, effectiveness of instructional methods, and the overall quality of the program. Feedback from the panel of experts was used to determine if the educational content in the staff education presentation was ready to share with healthcare providers asked to participate in the program.

Table 1

Panel of Experts Questionnaire

Question	N	1 Strongly Disagree		2 Disagree		3 Neutral		4 Agree		5 Strongly Agree	
		n	%	N	%	N	%	n	%	n	%
1. The content is clear and concise	3									3	100
2. The content is capable of expanding the knowledge of clinicians	3							1	33	2	67
3. The content is consistent with current practice standards and treatment guidelines	3							1	33	2	67
4. The content is appropriate for clinicians in both general and special practices	3							1	33	2	67
5. As an expert on chronic back pain management, I would recommend this education to my colleagues	3									3	100
6. The content demonstrates the impotence of utilizing long-acting analgesics in the chronic pain setting	3							1	33	2	67
7. The content clearly outlines the medical and legal implications to medical practices when opioids are used	3									3	100
8. The instruction material was well organized	3									3	100
9. The instruction method illustrated the concepts well	3							1	33	2	67
10. The instructional methods were appropriate for this activity	3							1	33	2	67

Based on feedback collected in Table 1, the panel of experts scored the majority of statements from questionnaires with a 4 or 5. These ratings stating that the experts

either agreed or strongly agreed with the questionnaire statements showed that the panel of experts agreed that the educational content in the staff education program was accurate and was ready to share with the participating healthcare providers. In other words, positive feedback from the panel of experts was the determination that led to approval of the staff education presentation, which could be shared with healthcare providers who agreed to participate in the presentation.

Participants

Once education material was approved by the panel of experts, the preimplementation questionnaire was sent through blind emails to all healthcare providers for completion. Upon the completion of the preimplementation questionnaire, the staff education presentation was shared online through email and a resource link on the site database with a full explanation of the purpose of the program. An anonymous link to the postimplementation questionnaire was sent to healthcare providers after they reviewed the presentation. Healthcare providers who agreed to participate were kept anonymous during both the pre- and post-implementation questionnaire through the use of an anonymous survey link in addition to BCC emails. Questionnaires assessed healthcare providers' self-perceived knowledge and confidence levels prior to the program presentation (see Appendix B) and after program completion (see Appendix C). There was a total of 36 healthcare providers ($N = 36$) who participated in the staff education presentation and responded to anonymous questionnaires. Table 2 includes demographic data for the 36 participating healthcare providers. There were 18 NPs and 18 MDs, of which 17 were male and 19 were female.

Table 2

Participant Demographics

Characteristics	N	Number of Participants	Percentage %
Male	36	17	47
Female	36	19	53
Age			
30-40	36	7	19
41-50	36	7	19
50+	36	22	61
Title			
NP	36	18	50
MD	36	18	50
Specialty			
PEDs	36	7	19
Family	36	16	45
Adult	36	8	22
Geriatrics	36	5	14

As shown in Table 2, the participant pool was spread quite evenly in terms of gender, title, and area of specialty. The high percentage of participation and diversity of the participant pool offered a good scale of healthcare providers in the clinic. Of the 36 participating healthcare providers, 47% were male and 53% were female. Though there was 19% of participating healthcare providers that were in the age range of 30-40 and 19% of participating healthcare providers that were in the age range of 41-50, there was a larger population of healthcare providers that were aged 50 and older. Furthermore, there was an even 50/50 split between the participation of NPs and MDs. Though this was a convenient sample that was collected from the local rural clinic, the results from the demographics questionnaire showed that a diverse population of participants portrayed a

more realistic depiction of the general population of healthcare providers. Yet, it would still be best to replicate this small pilot study with a larger number of participants and this will be discussed later in the paper. Lastly, Table 2 indicated that there was a higher participation among healthcare providers that specialized in family medicine or adult medicine, which was expected since the use of opioid medication for chronic back pain management is not common among pediatrics and the healthcare providers were notified that secondary back pain as seen in geriatric patients would not be applicable to the purpose of the staff education presentation.

With the completion of the questionnaire from the panel of experts as well as a full explanation of the participant pool from the demographics questionnaire, Table 3 provided the results of the pre-implementation questionnaire while table 4 will provided the results of the post-implementation questionnaire. The results will be discussed in further detail following each table, but the comparison between the feedback from the two tables did suggest a positive correlation between the initial knowledge of chronic back pain management among the healthcare providers and the increased knowledge of guidelines regarding chronic back pain management after the staff education presentation was shared.

Table 3

Pre-Implementation Questionnaire

Question	N	1 Strongly Disagree		2 Disagree		3 Neutral		4 Agree		5 Strongly Agree	
		n	%	n	%	n	%	n	%	n	%
1. I tend to patients that suffer from chronic back pain	36			2	6	7	19	11	31	16	44
2. I am aware of the current practice standards and treatment guidelines	36					1	3	11	31	24	66
3. I am aware of the impotence of utilizing long-acting analgesic in the chronic pain setting	36					11	31	9	25	16	44
4. I understand the medical and legal implications to medical practices when opioids are used	36					3	8	15	42	18	50
5. I am aware of certain gaps regarding chronic back pain management	36			2	6	8	22	10	28	16	44

As shown in Table 3, the majority of the participating healthcare providers were either neutral or positive in feedback regarding their knowledge and awareness of the guidelines for chronic back pain management. Yet, the feedback from this pre-implementation questionnaire presented data that suggested a few healthcare providers were not familiar with the current protocols and guidelines for chronic back pain

management by presenting a few scores that fell below a neutral score of 3. Thus, the few scores of a 2 showing disagreement to a statement from the questionnaire confirmed the in-gap practice issue that created this project in terms of a lack of knowledge towards effective chronic back pain management among healthcare providers. As a reminder, the problem statement for this DNP project was that there is a gap in the current knowledge of medical practices being used to treat pain-related symptoms seeing how current practices lack the utilization of all potential pain treatments and therapy, whether pharmacological or nonpharmacological. Hence, the purpose of the staff education program presentation would be to raise awareness of the current protocols and guidelines for chronic back pain management among the participating healthcare providers as a means to reduce the in-gap practice that leads to ineffective chronic back pain management. The hope of this DNP project would be that an improved knowledge for chronic back pain management among healthcare providers can lead to better practices and more effective treatments for patients suffering from chronic back pain. Table 4 will present the feedback from the healthcare providers that participated in the staff education program presentation.

Table 4

Post-Implementation Questionnaire

Question	N	1 Strongly Disagree		2 Disagree		3 Neutral		4 Agree		5 Strongly Agree	
		n	%	n	%	n	%	n	%	n	%
1. The content from the staff education program was useful and informative	36					1	3	8	22	27	75
2. The content about the current practice standards and treatment guidelines was clear and concise	36							14	39	22	61
3. The content improved my knowledge on chronic back pain management methods	36					10	28	12	33	14	39
4. The content emphasized how to improve the current chronic back pain management methods	36					1	3	9	25	26	72
5. The overall presentation of the content was well-organized and illustrated the content clearly	36							14	39	22	61

With Table 3 showing that some healthcare providers disagreed with a number of the statements from the pre-implementation questionnaire through their low score ratings and Table 4 showing a larger number of high score ratings to the statements made in the post-implementation questionnaire, the collected feedback shows a positive correlation

between the initial awareness level of the healthcare providers regarding chronic back pain management and an improved level of awareness after the healthcare providers had reviewed the staff education program presentation since the ratings of healthcare providers were higher after the education program presentation was shared with educational content on chronic back pain management. As seen in Table 4, the majority of feedback portrayed a high positive score of a 4 or a 5 to many of the questions being asked. There were no longer scores below a neutral score of 3 in terms of a score of 1 or 2 and there was a reduced number of participating healthcare providers that rated a question with a neutral score of 3 when compared to the feedback provided in Table 3.

Strengths and Limitations of the Project

Strengths

The staff education program was successful in enhancing the healthcare providers' self-perceived knowledge and confidence on chronic back pain management, as suggested through the positive feedback provided by the participating healthcare providers. The feedback received from the anonymous questionnaires demonstrated the efficacy of the staff education presentation. Furthermore, this small pilot study would be easy to replicate in other clinics or departments within the current location's healthcare system to obtain a larger sample size and results. One additional strength of this DNP project was the high rate of participation from the healthcare providers in which 90% of the healthcare providers from the rural health clinic participated in the staff education program implementation. Grove, Burns, and Gray (2013) stated that an adequate sample size is a participant pool with 30 or more participants; thus, it was a t strength that this

DNP project had a sample size of 36. Yet, with strengths comes limitations and this next section will discuss the limitations that occurred during the course of this DNP project.

Limitations

The main limitation of this DNP project was the fact that it was a one-time education class. Not only was this education session offered online during a busy pandemic, studies show that a one-time class often does not validate the ability of the participants to apply and translate the information. Similar to how healthcare providers need to attend continued education annually to renew their knowledge for practicing, the ongoing learning of effective chronic back pain management methods is needed with further mentoring in the clinical setting to remain updated. Additionally, the project does not measure the participated expanded knowledge since the questionnaires only measured the participating healthcare providers' self-perceived knowledge of the content of the project. Lastly, the DNP project was conducted on a small number of participants, which limits the generalization of the results, and should, therefore, be repeated in a larger population.

Recommendations

Based on the strengths and limitations of this current DNP project, there are some recommendations that can be made for future projects. Flexibility was a major strength for participating healthcare providers. The ability to conduct the staff education program session online and the use of blinded emails to share the questionnaires also helped with keeping the anonymity of the participants. Further research is also needed to evaluate outcomes to determine if the content in the staff education program enhanced the

healthcare providers' knowledge and use of the techniques in clinical practice or can be replicated on a larger scale. Lastly, a larger participant pool would be able to provide a more realistic scope on the perspective of healthcare providers on chronic back pain management.

Based on the positive feedback received from the anonymous questionnaires, the healthcare providers that participated in the staff education program presentation expressed the usefulness of the content. The staff education program emphasized the content of the guidelines on chronic back pain management offered by the CDC and the ACPA, which focused on the need to practice more effective chronic back pain management methods through the use of non-opioid and non-pharmacological chronic back pain management techniques and using strong opioid pain medications as a last resort. Participating healthcare providers provided positive feedback that the education content from the staff education program was helpful and enhanced their knowledge on effective chronic back pain management. The post questionnaire indicated participant scores of 4 or 5, showing they agreed or strongly agreed that the educational content in the program presentation was useful in raising their awareness regarding more effective chronic back pain management. As part of the education content in the staff education program, the participating healthcare providers were provided with the guidelines offered by the CDC and ACPA on chronic back pain management. Review of the feedback from the panel of experts as well as the positive feedback from the participating healthcare providers, the main recommendation observed after implementing the staff education

program would be the need to provide continuous education efforts regarding the updated guidelines on how to effectively treat chronic back pain.

Contributions of the Doctoral Project Team

The doctoral project team consisted of a variety of individuals and affected the project through different perspectives. From the academic perspective, the DNP student worked closely with the DNP project chair and the DNP project committee member to ensure that the scholarly project was written in a manner that was easily comprehensible. This DNP project was used as a small pilot study that could potentially be replicated on a larger scale for other clinic settings. From the clinical perspective, the DNP student worked closely with a panel of experts created at the local rural clinic where the participating healthcare providers would be recruited for the staff education presentation. The panel of experts were consulted for the entire process of the staff education program and the panel of experts reviewed the staff education program for accuracy and usefulness. Throughout the process, teamwork and clear communication helped to provide a smooth implementation of the staff education program.

Summary

The staff education presentation ran smoothly and data were collected from participating healthcare providers after the panel of experts deemed that the educational content was accurate. Based on the feedback provided by participating healthcare providers, there was a positive correlation between the implementation of the staff education presentation and the improved knowledge of the healthcare providers regarding chronic back pain management. With the completion of the project and the successful

collection of positive feedback from the participating healthcare providers, section 5 will discuss the future dissemination plans as well as analyze and reflect on the full process of this DNP project.

Section 5: Dissemination Plan

Introduction

With the staff education presentation completed, the final phase of the DNP project was to disseminate collected feedback. It is important to disseminate evidence-based practice findings so that improved practices can be replicated and applied to other settings. Section 5 will include ways in which findings of this DNP project will be disseminated locally and possibly on a broader scale. This section will also provide a full assessment of myself as a family nurse practitioner (FNP), nurse scholar, program manager, and nurse leader in addition to reflections on how my experience with this DNP project has impacted my preparedness as a practicing DNP-FNP.

Dissemination Plan

With the project completed and feedback successfully collected, the first step in the dissemination plan was to present the results to the leadership team after completing a scholarly paper to document findings from DNP project. The local rural health clinic where the staff education program presentation was delivered is part of a larger hospital system which tends to both inpatient and outpatient departments. Therefore, the initial audience for the presentation was the chief executive officer, chief operating officer, chief nursing officer, director of education, clinical department managers, and clinical directors. A PowerPoint presentation will be presented to the clinical audience. By sharing feedback showing a positive correlation between the deliverance of a staff education presentation and improved awareness of healthcare providers regarding guidelines for chronic back pain management, management can plan for a broader

implementation of the program as a means to continuously refresh knowledge and awareness of healthcare providers in terms of chronic back pain management.

The staff education presentation will be uploaded to the resource database that can be accessed by all healthcare professionals working at the clinic. In addition to presenting results to management and making the staff education presentation accessible to all healthcare professionals working at the participating location, an educational poster and brochures will be made to share information on a daily basis. Posters and brochures will help to provide a summary of the project and findings as a means to educate the public regarding the addressed issue. It is important to share evidence-based findings with nonhealthcare providers as a means to expand knowledge among the entire community. The hope would be to provide a framework to implement useful educational content to improve knowledge of healthcare providers regarding effective chronic back pain management and for other professionals to be aware of chronic back pain . The successful implementation of the dissemination plan for this DNP project would benefit both healthcare providers and patients suffering from chronic back pain.

Analysis of Self

This section of the DNP project will include a full assessment of myself as an FNP, nurse scholar, program manager, and nurse leader in addition to a reflection on how my experiences with this DNP project has impacted my preparedness as a practicing DNP-FNP.

As a practicing FNP, it is my duty to advocate for patients, and I feel that my ability to deliver the staff education program presentation will help address an issue that

affects many patients at the local rural health clinic. The process of this DNP project affected me as a practicing FNP in terms of patience and diligence. For chronic back pain management, there was a need for transparency and a better understanding regarding the gap in practice in terms of ineffective chronic back pain management methods. By patiently working through the process of completing the DNP project and being diligent in terms of successfully delivering the staff education presentation while communicating issues with management, I was able to find positive correlations between improved knowledge and awareness of healthcare providers and the deliverance of the staff education program presentation.

As a nurse scholar, it was important to ensure credibility and accuracy of content for the DNP project. The process for completing this DNP project was meticulous in terms of ensuring that all research used for the DNP project was updated and peer-reviewed per APA requirements. Moreover, an important role for a nurse scholar was to integrate evidence-based research into daily clinical practices, which I performed through the use of descriptive statistics as a means to improve my skills as a nurse scholar and synthesize analyses of findings to guide improvements in terms of quality of chronic back pain management care. This process project has allowed me to become more competent in terms of evidence-based practices and how they affect the quality of clinical care.

As a program manager, the process for the DNP project strengthened my communication skills in regard to planning, designing, and implementing steps for the staff education presentation. Not only did I need to complete the research, I needed to provide management with a complete layout of the staff education presentation.

Therefore, as the program manager, I provided transparency in terms of all actions taken towards the successful deliverance of the staff education presentation and ensured that the program would run smoothly. Clear communications about the scope and purpose of the DNP project with management and possible participants played a major role in the high participation rate and overall success of the DNP project.

As a nurse leader, it is important to emphasize the integration of improved quality patient care through the development of treatment plans, the collection and evaluation of treatment results, and the management of all patient medical teams (Woods & Magyary, 2010). It is also important for the nurse leader to emphasize the necessity of having evidence-based practice in the everyday workplace. Throughout this DNP project journey, I was able to oversee the processes of integrating new information into the current practices through a staff education presentation and it has opened my eyes to the increased need for transparent communications among all teams.

This project experience has positively affected my present state and long-term professional goals as a DNP-prepared family nurse practitioner. As a DNP student, it is important to relate the daily clinical practices with the DNP essentials provided by the AACN (2019). Moreover, the AACN (2019) said that the DNP student needs to be a leader, be a patient advocate, and be the reminder that inter-professional teams strengthen the core of the patient's care plan. It is vital to implement findings from the DNP project on chronic back pain management into the clinical practices as a means to improve the overall quality of care bring provided by the healthcare providers (Jamison & Edwards, 2012). Thus, for this DNP project, I needed to integrate positive findings collected from

the questionnaires into daily clinical practices through a number of actions. I needed to perform organizational and systems leadership to ensure quality improvement regarding the structure of the education program. Additionally, I needed to focus on the health care policy for advocacy in health care as a means to improve the current chronic back pain management methods being used. Lastly, I needed to emphasize the need to practice inter-professional collaboration for improving patient and population health outcomes regarding the need for all healthcare providers to work as a team when caring for chronic back pain patients.

There were many insights gained throughout the scholarly journey to complete this project, whether it be related to the challenges or the solutions experienced toward the issue of ineffective chronic back pain management. The process to complete the project was meticulous and required the DNP student to be focused while adaptable to the external factors that affected the project. As I reflect on the entire scholarly journey, I have a greater appreciation for the lessons learned with each stage of the project. I learned to be patient and to stay diligent towards my long-term goal of becoming a DNP-prepared scholar. Though there were moments of frustration among the process, I learned that transparency helps to create stronger communication and stronger communication skills creates a better foundation for the implementation of a program. When all stakeholders play a role in the process, the desired outcome is achieved much more smoothly. As a practicing FNP, the project journey affected my current clinical state since it reminded me of the importance in having evidence-based practices. Healthcare professionals tend to be busy and, even overwhelmed, with the patient

workload that refreshing their knowledge can become less of a priority. The feedback from this DNP project acted as a reminder that guidelines and protocols are dynamic and constantly updating to the needs of modern-day life. Thus, as a long-term professional goal, I plan to continue practicing in a clinical role for a few more years then moving to a managerial role that allows me to have a broader influence in creating a culture of excellence, building more effective teams through collaboration and leadership, while providing the healthcare community with more evidence-based programs that will help improve the quality of care being offered to the patient populations.

Summary

The scholarly journey that led me to the completion of this DNP project has taught me many lessons. Protocols and guidelines are continuously changing based on current needs of patients and providers. Thus, as protocols and guidelines change, healthcare providers need to continuously be open to new adaptations and have resources accessible for them to refresh their knowledge on clinical practices. In regard to chronic back pain management, healthcare providers need to abide by updated protocols and guidelines regarding more conservative approaches to treating chronic back pain, where opioid management methods would be used as a last resort. By following evidence-based protocols and guidelines in treating chronic back pain, healthcare providers will be able to offer more effective treatment care plans that are tailored to the needs of each patient.

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Appendix A: Panel of Experts Review

Appendix A: Panel of Experts Review

Activity Title: Panel of Experts Review

Date:

As an expert in the field of chronic back pain management, please review the educational material and answer the following questions to the best of your ability. The comment section should only be used if an answer to the question falls below a score of 3.

	Disagree				Agree
Content					
1. The content is clear and concise	1	2	3	4	5
2. The content is capable of expanding the knowledge of clinicians	1	2	3	4	5
3. The content is consistent with current practice standards and treatment guidelines	1	2	3	4	5
4. The content is appropriate for clinicians in both general and specialist practices	1	2	3	4	5
5. As an expert on chronic back pain management, I would recommend this education to my colleagues	1	2	3	4	5
6. The content demonstrates the impotence of utilizing long-acting analgesic in the chronic pain setting	1	2	3	4	5
7. The content clearly outlines the medical and legal implications to medical practices when opioids are use	1	2	3	4	5
Instructional Methods					
1. The instructional material was well organized	1	2	3	4	5
2. The instructional method illustrated the concepts well	1	2	3	4	5
3. The instructional methods were appropriate for this activity	1	2	3	4	5

Comments:

Appendix B: Pre-Implementation Chronic Pain Management Education Evaluation

Appendix B: Pre-Implementation Chronic Pain Management Education Evaluation

Activity Title: Pre-Implementation Chronic Pain Management Education Evaluation

Date:

As a practicing healthcare provider, please answer the following questions to the best of your ability. The comment section should only be used if an answer to the question falls below a score of 3.

	Disagree				Agree
Content					
1. I tend to patients that suffer from chronic back pain	1	2	3	4	5
2. I am aware of the current practice standards and treatment guidelines	1	2	3	4	5
3. I am aware of the impotence of utilizing long-acting analgesic in the chronic pain setting	1	2	3	4	5
4. I understand the medical and legal implications to medical practices when opioids are used	1	2	3	4	5
5. I am aware of certain gaps regarding chronic back pain management	1	2	3	4	5

Comments:

Appendix C: Post-Implementation Chronic Pain Management Education Evaluation

Appendix C: Post-Implementation Chronic Pain Management Education Evaluation

Activity Title: Post-Implementation Chronic Pain Management Education Evaluation

Date:

As a practicing healthcare provider, please answer the following questions to the best of your ability. The comment section should only be used if an answer to the question falls below a score of 3.

	Disagree				Agree
Content					
1. The content from the staff education program was useful and informative.....	1	2	3	4	5
2. The content about the current practice standards and treatment guidelines was clear and concise.....	1	2	3	4	5
3. The content improved my knowledge on chronic back pain management methods.....	1	2	3	4	5
4. The content emphasized how to improve the current chronic back pain management methods.....	1	2	3	4	5
5. The overall presentation of the content was well organized and illustrated the content clearly.....	1	2	3	4	5

Comments:

Appendix D: CDC Guidelines for Chronic Back Pain

Can be located at: https://www.cdc.gov/drugoverdose/prescribing/guideline.html

1. **Determining when to initiate or continue opioids for chronic pain**
    - Selection of non-pharmacologic therapy, nonopioid pharmacologic therapy, opioid therapy
    - Establishment of treatment goals
    - Discussion of risks and benefits of therapy with patients
2. **Opioid selection, dosage, duration, follow-up, and discontinuation**
    - Selection of immediate-release or extended-release and long-acting opioids
    - Dosage considerations
    - Duration of treatment
    - Considerations for follow-up and discontinuation of opioid therapy
3. **Assessing risk and addressing harms of opioid use**
    - Evaluation of risk factors for opioid-related harms and ways to mitigate patient risk
    - Review of prescription drug monitoring program (PDMP) data
    - Use of urine drug testing
    - Considerations for co-prescribing benzodiazepines
    - Arrangement of treatment for opioid use disorder

Appendix E: ACPA Guidelines for Chronic Back Pain

Can be located at: https://www.theacpa.org/wp-content/uploads/2017/08/Consumer-Guidelines-for-Low-Back-PainFinal-2-6-08.pdf

Recommendation 1: Conduct a focused history and physical examination to help place patients with low back pain into one of three broad categories: non-specific low back pain, back pain potentially associated with radiculopathy, or spinal stenosis or back pain potentially associated with another specific spinal cause. The history should include assessment of psychosocial risk factors, which predict risk for chronic disabling back pain.

Recommendation 2: Do not routinely obtain imaging or other diagnostic tests in patients with non-specific low back pain.

Recommendation 3: Perform diagnostic testing in patients with low back pain when severe or progressive neurologic deficits are present, or when serious underlying conditions are suspected based on history and physical examination.

Recommendation 4: Evaluate patients with persistent low back pain and signs or symptoms of radiculopathy or spinal stenosis with MRI (preferred) or CT only if they are potential candidates for surgery or epidural steroid injection (for suspected radiculopathy).

Recommendation 5: Provide patients with low back pain evidence-based information about their expected course, advise patients to remain active, and provide information about effective self-care options.

Recommendation 6: For patients with low back pain, consider the use of medications with proven benefits in conjunction with back care information and self-care. Assess severity of baseline pain and functional deficits and discuss potential benefits and risks before initiating therapy. Bear in mind the relative lack of long-term efficacy and safety data for extended courses

of pharmacologic therapy. First-line medication options for most patients are acetaminophen or non-steroidal anti-inflammatory drugs.

Recommendation 7: For patients who do not respond to self-care, consider the addition of nonpharmacologic therapy with proven benefits.

- For acute LBP: spinal manipulation.
- For chronic or subacute LBP: intensive interdisciplinary rehabilitation, exercise therapy, acupuncture, massage therapy, spinal manipulation, yoga, cognitive-behavioral therapy or progressive relaxation.

Appendix F: Site Approval Form for Staff Education Doctoral Project

Name of Doctoral Student: ____Ron Pascual_____

Name of Doctoral Student's Partner Organization: __LB Rural Health Clinic_____

Date: ____Feb. 25, 2020___

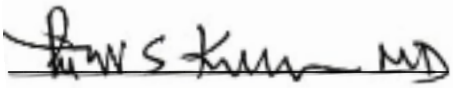
The doctoral student named above is involved in Staff Education that will be conducted under the auspices of the organization named above. This form is the student's formal request to evaluate the staff education by administering anonymous staff questionnaires and analyzing internal, de-identified site records that this form's signer deems appropriate to release for the student's doctoral project. This permission to use the organization's data pertains only to this doctoral project and not to the student's future scholarly projects or research (which would need a separate request for approval).

As per DNP program requirements, the student will publish a scholarly report of this Staff Education project in ProQuest as a doctoral capstone (with site and individual identifiers withheld), as per the following ethical standards:

a. In all reports (including drafts shared with peers and faculty members), the student is required to maintain confidentiality by removing names and key pieces of evidence/data that might disclose the organization's identity or an individual's identity or inappropriately divulge proprietary details. If the organization itself wishes to publicize the findings of this project, that will be the organization's judgment call.

b. The student will be responsible for complying with the above-named organization's policies and requirements regarding data collection (including the need for the organization's IRB review/approval, if applicable).

c. Via a Consent Form for Anonymous Questionnaires, the student will describe to staff members how the data will be used in the doctoral project and how the stakeholders' autonomy and privacy will be protected.

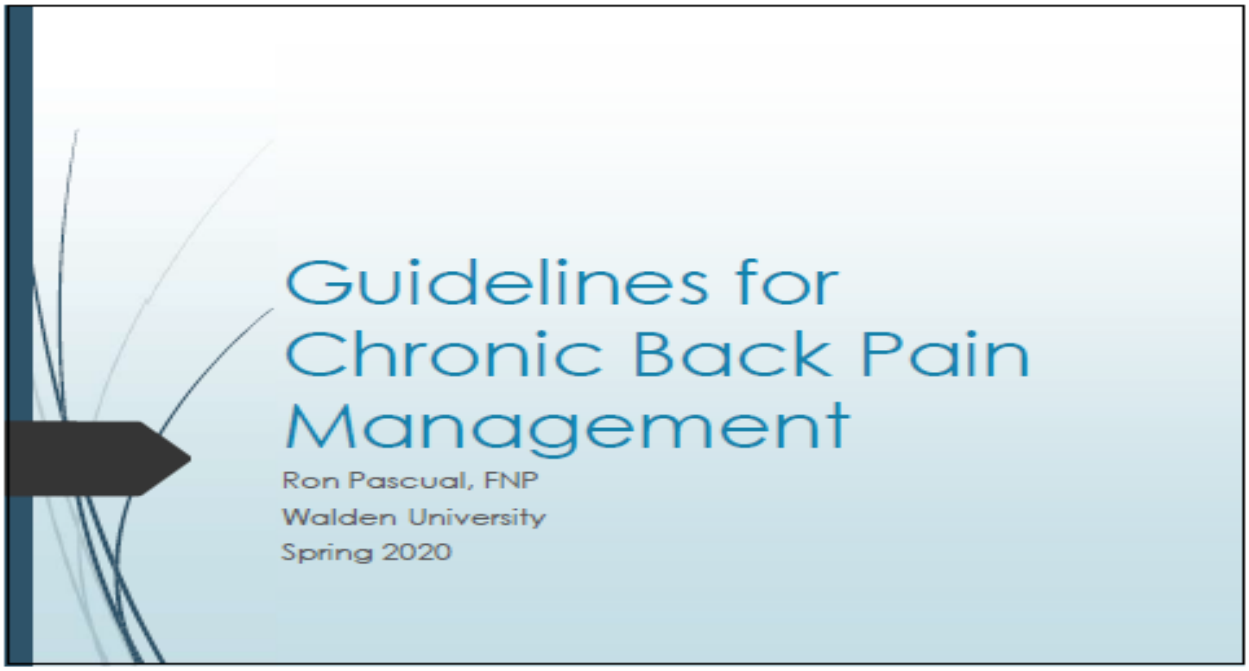
Approval signature from site representative: 

Name of signer (print legibly): __Dr. Pratap Kurra_____

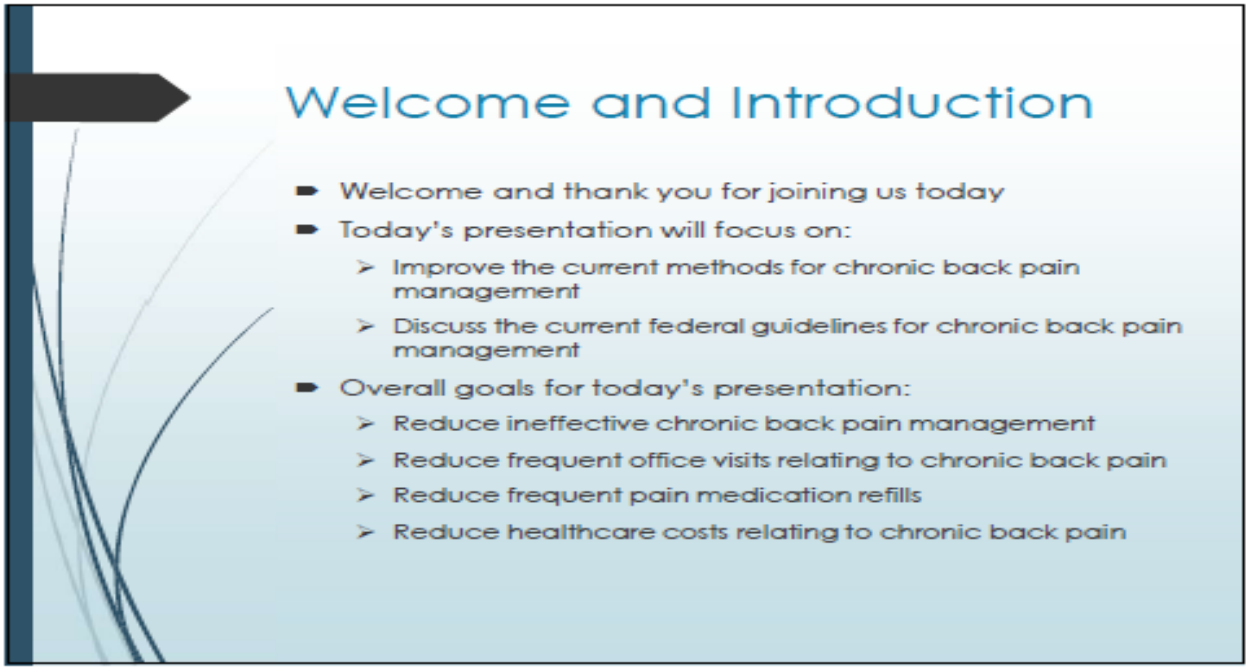
Position of signer within organization (*must be authorized by the organization to approve the questionnaires/data release described above):* __Site Administrator_____

Signer's contact information: ___(209) 216 - 2932_____

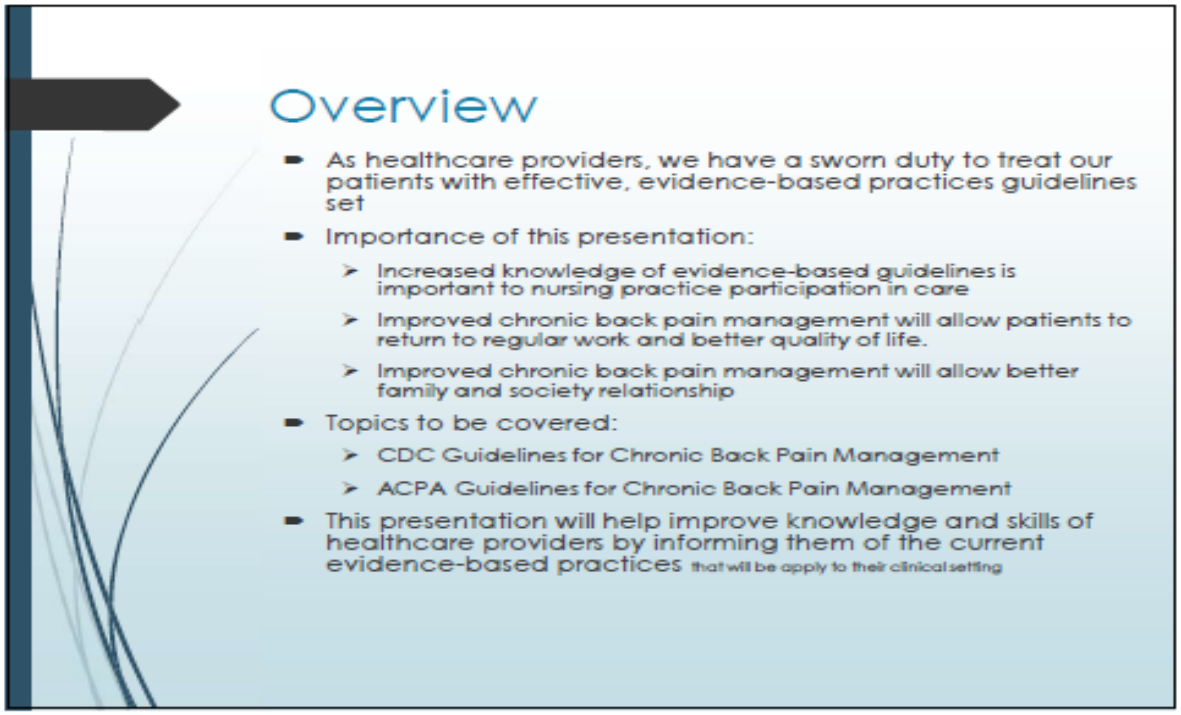
Appendix G: Education Presentation



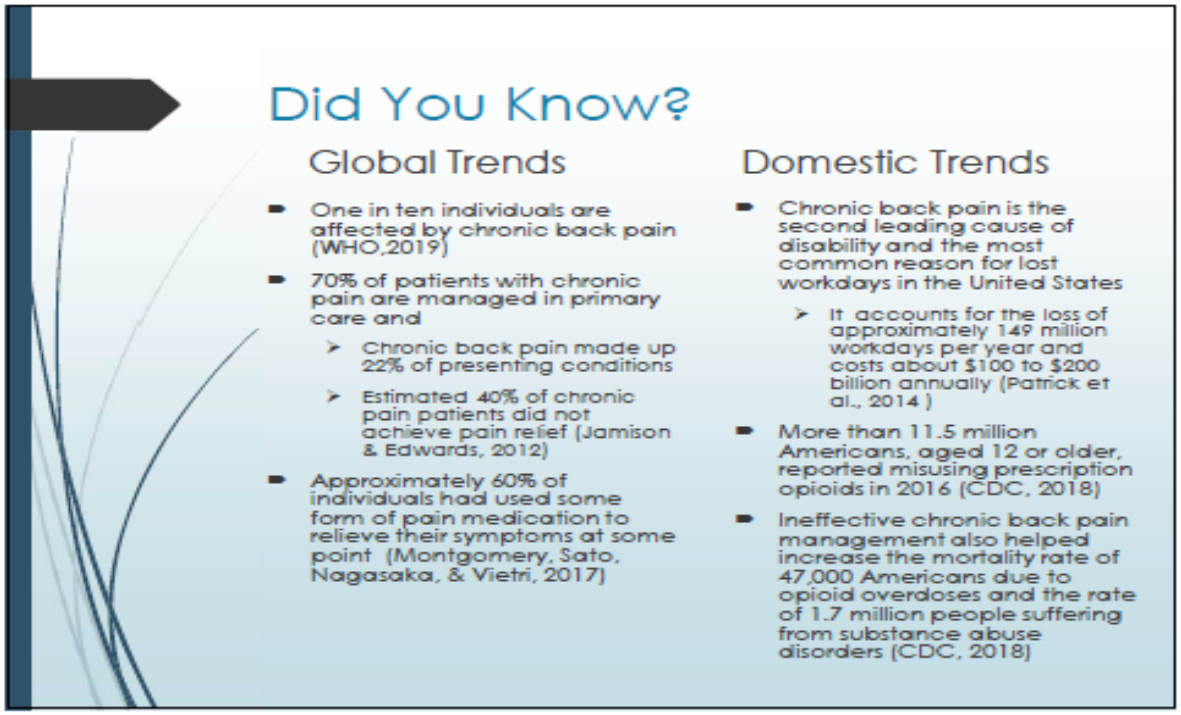
1



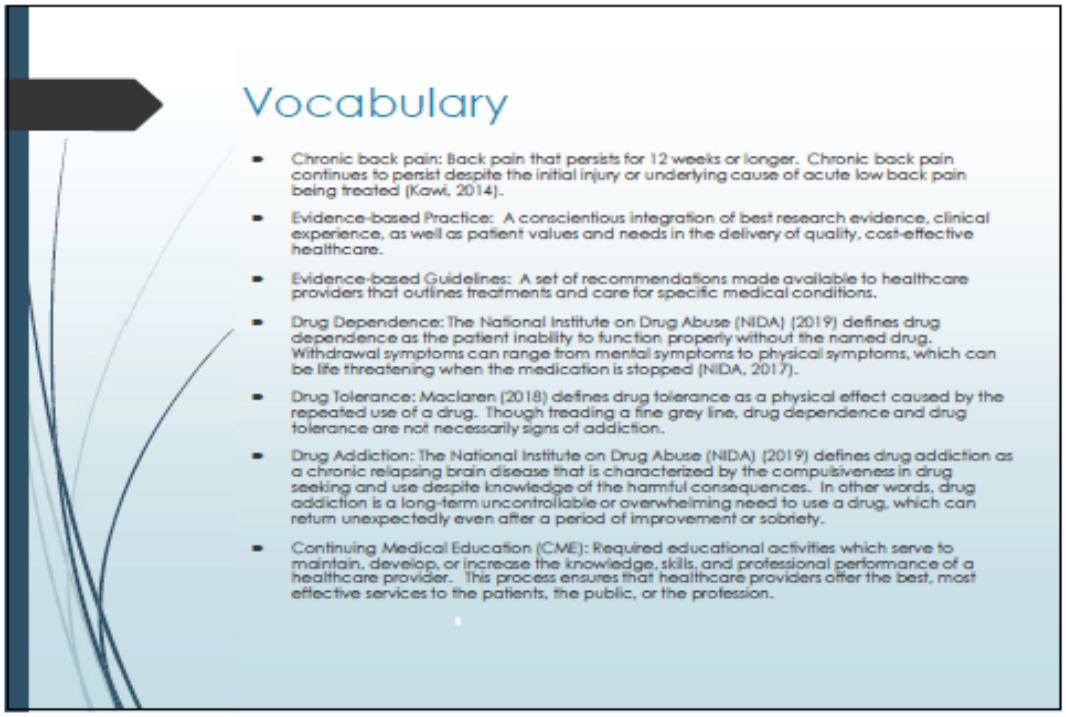
2


Overview
As healthcare providers, we have a sworn duty to treat our patients with effective, evidence-based practices guidelines set
Importance of this presentation:
Increased knowledge of evidence-based guidelines is important to nursing practice participation in care
Improved chronic back pain management will allow patients to return to regular work and better quality of life.
Improved chronic back pain management will allow better family and society relationship
Topics to be covered:
CDC Guidelines for Chronic Back Pain Management
ACPA Guidelines for Chronic Back Pain Management
This presentation will help improve knowledge and skills of healthcare providers by informing them of the current evidence-based practices that will be apply to their clinical setting

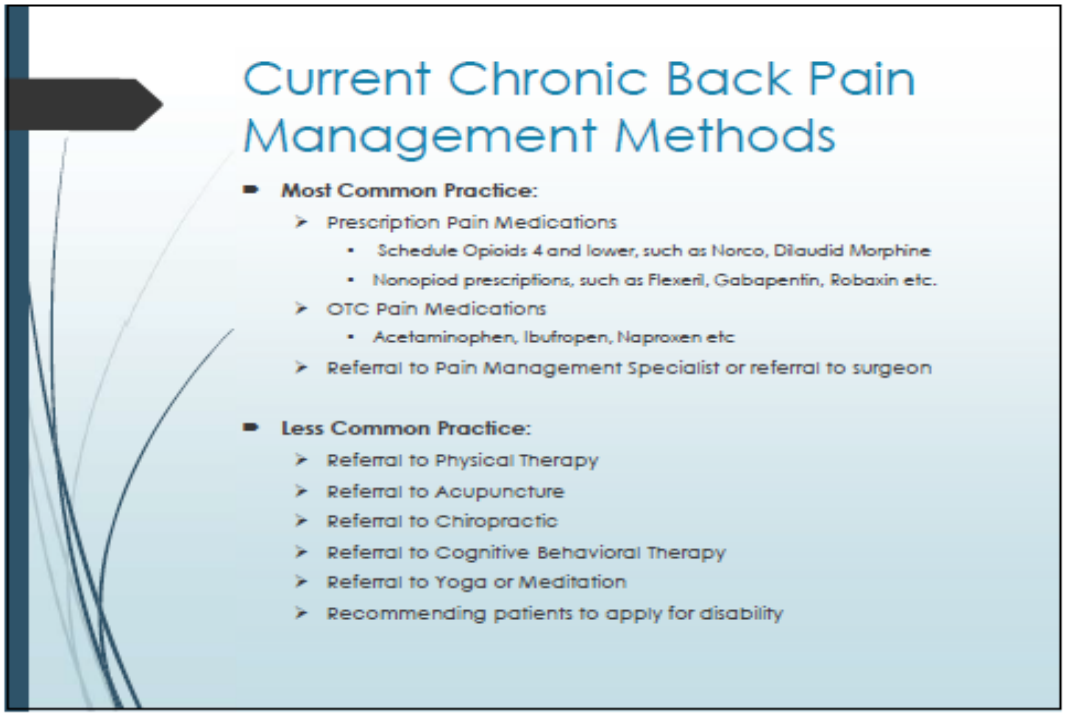
3


Did You Know?
Global Trends
One in ten individuals are affected by chronic back pain (WHO,2019)
70% of patients with chronic pain are managed in primary care and
Chronic back pain made up 22% of presenting conditions
Estimated 40% of chronic pain patients did not achieve pain relief (Jamison & Edwards, 2012)
Approximately 60% of individuals had used some form of pain medication to relieve their symptoms at some point (Montgomery, Sato, Nagasaka, & Vietri, 2017)
Domestic Trends
Chronic back pain is the second leading cause of disability and the most common reason for lost workdays in the United States
It accounts for the loss of approximately 149 million workdays per year and costs about $100 to $200 billion annually (Patrick et al., 2014)
More than 11.5 million Americans, aged 12 or older, reported misusing prescription opioids in 2016 (CDC, 2018)
Ineffective chronic back pain management also helped increase the mortality rate of 47,000 Americans due to opioid overdoses and the rate of 1.7 million people suffering from substance abuse disorders (CDC, 2018)

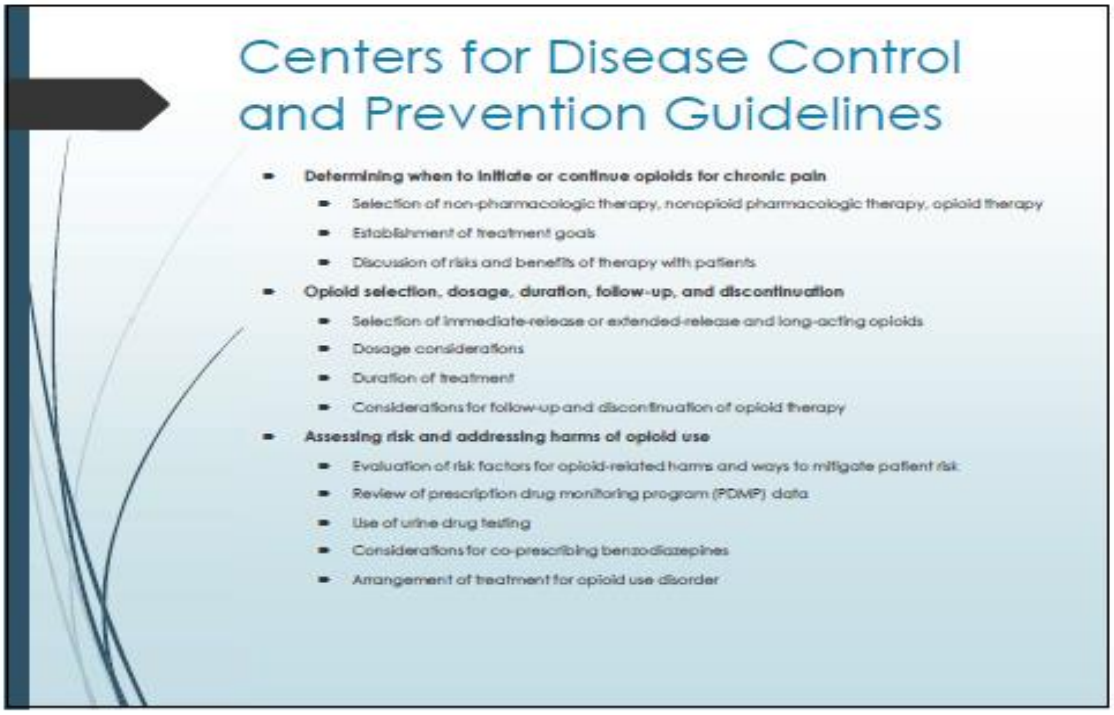
4


Vocabulary
Chronic back pain: Back pain that persists for 12 weeks or longer. Chronic back pain continues to persist despite the initial injury or underlying cause of acute low back pain being treated (Kawi, 2014).
Evidence-based Practice: A conscientious integration of best research evidence, clinical experience, as well as patient values and needs in the delivery of quality, cost-effective healthcare.
Evidence-based Guidelines: A set of recommendations made available to healthcare providers that outlines treatments and care for specific medical conditions.
Drug Dependence: The National Institute on Drug Abuse (NIDA) (2019) defines drug dependence as the patient inability to function properly without the named drug. Withdrawal symptoms can range from mental symptoms to physical symptoms, which can be life threatening when the medication is stopped (NIDA, 2017).
Drug Tolerance: Maclaren (2018) defines drug tolerance as a physical effect caused by the repeated use of a drug. Though treading a fine grey line, drug dependence and drug tolerance are not necessarily signs of addiction.
Drug Addiction: The National Institute on Drug Abuse (NIDA) (2019) defines drug addiction as a chronic relapsing brain disease that is characterized by the compulsiveness in drug seeking and use despite knowledge of the harmful consequences. In other words, drug addiction is a long-term uncontrollable or overwhelming need to use a drug, which can return unexpectedly even after a period of improvement or sobriety.
Continuing Medical Education (CME): Required educational activities which serve to maintain, develop, or increase the knowledge, skills, and professional performance of a healthcare provider. This process ensures that healthcare providers offer the best, most effective services to the patients, the public, or the profession.

5


Current Chronic Back Pain Management Methods
Most Common Practice:
Prescription Pain Medications
Schedule Opioids 4 and lower, such as Norco, Dilaudid Morphine
Nonopiod prescriptions, such as Flexeril, Gabapentin, Robaxin etc.
OTC Pain Medications
Acetaminophen, Ibufropen, Naproxen etc
Referral to Pain Management Specialist or referral to surgeon
Less Common Practice:
Referral to Physical Therapy
Referral to Acupuncture
Referral to Chiropractic
Referral to Cognitive Behavioral Therapy
Referral to Yoga or Meditation
Recommending patients to apply for disability

6


Centers for Disease Control and Prevention Guidelines
Determining when to initiate or continue opioids for chronic pain
Selection of non-pharmacologic therapy, nonopioid pharmacologic therapy, opioid therapy
Establishment of treatment goals
Discussion of risks and benefits of therapy with patients
Opioid selection, dosage, duration, follow-up, and discontinuation
Selection of immediate-release or extended-release and long-acting opioids
Dosage considerations
Duration of treatment
Considerations for follow-up and discontinuation of opioid therapy
Assessing risk and addressing harms of opioid use
Evaluation of risk factors for opioid-related harms and ways to mitigate patient risk
Review of prescription drug monitoring program (PDMP) data
Use of urine drug testing
Considerations for co-prescribing benzodiazepines
Arrangement of treatment for opioid use disorder

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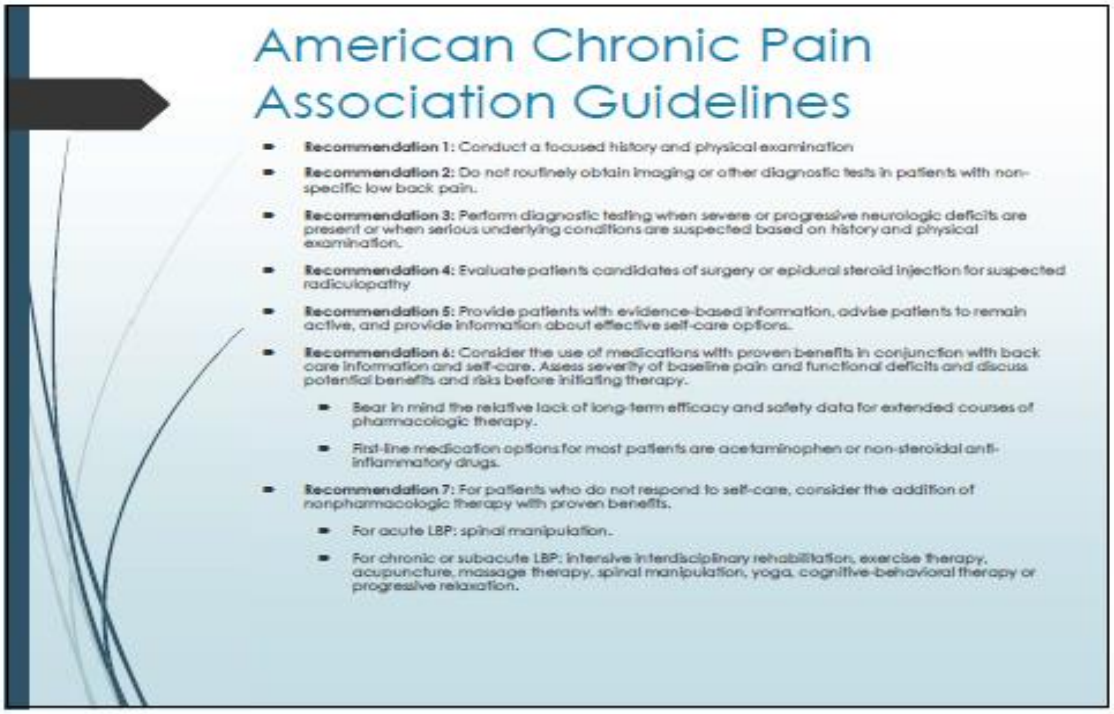
American Chronic Pain Association Guidelines
Recommendation 1: Conduct a focused history and physical examination
Recommendation 2: Do not routinely obtain imaging or other diagnostic tests in patients with non-specific low back pain.
Recommendation 3: Perform diagnostic testing when severe or progressive neurologic deficits are present or when serious underlying conditions are suspected based on history and physical examination.
Recommendation 4: Evaluate patients candidates of surgery or epidural steroid injection for suspected radiculopathy
Recommendation 5: Provide patients with evidence-based information, advise patients to remain active, and provide information about effective self-care options.
Recommendation 6: Consider the use of medications with proven benefits in conjunction with back care information and self-care. Assess severity of baseline pain and functional deficits and discuss potential benefits and risks before initiating therapy.
Bear in mind the relative lack of long-term efficacy and safety data for extended courses of pharmacologic therapy.
First-line medication options for most patients are acetaminophen or non-steroidal anti-inflammatory drugs.
Recommendation 7: For patients who do not respond to self-care, consider the addition of nonpharmacologic therapy with proven benefits.
For acute LBP: spinal manipulation.
For chronic or subacute LBP: intensive interdisciplinary rehabilitation, exercise therapy, acupuncture, massage therapy, spinal manipulation, yoga, cognitive-behavioral therapy or progressive relaxation.

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Summary

- According to the American Hospital Association (2019), guidelines and protocols need to be enforced for the introduction of alternative pain management methods now that the CDC has reported a quadruple in sales for prescription pain medications during the years 1999 to 2014
  - Refer patients to non-pharmacological pain management methods *before* prescribing any strong narcotic pain medications
    - Rest/ Relaxation/ Hypnosis/ Cognitive Behavioral Therapy
    - Physical Therapy
    - Acupuncture
    - Massage
    - Meditation/ Yoga/ Pilates
    - Spinal Manipulation or Chiropractic
    - If pain is severe: refer for Localized Cortisol Shot or Epidural Injections
    - If medications are absolutely needed: try NSAIDs, OTC pain medications, or steroids such as prednisone up to prescriptive non-opioids like Gabapentin, Flexeril, Voltaren Gel, etc.
    - If diagnosis supports further severity: refer patient for Surgery as last resort
    - Prescriptions for Opioids/ Narcotics should be used as the *last resort*.

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Appendix H: Demographic Data Questionnaire

Demographic Question

1. What is your gender?
    a. Male
    b. Female
2. What is your age group?
    a. 20-30
    b. 30-40
    c. 40-50
    d. 50+
3. What is your practicing title?
    a. MD
    b. NP
    c. PA
4. What is your area of expertise?
    a. Pediatric
    b. Adult
    c. Geriatric
    d. Family