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Education for Nursing and Primary Care Providers on Nonpharmacological Management of Chronic Pain

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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
2024

Abstract

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MS, Walden University, 2017

Post-masters, South University, 2019

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Project Submitted in Partial Fulfillment

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Doctor of Nursing Practice

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Abstract

Chronic pain is one of the leading causes of disability worldwide, with a significant financial burden on those individuals affected, the communities, the healthcare systems, and the government. Chronic pain also interferes with individuals' daily activities and alters the quality of life. The treatment for chronic pain includes a variety of medications, including prescription opioids and nonprescription such as NSAIDS, acetaminophen, and muscle relaxants. Pharmacological treatments can result in untoward effects. The CDC has recommended nonpharmacological alternative treatment modalities that promote self-management but are not emphasized or utilized in the primary care setting. The staff education program was framed within the analysis, design, development, implementation, and evaluation (ADDIE) instructional design model and was presented to 10 nursing staff and providers. Evidence generated by the project included the change in knowledge from pretest to posttest. Descriptive statistics generated the pretest scores ranging from 6 to 9, with a group mean score of 7.3. Posttest scores ranged from 10 to 12, with a mean score of 11.3. A positive change in knowledge was seen with the group mean from the pretest to the posttest of +4. The participants completed the educational program's evaluation using the dichotomous scale with met=1 and not met=2. All objectives received a "1" for a mean of 1, indicating that the program met the learning objectives. A recommendation was made to include this education for new hires and ongoing in-service education. Positive social change can be achieved using nonpharmaceutical relief measures in conjunction with prescription medications, thus improving the well-being of patients, families, and the human condition.

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Dedication

This DNP project is dedicated to my father, Arturo Gonzales, who believed in me since I was a little girl and that I could do anything I set my mind to. He inspired me to be the best version of myself in all phases of my life. He encouraged me to pursue my passion and imparted a love for reading and searching for the truth. To my mother, Victoria Gonzales, who taught me to be strong and resilient in all battles of life. I learned not to give up when the going gets more challenging. She inspired me to work harder and actively reach for my dreams. Lastly, I dedicated this DNP project to my husband, who took care of my responsibility as a wife and mother so that I could pursue my studies and reach this point in my career or profession, and to my daughter, who inspired me to lead by example and taught me a lot of patience.

This DNP project is also dedicated to all my colleagues in the nursing profession who heed the call and heartedly care for patients in and out of season. Nurses' commitment and dedication to the profession are impeccable and beyond the profession. The art and science of nursing guide us in treating the sick and the hurting. We are the unsung heroes of the healthcare system. May we always strive to be the best version of ourselves and contribute to evidence-based nursing practice to improve patient care.

Acknowledgments

First, I would like to thank the Lord and my God, to whom all things are possible, for this opportunity to reach this far in my God-given career. Thank you, Jesus, for giving me life to live and using this life to serve others. Without you, I am nothing. Secondly, this DNP project would not have been possible without the mentorship and dedication of Dr. Joan Moon, her wealth of knowledge, experience, leadership, expertise, and undeniable passion and brilliance as a professor and expert in nursing education—my heartfelt gratitude and sincere thankfulness for your patience, guidance, and hard work for mentoring me. Dr. Moon, you are kind, gentle, and yet firm. You inspire me beyond measure. Thank you for your service and dedication to the nursing profession. I would also like to thank my second committee member, Dr. Tracy Wright, and all my professors in my academic journey.

Next, thank you to all my content experts who took the time to assist me in this project. Though they live busy lives, they spare valuable time to review, evaluate, and provide feedback on my project. To my practicum site, thank you for allowing me to complete my practicum hours and present my project. You are all part of this journey.

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Section 1: Nature of the Project

Introduction

Chronic pain is one of the leading causes of disability worldwide, with a significant financial burden on those individuals affected, the communities, the healthcare systems, and the government globally (Lemieux et al., 2020). Approximately 100 million adults in the United States are affected by some degree of chronic pain (Fu et al., 2018). The incidence of chronic pain ranges from 18-50% in the adult population in low and middle-income countries, with a higher incidence rate in females (Siddiqui & Bashir, 2021). Chronic pain interferes with individuals' daily activities and alters the quality of life, work, and daily living (Sucu et al., 2022).

Nonpharmacological treatment for chronic pain is an alternative treatment for chronic pain management (Becker et al., 2017). However, nonpharmacological treatment modalities (NPTMs) are not fully emphasized in the primary care setting. The Centers for Disease Control and Prevention and other stakeholders have recommended to the health care system the changing direction of chronic pain management from opioid treatment towards evidence-based nonpharmacological treatment modalities that will promote self-management and holistic wellness (Becker et al., 2018).

The literature showed the patients' and providers' need for knowledge regarding the availability of nonpharmacological treatment modalities (Becker et al., 2017). The primary care providers and nurses are on the frontline of chronic pain management. They evaluate patients' chronic pain from a biopsychosocial perspective and then plan,

implement, and evaluate pain management practices in cooperation with other healthcare team members and patients (Becker et al., 2017).

Educating the providers on nonpharmacological treatment modalities will benefit their patients and prevent the incidence of substance abuse or misuse. Nonpharmacological treatment is safe and efficient and improves the quality of life and physical and emotional functioning, thus improving the human condition (Majeed et al., 2019).

Problem Statement

The problem identified in this Doctor of Nursing Practice (DNP) staff education project (SEP) was the need for providers' and staff nurses' education on the nonpharmacological management of chronic pain. Pain is a complex and subjective phenomenon that could result in debilitating conditions and subsequently affects daily work and life activities for many adults in the United States (Rikard et al., 2023). During my practicum course activities, I learned that nonpharmacological treatment modalities were minimally documented and utilized. Patients come to the primary care setting every month for narcotic medication refills for their chronic pain management without offering alternative chronic pain management options. A gap in practice existed related to the need for more utilization of nonpharmacological treatment modalities for chronic pain management in primary care practice due to a lack of knowledge regarding the availability of nonpharmacological treatment modalities. The literature showed that patients and providers need knowledge regarding the availability of nonpharmacological treatment modalities (Becker et al., 2017).

Purpose Statement

The gap in practice was the need for more patient education by providers and staff nurses related to nonpharmacological chronic pain treatment modalities. The purpose of this DNP SEP was to plan, implement, and evaluate a staff education program on nonpharmaceutical relief of chronic pain (SENPCP). The practice-focused questions were:

- What evidence in the literature supports the education of nurses and physicians in using nonpharmacological treatments for chronic pain in primary care?
- Will there be a change in knowledge related to the use of nonpharmaceutical treatment modalities for chronic pain as evidenced by a pretest/posttest situation?
- Will participants of the education program on nonpharmaceutical treatment modalities for chronic pain relief evaluate the program as having met the program objectives?

The gap in practice will be filled by educating the providers and nurses on patient education related to nonpharmacological treatments for chronic pain relief. The healthcare staff's responsibilities include supporting patients with chronic pain by educating them about their conditions. Keep in mind that treatment is not one size fits all. Pharmacological relief has pros and cons but is often necessary for acute or chronic pain. Healthcare staff will introduce nonpharmacological treatment modalities as alternative treatments for the long-term treatment of chronic pain. The goal is to alleviate the condition of anyone suffering from chronic pain and respect human dignity and the right to medical treatment.

Nature of the Doctoral Project

Evidence to Support the Project

A literature review to support the DNP SEP had been done to obtain evidence using the Walden Library, ProQuest, PubMed, CINAHL, MEDLINE, Science Direct, SAGE Journals, and Open Access Journal within the last five to seven years, peer-

reviewed journals with the search terms of chronic pain, chronic pain as a problem, statistics related to chronic pain, effects of chronic pain, primary care settings, nonpharmacological pain relief management, pharmaceutical management of pain relief, nurses' knowledge related to pain management, need for nursing education on pain management, nurses and chronic pain management, nurses knowledge on nonpharmaceutical pain relief (NPPR), nurse education on NPPR, and patient education on NPPR.

Evidence to be Produced by the Project

The evidence was a change in knowledge from the pretest to the posttest. Participants also evaluated the staff education program or SENPCP.

Approach

The SEP had followed the planning, implementation, and evaluation steps of the Walden University Manual for Staff Education (WUMSE). The SEP was framed by the analysis, design, development, implementation, and evaluation (ADDIE) instructional design model. The model consists of five phases: analysis, design, development, implementation, and evaluation.

Planning

The ADDIE phases in the planning step are related to analyzing the needs of the target population and designing and developing the SENPCP. I met with my committee chair to explore the topic of interest for this SEP, and we decided that nursing staff and providers' education on nonpharmacological management of chronic pain would be the most appropriate continuing education based on the practice gap identified in the practice

setting. The administrator of the practicum setting was also consulted regarding the DNP SEP, who acknowledged the need for the topic and agreed to support the project. A literature search was conducted for an existing curriculum/pretest/posttest, and none were found. I developed a pretest/posttest from the evidence-based (EB) literature. Three content experts (CEs) were identified to provide a formative evaluation of the curriculum plan and validation of the pretest/posttest items based on learning objectives and curriculum plan.

Implementation

After the formative evaluation of the staff education curriculum and validation of pretest/posttest items by the CEs in the planning step, the SENPCP was ready for implementation, which was held at my practicum site. The staff education was done during lunch and learned, wherein the providers and the nursing staff were not seeing patients. The anonymous pretest was administered first before the SENPCP; then, the education was presented. After the presentation, the posttest was provided. The pretest is the baseline knowledge of the participants regarding the program, and the posttest after the presentation was to identify knowledge changed or increased. Impact evaluations for this step include the change in knowledge from the pretest to the posttest by the participants and the evaluation of the SENPCP.

Evaluation

The initial set of formative evaluations of the curriculum and content validation of the pretest/posttest by CEs was initiated in the planning step. The evidence produced by the SEP consisted of the impact evaluations obtained from the implementation step,

including the change in knowledge by the participants after the presentation, and evaluation of the SENPCP. Finally, a summary evaluation upon completion of SEP was provided by the CEs, which included the evaluation of the project, process, and my leadership.

Significance

The significant stakeholders of the SEP include the nurses, patients, family members, medical providers, and the organization. Chronic pain is a debilitating condition that affects not only the patients but also their close relationships. Improving chronic pain management using nonpharmacological modalities can be a first line of defense in pain relief, helping reduce the need for opioids. Opioids can be very effective and should not be denied. However, nonpharmaceutical pain relief can help reduce the amount needed, thus avoiding misuse and preventing possible addiction. SENPCP will provide additional knowledge and expertise among the providers by offering alternative treatment for chronic pain to their clients in the outpatient setting. Improving job satisfaction is possible and will decrease the level of stress among the providers, especially when they see that their patients have fewer episodes of chronic pain exacerbation. Patient satisfaction will increase when patients' conditions are addressed, particularly with pain that is so subjective and debilitating.

The SEP can impact social change. While understanding the need for pharmaceutical treatment, using nonpharmacological options is also known to be safe and efficient in many instances. NPTMs might decrease the need for pharmaceutical

intervention while improving the quality of life and physical and emotional functioning, thus improving the human condition (Majeed et al., 2019).

Summary

The purpose of the SEP was to plan, implement, and evaluate a staff education program on nonpharmacological relief of chronic pain. A gap in practice existed related to the need for more utilization of nonpharmacological treatment modalities for chronic pain management in primary care practice due to a lack of knowledge regarding the availability of nonpharmacological treatment modalities. The SEP will also align the practice-focused questions that identify the evidence in the literature that supports the education of nurses and physicians in using nonpharmacological treatments for chronic pain in primary care. The SEP had shown if there was a change in knowledge related to the use of nonpharmacologic treatment modalities for chronic pain, as evidenced by a pretest/posttest situation, thus filling the gap in practice.

Section 2: Background and Context

Introduction

The identified practice problem was the need for more utilization of NPTMs for chronic pain management in primary care practice. The purpose of this SEP was to educate the practicum setting's providers and staff on nonpharmacological treatment modalities as alternatives for chronic pain management. The DNP practice-focused questions were as follows:

- What evidence in the literature supports the education of nurses and healthcare providers in using nonpharmacological treatments for chronic pain in primary care?
- Will there be a change in knowledge related to the use of nonpharmaceutical treatment modalities for chronic pain as evidenced by a pretest/posttest?
- Will participants of the program on nonpharmaceutical treatment modalities for chronic pain relief evaluate the program as having met the objectives?

The purpose of this DNP project was to plan, implement, and evaluate a staff education program on nonpharmaceutical relief of chronic pain.

Analysis, Design, Development, Implementation, and Evaluation (ADDIE) Model of Instructional Design

The ADDIE model is widely used for instruction and learning to improve the educator's instruction strategy (Stephen et al., 2021) (see Appendix A). The model is also utilized as a teaching design model that presents a series of repetitive steps to build effective education and training in five phases, which create the acronym A-D-D-I-E,

which stands for analysis, design, development, implementation, and evaluation (Ab Latif & Mat Nor, 2020). The ADDIE instructional design model was initially used to assess military training and has evolved since World War II as a recurrent process to analyze and evaluate effectiveness in educational training (Stephen et al., 2021). The model is also used as a systems approach method, which draws from multiple disciplines, including process improvement, system engineering, and behavioral and cognitive psychology (Stephen et al., 2021). ADDIE model identifies and addresses gaps in delivering educational and training materials.

Phases of ADDIE Model

Analysis

The analysis phase of the ADDIE model involves a needs assessment to analyze the training needs of an organization. This phase focuses on the participants or recipients of the education program, their baseline education level, and what they should learn after the SEP (Stephen et al., 2021). In the analysis phase or need assessment, a gap in practice can be recognized and determined if training or education can be a solution to address the gap (Ab Latif & Mat Nor, 2020; CDC, 2023). This phase also involves the beginning of data collection, review of literature, and identifying the critical stakeholders for the identified gap in practice.

Design

The 2nd phase of the ADDIE model focuses on designing the educational program appropriate for the learning of the target population. After identifying the need or gap in practice, the next step is to develop the learning materials and identify the best practices

and best suitable learning strategy to meet the goal of the SENPCP (Ab Latif & Mat Nor, 2020). In the design phase, learning objectives, lesson plans, instructional content, and various assessment tools were developed to measure the programs' effectiveness (Stephen et al., 2021).

Development

The 3rd phase consists of identifying and recruiting content experts in the field of the assessed need. In this phase, educational materials are reviewed, validated, and may be revised appropriately (Stephen et al., 2021). The content experts provide constructive feedback, evaluate the SEP, and give suggestions for improving the program.

Implementation

The implementation phase of the ADDIE model occurs when the educational program or SENPCP is in effect or operational already (Stephen et al., 2021). The implementation phase involves giving the learning or educational materials to the participants utilizing the educational methods identified in the design and development phases.

Evaluation

The ADDIE model's final phase involves the process of formative, impact, and summative evaluation throughout all phases of the educational program to ensure quality improvement of the SEP (Stephen et al., 2021). The formative evaluations will take place as described in the planning step, and the impact evaluation will occur during the implementation step of the Walden University Manual for Staff Education. The CEs will provide the summary evaluation through an evaluation of the project, process, and my

leadership. The evaluation phase determines the programs' outcome to help identify if the program achieved the intended results (CDC, 2023).

Relevance to Nursing Practice

The healthcare dilemma of chronic pain incidence is staggering to more than 100 million cases in the United States (Fu et al., 2018). The rampant and long-term use of opioids in treating chronic pain is detrimental to individuals, leading to addiction, misuse, overdose, abuse, and, to some extent, death (Majeed et al., 2019). The long-term use of opioids also creates social, cultural, and economic impacts on society. Due to the complexity of chronic pain and the multidimensional effects on the human body, including physical, mental, emotional, and spiritual aspects, one single treatment may not be appropriate to manage chronic pain (Siddiqui & Bashir, 2021). Nonpharmacological treatments for chronic pain will serve as an alternative treatment option for primary care providers in managing their chronic pain patients. Opioids are also needed and relevant in managing chronic pain, such as those suffering from cancer pain and debilitating chronic pain conditions.

Pharmaceutical Management of Pain Relief

The pharmaceutical management of chronic pain, such as analgesic drugs, causes detrimental adverse effects such as gastrointestinal bleeding, fluid retention, oliguria, renal failure, constipation, delirium, prolonged bleeding, and respiratory distress (Tang et al., 2019). Opioids are commonly used to treat acute or chronic pain. Studies showed evidence for opioid efficacy in treating acute and cancer-related pain but minimal high-quality evidence for effective long-term management of chronic nonmalignant pain

(Hebert et al., 2022). Inadequate pain relief with opioids can lead to dose escalation and tolerance, with risks of major adverse events such as dependence, addiction, overdose, and death (Herbert et al., 2022). Although various pharmacologic treatments, such as nonsteroidal anti-inflammatories and opioids, are available for pain, most patients report only mild to moderate relief from these options (Lestoquoy et al., 2017). A stepwise approach to chronic pain management has been recommended and typically includes nonpharmacological, pharmacologic, and opioid interventions if necessary (Carnago et al., 2021). The pain treatment modalities can occur simultaneously when a patient's condition calls for it to control or manage their pain adequately.

Nonpharmaceutical Management of Pain Relief

To manage a patient's pain more effectively, it is crucial to have a range of options for treating chronic pain, including nonpharmacological therapies. The Institute of Medicine (2011) reported regarding the United States pain care emphasized that multimodal biopsychosocial-oriented treatment that promotes self-management skills is the optimal paradigm for improving the effectiveness of chronic pain treatment. The study by Meerwijk et al. (2020) confirmed that veterans with chronic pain who received nonpharmacological treatment decreased their risk for new-onset alcohol and drug-use disorders and self-inflicted injuries. Nonpharmacological treatment like physiotherapy and cognitive behavioral therapy has been shown to reduce pain and kinesiophobia in persons with severe hemophilia who suffer from chronic pain (Garcia et al., 2021). Moreover, nonpharmacological therapy (NPT) has been shown to be effective in improving emotional status, quality of life, and chronic pain self-efficacy (Garcia et al.,

2021). In addition to pharmacological management, NPT has a great potential to relieve chronic pain. NPT is simple and inexpensive compared to a pharmacological method, with the advantage of having no adverse effects, reducing the dosage of analgesics or opioids, and reducing healthcare costs (Jira et al., 2020).

Keiser Permanente and the Veterans Health Administration (VHA) made nonpharmacological treatments for pain available and even established virtual treatments for telehealth available in remote places (Becker et al., 2018). However, nonpharmacologic modalities for chronic pain treatment still need to be utilized in other centers or primary care clinics.

Provider Knowledge of Nonpharmacological Treatment for Chronic Pain

Becker et al. (2017) identified that the patients and primary care providers reported a lack of knowledge or awareness regarding the different nonpharmacological treatments currently available and the rationale for treatment. The majority of primary care physicians report a lack of knowledge in managing chronic pain in cancer survivors. However, they agreed that knowledge of pharmacological and nonpharmacological treatment options would help improve their chronic pain management (Burke et al., 2017). Primary care providers are at the forefront of chronic pain treatments or management for over 100 million Americans (Provenzano et al., 2018). Furthermore, outpatient primary care practice in the United States sees more patients with chronic pain than combined incidences of heart failure, diabetes mellitus, and cancer (Provenzano et al., 2018).

Local Background and Context

The setting for this SEP was a private outpatient clinic in a southeastern state of the United States, serving 90-100 patients daily, with mixed ethnicity from Black Americans, Hispanics, Asians, and White Americans, eleven clinic staff, including the physician provider, nurse practitioner, medical assistant, office manager, and front desk personnel. The healthcare providers in the practicum setting also prescribed opioid medications to the patients on almost every visit for a medication refill. An identified practice gap existed related to the lack of utilization of nonpharmacological treatment modalities for chronic pain management in the primary care practice and the lack of knowledge regarding the availability of nonpharmacological treatment modalities. The Centers for Disease Control and Prevention recommended diverting healthcare systems' practice from opioid-centered chronic pain management towards evidence-based nonpharmacologic treatment (Becker et al., 2018).

Role of the DNP Student

Professional Context and Relationship to the Project

As a nurse for almost 30 years, I worked at the bedside for two decades as a staff nurse and then as a clinical care coordinator or charge nurse. I have extensive experience caring for patients with various kinds of pain, such as acute pain like surgical and cancer-related pain, chronic pain such as fibromyalgia, and chronic back or neck pain. I was a staff nurse when we gave narcotics to every patient who complained of pain. Patients hop from different hospital emergency rooms, asking for opioids or narcotics as their pain management modality. I have seen the changes in practice over the years. Now, we have

an E-Force in Florida that tracks the prescriptions of narcotics, or any controlled substance given to patients. Utilizing nonpharmacological pain modalities as the first-line treatment for chronic pain will make a difference in the outcome of chronic pain management.

Relationship to the Topic, Participants, Evidence, or Institution

I am the project leader for this DNP project and responsible for the planning, implementation, and evaluation of the SENPCP.

Role of the Content Experts

The CEs' role was to perform a formative evaluation consisting of the curriculum plan evaluation and complete a content validation index score of the pretest and posttest items. A summary evaluation was completed at the end of the project by the CEs related to the project, process, and my leadership after the completion of SENPCP. CEs also provided feedback, suggestions, or recommendations based on evaluation outcomes. Evaluation results will be used to further my development in the DNP role.

Summary

Section 2 of the project proposal involved the ADDIE model utilized for DNP SEP following the planning, implementation, and evaluation steps. The ADDIE model includes 5 phases, including analysis, design, development, implementation, and evaluation as the guide for the SENPCP. The SEP will help to address the practice gap related to the need for more utilization of nonpharmacological treatment modalities for chronic pain management in the primary care setting. As the project leader of the SEP, I collaborated with the CEs to complete SENPCP. Section 3 will review the practice

problem identified in the DNP project, rephrase the practice-focused questions, identify the sources of evidence, and analyze and synthesize the data collected.

Section 3: Collection and Analysis of Evidence

Introduction

The problem identified in this DNP SEP was the need for providers and staff nurses' education on the nonpharmacological management of chronic pain. The purpose of this DNP SEP was to plan, implement, and evaluate a staff education program on nonpharmaceutical relief of chronic pain (SENPCP). According to Becker et al. (2018), the CDC recommended changing the direction of chronic pain management from opioid treatment towards evidence-based nonpharmaceutical treatment options that promote self-management and holistic wellness. Chronic pain is a pervasive and invisible condition that affects people in different ways, including but not limited to their quality of life, autonomy, mental and physical health, social mobility, and productivity (Sharma et al., 2022).

The literature echoed the patients' and providers' need for knowledge regarding the availability of nonpharmacological treatment modalities as alternatives for chronic pain management (Becker et al., 2017). The SENPCP has the potential to prevent overused and misused opioids and narcotics that could lead to a myriad of complications and even death.

The SENPCP followed the Walden University DNP Manual for Staff Education's framework (WUMSE) planning, implementation, and evaluation steps. The SENPCP was framed by the analysis, design, development, implementation, and evaluation (ADDIE) instructional design model.

Practice-Focused Questions

The practice-focused questions for the SEP were:

- What evidence in the literature supports the education of nurses and physicians in using nonpharmacological treatments for chronic pain in primary care?
- Will there be a change in knowledge related to the use of nonpharmaceutical treatment modalities for chronic pain as evidenced by a pretest/posttest situation?
- Will participants of the education program on nonpharmaceutical treatment modalities for chronic pain relief evaluate the program as having met the objectives?

Sources of Evidence

Evidence Generated for the Staff Education Project

The evidence generated for the project came from the ongoing literature and was organized in the literature review (see Appendix B). The first practice-focused question was addressed or supported by the review of the literature utilizing key search terms such as chronic pain, pharmacological and nonpharmacological treatment, chronic pain management, medical staff knowledge of chronic pain, knowledge of nonpharmaceutical pain relief (NPPR), education on NPPR, and patient's knowledge and education on NPPR. Peer-reviewed studies within five to seven years were the source of the literature review and were gathered in databases such as Walden Library, ProQuest, PubMed, CINAHL, MEDLINE, Science Direct, SAGE Journals, Open Access Journal, and Google Scholar. The ADDIE model was also utilized to frame this SEP within the Walden University Manual for Staff Education.

Evidence Generated by the Staff Education Project

The evidence generated by the SEP had come from the Curriculum Plan (see Appendix C), Curriculum Plan Evaluation by Content Experts (see Appendix D), Pretest/Posttest (see Appendix E), Pretest/Posttest Content Validation by Content Experts (see Appendix F), Pretest/Posttest Change in Knowledge by Participants (see Appendix G), and the Staff Education Program (see Appendix H). The content experts provided a thematic summative evaluation of the SEP in relation to the project, process, and my leadership (see Appendix K).

Participants

The participants of SEP include the medical staff or providers who have direct patient care and manage the patient's chronic pain condition in the practicum setting. There are two physicians, three advanced practice registered nurses, and six medical assistants in the practicum setting. They participated in the SENPCP and provided impact evaluation as evidenced by participants' change in knowledge (see Appendix G) as shown after the completion of the pretest/posttest. The summative evaluation was exhibited through the Evaluation of Staff Education Project by the Participants (see Appendix I). The second set of participants are the three content experts practicing medical providers, two from the primary setting and one with experience in acute care and chronic/primary care settings.

Procedures

The Walden University project chair developed the project templates used to develop, collect information, evaluate, and validate the evidence to facilitate a uniform

standard for the DNP project. The templates are for organizational purposes only and not measurement tools. Therefore, there is no need for an assessment of reliability and validity.

Content Experts Packet

The content experts packet includes the Content Expert Letter (see Appendix J), which consists of the instructions for completing the information in the packet, my contact information, and the assurance of their anonymity in their participation. The Literature Review Matrix (see Appendix B), Curriculum Plan (see Appendix C), and Pretest/Posttest (see Appendix E) were also provided. The packet included the following templates for evaluation purposes: Curriculum Plan Evaluation by Content Experts (see Appendix D) and Pretest/Posttest Content Validation by Content Experts (see Appendix F).

Pretest/Posttest Change in Knowledge by Participants

The participants answered the pretest prior to the presentation of the educational program to assess their baseline knowledge of nonpharmacological treatment modalities. At the end of the presentation, a posttest was also provided to assess the change of knowledge by the participants from pretest to posttest (see Appendix G). The participants were identified through a code number to maintain their anonymity. A staff member distributed the pretest/posttest and collected them afterward to be returned to me.

Evaluation of the Staff Education Program by Participants

Evaluation of the Staff Education Program by Participants (see Appendix I) was completed after the presentation of the SENPCP. The evaluation was based on the

programs' objectives in alignment with the curriculum. The participants' anonymity was assured by identifying them through number coding. I left the room, and one of the staff members distributed and collected the evaluation forms to be returned to me.

Protection

The staff education project did not involve any patients at all, and no patient contact occurred. The anonymity of the content experts and education program participants was maintained. All work related to the CEs was alphabetically coded. All nurses participating in the education were numerically coded. No names were obtained at any time. I discussed the proposed staff education project with the administrator of the practice setting, and a site agreement was secured per Walden IRB guidelines. I have followed Walden University's ethics requirements in the process of this project and sought IRB approval (12-04-23-0473236) using form A upon approval of the proposal by my chair. The ethics guidelines outlined in Walden University's DNP Manual for Staff Education Projects were followed. All paper products were secured in a locked file for five years and then shredded.

Analysis and Synthesis

The data or information collected, such as the CEs revisions, recommendations, or suggestions, were synthesized and presented in section 4.

Curriculum Plan Evaluation by Content Experts Summary

Evidence obtained from the DNP project was analyzed and reported in Section 4. The CEs Curriculum Plan Evaluation of each learning objective was analyzed (see Appendix L) using a dichotomous scale, responding with met =1 or not met =2 to each

item. The type of analysis I used to report the findings in Section 4 was descriptive statistics from which the mean was reported.

Pretest/Posttest Content Experts Validity Index Scale Analysis

The Pretest/Posttest Content Experts Validity Index Scale Analysis (see Appendix N) was completed using a 4-point Likert scale according to their relevance to the curriculum content (1=Not Relevant, 2= Somewhat Relevant, 3=Relevant, 4=Very Relevant). The item content validity index was calculated using the number of CEs rating "relevant" or "very relevant" for each item, with a score of 1. In contrast, a score of "somewhat relevant" or "not relevant" for each item received a score of zero, which was totaled and then divided by the total number of CEs. The Scale CVI was calculated by adding all I-CVI item results and dividing by the total number of items. This value then identified the S-CVI. Each item has an individual I-CVI. Outcomes were reported using descriptive statistics, conveyed, and synthesized to finalize the program.

Summary Evaluation of the Staff Education Program by Participants

The Summary Evaluation of the Staff Education Program by the Participants (see Appendix M) was analyzed and examined to facilitate the improvement of DNP programs and assist future educational programs. Each participant evaluated the course objectives using a dichotomous response of met = 1 or not met = 2. The type of analysis I used to report the findings in Section 4 was descriptive statistics from which the mean was reported.

Pretest/Posttest Change in Knowledge Results by Participants

The Pretest/Posttest Change in Knowledge by Participants (see Appendix G) results were analyzed using descriptive statistics indicating the percentage of knowledge improvement among the post-education participants.

Summary Evaluation Results of the Staff Education Project by Content Experts

Summary Evaluation Results of the Staff Education Project by Content Experts (see Appendix O) summarized any suggestions, recommendations, feedback, and guidance to improve my DNP project. The CEs feedback was a learning opportunity to enhance my leadership skills. The themes in this summary evaluation could help drive my responses to findings related to my leadership role.

Summary

Section 3 restated the gap-in-practice problem, and the purpose of the SEP. Section 3 also described the various sources of evidence generated to support the educational project and the methods that were utilized to analyze and synthesize the results. The protection of the participants of SEP, including the CEs, was also discussed, as well as the procedure or tools required to implement the project. The CEs evaluated the curriculum plan, pretest/posttest, staff education project, process and my leadership, curriculum plan summary, and SENPCP summary result.

Section 4 will remind the reader about the gap-in-practice problem, the practice-focused questions, and the purpose of the SEP. This section will also discuss the findings and implications resulting from the analysis of the evidence. Section 4 will also describe the proposed recommendation to address the practice problem of lack of utilization of

NPPR in the primary care setting, including the contribution of the CEs and the strengths and limitations of the SEP.

Section 4: Findings and Recommendations

Introduction

The problem identified in this SEP was the need for providers' and nurses' education on the nonpharmacological management of chronic pain. The gap in practice was the need for more patient education by providers and nursing staff related to nonpharmacological treatment modalities for chronic pain. The practice-focused questions for the SEP were:

- What evidence in the literature supports the education of nurses and physicians in using nonpharmacological treatments for chronic pain in primary care?
- Will there be a change in knowledge related to the use of nonpharmaceutical treatment modalities for chronic pain as evidenced by a pretest/posttest situation?
- Will participants of the education program on nonpharmaceutical treatment modalities for chronic pain relief evaluate the program as having met the objectives?

The purpose of this DNP SEP was to plan, implement, and evaluate a staff education program on nonpharmaceutical relief of chronic pain (SENPCP), addressing the nurses' and providers' knowledge gap and bridging the gap by presenting the evidence-based literature through a pretest/posttest analysis. Evidence generated by the project was obtained from the Curriculum Plan (see Appendix C) and the Pretest/Posttest (see Appendix E),

In Section 4, the findings and implications of the analysis and synthesis of the project are presented, including the Curriculum Plan Evaluation by Content Experts Summary (see Appendix L), Pre/Posttest Content Expert Validity Index Scale Analysis

(see Appendix N), Summary Evaluation of the Staff Education Program by Participants (see Appendix M), Pretest/Posttest Change in Knowledge by Participants (see Appendix G), recommendations, feedback, the contribution of the content experts, the strength and limitations of the project, and the summary. Also, an evaluation of the project, process, and my leadership was obtained from the CEs (see Appendices K and O) using a thematic approach.

Findings and Implications

The evidence from the literature supported the need for a staff education program regarding the availability of nonpharmacological treatment modalities among the nursing staff and primary care providers in the practicum setting where the project was implemented. The findings showed that nurses and providers improved their knowledge regarding the availability of nonpharmacological treatment modalities as alternatives for chronic pain management.

Curriculum Plan Evaluation by Content Experts Summary

Each CE evaluated the learning objectives relative to the curriculum plan developed from the evidence-based literature (see Appendix D). A dichotomous scale was used to indicate whether an objective was met =1 or not met =2. Summary analysis of the Curriculum Plan by the CEs (see Appendix L.) indicated that the three CEs evaluated all the learning objectives as meeting the objectives, which generated a mean score of 1. Content expert A commented on objective number one as simply stated, which was directly to the point. Content expert B gave feedback on objective no. 5, which stated

that supporting and empowering patients with chronic pain is crucial for the program's success. Lastly, content expert C made no comments, feedback, or suggestions.

Pretest/Posttest by Content Experts Validity Scale Analysis

Each CE completed content validation for each test item (see Appendix F). This was followed by an analysis of all the CE results. All test items received either a "relevant" or "very relevant." Therefore, each test item had an I-CVI mean of 1 and the test had a S-CVI of 1, which is considered an optimal validity score that showed that all pretest/posttest question items were officially acceptable and binding to the curriculum plan and learning objectives (see Appendix N).

Summary Evaluation of the Staff Education Program by Participants

The analysis of the evaluation of the staff education program by participants was based on a dichotomous scale with "Met=1" and "Not Met =2" (see Appendix M). Ten nursing staff and primary care providers participated in the SENPCP program since the eleventh participant called in sick. All 10 participants collectively answered that they met each of the seven learning objectives, generating a mean score of 1. The participants' comments during the program evaluation stated: "Chronic pain is a great topic to teach and educate the nurses and providers," and "The SEP is a very informative and comprehensive presentation." "The education program will help us to understand and treat our patients better." "The availability of nonpharmacological treatment modalities for chronic pain is excellent information to share," and "Thank you for the valuable information you just shared." (see Appendix M)

Pretest/Posttest Change in Knowledge by Participants

The anonymous distribution and collection of the Pretest/Posttest was discussed in Section 3. The change in knowledge from pretest to posttest was analyzed using descriptive statistics (see Appendix G). The pretest scores ranged from 6 to 9, with a group mean score of 7.3. Posttest scores ranged from 10 to 12, with a mean score of 11.3. The change in knowledge score from the pretest to the posttest was +4, which signifies a positive change.

Analysis of the pretest questions revealed two questions were problematic (see Appendix E). Question number 3 was challenging for the participants, with only 2 out of 10 participants answering the question correctly. During the posttest, the result improved, with 6 out of 10 participants answering the question correctly. Question number 9 was the 2nd most challenging question, with 3 out of 10 answering the question correctly on the pretest. However, on the posttest, the number of participants who answered the question correctly increased to 8 out of 10.

The findings showed that the participants improved their knowledge regarding the availability of nonpharmacological treatment methods as alternatives for chronic pain management. The implications of findings to individual patients are significant since patients will have other treatment options for their chronic pain conditions that are holistic and will avoid the effects of pharmacological treatment modalities, particularly opioid medications. Furthermore, the implications of findings for the communities and institutions will be better healthcare outcomes for the patients and more satisfied providers since patients' pain is controlled and will lessen burnout staff.

Rehospitalizations due to uncontrolled pain will be minimized and, therefore, decrease the financial burden on the healthcare system. Lastly, the possible implication of positive social change is better controlled chronic pain, which will result in healthier, safer, and happier communities since the literature also showed that chronic pain is associated with depression and anxiety.

Summary Evaluation of the Staff Education Project by Content Experts

The CEs agreed on the effectiveness of the project in terms of communication and desired outcomes. They also decided that the SEP project was well-planned, thought-out, comprehensive, and easy to follow. They also echoed that the pretest/posttest and the curriculum plan reflected the necessary information relevant to the project. According to the content experts, a project like this significantly contributes to the healthcare system and is beneficial in dealing with chronic pain in practice. The CEs felt honored to be part of the project, and one said that he did not mind being part of a project that would improve care and benefit the patients.

One content expert reported that the project is timely and significant since chronic pain is a common condition in his practice. He also elaborated that the project clearly presents the problem of chronic pain and alternative treatment, such as nonpharmacological modalities, and educating the participants improved their knowledge of managing chronic pain. Another content expert chose to take on the role because she believes in the project and trusts the student's passion, hard work, and dedication to her patients.

The CEs provided suggestions and feedback on how to improve the presentation. They found the outcome products to be well-written and articulated. All three content experts were satisfied with the amount of participation and involvement they had in the project. CE A appreciated that the student was open-minded and welcomed feedback, suggestions, and recommendations well. Content Experts B and C appreciated the emails and reminders sent out during the projects' planning, implementation, and evaluation phases. Expectations for content experts were also made clear from the beginning of the project.

Discussing the project with the CEs before the project began was valuable and helpful in understanding what the project is all about and what the project wants to achieve. According to the CEs, the CE packet was more straightforward to comprehend since they were familiar with the project already. They also appreciated my effort to make appointments and seek their availability to create an agreeable schedule. Content Expert C also specified that the packet was organized and comprehensive for reading and review.

Recommendations

As a result of this SEP, a recommendation was made to include this education for new hires and ongoing in-service education. Positive social change can be achieved using nonpharmaceutical relief measures in conjunction with prescription medications, thus improving the well-being of patients, families, and the human condition. This recommendation was made due to the participants' significant increase in knowledge regarding nonpharmacological treatment modalities for chronic pain after the

presentation of the program. The administrator in the primary practice agreed on the effectiveness of the SENPCP program.

Contribution of the Content Experts

All three CEs performed critical roles in reviewing and evaluating the curriculum and validating the pretest/posttest. They offered their feedback, suggestions, and recommendations for project improvement. They also assessed my leadership, the process, and the project.

Strengths and Limitations of the Project

Strengths

One of the significant strengths of the project was the current relevance of the changing direction of chronic pain management from opioid treatment towards evidence-based nonpharmacological treatment modalities that will promote self-management and holistic wellness as recommended by the CDC and other stakeholders in the healthcare system. The project enhanced the knowledge of the nursing staff and providers (as evidenced by the change of knowledge result) regarding nonpharmacological treatment options in treating chronic pain. Secondly, the project also addressed and eliminated the disadvantages of pharmacological treatment options for chronic pain management. Lastly, this project was evidence-based, thus adding strength to the project.

Limitations

The only limitation identified in this project was the inability to present the staff education to the acute care setting, as no nursing staff or providers from the acute care practice participated in the project presentation.

Summary

In this section, I presented the findings of the SENPCP, implications, recommendations, and contributions of the content experts, as well as the strengths and limitations of the project. The evaluated evidence resulted in outcomes that answered the question associated with the change in knowledge with implications for ongoing education of SEP in the primary care setting. Section 5 will consist of the dissemination of the project, provide an analysis of myself as a scholar, practitioner, and project manager, and shed some insight from this SENPCP.

Section 5: Dissemination Plan

This DNP project is appropriate to disseminate or implement in primary care settings, rehabilitation centers, skilled nursing homes, and even acute care areas such as hospitals. Chronic pain is prevalent in all areas of health care. The dissemination of this project will address the dilemma of chronic pain management in all areas of health care, particularly primary care settings, to provide knowledge and valuable information on alternative care for patients with chronic pain.

Analysis of Self

Practitioner

This DNP project has impacted my practice and knowledge as a Nurse Practitioner serving as a hospitalist in the acute setting. I commonly encounter patients with chronic pain in my line of work, and managing their chronic as well as acute conditions is both challenging and demanding. This SENPCP improved my understanding, perspective, and comprehension of chronic pain. Our patients need compassionate and empathetic care without judgment. Often, patients with chronic pain feel misunderstood and judged. Therapeutic listening to their concerns usually gives them comfort and the feeling that their provider cares about what they are going through. As a provider, I must educate, encourage, and guide patients to choose their treatment plan.

Scholar

As a scholar, the experience I gained in researching the literature, discussions with my CEs, preparation, and presentation of the staff education program, and interactions with the participants enriched my knowledge and capability to be a better

nurse scholar. A practice gap exists, which calls for a solution or recommendation. The SENPCP has allowed me to participate in an evidence-based project to contribute to the development of nonpharmacological treatment management of chronic pain. As a scholar, SENPCP prepared me to participate in a project that will bridge evidence-based knowledge to practice. The DNP project experience made me a better nurse scholar through research, presentations, and dissemination of the program to my practicum setting. Lastly, the DNP project taught me to be a better scholarly writer as this gave me the experience to write an entire evidence-based project.

Project Manager

As the project manager, I initiated the selection of the content experts and the project participants. I conducted an extensive literature search, formulated the staff education curriculum based on the literature, created the pretest and posttest, gathered the participants' evaluations, committed to protecting participants, and presented the education in the practicum setting. I collaborated with the CEs, and analyzed and synthesized the data gathered. I consider myself organized in my work activities, as verified by the CEs. I tried to be consistent with my communication and coordination with the schedules of project activities with the participants and content experts. Overall, everyone involved in the project was satisfied and gave favorable evaluations.

Challenges, Solutions, and Insights Gained

This terminal degree journey has been very challenging for me, both professionally and personally. The DNP project has occupied most of my energy and time for the past year. I almost gave up along the way, but my passion and determination

to complete this project empowered me to go on. Time management is a critical factor since I juggle different responsibilities and roles in life. The demands in my work life and various challenges with my family slowed me down. My mother passed away recently and forced me to take a leave of absence, which lengthened the time needed to complete my project. I needed to compose myself and focus on my unfinished task, which was to complete my terminal degree. The motivation from my faith, family, friends, and colleagues motivated me to move forward and finish what I had started.

Challenges will never be absent in all aspects and endeavors of my life. Everything worth achieving will require hard work, discipline, and commitment. My commitment to completing my DNP project will carry me through more than my desire to finish my doctorate. As a young nursing student in the past, I have listed my goals in my professional career, and having a terminal degree is the last on the list. I am profoundly grateful and proud that this is being manifested. Teaching is one of my passions; I cannot wait to share my acquired knowledge and experiences with my students and patients in practice.

Summary

Chronic pain is a significant condition in the primary care practice. Data showed that chronic pain is also one of the leading causes of disability worldwide. The financial burden of the condition on the healthcare system is staggering. The nursing staff and providers in the primary care practice encounter patients with chronic pain conditions regularly. There was a gap in practice or a need for more patient education by the providers and staff nurses related to nonpharmacological treatment modalities for chronic

pain. Educating the nursing staff and providers can expand their knowledge regarding alternative treatment for chronic pain, including nonpharmacological treatment modalities. Education will empower the providers and nursing staff to guide the patients in making educated decisions regarding their health care. Improvement in knowledge will lead to a better understanding of chronic pain.

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Appendix A: Assessment, Design, Development, Implementation, and Evaluation (ADDIE) Model of Instructional Design

Centers for Disease Control and Prevention (CDC). (2018). Training development: ADDIE Model

Appendix B: Literature Review Matrix

Melnyk, Bernadette Mazurek, and Ellen Fineout-Overholt's tool, Used with Permission

Reference	Theoretical or Conceptual Framework	Research Question(s) Hypothesis	Research Methodology	Analysis & Results	Conclusions	Grading the Evidence
Ab Latif, R., & Mat Nor, M. Z. (2020). Using the ADDIE Model to Develop a Rusnani Concept Mapping Guideline for Nursing Students. *Malaysian Journal of Medical Sciences*, *27*(6), 115–127.	This paper illustrates the development of a guideline to build a concept mapping based-learning strategy called Rusnani concept mapping (RCM) protocol guideline. It was adapted from Mohd Afifi learning model (MoAFF) and the analysis, design, development, implementation, and evaluation (ADDIE) model, integrated with the Kemp model.	What must students learn? how do you identify students who learned it? how do you assist students with learning? and finally, how can media and technology support students' learning?	The research design was a mixed-method (qualitative and quantitative) sequential exploratory design.	The reliability of the RCM was 0.816, showing that the RCM guideline has high reliability and validity.	It is practical and acceptable for nurse educators to apply RCM as an effective and innovative teaching method to enhance the academic performance of their nursing students.	Level VII

Becker, W. C., Dorflinger, L., Edmond, S. N., Islam, L., Heapy, A. A., & Fraenkel, L. (2017). Barriers and facilitators to use of nonpharmacological treatments in chronic pain. *BMC Family Practice, 18,* 1-8.	Determine the consensus-based most important barriers and facilitators to greater uptake of NPMs for chronic pain	What are the barriers and facilitators to greater uptake of evidence-based non-pharmacological pain treatment modalities (NPMs) from perspective of patients, nurses, and primary care providers (PCPs).	Qualitative description methodology	Top- ranked patient-reported barriers are high-cost, transportation problems, & low motivation, while facilitators are availability of wider array of NPM, team-based approach including follow-ups.	In multi-stakeholder qualitative study using NGT, the study found a diverse array of potentially modifiable barriers and facilitators to NPM uptake that may serve as important targets for program development.	Level V
Becker, W. C., DeBar, L. L., Heapy, A. A., Higgins, D., Krein, S. L., Lisi, A., Makris, U. E., & Allen, K. D. (2018). A research agenda for advancing non-pharmacological management of chronic musculoskeletal pain: Findings from VHA state-of-the-art-conference. *Journal of General Internal Medicine, 33(1), 11-15*.	To develop research priorities for advancing the science & clinical practice for non-pharmacological management of chronic pain	Chronic pain is widely prevalent among Veterans & can have serious negative consequences for functional status & quality of life.	VHA state-of-the-art conference (SOTA), 4 workgroups participant consisted of expert researchers.	The SOTA workgroups participants defined 4 areas of focus for non-pharmacological management of chronic pain such as psychological/behavioral therapies, exercise/movement therapies, manual therapies, and models for delivering multi-modal pain care.	There is a widespread consensus that chronic pain management should feature non-pharmacologic treatments that foster patient self-management & bio psychosocial wellness.	Level VII
Burke H, Chow E, Chow R, Saunders K, & Belanger A. (2017). Needs assessment of	The aim of the study was to assess practice patterns and treatment	What are the effective chronic pain management in	A survey using a 16-item	Respondents were treating approximately 10	Most PCPs report a lack of knowledge in the	Level VI

primary care physicians in the management of chronic pain in cancer survivors. *Supportive Care in Cancer*. 2017;25(11):3505-3514. doi:10.1007/s00520-017-3774-9	barriers in the management of chronic pain in cancer survivors among PCPs.	patients living with, or surviving, cancer? What are the barriers to optimal pain management in patients with chronic pain?	questionnaire was sent to PCPs across Canada.	cancer survivors with chronic pain per month. Majority of PCPs (59%) reported having little knowledge or some understanding of chronic pain management in cancer survivors. PCPs indicated that treatment guidelines (74%) and knowledge of nonpharmacological treatments options would help their chronic pain management.	management of chronic pain in cancer survivors but are keen to receive medical education on treatment options and clinical practice guidelines.	
Carnago, L., O'Regan, A., & Hughes, J. M. (2021). Diagnosing and treating chronic pain: Are we doing this right? *Journal of primary care & community health, 12*. https://doi.org/10.1177/21501327211008055	Chronic pain is one of the most common complaints in ambulatory outpatient and emergency department visits.	Are we doing the right thing in diagnosing and treating chronic pain?	Descriptive study	Providers could benefit from a generalized framework or approach around diagnosis and treatment of chronic pain, clarification of responsibility, and education and confidence surrounding multimodal approaches for treatment and management of chronic pain.	A stepwise approach to chronic pain management has been recommended and typically includes non-pharmacological, pharmacological, and consideration of opioids at times.	Level V

Davis, S. (2022). The National League for Nursing/Walden University College of Nursing Institute for Social Determinants of Health and Social Change. *Nursing Education Perspectives (Wolters Kluwer Health), 43*(1), 68-69.	Social determinants of health and social change model	What is the role of nursing education for social determinants of health (SDH) and social change?	Descriptive or documentary Method	The partnership of the National League of Nursing and Walden University College of Nursing created the institute for social determinants of health and social change to prepare educators and practitioners of the health care field interprofessional team to provide safe and quality care based on social change model.	A goal of healthy people 2020 specifically related to SDH is to create social, physical, and economic environments that promote attaining the full potential of health and well-being for all.	Level VII
Edmond, D. N., Becker, W. C., Driscoll, M. A., Decker, S. E., Higgins, D. M., Decker, S. E., Mattocks, K. M., Kerns, R. D., & Haskell, S. G. (2018). Use of non-pharmacological pain treatment modalities among veterans with chronic pain: Results from a cross-sectional survey. *Journal of General Internal Medicine 33*(1), S54-S60. https://doi.org/10.1007/s11606-018-4322-0	Nonpharmacological pain treatment modalities among veterans with chronic pain.	What are the rates and correlation of non-pharmacological treatment modalities use in a sample of veterans served during recent conflict?	Systematic reviews of qualitative or descriptive studies	Data indicated that the majority of veterans with chronic pain reported using at least one nonpharmacological treatment modalities (NPM) in the past year. Some differences were observed in the use of NPMs based on demographic and clinical characteristics, w/c may indicate differences in veteran treatment	The findings of this study may be useful in developing targeted interventions to improve referral processes and treatment uptake. Most importantly, providers should emphasize the overall benefits of using NPMs and use a shared decision-making approach to determine which	Level V

				preferences or provider referral patterns.	NPMs might work best for each patient.	
Fu, Y., McNichol, E., Marczewski, K., & Closs, S. J. (2018). The management of chronic back pain in primary care settings: Exploring perceived facilitators and barriers to the development of patient-professional partnerships. *Qualitative Health Research, 28*(9), 1462-1473.	A constructive grounded theory approach	What are the perceived facilitators and barriers to the development of patient-professional partnerships in managing chronic back pain in primary care settings?	Qualitative research	Facilitators to patient-provider partnerships are effective interaction & communication and integrated care. While the barriers are the service and system itself such as accessibility, requiring alternative treatments, maintaining long-term contact w/ provider & time constraints.	Giving attention to facilitators and barriers may help understand the development, implementation, mechanisms, and evaluation of building a patient-professional partnership & maximize the opportunities for patient self-management of chronic	Level V1
Garcia, D. M., Perez, A. S., Carrasco, J. J., Marquez, S. E., Aguilar, R. M., Moreno, S. N., … Bonanad, S. (2020). Effects of non-pharmacological approach for chronic pain management in patients with haemophilia: Efficacy of cognitive- behavioral therapy associated with physiotherapy. *Haemophilia, 27*(3), e357-e367.	To evaluate the effectiveness of a combined protocol based on psychology & physiotherapy in the improvement of chronic pain.	What are the effects of non-pharmacological management of chronic pain on patients with haemophilia? What is the efficacy of cognitive-behavioral therapy associated w/ physiotherapy?	Controlled trial study	The experimental group showed a significant improvement in the control of symptoms & pain management scores on the self-efficacy scale, Quality of life (QoL), pain, self-esteem, emotional status, pain & kinesiophobia.	The non-pharmacological treatment applied based on CBT & physiotherapy showed to be effective in improving chronic pain self-efficacy, quality of life & emotional status, while reducing pain &kinesiophobia in patients w/	Level 111

					severe hemophilia with chronic pain.	
Hebert, H. L., Morales, D. R., Torrance, N., Smith, B. H., & Colvin, L. A. (2022). Assessing the impact of a national clinical guideline for the management of chronic pain on opioid prescribing rates: a controlled interrupted time series analysis. *Implementation Science*, *17*(1), 1–12.	Opioids can be effective analgesic, but long-term use may be associated with harm. The aim of this study is to examine the potential impact on national opioid prescribing rates in Scotland.	What is the positive impact of changes in clinical and government policy on opioid prescribing rates and in primary care.	Framework for Enhanced reporting of Interrupted Time Series Studies (FERITS) statement and adaptation of the Transparent Reporting of Evaluations with Nonrandomized Designs (TREND) statement for the reporting of this study.	The number of opioids prescribed in Scotland from 2005 to 2013 increased to 54.7%. Since the publication of SIGN 136, the number of opioid prescriptions has gradually fallen and decrease in 2020 at 6.8%. Opioid prescribing rates began to fall post-publication and at the end of this study period, the relative change was estimated to be -20.67%.	The publication of Scottish Intercollegiate Guideline Network (SIGN) 136 was associate with a reduction in opioid prescribing rates. This suggests that changes in clinical policy through evidence-based national clinical guidelines may affect community opioid prescribing, though this may be partially replaced by gabapentinoids, and other factors may also contribute.	Level VII
Jira, L., Weyessa, N., Mulatu, S., & Alemayehu, A. (2020). Knowledge and attitude towards non-pharmacological pain management and associated factors among nurses working in Benishangul Gumuz regional state	To assess the knowledge and attitude towards nonpharmacological pain management and associated factors among nurses working in Benishangul Gumuz Regional State	What is the knowledge and attitude of nurses in Western Ethiopia regarding non-pharmacological pain management and associated factors.	Institution-based cross-sectional study was conducted from April to May 2017. 216 Nurses are selected	A total of 209 professional nurses participated in this study and showed that level of qualification, taking educational courses, nurse to patient ratio, and work	Nurses working in Benishangul Gumuz Regional State Hospital have unfavorable attitudes, but they have relatively adequate knowledge about	Level II

hospitals in Western Ethiopia, 2018. *Journal of Pain Research*, 2917-2927.	Hospitals, Western Ethiopia, 2018.		by using simple random sampling. Data were collected by using a pretested self-administered structured questionnaire. Bivariable and multivariable logistic regression was used.	experiences, are factors significantly associated with knowledge. Findings also show that nurse to patient ratio, training and knowledge of non-pharmacological pain management were significantly associated with nurses' attitude to non-pharmacological pain management.	nonpharmacological pain management. Word experience, level of education, nurse to patient ratio, taking educational courses were associated with nurses' knowledge, and nurse to patient ratio, training and knowledge of non-pharmacological pain management were associated with nurses' attitude. Therefore, efforts should focus on innovative educational strategies for nurses, training and achieving 1:6 nurse to patient ratio.	
Lemieux, J., Abdollah, V., Powelske, B., & Kawchuk, G. (2020). Comparing the effectiveness of group-based exercise to other non-pharmacological	To compare the effectiveness of group-based exercise with other non-pharmacological interventions in people	Clinical practice guidelines often recommend non-pharmacological, non-invasive management	Randomized controlled trials	There is no strong evidence or no difference between group exercise and other non-pharmacologic	There is no difference between group exercise and other non-pharmacological	Level 1

interventions for chronic low back pain: A systematic review. *PLoS ONE, 15*(12),	with chronic low back pain (LBP)	approaches in managing chronic LBP.		interventions for disability level and pains cores 3-monthpostinterventio n in people with chronic LBP	LBP interventions for disability level, quality of life, and pain. However, this might be the prepared choice due to potential advantage of such as motivation and low cost.	
Lestoquoy, A. S., Laird, L. D., Mitchell, S., Gergen-Barnett, K., Negash, N. L., McCue, K., Enad, R., & Gardiner, P. (2017). Living with chronic pain: Evaluating patient experiences with a medical group visit focused on mindfulness and non-pharmacological strategies. *Complementary therapies in medicine*, *35*, 33-38.	This study uses the principles of Mindfulness Based Stress Reduction and evidence based integrative medicine.	How the Integrative Medical Group Visit (IMGV) addresses many of the deficits identified with usual care.	Six IMGVs cohorts were held at a safety net hospital and two federally funded community health centers. Data was gathered through focus groups. Transcripts were analyzed using both a priori codes and inductive coding.	Participants were largely low-income minority adults with chronic pain and comorbid depression. 6 TMS emerged from the coding: chronic pain is isolating, group treatment contributes to better coping with pain, loss of control and autonomy because of the unpredictability of pain as well as dependence on medication and frequent medical appointments, groups improve agency and control over one ‘s health condition. Navigating the healthcare system	The IMGV is a promising format for delivering integrative care for chronic pain and depression which addresses many of the problems identified by patients in usual care.	Level IV

				and unsatisfactory treatment options and changes after the IMGV due to nonpharmacological health management.		
Majeed, M. H., Ali, A. A., Sudak, D. M. (2019). Psychotherapeutic interventions for chronic pain: Evidence, rationale, and advantages. *International Journal of Psychiatry in Medicine, 54*(2), 140-149	Chronic pain and substance use disorder are often co-morbid with other medical problems.	Primary care providers would benefit from having alternatives to opioids (non-pharmacological interventions) to utilize in treating patients with chronic pain problem.	Systematic review & meta-analysis of randomized controlled trials.	Cognitive behavioral therapy (CBT), acceptance & commitment therapy (ACT), and mindfulness-based programs have well-documented effectiveness for treatment of chronic pain.	There is an intrinsic risk of misuse, abuse, addiction, overdose & death associated w/ chronic opiate therapy. Primary care office-based multidisciplinary & evidence-based approaches such as psychotherapeutic interventions are necessary to treat chronic pain for better treatment outcomes.	Level 1
Meerwijk, E. L., Larson, M. J., Schmidt, E. M., Adams, R. S., Bauer, M. R., Ritter, G. A., Buckenmaier, C., 3rd, & Harris, A. H. S. (2020). Nonpharmacological Treatment of Army Service Members with Chronic Pain Is Associated with Fewer Adverse Outcomes After	To compare active-duty U.S. Army service members with chronic pain who did/did not receive non-pharmacological treatment in the Military Health System (MHS) and describe the association between receiving NPT and	What do the effects of non-pharmacological treatment do the Army Service members with chronic pain?	A longitudinal cohort study of active-duty Army service members whose MHS healthcare records indicated presence of chronic pain.	The results corroborated our hypothesis that use of nonpharmacological treatments (NPT) in the military health system were at significantly lower risk in the Veterans Health	Non-pharmacological treatment provided in the Military Health System (MHS) to service members with chronic pain may reduce risk of long-term	Level IV

Transition to the Veterans Health Administration. *Journal of General Internal Medicine*, *35*(3), 775–783.	adverse outcomes after transitioning to the Veterans Health Administration (VHA).			Administration (VHA) for new-onset alcohol and/or drug use disorder, poisoning with opioids, related narcotics, barbiturates, or sedatives, suicide ideation, and self-inflicted injuries including suicide attempts.	adverse outcomes.	
Mikkonen, J., Luomajoki, H., Airaksinen, O., Goubert, L., & Leinonen, V. (2023). Protocol of identical exercise programs with and without specific breathing techniques for the treatment of chronic non-specific low back pain: randomized feasibility trial with two-month follow-up. *BMC Musculoskeletal Disorders*, *24*(1), 354.	The study aims to inform feasibility and help determine whether progression to a full-scale trial is worthwhile.	Are exercise therapies one of the commonly prescribed treatment options for chronic low back pain (CLBP)?	A parallel randomized analyst-blinded feasibility trial with two-month follow-up.	Feasibility related to aims and objectives. Multiple pain-and health-related patient-reported outcome measures of pain intensity, disability, central sensitization, anxiety, kinesiophobia, catastrophizing, self-efficacy, sleep quality, quality of life, and health and well-being status.	The positive visibility outcomes of this study could raise questions about the general stability the SBTs add on to other exercise interventions to improve clinical outcomes. Due to the multifactorial nature of CLBP specific breathing techniques (SBT's) add on could be one of the more functional pieces in a biopsychosocial and	Level II

					individualized treatment puzzle where exercise is one of the basic pieces. Randomized controlled trials.	
Pollack, S. W., Skillman, S. M., & Frogner, B. K. (2020). The health workforce delivering evidence-based non-pharmacological pain management. *Center for Health Workforce Studies, University of Washington*, 2022-03.	Describe the professions that can deliver evidence based nonpharmacologic pain management.	What are the occupations enabled to deliver evidence-based non-pharmacological chronic pain interventions? How education, policy and practice related factors serve as barriers or facilitators to further leverage these professions to effectively provide collaborative pain management?	Systematic review of qualitative research	Healthcare occupations in addition to the traditional medical providers (physicians, nurse practitioners, physician assistants) able to deliver evidence-based non-pharmacological pain management include physical therapists, occupational therapists, massage therapists, athletic trainers, chiropractor, and psychotherapist.	Non pharmacologic pain management approaches may be effectively delivered independently or in combinations, and by individual providers as well as by multidisciplinary team. Education and credentialing requirements for this workforce varies widely, depending on the Occupation and the specialty.	Level V
Provenzano, D. A., Kamal, K. M., & Giannetti, V. (2018). Evaluation of primary care physician chronic pain management practice patterns. *Pain Physician, 21*(6), E593-E602	To assess the knowledge and practice of PCPs in management of chronic pain.	The management of chronic pain is complex and often involves the integration of multiple clinical, humanistic, and economic factors.	Cross-sectional study through questionnaire survey	The respondents on average treated 30 chronic pain patients per month in the primary care setting with the most common conditions are osteoarthritis, back & neuropathic	The study provides insight into PCPs' chronic pain management practices. PCPs are often at the forefront of pain management	Level 1

				pain. Only 67% PCPs respondents referred to pain management guidelines. Multiple knowledge & practice gaps were identified.	treatment & enhancement in knowledge will ultimately influence pain management outcomes & treatments.	
Rikard, S. M., Strahan, A. E., Schmit, K. M., & Guy Jr., G. P. (2023). Chronic Pain Among Adults — United States, 2019–2021. *MMWR: Morbidity & Mortality Weekly Report*, *72*(15), 379–385.	CDC analyze data from the 2019 to 2021 NHIS to provide updated estimates of the prevalence of chronic pain and high impact chronic pain among adults in the United States.	Survey questions used to estimate the prevalence of pain in included. In the past three months, how often did you have pain? Over the past three months, how often did your pain limit your life or work activities	National health interview survey (NHIS) is a cross-sectional household survey of the civilian.	The prevalence of chronic pain were higher among older adults, females, adults currently unemployed but who worked previously, veterans, adult living in poverty, those residing in non-metropolitan areas, adults identifying as bisexual, those who are divorced or separated, US born adults compared with non-us born adults, adults with a disability, adults in poor health, adults with history of certain chronic medical conditions and those with public health insurances	During 2021, an estimated 20.9% of US adults (51.6 million) experience chronic pain. Clinicians, practices, health systems, and payers should vigilantly attend to health inequities and ensure access to appropriate, affordable, diversified, coordinated, and effective pain management care for all persons	Level VII
Sharma, R., Dale, S. A., Wadhawan, S., Anderson, M., & Buchman, D. Z.	Ethics concept implications of neuroscience research	Does ethics concept present in chronic	Systematic reviews of qualitative or	Our database search yielded 2779 results from which 46	Given the potential ethical implications of	Level V

(2022). Identifying the presence of ethics concepts in chronic pain research: A scoping review of neuroscience journals. *Neuroethics, 15*, 1–17.	on chronic pain, given its potential to reduce suffering and improved life experiences of people in pain.	pain research in the literature?	descriptive studies.	articles met inclusion criteria. An additional 13 articles were hand-retrieved using PubMed and Google Scholar in accordance with the inclusion criteria, totaling 59 articles. We identified four main ethics themes in our analysis: 1) Quality of life, 2) Autonomy, 3) Transparency, 4) Beneficence and Non-Maleficence.	neuroscience research for people living with chronic pain, we argue that to maximize its public health benefit, neuroscience researchers should consider the ethical relevance of their work within their scientific publications. This may generate further ethical reflection within the field, to improve pain management.	
Siddiqui, A. S., & Bashir, U. (2021). Teamwork in chronic pain management and the way forward in low and middle-income countries. *Anesthesia, Pain & Intensive Care, 25*(2), 229-235.	To review the published literature to know the chronic pain teamwork dynamics in the developed world, assess barriers and challenges in relation to teamwork in low- and middle-income countries.	What is the importance of teamwork in chronic pain management in low- and middle-income countries?	Evidence from Literature Review	Lack of trained pain physicians and staff, lack of interest, empathy and lack of integrated multidisciplinary approach are some of the barriers to achieve teamwork in chronic pain management.	Authors strongly recommend the need for further research in this area, improvement in training programs for physicians and nursing staff for proper pain assessment and management of patients with chronic pain in	Level VII

					low resource countries.	
Stephen, A., Peters, A., Aul, K., Dillard, A., & Gannon, J. (2021). Creating Online Clinical Experiences for Prelicensure Nursing Students Using the ADDIE Model. *ACET Journal of Computer Education & Research*, *15*(1), 1–9.	The purpose was to analyze the design, implementation and evaluation of the online clinical experiences using an instructional design model (ADDIE) and conclude with lessons learned.	How to utilize an informational technology system in a fully online manner?	ADDIE model	The lessons learned in bringing clinical experiences into the virtual environment are needed to conduct a usability test for students and faculty prior to purchase, create a transition from a live environment to a virtual one due to COVID-19, create a recognizable modular layout, create a storyline for students and provide staff/faculty specific structured guidance.	The other model facilitated assessment of computer basic clinical experiences for free licensure nursing students and use of the platform brought clinical experiences into an online classroom. Multiple aspects of online clinical simulations need to be considered to ensure a relevant and productive student experience.	Level VII
Sucu Cakman, N. C., Caliskan, N., & Kan, A. (2022). Health care professionals' attitudes toward patients with chronic pain: Scale development study. *Pain Management Nursing*. *20*(33), 1-8.	One obstacle in chronic pain management is the attitude of the healthcare professionals.	How to identify healthcare professionals' attitudes towards patients with chronic pain.	Descriptive or qualitative study	The scale consisted of two factors that leave old sensitivity orientation and misconception orientation. It was found that the scale had a higher rate of validity and reliability. It was found that the items	The study indicates that the HCPAPCP scale is a valid and reliable data collection tool that can be used to measure healthcare professionals' attitudes towards	Level VI

				in the scale had the power to measure the mistake they want to measure and to distinguish between individuals who had a measured characteristic and those who do not have. Data proved that Healthcare Professionals Attitudes Towards Patients with Chronic Pain (HCPAPCP) Scale had a two-factor construct and can be used to measure healthcare professionals' attitudes forwards patients with chronic pain.	patients with chronic pain. This data can provide guidance in planning the activities for improving healthcare professionals' attitudes towards patients with chronic pain.	
Tang, S. K., Tse, M. M. Y., Leung, S. F., & Fotis, T. (2019). The effectiveness, suitability, and sustainability of non-pharmacological methods of managing pain in community-dwelling older adults: A systematic review. *BMC Public Health, 19*(1), 1-10	Non-pharmacological pain management is preferred for community-dwelling older adults.	What is the effectiveness, suitability & sustainability of non-pharmacological methods of managing pain in community-dwelling older adults?	Systematic review of randomized controlled trials.	The interventions covered were acupressure, acupuncture, guided imagery, qigong, periosteal stimulation, and tai chi. The pain intensities of the participants decreased after the	Non-pharmacological methods of managing pain were effective in lowering pain levels in community-dwelling older adults and can be promoted widely in community.	Level 1

				implementation of the intervention.		
Thompson, T., Dias, S., Poulter, D., Weldon, S., Marsh, L., Rossato, C., ... & Ioannidis, J. (2020). Efficacy and acceptability of pharmacological and non-pharmacological interventions for non-specific chronic low back pain: a protocol for a systematic review and network meta-analysis. *Systematic reviews*, *9*(1), 1-11.	To assess the effectiveness and acceptability of interventions and endorsed in primary care practice guidelines for the treatment of nonspecific chronic low back pain, with the aim of providing a comprehensive evidence base to inform treatment decisions.	What constitutes the best treatment options for chronic low back pain (CLBP) from a multitude of competing interventions?	Systematic review of all relevant randomized controlled trials.	The common concern with comparing pharmacological and unpermitted logical interventions in general is that one class of intervention is administered as a first line treatment and the other is given to treatment resistant cases for whom previous intervention had failed.	While there are numerous factors that must be considered in treatment decisions, such as cost effectiveness, individual patients suitability and patient preferences, reliable information on the pain-relieving effects and acceptability of a treatment as well as an assessment of how bias free these results might be a fundamental point in guiding these decisions.	Level 1

Appendix C: Curriculum Plan

Title of Project: Education for Nursing and Primary Care Providers on Non-Pharmacological Management of Chronic pain

Student: Ma Teresita G. De Jesus

Problem: The problem identified in this Doctor of Nursing Practice (DNP) project is the need for provider's and nurses' Education on the non-pharmacological management of chronic pain.

Purpose: The purpose of this DNP project is to plan, implement, and evaluate a staff education program on non-pharmaceutical relief of chronic pain (SENPCP).

Practice Focused Question (s): (1) What evidence in the literature supports the education of nurses and healthcare providers in using non-pharmacological treatments for chronic pain in primary care? (2) Will there be a change in knowledge related to the use of non-pharmaceutical treatment modalities for chronic pain as evidenced by pretest/posttest? (3) Will participants of the program on non-pharmaceutical treatment modalities for chronic pain relief evaluate the program as having met the objectives.

Objective Number and Statement	Detailed Content Outline	Evidence (from Literature Review Matrix) Author	Grading the Evidence	Method of Presenting	Method of Evaluation P/P Item
1.Discuss the definition of chronic pain, and the incidence rate of	1.What is chronic pain? • Chronic pain is defined as pain present for over three months.	Fu et al., 2018 Lemieux et al., 2020	Level VI Level l	PowerPoint Presentation	Question #1, 2 & 3

chronic pain in the US.	• It is one of the leading causes of disability worldwide, with a significant financial burden for those affected. • Approximately 100 million adults in the US are affected by chronic pain. • It is a pervasive & invasive condition that affects people in different ways, including their autonomy, quality of life, social mobility, productivity, mental and physical health. • Chronic pain is a costly public health issue that is associated with many adverse outcomes including chronic opioid use and suicide. • Chronic low-back pain is thought to be the costliest disability of the working-age population, with a lifetime occurrence estimated to be at 85%.	Sucu et al., 2022 Rikard et al., 2023	Level VI Level VII		
2. Describe the usual or prevalent treatment of chronic pain such as pharmacological treatment modalities, and the non-pharmacological treatment modalities as alternative	1.What is the common or prevalent treatment for chronic pain? • Pharmacological: opioid (most common) then, NSAIDS, acetaminophen, muscle relaxants, and anti-depressants. 2.What are non-pharmacological treatment modalities (NPTMs)? • Alternative treatment for chronic pain • NPTMs are not fully emphasized or utilized in the primary care setting.	Siddiqui & Bashir, 2021 Meerwijk et al., 2020	Level VII Level 1V	PowerPoint presentation	Question # 4

treatment for chronic pain.	• CDC recommended changing direction of pain management from opioids towards NPTMs that promote self-management & holistic wellness. • NPTMs are several physical and psychological treatment modalities that often require active participation (ex. Exercise programs and education programs for patients and caregivers). • NPTMs are interventions that can build self-reliance and a sense of control over pain.				
3. Discuss the problem identified in this DNP project, identify the different side effects of pharmacological treatment such as analgesics and opioids.	What is the gap in practice? • There is a need for staff education regarding the availability of NPTMs as an alternative for chronic pain management. What are the adverse effects of Pharmacological treatment? • Common side effects of pharmacological treatment are gastrointestinal bleeding, fluid retention, oliguria, renal failure, constipation, delirium, prolonged bleeding, and respiratory distress. • The rampant and long-term use of opioids in treating chronic pain is detrimental to individuals leading to addiction, misuse, overdose, abuse, and to some extent, death.	Pollack et al., 2020 Provenzano et al., 2018 Majeed et al., 2019	Level V Level 1	PowerPoint presentation	Question # 5

4. Discuss the NPTMs as alternative for chronic pain management	What are the advantages of NPTMs? • NPTM's for chronic pain are known to be safe and efficient and improves the quality of life, physical and emotional functioning, thus improving the human condition. • Educating the providers on NPTMs will benefit the patients and prevent the incidence of substance abuse or misuse which lead to substance use disorder, drug overdose, and self-inflicted injuries. What are the disadvantages of NPTMs? • NPTMs are usually effective for mild to moderate pain intensity, but they do not replace pharmacological pain therapies in patients with severe pain intensity such as cancer pain. Needs commitment to make the treatment work.	Tang et al., 2019 Thompson et al., 2020 Garcia et al., 2020 Meerwijk et al., 2020	Level 1 Level 1 Level III Level IV	PowerPoint presentation	Question # 6
5. Describe the different types of NPTMs	NPTMs using physical approach: • Tai Chi, Massage therapy, Acupuncture, yoga, Physical, chiropractic manipulation, and occupational therapy NPMTs using psychological or restorative approach: • Yoga, Cognitive Behavioral therapy, Relaxation approaches, Mindfulness-based Stress Reduction, Massage therapy, Myofascial Release Massage.	Pollack et al., 2020 Edmond et al., 2018 Lemieux et al., 2020 Lestoquoy et al., 2017	Level V Level V Level 1 Level IV	PowerPoint presentation	Question # 10, 11, & 12

	NPMTs using behavioral approach: • Cognitive Behavioral Therapy • Relaxation approaches • Mindfulness-based Stress Reduction • Psychotherapy • Outline the different common treatments for chronic pain particularly "opioids" and its advantages and disadvantages.				
6. List measures to promote NPTMs in primary care practice.	• Discuss the need for patient education on the availability of NPTMs as alternative management for chronic pain during patient encounters. • Provide handouts or information on different NPTMs available. • Educate patients and caregivers regarding NPTMs advantages.	Jira et al., 2020 Majeed et al., 2019 Provenzano et al., 2018 Sharma et al., 2022	Level II Level 1 Level 1 Level V	PowerPoint presentation	Question # 7 & 8
7. Discuss ways to support or empower patients with chronic pain condition.	• Educate, encourage, guide them to make educated choices in choosing their treatment plan and be empathetic as a healthcare professional. • Discuss treatment options based on the patient's level of pain, their current needs, and conditions.	Mikkonen et al., 2023 Tang et al., 2019	Level II Level 1	PowerPoint presentation	Question # 9

Appendix D: Curriculum Plan Evaluation by Content Experts

Title of Project: Education for Nursing and Primary Care Provider on Non-Pharmacological Management of Chronic Pain

Student: Ma Teresita G. De Jesus

Respondent: (1, 2, 3)

Products for Review: Curriculum Plan, Literature Review Matrix

Instructions: Please review each objective related to the curriculum plan, content and matrix. The answer will be a "met = 1" or "not met = 2" with comments if there is a problem, understanding the content or if the content does not speak to the objective, At the conclusion of this educational experience, the participant will be able to:

Objective Number	Objective Statement	Met	Not Met	Comment
1.	Discuss the definition of chronic pain, and the incidence rate of chronic pain in the U.S.			
2.	Describe the usual or prevalent treatment of chronic pain such as pharmacological treatment modalities, and the non-pharmacological treatment modalities as alternative treatment for chronic pain.			
3.	Discuss the problem Identified in this DNP project, identify the different side effects of pharmacological treatment such as analgesics and opioids.			
4.	Discuss the non-pharmacological treatment			

	modalities as alternative for chronic pain management.			
5	Describe the different Types of non-pharmacological treatment modalities			
6.	List measures to promote non-pharmacological treatment modalities in primary care practice.			
7.	Discuss ways to support Or empower patients with Chronic pain condition			

Appendix E: Pretest Posttest

Education for Nursing and Primary Care Providers on Non-pharmacological Management of Chronic Pain

This test is anonymous. Please place the same number on your pretest and posttest. Please circle the letter for your choice. You have 15 minutes to take this test. Thank you for participating.

1. What is chronic pain?
    a) Pain that exists now due to surgery.
    b) Pain that exists for 3 days.
    c) Pain that exists for a month.
    d) Pain that has existed for more than 3 months.

2. How many individuals in the United States are affected by chronic pain?
    a) There are approximately 10 million people affected.
    b) There are approximately 20 million people affected.
    c) There are approximately 50 million people affected.
    d) There are approximately 100 million people affected.

3. What is true about chronic pain? Chronic pain is (select all that apply)
    a) One of the leading causes of disability worldwide, with a significant financial burden for those affected.
    b) A pervasive & invasive condition that affects people in different ways, including their autonomy, quality of life, social mobility, productivity, mental and physical health.
    c) A costly public health issue that is associated with many adverse outcomes including chronic opioid use and suicide.
    d) Chronic low-back pain is thought to be the most inexpensive disability of the working-age population, with a lifetime occurrence estimated to be at 50%.

4. What is the most common or prevalent pharmacological treatments for chronic pain?
    a) Opioids
    b) Antibiotics
    c) Anti-depressant
    d) NSAIDs

5. What are the common adverse effects of pharmacological management (opioids, NSAIDs) for chronic pain?
    a) Respiratory distress, GI bleed, constipation, & renal failure
    b) Diarrhea, restlessness, & skin rashes
    c) Chest pain, headaches, muscle pain, & agitation

d) Restless leg syndrome, tachycardia/palpitation, & hypertension

6. What are non-pharmacological treatment modalities (NPMTs)? (Select all that apply)
    a) **Alternative treatment for chronic pain management.**
    b) **Not fully utilized or emphasized in primary care practice.**
    c) **Promote self-management & holistic wellness.**
    d) **Several physical and psychological treatment modalities that often require active participation (ex. Exercise programs and education programs for patients and caregivers).**

7. There is no need for staff education regarding the availability of NPTMs as an alternative for chronic pain management in the primary care setting.
    a) True
    b) False

8. The rampant and long-term use of opioids in treating chronic pain is detrimental to individuals leading to addiction, misuse, overdose, abuse, and to some extent, death.
    a) True
    b) False

9. What are the advantages of non-pharmacological treatment modalities? (Select all that apply)
    a) **Known to be safe and efficient, with non-debilitating side effects.**
    b) Non-pharmacological treatment modalities are expensive and not affordable.
    c) **Minimize the use or misuse of opioids, leading to addiction**.
    d) **This results in fewer episodes of chronic pain exacerbation, thus increasing patient satisfaction**.

10. What are the non-pharmacological treatment modalities available as alternatives for pharmacological treatment for chronic pain, using physical approach?
    a) Mindfulness-based stress reduction
    b) **Chiropractic manipulation**
    c) Relaxation approaches
    d) Cognitive Behavioral therapy

11. What are the non-pharmacological treatment modalities using psychological or restorative approach?
    a) **Massage therapy**
    b) NSAIDS
    c) Acetaminophen
    d) Opioids

12. What are the non-pharmacological treatment modalities using behavioral approach?
    a) **Cognitive Behavioral Therapy**
    b) Acupuncture
    c) Physical therapy
    d) Occupational therapy

Appendix F: Pretest/Posttest Content Validation by Content Experts

Title of Project: Education for Nursing and Primary Care Providers on Non-Pharmacological Management of Chronic Pain

Student: Ma Teresita G. De Jesus

Respondent: (A, B, C)

Accompanying Packet: Curriculum Plan, Pretest/Posttest with answers, Pretest/Posttest Expert Content Validation Form

INSTRUCTIONS: Please check each item to see if the question is representative of the course objective and the correct answer is reflected in the course content.

Test Item # 1 2 3 4

1 Not Relevant __ Somewhat Relevant__ Relevant___ Very Relevant__

Comments:

2 Not Relevant__ Somewhat Relevant__ Relevant___ Very Relevant__

Comments:

3 Not Relevant__ Somewhat Relevant__ Relevant___ Very Relevant__

Comments:

4 Not Relevant__ Somewhat Relevant__ Relevant___ Very Relevant__

Comments:

5. Not Relevant__ Somewhat Relevant__ Relevant___ Very Relevant__

Comments:

6 Not Relevant__ Somewhat Relevant__ Relevant___ Very Relevant__

Comments:

7 Not Relevant__ Somewhat Relevant__ Relevant ___ Very Relevant__

Comments:

8 Not Relevant__ Somewhat Relevant__ Relevant___ Very Relevant__

Comments:

9 Not Relevant__ Somewhat Relevant__ Relevant___ Very Relevant__

Comments:

10 Not Relevant__ Somewhat Relevant__ Relevant___ Very Relevant__

Appendix G: Pretest/Posttest Change in Knowledge by Participants

Number of Participants	Pretest Score Numerical	Posttest Score Numerical	Change in Knowledge
1	8	12	+4
2	6	10	+4
3	8	12	+4
4	7	11	+4
5	9	12	+3
6	6	12	+6
7	7	12	+5
8	8	11	+3
9	7	11	+4
10	7	10	+3
Pretest range 6 to 9 Pretest Group Mean 7.3 Posttest range 10 to12 Posttest Group Mean 11.3 Change in Knowledge +4			

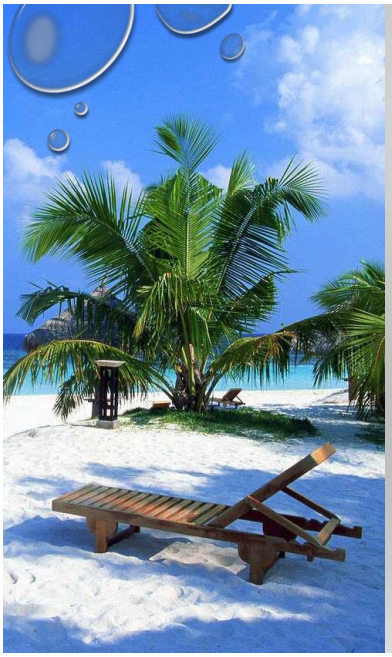
Appendix H: Staff Education Program

Education for Nurses and Primary Care Providers on Non-Pharmacological Management of Chronic Pain

Walden University

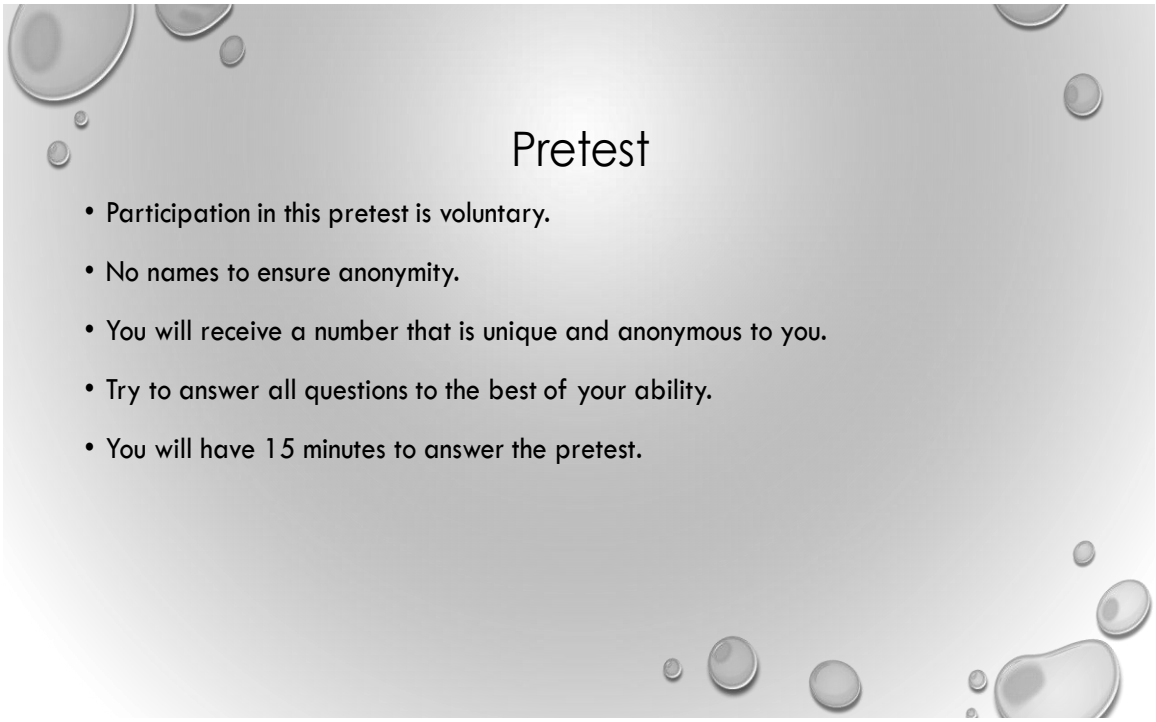
Ma. Teresita De Jesus

MSN-ED, APRN

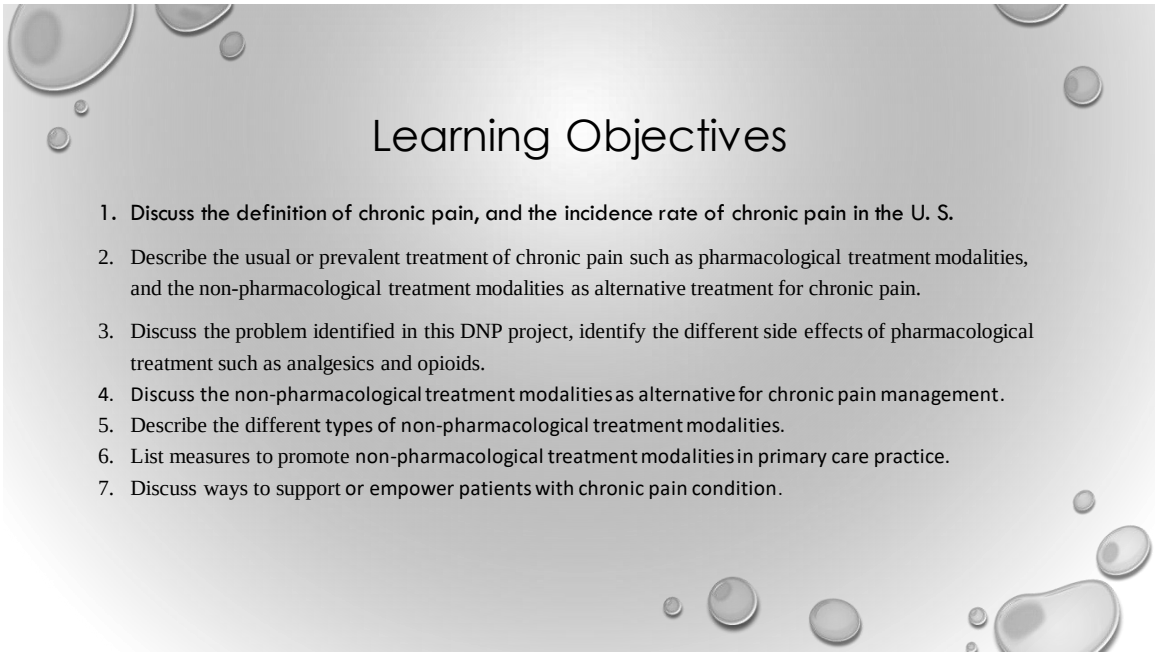


Welcome

- Ma Teresita De Jesus, MSN-Ed, APRN, AGNP-BC
- I would like to thank
  - Acute Care Practice administration
  - Primary Care Practice Providers
  - Nurse Practitioners
  - Nurses and Medical Assistants



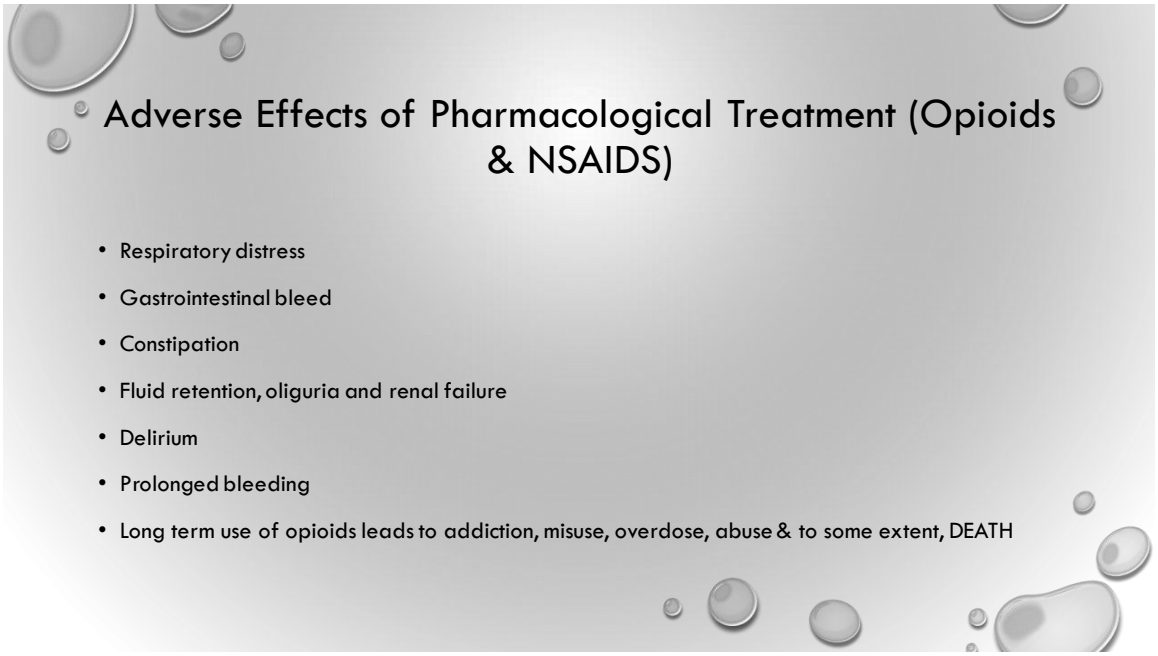
Before we begin the presentation, you will find a pre-test handout. This test is voluntary. Please do not write your name, instead, write the number you received anonymously at the top of the page. Please try to answer all questions the best you can. You will have 15 minutes to complete this test. When finished, place your completed pretest questionnaires in the designated envelope. I will step out now to ensure anonymity. Thank you.



At the end of this presentation, participants will be able to…. (read the objectives)

Answers to Questions # 1, 2, & 3

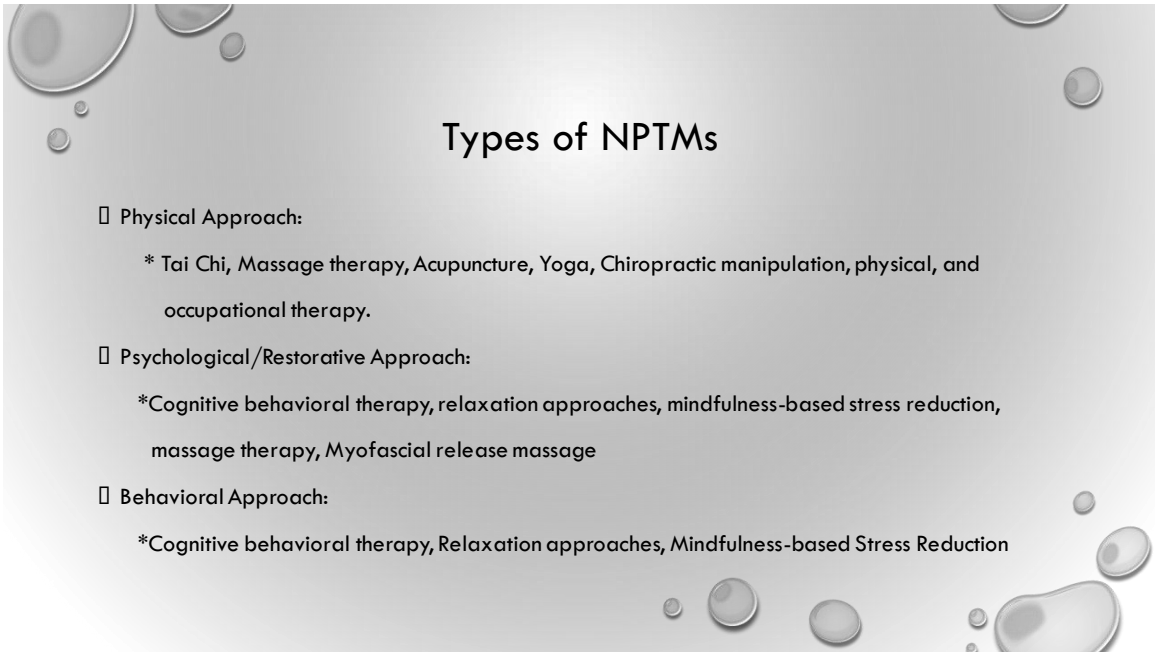
Answer to Question # 4 (Becker et al., 2018; Meerwijk et al., 2020).



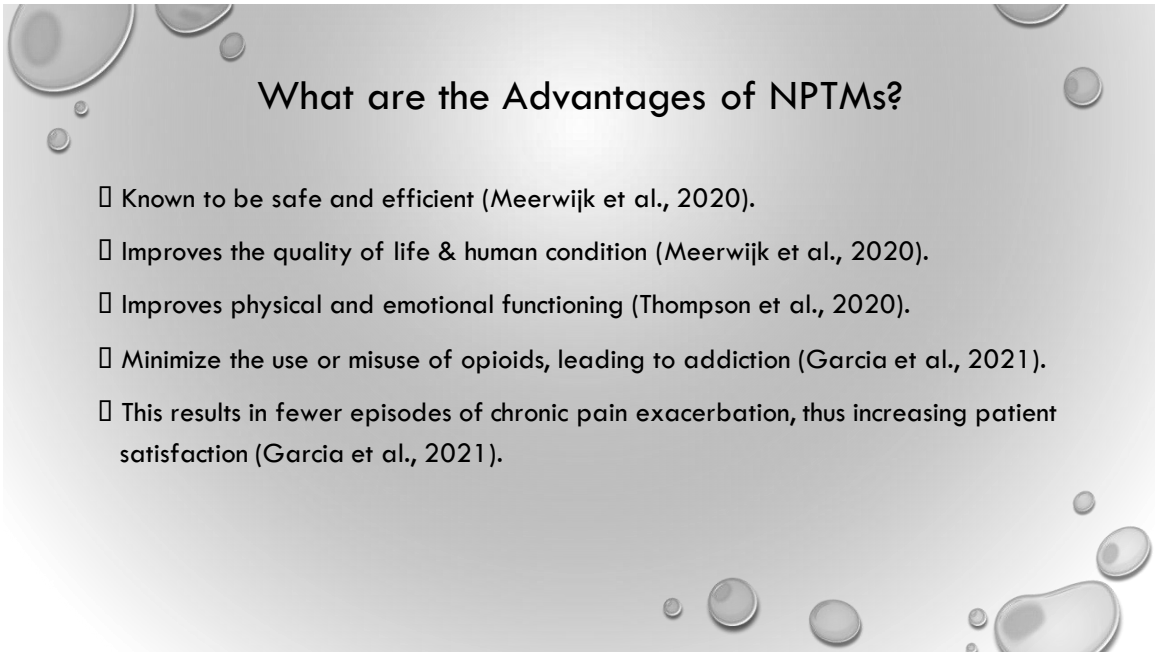
Answer to Question # 5 (Meerwijk et al., 2020; Tang et al., 2019).

Answer to Question # 6. NPTMs are alternative treatment for chronic pain which are not yet fully emphasize or utilized in the primary care setting. The Centers for Disease Control and Prevention (CDC) and other stakeholders have recommended to the health care system the changing direction of chronic pain management from Opioid treatment

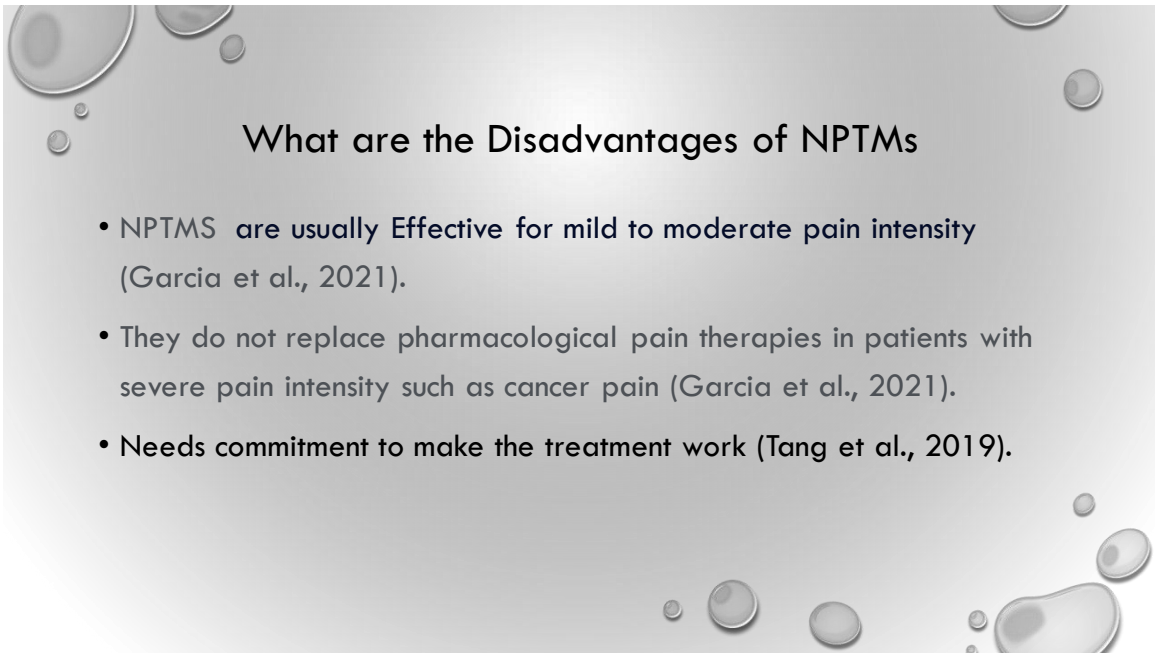
towards evidence-based non-pharmacological treatment modalities that will promote self-management and holistic wellness (Becker et al., 2018). Nevertheless, several physical and psychological treatment modalities such as yoga and mindfulness-based stress reduction requires active participation and commitment from the patient (Meerwijk et al., 2020; Thompson et al., 2020). NPTMs are interventions or treatment options that can build self-reliance since patients are involved in the decision making regarding their treatment plan, and it also gives them a sense of control over pain when they perform the interventions (Siddiqui & Bashir, 2021).

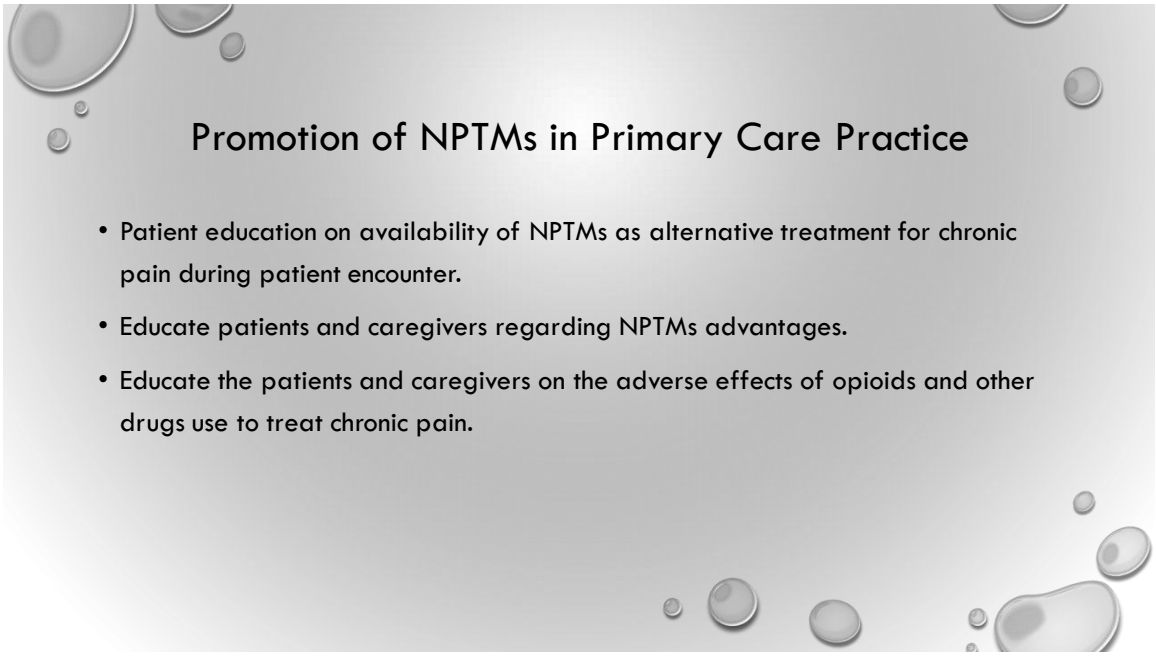


Answer to Questions 10, 11 & 12. These are the types of NPTMs which includes interventions that utilize physical approach, psychological or restorative approach and behavioral approach (Edmond et al., 2018; Lestoquoy et al., 2017). The physical approach such as Tai chi is a form of exercise, massage therapy causes the muscles to relax, acupuncture and chiropractic manipulation target certain nerves that could help in relieving pain (Pollack et al., 2020). Psychological/restorative approach such as cognitive behavioral therapy is a form of therapy that address the psychological component of chronic pain and the effect in one's behavior (Lemieux et al., 2020).

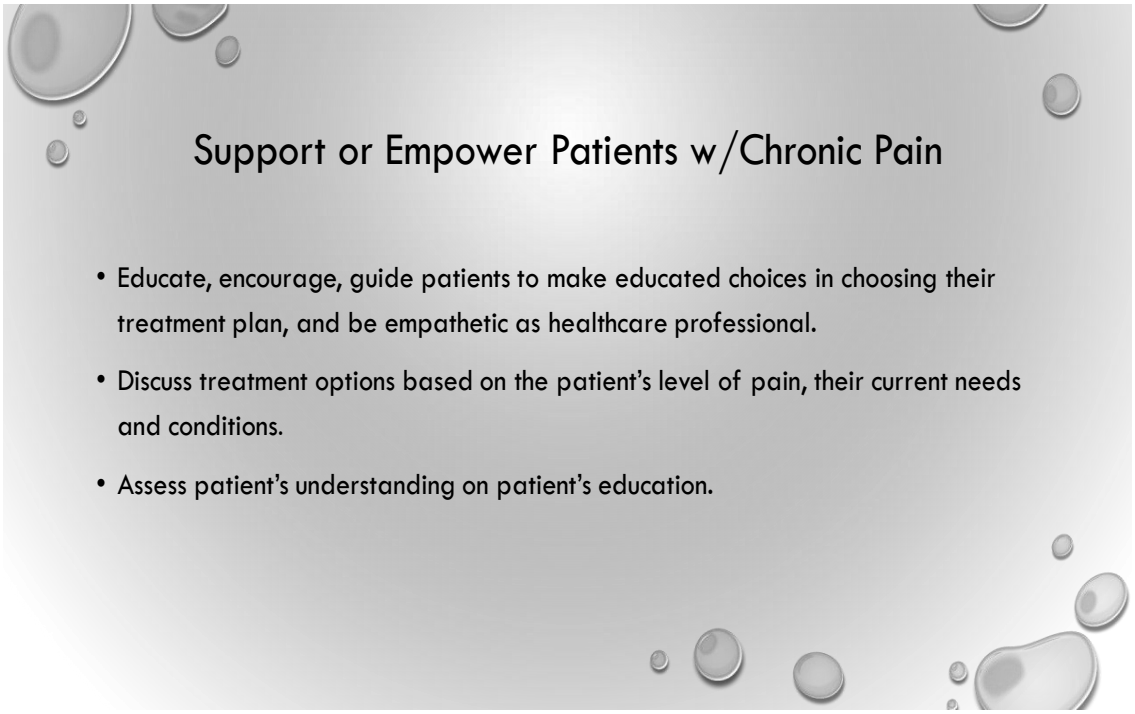


Answer to Question # 9 (Garcia et al., 2021; Meerwijk et al., 2020; Thompson et al., 2020)





Education is a crucial part of patients' treatment or medical care (Provenzano et al., 2018). Knowledge is power, and the more the patients are informed and aware of their treatment options, advantages, and disadvantages of the available treatment options, the more capable they are in choosing their treatment plan (Jira et al., 2020). Studies showed that long-term use of opioids to treat chronic pain incurs serious risks for the individual, including misuse, abuse, addiction, overdose, and death, as well as creating economic, social, and cultural impacts on society, as a whole (Majeed et al., 2019).



Chronic pain is a challenging health condition for the primary care providers. Pain is a common occurrence in humans, especially in those suffering from chronic illnesses (Tang et al., 2019). It is essential to evaluate the sustainability and suitability or the quality of being right or appropriate for a particular person, purpose, or situation of an intervention (Tang et al., 2019). Discuss with the patients' their treatment option based on their level of pain and their current conditions (Mikkonen et al., 2023). We all process and handle pain differently. Patient assessment is crucial to get to know the individual's health needs without judgement and preconceived ideas of what they are going through. Empathy is very much needed in the healthcare system. People with chronic pain are often time feel misunderstood and judged. Therapeutic listening and empathy will go a long, long way with people in pain. Educate, encourage, and guide patients to make educated choices in choosing their treatment plan (Tang et al., 2019).

Summary

- Chronic pain is a debilitating condition that affects every aspect of human lives: physical, mental, psychological, financial and relationships.
- There is a significant number of individuals affected by chronic pain in the U.S., about 100M.
- There are available alternative treatment for chronic pain such as Non-pharmacological treatment modalities (NPTMs).
- NPTMs are known to be effective, economical, fewer side effects, and safe.
- Educating providers and nurses about NPTMs will provide treatment options for the patients.

Closing Remarks

- Thank you very much for your participation
- Thank you for the Administration of this practice setting
- Thank you for my content experts
- Thank you to the manager of this practice setting Yvette
- Conclude presentation

Posttest Questions

- Your participation in this posttest is voluntary
- No names or identity reveal
- Please write the same number you used during pretest
- Please answer all questions the best you can
- You will have 15 minutes
- When done, place in designated envelope

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Appendix I: Evaluation of the Staff Education Program by Participants

Objective Statement	Were the objectives met? Please circle.	
1.Discuss the definition of chronic pain, and the incidence rate of chronic pain in the US.	Yes No	
2. Describe the usual or prevalent treatment of chronic pain such as pharmacological treatment modalities, and the non-pharmacological treatment modalities as alternative treatment for chronic pain.	Yes No	
3. Discuss the problem identified in this DNP project, identify the different side effects of pharmacological treatment such as analgesics and opioids.	Yes No	
4. Discuss the NPTMs as alternative for chronic pain management	Yes No	
5. Describe the different of NPTMs	Yes No	
6. List measures to promote NPTMs in primary care practice.	Yes No	
7. Discuss ways to support or empower patients with chronic pain condition.	Yes No	

Appendix J: Content Expert Letter

Date

Dear Content Expert,

Thank you for agreeing to participate as a content expert for my Walden University Doctor of Nursing Practice project entitled *Education for Nursing and Primary Care Providers on Non-Pharmacological Management of Chronic Pain.* You will find documents for your review in the enclosed packet, together with this letter. At the top of each document are instructions for completing the form. A numeric number has been assigned to each content expert to ensure anonymity. No names will be on any of the forms. The documents have been delivered to you by another person to ensure anonymity. Once you have completed the packet, please put the material in the enclosed envelope with no identification and another individual will collect the packets. Please feel free to contact me at any time by phone or email. If needed, my faculty member Dr. Moon can be reached by email at joan.moon@mail.waldenu.edu or phone at 419-308-3714.

Contents of Packet:

1. Content Expert Letter
2. Literature Review Matrix
3. Curriculum Plan
4. Curriculum Plan evaluation by Content Experts
5. Pretest/Posttest
6. Pretest/Posttest Content Validation by Content Experts

Sincerely,

Ma Teresita G. De Jesus, MSN-Ed, APRN, DNP-student

Appendix K: Evaluation of the Staff Education Project, Process, and My Leadership by Content Experts

Title of Project: Education for Nursing and Primary Care Providers on Non-Pharmacological Management of Chronic Pain**.**

Student: Ma Teresita De Jesus

Content Expert: (A, B, C)

Thank you for completing the Summary Evaluation on my project. Please complete and send anonymously via interoffice mail to:

I. Content Expert Approach

a. Please describe the effectiveness (or not) of this project in terms of communication, and desired outcomes etc.

b. How do you feel about your involvement as a content expert member for this project?

c. What aspects of the content expert process would you like to see improved?

II. There were outcome products involved in this project including an educational curriculum and pre/ posttest.

a. Describe your involvement in participating in the development/approval of the products.

b. Share how you might have liked to have participated in another way in developing/approving the products.

III. The role of the student was to be the leader of the project.

a. As a leader how did the student direct you to meet the project goals?

b. How did the leader support you in meeting the project goals?

IV. Please offer suggestions for improvement.

Appendix L: Curriculum Plan Evaluation by Content Experts Summary

Met = 1 Not Met = 2

Objective Number and Statement	Evaluator A	Evaluator B	Evaluator C	Average Score
1.Discuss the definition of chronic pain, and the incidence rate of chronic pain in the US.	1	1	1	1
2. Describe the usual or prevalent treatment of chronic pain such as pharmacological treatment modalities, and the non-pharmacological treatment modalities as alternative treatment for chronic pain	1	1	1	1
3. Discuss the problem identified in this DNP project, identify the different side effects of pharmacological treatment such as analgesics and opioids.	1	1	1	1
4. Discuss the NPTMs as alternative for chronic pain management	1	1	1	1
5. Describe the different types of NPTMs.	1	1	1	1
6. List measures to promote NPTMs in primary care practice.	1	1	1	1
7. Discuss ways to support or empower patients with chronic pain condition.	1	1	1	1

Appendix M: Summary of the Evaluation of the Staff Education Program by Participants

"Met = 1" "Not Met" = 2

Objective Statement	Response	Number
1.Discuss the definition of chronic pain, and the incidence rate of chronic pain in the US.	Met Not Met	10 0
2. Describe the usual or prevalent treatment of chronic pain such as pharmacological treatment modalities, and the non-pharmacological treatment modalities as alternative treatment for chronic pain.	Met Not Met	10 0
3. Discuss the problem identified in this DNP project, identify the different side effects of pharmacological treatment such as analgesics and opioids.	Met Not Met	10 0
4. Discuss the NPTMs as alternative for chronic pain management.	Met Not Met	10 0
5. Describe the different types of NPTMs	Met Not Met	10 0
6. List measures to promote NPTMs in primary care practice.	Met Not Met	10 0
7. Discuss ways to support or empower patients with chronic pain condition.	Met Not Met	10 0
Average Score		1
Comments: Chronic pain is a great topic to teach and educate the nurses and providers. Very informative and comprehensive presentation. The education program will surely help us to understand and treat our patients better. The availability of non-pharmacological treatment modalities for chronic pain is great information to share. Thank you for the valuable information you just shared.		

Appendix N: Pre/Posttest Content Expert Validity Index Scale Analysis

Rating on X-Items Scale by Three Experts on a 4-point Likert Scale

Items	Expert 1	Expert 2	Expert 3	Total Item Rating
1.	1	1	1	1
2	1	1	1	1
3	1	1	1	1
4	1	1	1	1
5	1	1	1	1
6	1	1	1	1
7	1	1	1	1
8	1	1	1	1
9	1	1	1	1
10	1	1	1	1
11	1	1	1	1
12	1	1	1	1
S-CV1				1

Continue for as many items as you have.

1. Review each CE individual item score from Appendix F. Any item that gets a 1 or 2, gets a 0 on this form. Any score that is a 3 or 4 gets a 1 on this form.
2. Add all three of the CEs scores horizontally and divide by the number of CEs to achieve the I-CVI and put in the Total Item Rating column for that item.
3. Add the Total Item Ratings vertically and divide by the number of test items.

4. The S-CVI should have a score between 0 and 1.
5. Note: Acceptable validity score should be between .78 and 1. Otherwise any items that are poorly rated need to be revisited.

S-CVI/UA, scale-level content validity index, universal agreement calculation method Adopted from Polit, D. F., & Beck, C. T. (2006). The content validity index

Appendix O: Summary Evaluation Results of the Staff Education Project by Content Experts

Title of Project: Education for Nursing and Primary Care Providers on Non-pharmacological management of chronic pain.

Student: Ma Teresita De Jesus

Content Expert: (A, B, C)

I. Content Expert Approach

Please describe the effectiveness (or not) of this project in terms of communication, and desired outcomes etc.

Evaluator A	Evaluator B	Evaluator C
The project is well planned and thought of. Tess is on top of things in terms of communicating the progress of the project and open for suggestions and recommendations. Curriculum plan is comprehensive and easy to follow. The pretest/posttest also reflects the necessary informations relevant to the project. Overall, the open communication leads to a desired outcome.	Chronic pain is a common condition in our practice. It is a timely & significant project in the primary and even in acute setting. The curriculum plan, pretest/ posttest, and evaluation communicate the project well. It is succinctly and clearly presented. The learning objectives are concise and achievable.	The project clearly present the problem of chronic pain and the alternative for treatment such as Non-pharmacological treatment modalities. Educating the provider and nurses will improve their knowledge in managing chronic pain. I think the project communicated the message well and the desired outcome proved the effectiveness of the project.

How do you feel about your involvement as a content expert member for this project?

Evaluator A	Evaluator B	Evaluator C
Projects like this are great contribution to healthcare. I don't mind getting involve in project that will benefit the patients in general.	Although I have a very busy schedule, I took the role as a content expert because I have known and work with Tess for a while now. I know her	As a content expert, I also learned from this project. Every project is indeed an opportunity for learning and improvement. The issue of chronic pain has

	passion for her work and dedication for her patients. It is an honor to be part of this project.	been a dilemma to health-care that contributed to the problem of opioids abuse and addiction. This project is beneficial in dealing with chronic pain in practice.

II. There were outcomes products in this project including an educational curriculum and pre/posttest.
   a. Describe your involvement in participating in the development/approval of the products.

Evaluator A	Evaluator B	Evaluator C
Tess gave me a copy of the Curriculum plan and pre-test/posttest for evaluation. I find her work comprehen sive and well organized. I gave a few suggestion and pointers on how to improved the presentation. But mostly the whole pro-ject is the student's work and ideas.	To be honest, I did not contribute in the development/approval of the products. My main role was to evaluate the curricu-lum plan and pretest/post test that was organized by the student. I gave my evaluation based on the student's work.	The Content Expert packet was given to me for review and evaluation. As far as I knew, the products were already approved by the student's faculty before I reviewed them. The out-come products were well written and articulated.

   d. Share how you might have liked to have participated in another way in developing/approving the products.

Evaluator A	Evaluator B	Evaluator C
As a content expert, I think my involvement in the pro-ject of the student is just right and appropriate. Giving feedback & sugges-tions in the student's work is sufficient contribution.	I will not have it any other way but to support, guide and give my feedback on the student's work as a content expert.	I am contented with the amount of participation and involvement I have with Tess project.

III. The role of the student was to be the leader of the project.
As a leader how did the student direct you to meet project goals?

Evaluator A	Evaluator B	Evaluator C
Tess is open-minded leader who welcomes feed-back, suggestions and reco-mmendations well. She do not hesitate to ask questions and seek guidance when she needs it.	As busy as I am with work and personal life. I appre-ciate that Tess is on top of her project. She sends emails to remind me of deadlines and submissions.	The expectations for being a content expert was made clear to me by the student from the beginning.

How did the student support you in meeting the project goals?

Evaluator A	Evaluator B	Evaluator C
Tess discussed with me beforehand the topic of her project, what is it all about, and what does she want to achieve. When I received the content expert packet, it was easier for me to comprehend what I am dealing with and looking into.	Debriefing of the student's project in the beginning was a good way to be familiar with the project. Since I deal with chronic pain in my own practice, it is an interesting topic for me. The content expert packet is well organized and easy to read.	The student was good at Making appointments and seeking my availability. She plans ahead and good at making schedules. She provided a packet which is organized and comprehen-sive.

IV. Please offer suggestions for improvement.

Evaluator A	Evaluator B	Evaluator C
The project is significantly good for the patients with chronic pain. I am honored to be part of this work and the success of the student. My suggestion for improve-ment are minor stuff like my feedback in the curricu-lum plan and pretest/	As a content expert, I like the overall flow of the project and I cannot wait to see the outcome of the implementation. Please keep me posted and congratulations for a job well-done.	Projects always entails hard works and patience. I know that Tess had been working on this project for the completion of her DNP degree and I am glad that it is finally coming through. When I reviewed her work, I thought that it

posttest. In general, the project is well thought of and carefully written.		is good and organized. This specific topic is beneficial to many patients particularly our veterans. Except for minor feedback, I do not have more suggestions to make. Congratulations!

Moon/Mar 2022