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SELF-MANAGEMENT PROGRAM FOR HISPANIC PATIENTS

**Implementation of a Self-Management Program for Hispanic Patients with Chronic Non-
Cancer Pain**

Genesis M Ladinez Velez, BSN, RN-BC

A DNP project submitted in partial fulfillment of the requirements for
the degree of Doctor of Nursing Practice

Sylvie Rosenbloom, DNP, APRN, FNP-BC, CDCES, CME; Project Faculty Advisor

Joan Lane, MPH federally qualified health center in the Northeast, Project Mentor

Sacred Heart University Davis & Henley College of Nursing

May 2022

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This is to certify that the DNP Project Final Report by

Genesis M Ladinez

has been approved by the DNP Project Team on

04/05/2022

for the Doctor of Nursing Practice degree

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Practice Mentor: Joan Lane, MPH federally qualified health center in the Northeast

Abstract

Background: Chronic non-cancer pain (CNCP) is a major public health issue that affects over 100 million Americans. From January 2019 to September 2021, the number patients seen at a Federally Qualified Health Center (FQHC) was 41, 974 of these 40.12% were Hispanic. Of the total patient population at this FQHC, 904 patients had preexisting opioids prescriptions for CNCP. The Hispanic population represents 41.15% of the preexisting prescriptions. Nonopioid alternatives to manage CNCP have been shown to decrease pain and improve functioning similarly to opioids.

Purpose: To implement a CNCP SMP at a FQHC in the Northeast. This quality improvement (QI) project aimed to educate Hispanic patients about non-opioid alternatives and assess their quality of life (QoL) and pain levels.

Setting and Methods: Due to COVID-19, participants attended the SMP via zoom. Participants included Hispanic patients who experience CNCP and were prescribed opioids. The Defense and Veterans Pain Rating Scale (DVPRS) was used to assess pain prior to implementing the project. A post-event satisfaction survey was developed by the DNP project leader where participants were asked four questions to gather qualitative data.

Results: Six patients participated in the SMP with one patient attending all sessions. The pre-implementation DVPRS pain rating mean score for interference with usual activity was 7.63 and the last post-implementation assessment mean was 6.69. All participants agreed they felt supported knowing they were not alone experiencing CNCP.

Conclusion: Implementation a CNCP SMP at a FQHC in the Northeast benefitted patients thus improving their QoL and pain management skills.

Keywords: chronic non-cancer pain, quality of life, self-management programs, pain scale, self-efficacy, and Hispanics.

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- Joan Lane, MPH federally qualified health center in the Northeast; my Project Mentor. She was very supportive throughout the entire project implementation. Her ability to work with other stakeholders made this QI project a success.

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Implementation of a Self-Management Program for Hispanic Patients with Chronic Non-Cancer Pain

Phase 1: Problem Identification, Development of Clinical Question, and Evidence Review

Background and Significance of Problem

Chronic non-cancer pain (CNCP) is a major public health issue that affects over 100 million American adults and is one of the most common reason adults seek medical care (CDC, 2018). Chronic non-cancer pain can affect mobility and daily activities, causing many patients to develop anxiety, depression, opioid misuse, poor perceived health, and reduced quality of life (QoL) (Genova et al., 2020). In 2016, an estimated 50 million adults in the United States were living with CNCP many of which were prescribed opioid medications (CDC, 2018).

According to a 2015 National Survey on Drug Use and Health, 91.8 million adults in the United States were found to use prescription opioids; among them, 11.5 million misused the drugs while 1.9 million developed a substance use disorder (Han et al., 2015). In this survey, the respondents indicated the main motivation for the drug misuse was physical pain relief (Han et al., 2015). From 2013 to 2016, the United States was the largest per-capita consumer of opioids in the world, privately insured opioid abuse or dependence charges increased from \$72 million to \$722 million (Busse et al., 2018). The effects of opioids on chronic pain are associated with small improvements in pain, physical functioning, and sleep quality (Busse et al., 2018). Additionally, opioids are associated with less pain relief during longer trials because of opioid tolerance, physical dependence due to long-term opioid therapy, addiction, overdose, and death (Busse et al., 2018). Nonopioid alternatives to manage CNCP have been shown to decrease pain and improve functioning similarly to CNCP managed with opioids (Busse et al., 2018).

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One of the ways Hispanics cope with pain is by remaining stoic and thinking it is their fate to experience that pain (Hollingshead et al., 2016). Many consider tolerating the pain is a sign of dignity and courage as it reinforces their faith towards God (Hollingshead et al., 2016). Even though frequent use of prayer/hoping was associated with greater psychological well-being, it also demonstrated Hispanic might not communicate their true level of pain and are less likely to consult a physician for acute or chronic pain (Torres et al., 2017). Other potential explanations for this are the reliance on self-care for pain management, language barrier, limited understanding about effective treatment, and negative experiences with US medical providers (Torres et al., 2017). These are a strong predictor efficient chronic pain treatment (Hollingshead et al., 2016). Delaying pain management can lead to chronic pain and disability. A self-management program (SMP) can be offered to Spanish speaking patients with CNCP to educate participants on these non-opioid modalities and increase their self-efficacy and self-management skills.

Local Problem

From 2018 to 2019, the number of opioid prescriptions written at a FQHC was 1554 for a total of 647 patients. From this data, 25 patients received more than 8 opioid prescriptions. Most common diagnoses for opioid prescribing at this FQHC were musculoskeletal pain, chronic pain syndromes, inflammatory, and neuropathic pain.

From January 2019 to September 2021, the number patients seen at the FQHC was 41, 974 of these 40.12% were Hispanic. Of the total patient population, 904 patients had preexisting opioids prescriptions for CNCP. The Hispanic population represents 41.15% of the preexisting prescriptions.

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In 2021, the CNCP SMP program was presented for English-speaking patients and found to be beneficial. Participants of that program enjoyed it and increased their knowledge of non-opioid modalities to manage CNCP. The FQHC currently does not have a SMP for Hispanic patients with CNCP; thus, a SMP for these patients could be beneficial, increasing their knowledge of non-opioid modalities for the management of CNCP

Organizational Priority

This FQHC, partnered with a small private university which has received a \$2.4-million grant from the Health Resources & Services Administration (HRSA) for the College of Nursing's project called *Alternatives to Opioids for Pain (ALTOP)*. This is funded under the Advanced Nursing Education Workforce (ANEW) Program and the partnership has the goal to educate the next generation of family nurse practitioner (FNP) students in the use of best practices when treating patients with CNCP. The FQHC is part of this grant and one of their quality improvements (QI) projects is to provide self-management education for patients who experience CNCP.

Clinical (PICOT) Question

The PICO(T) method was used to formulate the primary search question: In the Hispanic population experiencing CNCH (P), do self-management program on pain management techniques (I) compared with no module (C) affect quality of life and pain intensity.

Evidence Review

External Evidence

Joypaul and colleagues (2019) conducted a systematic review of 27 studies investigating the impact of education for patients with CNCP. Participants were educated on multi-disciplinary interventions on self-management, and it was found that education was likely to

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reshape beliefs and behaviors of people with CNCP (Joypaul et al., 2019). The most impactful strategies were physical activity followed by cognitive behavioral therapy (Joypaul et al., 2019). This review encouraged health care providers to educate patients about the long-term benefits of a CNCP SMP where an interdisciplinary team highlights the positive impact of non-pharmacological interventions. (Joypaul et al., 2019).

Tang and colleagues (2019) provided community-dwelling older adults with pain management skills to promote health and improve management of chronic pain and QoL. This study focused on evaluating the effectiveness of nonpharmacological modalities for pain management. The nonpharmacological interventions assessed were self-management skills, acupuncture, qigong, periosteal stimulation, and Tai Chi (Tang et al., 2019). These interventions were shown to be effective in decreasing pain levels and in improving QoL of the study participants with acupuncture and guided imagery being the most effective (Tang et al., 2019).

Brain and colleagues (2019), in a systematic review, aimed to summarize the impact of nutrition interventions in participants experiencing CNCP. Twenty-three studies were used in this meta-analysis identifying that diet (vegetarian, Mediterranean, anti-inflammatory, FODMAP, and/or gluten free diet), altered specific nutrients (reduced energy intake to increase fiber and protein), and supplement-based interventions (omega-3 fatty acids, antioxidants, amino acid, multivitamin and/or mineral supplements) caused significant reductions in pain scores (Brain et al., 2019). The altered dietary pattern significantly reduced systemic inflammation leading to decreased pain (Brain et al., 2019).

Schmid and colleagues (2019) developed an 8-week feasibility and pilot randomized controlled trial. They developed a yoga program and assessed its benefits in a community-based pain clinic. The chosen population had chronic pain for more than 10 years (Schmid et al., 2019).

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Post-implementation of the yoga program, pain severity and interference on daily activities was measured with the Brief Pain Inventory (BPI) and significantly decreased by 14% as compared to pre-implementation (Schmid et al., 2019).

An internet-based patient self-management education program was implemented to assess if it would improve CNCP (Rod, 2016). The observational study enrolled 200 patients with CNCP with stable pain levels and who were not able to afford noninsured treatment modalities (Rod, 2016). Participants were sent educational postings about exercise, nutrition, mindfulness meditation, disease management methods, evidence-based supplements, daily relaxation exercises, and overall self-management methods 15 minutes per day for six months and were encouraged to chart activity logs which were reviewed by physician at follow-up visits (Rod, 2016). Compliance was encouraged with weekly emails and phone calls. This program reported a reduction of pain from 40% to 25% after treatment, depression reduced from 30% to 10%, anxiety decreased from 25% to 15%, and QoL improved from 25% to 60% (Rod, 2016). These low-cost self-management techniques disseminated to a large population with CNCP effectively reduces pain intensity and improved QoL (Rod, 2016).

Internal Evidence

The FQHC provided a SMP on pain management for English speaking patients with CNCP which was well-received by those who attended. The FQHC has asked to re-create the SMP for the Hispanic community to help educate them about non-pharmacological approaches to CNCP management.

Evidence Synthesis

A search was conducted utilizing the following databases: CINAHL Complete and MEDLINE. Key words used for search were *chronic non-cancer pain, quality of life, self-*

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management programs, pain scale, self-efficacy, and Hispanics. The Melnyk Level of Evidence Hierarchy was used to determine the level of evidence of the articles (Melnyk & Fineout-Overholt, 2019). Limitation parameters were set to narrow the search and focus on the topic. Search was filtered using peer reviewed, academic journals, English language only, and articles published between 2015 to 2021. The evidence review yielded thirteen articles which were utilized for this project. Four of the articles were level I: systemic review or meta-analysis and four level V: systemic review of qualitative or descriptive studies. Most articles had research on pain improvement as well as the correlation with QoL. See table 1 and 2 below.

X (copy symbol as needed)	1	2	3	4	5	6	7	8	9	10	11	12	13
Level I: Systematic review or meta-analysis	X	X							X		X		
Level II: Randomized controlled trial				X								X	X
Level III: Controlled trial without randomization										X			
Level IV: Case-control or cohort study													
Level V: Systematic review of qualitative or descriptive studies			X		X	X	X						
Level VI: Qualitative or descriptive study, CPG, Lit Review, QI or EBP project								X					
Level VII: Expert opinion													

Table 1. Evidence Synthesis

	1	2	3	4	5	6	7	8	9	10	11	12	13
Quality of life	✓	✓	↑	↑	✓	NE	NE	NE	NE	↑	NE	NE	✓
Depression	↓	NE	↓	NE	NE	NE							
Pain improvement	✓	✓	✓	✓	–	✓	✓	✓	✓	✓	✓	✓	✓
Self-efficacy	NE	NE	NR	✓	NE	NE	NE	NE	NE	↑	NE	NE	NR
Anxiety	↓	NE	NE	NE	NE	✓	NE	✓	NE	↓	NE	✓	NE

Table 2. Outcome Evidence Synthesis

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Phase 2: Project Plan

Project Planning

The FQHC provided a SMP on pain management for English speaking patients with CNCP which was well-received by those who attended. The FQHC has asked to re-create the SMP for the Hispanic community to help educate them about non-pharmacological approaches to CNCP management.

Key Stakeholders

Sylvie Rosenbloom, DNP, APRN, FNP-BC, CDCES, CME, was academic partner and DNP project faculty advisor. XXX, MPH is the project manager at the FQHC and liaison between FQHC and the university faculty. XXX, BS ALTOP Project Coordinator, attended the SMP classes. XXX, Health Information and Quality Management Specialist, assisted on the data collection from FQHC. XXX, IT Support Coordinator assisted on delivering the tablets for the patients. XXX, DNP, APRN, FNP-BC, who presented the first CNCP SMP in English. XXX, DNP, APRN, FNP-C, XXX, DNP, APRN, FNP-BC, XXX, MS, RDN, and XXX, APRN, DNP, whose presentations were presented in the CNCP SMP in 2021. XXX, BSN, RN, and XXX, BSN, RN who translated and edited the SMP classes into Spanish and taught one class each. Other stakeholders are Health care providers from the FQHC and patients who agreed to the part of the CNCP SMP.

Project Goals

The goal is to implement a SMP program for Hispanic patients with CNCP to increase their knowledge of non-opioid modalities for the management of CNCP

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Framework

The Plan Do Study Act (PDSA) model was selected as a framework to create the evidence into practice. The purpose of the PDSA method assesses whether an intervention is effective or accomplishes the desired goal (IHI, 2016). It also provides a structured experimental learning approach to test changes within an adequate timeframe. The model consists of a four-step model to improve a process where interventions are analyzed often to optimize the implementation process (Christoff, 2018). Plan refers to the process of observation, including a plan for collecting data. Do refers to the beginning of the analysis or test on a small scale, documenting problems and unexpected observations, and carrying out the plan. Study focuses on the process of data analysis and summarize the results (IHI, 216) Act consists of refining the changes based on what was learned from the previous steps (IHI, 2016). Figure of the model can be found in Appendix B.

The first PDSA cycle of the QI project began in March 2021. In the plan phase, an outline was created to begin research and develop a PICO question. Do phase was focused on the research to find enough evidence to create a proposal presentation. Study was the analysis of the evidence review revealing the benefits of providing self-management education modules for patient who experience CNCP. Act was the proposal presented on May 5, 2021, which focused on educating stakeholders about the importance to address the deficits of a CNCP. In this cycle, it was agreed that a SMP can be implemented at the FQHC to assess the benefits for patients with CNCP. It was also asked that participants receive more assistance with connecting to zoom and practicing connecting prior to the beginning of the SMP.

The second cycle of the PDSA model began in September 2021. During this time, plan constituted an outline focused on reaching out to health care providers, patients, and creating the

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educational modules prior to the implementation process. Do phase, focused on sending emails to health care providers with the information about the education modules, creating pamphlets and modules for patients, and calling patients to build knowledge and commitment to this SMP. Engagement was established by keeping stakeholders informed on the project process via phone calls, emails, and zoom meeting. Study phase focused on assessing the willingness of potential participants to be part of the QI project. They were called or emailed at least two times to assure their commitment and answer all questions. Six participants agreed to attend to CNCP SMP.

Act phase was started in October 2021 and completed in November 2021. This was constructed on 4 SMP CNCP classes and one introduction class that was opened to answer any concerns for patients and other stakeholders. During these weekly classes, the data was collected by implementing the defense and veterans pain rating scale (DVPRS). Pre and post assessments consisted of gathering quantitative and qualitative data. The PDSA model served as a theoretical framework, guiding the implementation and evaluation of the CNCP SMP. The introduction zoom class was on October 13, 2021; thus, patients were called October 11, 2021, to assure they knew how to connect to zoom and gather baseline data. Post assessment was done 48 hours after a class was taught; this was performed weekly to gather quantitative and qualitative data. The last day participants were called to gather data was November 12, 2021. Most classes were interactive, and participants talked about their personal experiences managing pain.

Phase 3: Project Design and Methodology

Design

This evidence-based QI project was implemented starting on September 2021, where potential Spanish speaking participants were called, and a definitive number of participants were gathered by the end of September. During the pre-implementation period (September 22, 2021 –

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October 12, 2021), patients were informed about the class schedule and provided with tablets if patients did not have one to connect via zoom. From October 13, 2021 through November 10, 2021, classes were taught.

Setting

Due to COVID-19, the QI project was offered via zoom. The participants were from the FQHC which has six different locations in the Northeast and is an incorporated not-for-profit entity.

Participants

There were several participants involved in the formal implementation of the QI project. The project manager from the FQHC, Project Coordinator ANEW ALTOP, and IT team assisted on organizing and getting the SMP started. The requirements to be part of this project were to be Spanish speaking patients at the FQHC with CNCP taking opioid medications, and who desired to be part of a SMP. Medical conditions varied from autoimmune disease, back pain, neuropathic pain, and history of fractures. Six patients signed up for this SMP and an average of 5 patients attended the classes.

Intervention/Procedures

The implementation of the QI project occurred in sequential steps. The six patients who signed up to be part of this SMP QI project were called before every class and two days after attending a class to assess their pain. For patients who received tablets, the DNP project director, practiced connecting to zoom prior to the first class. This helped to assist patients with technological concern. For the preassessment, patients were called on October 12, 2021, the class was taught on October 13, 2021, and follow up call was on October 15, 2021. This pattern was followed consecutively until the last class on November 10, 2021. With every call, patients' pain was assessed with the DVPRS, and feedback was gathered with a subjective questionnaire

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created specifically for this QI project. (See Appendix C and Appendix D) In Figure 3 below, the process map is displayed:

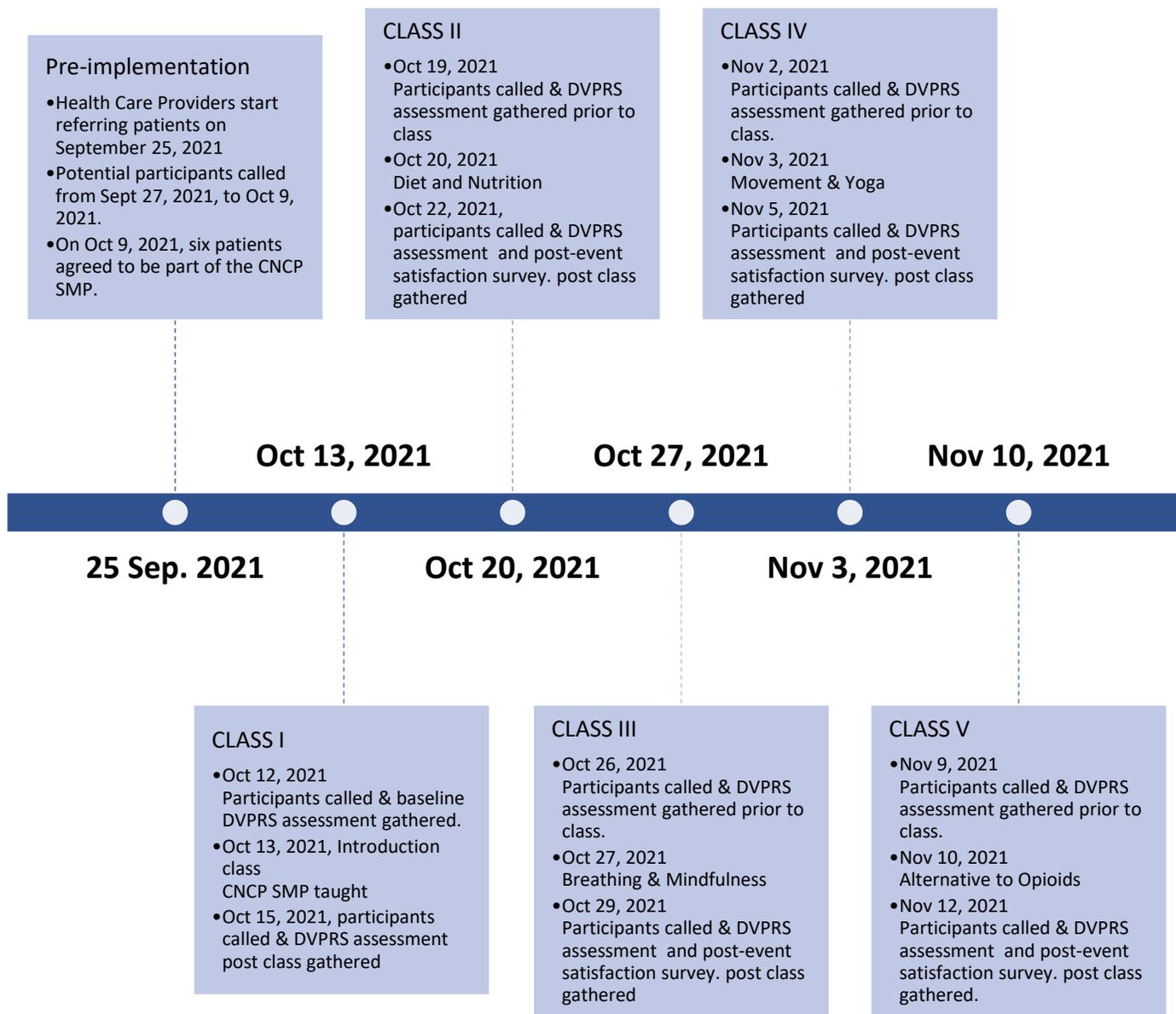


Figure 1. Process map: implementation CNCP SMP

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Ethical Approvals

The project met the criteria for QI with no risk or potential harm to human subjects and was exempt from review by the Institutional Review Board (IRB) at the university. This project was also approved by the FQHC's Medical Director. (See Appendix E).

Phase 4: Project Implementation, Evaluation, Outcome, Results Project Implementation

Evaluation Plan

Instruments

The Defense and Veterans Pain Rating Scale (DVPRS). The DVPRS consists of a numerical rating scale, which is more descriptive with word descriptor that refers to each pain level as color coded bars. Mild pain (1 to 4, green), moderate pain (5 to 6, yellow), and severe pain (7 to 10, red) pain (Polomano et al., 2016). The color codes were created to support quality improvement and patient safety, which can enhance clinical decision making for providers (Polomano et al., 2016). Facial expressions are also part of this scale providing visual cues. Lastly, this scale assesses other aspects that can be affected by pain such as usual activity, sleep, mood, and stress which affect QoL (Polomano et al., 2016). Participants had the opportunity to see the scoring scale with the introduction calls and explained when called to assess their pain. (See Appendix D).

Post-Event Satisfaction Survey. This survey was developed by the DNP project director. Participants were asked four questions to gather qualitative data. This form was intended to capture what the participants learned from the classes as well as their perception about the taught modalities and experience. This information provided feedback for the DNP project director, allowing for pertinent issues to be addressed in a timely manner. (See Appendix C).

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Data Processing and Analysis

Data Collection Plan. Pre- and post-implementation data was obtained via phone call by using the DVPRS Pain Rating Scale. Additionally, to gather participant satisfaction qualitative data, the 4-question survey was administered. All gathered data were reviewed and entered Excel.

Data Analysis Plan. Results were charted in Microsoft Excel weekly to enable rapid calculation of DPVRS average for each week.

Results

The total number of participants recruited for this project included six Spanish speaking adults with CNCP who were taking opioids. The desired number of participants was 11 to 12. Participants were recruited by health care providers at the FQHC. The QI project had 6 participants, obtaining only 50% of our target participant (n= 6).

The project was implemented over five weeks. All participants were committed to attend all classes. However, the participation was not consistent. The graph and table below demonstrate the percentage of participants who attended to the classes each week.

Table 3

<i>Number of Participants</i>	<i>N= 6</i>
	Participation Percentage
week 1	100%
week 2	66.7%
week 3	66.7%
week 4	83.3%
week 5	66.7%

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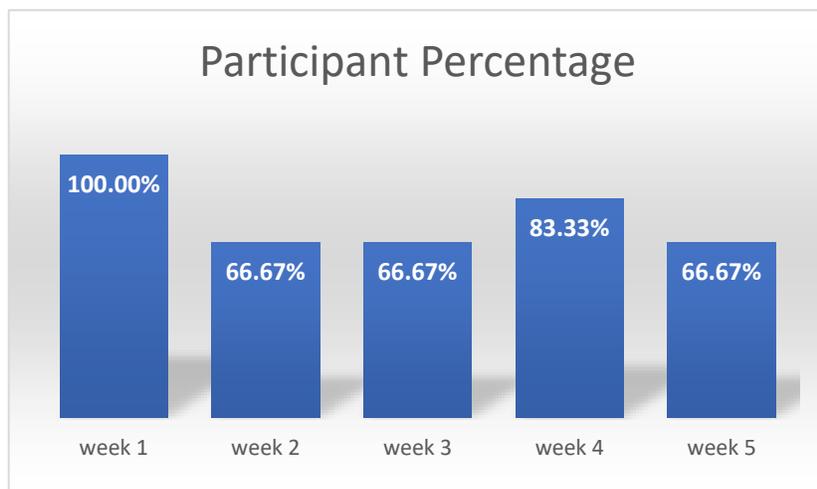


Figure 2. Participation averages for CNCP SMP

The collection and data analysis scores were determined per week. To minimize the error margin, the results were calculated only with the number of participants who presented at each class. Participants who were not present during that week, were not considered when calculating the data. The first week focused on the introduction and explanation of the program and the DVPRS pain scale that was used during the SMP. Participants were educated about the DVPRS pain assessment tool as a numerical rating scale, the functional word descriptors, color coding, and pictorial facial expressions matched to different pain levels (Polomano et al., 2016). They were explained 0 is no pain, 1 is hardly noticeable pain, 2 is noticeable pain, but does not interfere with activities, 3 is somewhat distracting pain, 4 is distracting pain, but does not affect normal activities, 5 is pain interrupts some activities, 6 is hard to ignore pain, avoidance of daily activities, 7 is pain is the main focus of attention, prevents daily activities, 8 is awful pain, difficult to do anything, 9 is unbearable pain, cannot do anything, and 10 is as bad as pain can be, nothing else matters (Polomano et al., 2016).

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The mean score of the participants DVPRS in pre-implementation was 7.63 compared to 7.46 post-implementation, an improvement of 2.19%. It was noted that all patients were within the scale of severe pain scoring from 7-10. The three areas with a slight improvement were usual activity, sleep, and stress. This is demonstrated below in table 4 and figure 3.

Table 4| First week. DVPRS Pain Rating Scale scores

Introduction	Subject 1		Subject 2		Subject 3		Subject 4		Subject 5		Subject 6		Total Mean	
	pre	post	Mean pre	Mean post										
Usual Activity	9	9	10	10	9	8	9	9	9	9	9	9	9.17	9.00
Sleep	6	7	8	7	8	8	8	7	8	7	8	7	7.67	7.17
Mood	6	6	6	6	5	6	7	7	7	7	8	8	6.50	6.67
Stress	7	8	8	8	7	7	7	6	7	6	7	7	7.17	7.00
Mean	7	7.5	8	7.75	7.25	7.25	7.75	7.25	7.75	7.25	8	7.75	7.63	7.46
Improvement														2.19%

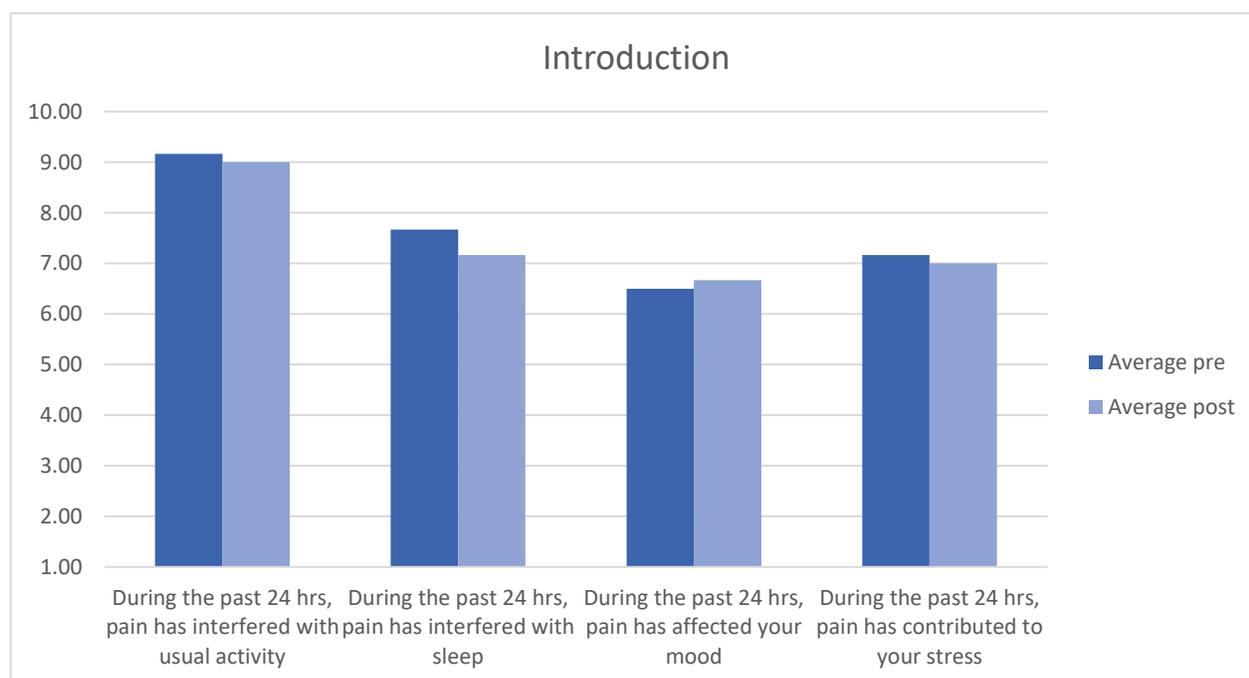


Figure 3. DVPRS Pain Scale Score Week 1

The diet and nutrition class, conducted during the second week, showed an improvement of 1.61% for general pain. The mean score of the participants DVPRS in pre-implementation was

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7.75 compared to post implementation mean score of 7.63. It was noted that all patients were within the scale of severe pain scoring from 7-10. There was some improvement within usual activity and sleep. Demonstrated below in table 5 and figure 6. Table 3

Table 5: Second week. DVPRS Pain Rating Scale scores

Diet & Nutrition	Subj 1		Subj 2		Subject 3		Subject 4		Subject 5		Subject 6		Total mean	
	pre	post	pre	post	pre	post	pre	post	pre	post	pre	post	Mean pre	Mean post
Usual Activity	9	8	10	10	9	0	10	0	9	9	8	8	9.00	8.75
Sleep	7	6	7	7	7	0	8	0	7	7	6	6	6.75	6.50
Mood	7	6	7	8	6	0	7	0	6	6	7	7	6.75	6.75
Stress	8	8	8	8	8	0	9	0	9	9	9	9	8.50	8.50
Mean pain	7.75	7	8	8.25	7.5	0	8.5	0	7.75	7.75	7.5	7.5	7.75	7.63
Improvement														1.61%

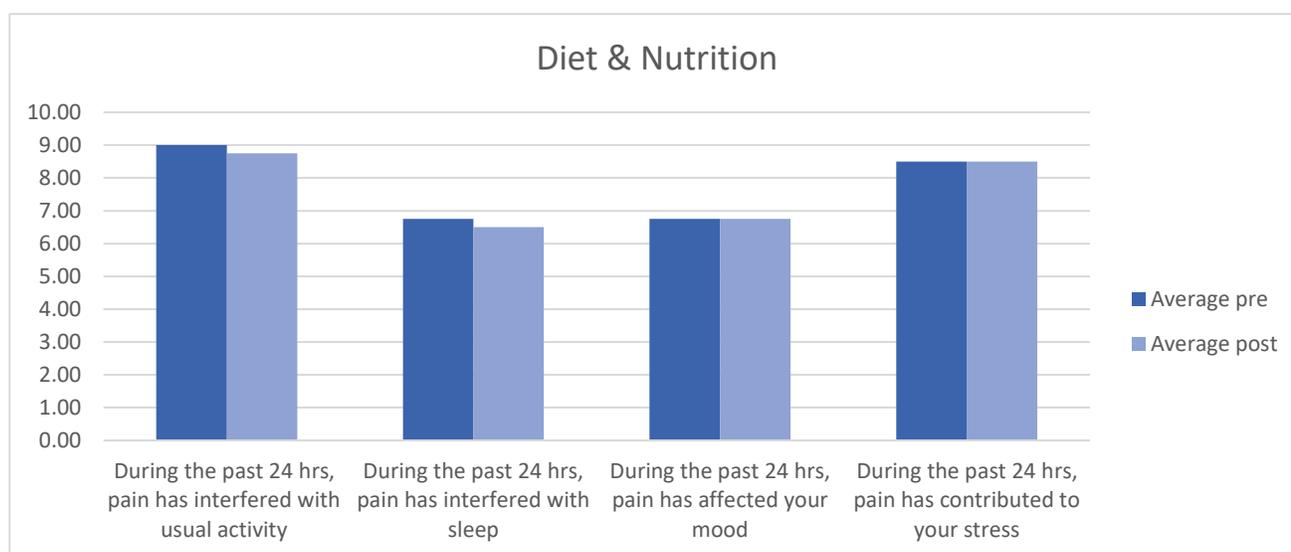


Figure 4. DVPRS Pain Scale Score Week 2

During the third week, breathing and mindfulness were taught, emphasizing on the importance of breathing consciously when walking or experiencing severe pain. The mean score of the participants DVPRS in pre-implementation was 7.38 compared to post implementation mean score of 6.83. It was noted that post implementation assessment DVPRS scores varied

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between moderate and severe category and the overall improvement of pain was 7.63%.

Demonstrated below in table 6 and figure 7.

Table 6
Third Week. DVPRS Pain Rating Scale scores

Breathing & Mindfulness	Subject 1		Subject 2		Subject 3		Subject 4		Subject 5		Subject 6		Total Mean		
	pre	post	Mean pre	Mean post											
Usual Activity	8	7	9	8	9	0	10	8	9	8	9	0	9.00	7.75	
Sleep	6	6	7	6	6	0	7	5	6	6	6	0	6.50	5.75	
Mood	5	5	6	6	6	0	6	6	6	6	7	0	5.75	5.75	
Stress	9	9	7	7	9	0	9	8	8	8	6	0	8.25	8.00	
Mean	7	6.75	7.25	6.75	7.5	0	8	6.75	7.25	7	7	0	7.38	6.81	
Improvement															7.63%

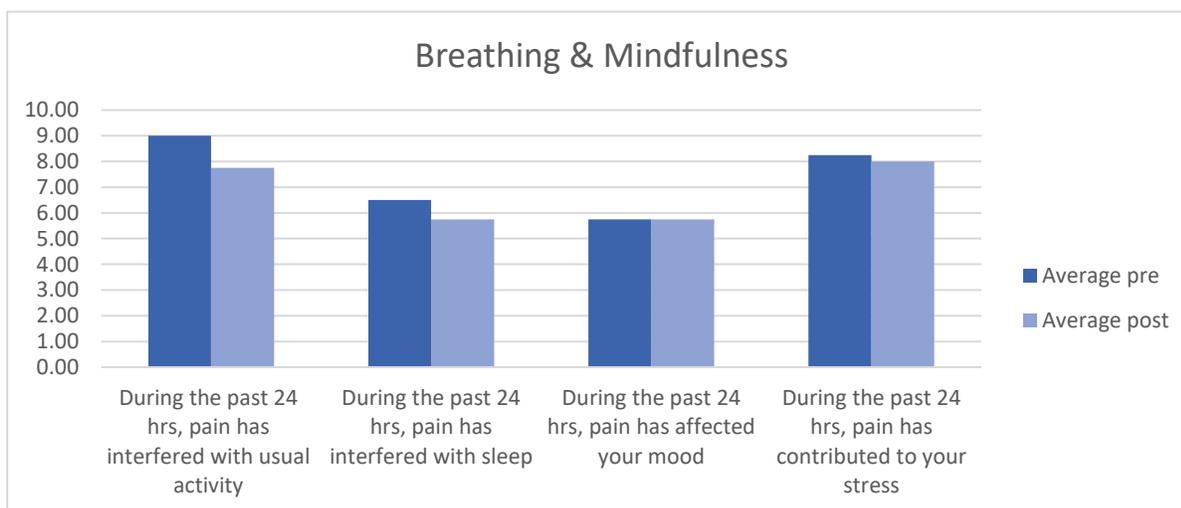


Figure 5. DVPRS Pain Scale Score Week 3

During the fourth week, movement and yoga techniques were taught. The mean score of the participants' DVPRS in pre-implementation was 6.35 compared to post-implementation mean score of 6.20. It was noted that post-implementation assessment DVPRS scores were within the moderate range and the overall improvement of pain was 2.36%. Demonstrated below in table 7 and figure 8. Sleep had the most improvement during this week.

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Table 7
Fourth Week. DVPRS Pain Rating Scale scores

Movement & Yoga	Subject 1		Subj 2		Subject 3		Subject 4		Subject 5		Subject 6		Total Mean		
	pre	post	pre	post	pre	post	pre	post	pre	post	pre	post	Mean pre	Mean post	
Usual Activity	7	9	8	8	0	0	9	8	7	7	8	8	7.80	8.00	
Sleep	6	6	8	6	0	0	7	5	5	4	5	4	6.20	5.00	
Mood	6	6	5	7	0	0	6	6	4	4	4	5	5.00	5.60	
Stress	7	7	8	7	0	0	8	8	6	5	3	4	6.40	6.20	
Mean	6.5	7	7.25	7	0	0	7.5	6.75	5.5	5	5	5.25	6.35	6.20	
Improvement															2.36%

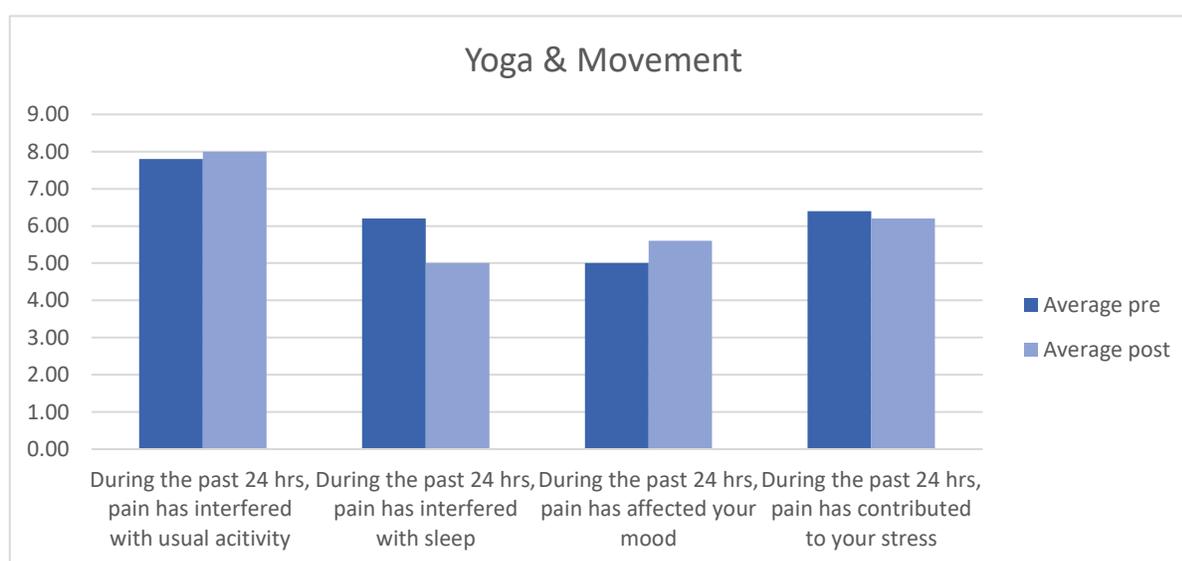


Figure 6. DVPRS Pain Scale Score Week 4

The fifth class was about complementary therapies. There was not any improvement in the DVPRS overall mean. Most participants had interference with their sleep. The mean score of the participants DVPRS in pre-implementation was 6.63 compared to post-implementation mean score of 6.69. It was noted that post-implementation assessment DVPRS scores were borderline between moderate and severe pain. The overall pain this week did not improve, it had slight worsening of 0.94%. Demonstrated below in table 8 and figure 9.

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Table 8
 Fifth Week. DVPRS Pain Rating Scale scores

Complementary Therapies	Subject 1		Subj 2		Subject 3		Subject 4		Subject 5		Subject 6		Total Mean	
	pre	post	pre	post	pre	post	pre	post	pre	post	pre	post	Average pre	Average post
Usual Activity	7	7	8	8	7	7	8	0	8	7	0	0	7.50	7.25
Sleep	5	5	6	7	7	7	6	0	5	6	0	0	5.75	6.25
Mood	5	5	5	5	6	6	6	0	7	7	0	0	5.75	5.75
Stress	8	8	8	8	8	8	7	0	6	6	0	0	7.50	7.50
Mean	6.25	6.25	6.75	7	7	7	6.75	0	6.5	6.5	0	0	6.63	6.69
Improvement														-0.94%

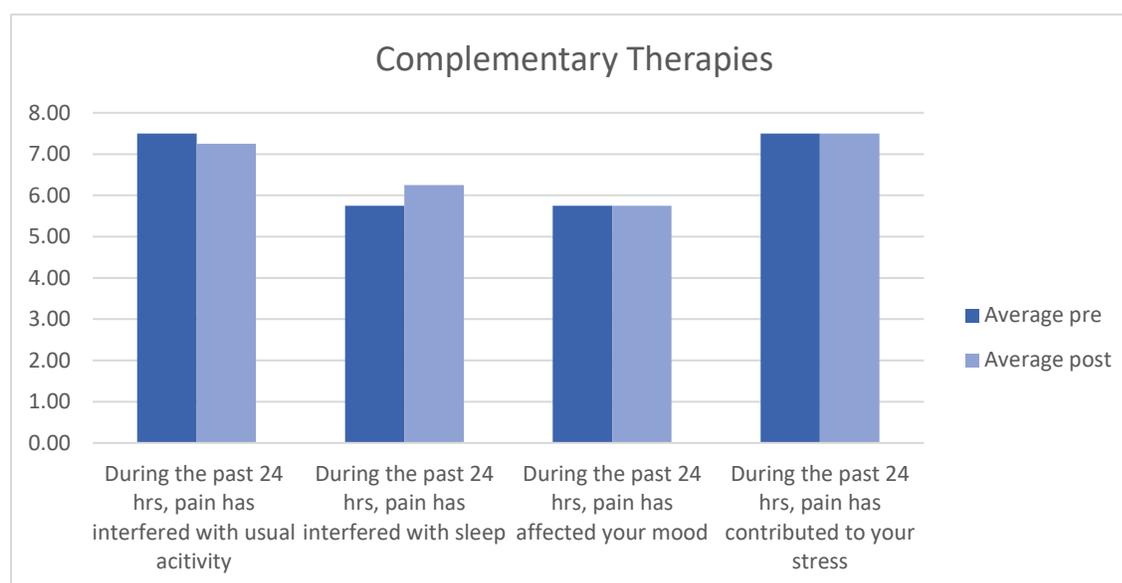


Figure 7. DVPRS Pain Scale Score Week 6

When looking at the data from pre-implementation in the first week of the SMP compared to post-implementation in the final week the following, based on the DVPRS scale, usual activity decreased from 9 (unbearable pain, cannot do anything) to 7 (pain is the main focus of attention), mood and sleep reduced from 7 (pain is the main focus of attention) to 6 (hard to ignore pain, avoidance of daily activities), and stress stayed at 7 (pain is the main focus of attention).

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Within the qualitative data, the four participants who attended to the classes consistently mentioned using these modalities three times a week or less. The most learned or beneficial modalities varied depending on the class. For instance, diet and nutrition, 3 out of 6 patients commented not knowing that food can influence pain. Breathing and mindfulness was the class with the most pain improvement of 7.63%.

Discussion

Based in the DVPRS pain rating scale, the data collection indicated that four out of the five weeks saw an improvement within the quality of sleep, mood, stress, and usual activity. This was specifically apparent in the participants who attended to all the five classes. All participants started the CNCP SMP with a pain categorized as severe (7-10). At the end of the classes, participants expressed lower rates of pain within the moderate category (4-6). Even though the classes were implemented over a short period of time, the results demonstrated a slight improvement in their pain and consequently an improvement in their QoL. Most participants mentioned that pain relief was temporary, which was frustrating for them and increased their stress level. Most patients categorized the stress level interference as severe (7-10).

The diet and nutrition program did not show a decrease in the DVPRS scores. The benefits of this class are not expected to be seen within a week. Evidence shows that a clinically meaningful reduction in pain can be achieved with a healthy balanced diet. However, consistency of the newly implemented dietary change is key (Brain et al., 2021). It is acknowledged that while participants received general education about a healthy diet, providing individualized medical nutrition therapy is important (Brain et al., 2021).

The overall pain improvement during the third week could be attributed to the positive benefits of breathing and mindfulness (Zeidan et al., 2019). The neural and behavioral

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mechanisms were analyzed via functional magnetic resonance imaging (fMRI) during a 20-minute mindfulness breathing mediation where it was evident that mindful attention to the breath significantly reduced pain intensity by 40% and pain unpleasantness by 57% when compared with the intervention of resting alone (Zeidan et al., 2019).

The qualitative data indicated that breathing and mindfulness were most enjoyed by the participants and was found easiest to implement. On the last telephone call, the participants mentioned that the sense of community perceived during the SMP was most appreciated. In studies evaluating the relationship between social support and osteoarthritis pain, social support and optimism was shown to improve life satisfaction (Larsen et al., 2019). It was also associated with higher physical functioning, general health, mental health, social functioning, and vitality (Larsen et al., 2019).

Participants mentioned that they would have preferred the classes to be in person rather than on Zoom. Participants also would have liked to have family members, friends or other support system partake in the SMP with them. Additionally, a few participants wanted to invite other people also experiencing CNCP.

Limitations

One of the main limitations of this QI project were COVID-19 restrictions which did not allow for the classes to be implemented in person thus affecting participants' engagement. Prior to implementing the QI project, many patients were offered CNCP SMP, but unable to join because their residences did not have Wi-Fi to connect to Zoom. This reduced the number of participants and was a main reason for not achieving the target number of participants. Other participants had Wi-Fi at home, but not tablets; fortunately, SWCHC donated tablets and interested participants were able to join. These participants were assisted in creating an email

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account and were provided help with Zoom. Another concern was the inability to find providers who could teach certain educational modules in Spanish

Phase 5: Dissemination

Implications

All participants were experiencing CNCP. The patients' increased knowledge about non-pharmacological modalities for the treatment of CNCP which had a positive impact on their QoL. A consistent CNCP SMP could have a profound impact on these patients. The philosophy of providing a practical SMP should focus on proper understanding of CNCP, the limits in medical treatment, and what self-management of a chronic condition can look like (Gauntlett-Gilbert & Brook, 2018). These can be achieved through various approaches such as activity engagement where self-awareness and realistic goals are set, thus empowering patients (Gauntlett-Gilbert & Brook, 2018).

Continuing the CNCP SMP at the FQHC as an established support group where patients would have a space to voice their concerns could be beneficial. A SMP can assist providers and patients to have frequent updates as to how they are managing their CNCP. Such program can provide a support where consistency of practicing non-pharmacological modalities can be encouraged in a welcoming environment.

Including patient education about non-pharmacological intervention to assist them in their management of CNCP seems beneficial. Having a standard CNCP SMP offered by a university DNP student can create consistency for patients with CNCP. A culture of prevention and nursing education leadership can be reinforced through the consistency of teaching such programs for the community. Patients from the FQHC can actively involve themselves in SMP and non-pharmacological modalities can be practiced frequently.

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Conclusion

The CNCP SMP implemented at the FQHC benefited the participant's QoI and management of pain. Based on the results, general pain from the first to the fifth week improved by 12.3 %. Even though it is not a high level of improvement, there was some improvement and education given to each of these participants. Through the course of the five weeks, this SMP provided education, communication, and transparency. The SMP provided a safe space to express concerns about their CNCP.

This QI project implemented for the Hispanic population with CNCP was shown to have a positive effect. Four patients attended all classes and implemented the taught interventions two to three times a week resulting in short-term relief of their CNCP. All participants agreed they felt supported knowing they were not alone experiencing CNCP. The implementation of this QI project can be a great resource for patients with CNCP as it can educate them with a better approach to their condition and provide a support group.

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Appendix A

Evidence Summary Table

Search Question in PICO format: In the Hispanic population experiencing chronic non-cancer pain (P), do self-management educational modules on pain management techniques (I) compared with no module (C) affect quality of life and pain intensity.

Article Number or abbreviated title	Author & Year	Purpose	Evidence type Methods/ Stats	Sample/Setting	Findings that help answer clinical questions	Limitations	Evidence rating/level-Quality
One/used External	Joypaul et al., 2019	to provide an updated overview of studies that report on the impact of patient education in multi-disciplinary interventions, on self-management of chronic pain; 2. To explore associations between education and chronic pain self-management techniques; and 3. To identify the format	Systematic Review: Narrative systematic literature review of randomized or controlled study designs. This was with PRISMA Guidelines.	*27 studies were included in this systematic review. Studies were predominantly from the United States (n = 8; 29.6% *Most education sessions were run in groups, for a minimum of two hours each, over a four- to ten-week period. They incorporated direct, face-to-face interactions between educators and	*Eleven outcome measures crossed over across studies. These included: Rolland-Morris Disability Questionnaire (RDQ), Visual Analog Scale (VAS) and Health Survey Short Form-36 (SF-36), each crossing over in four studies; Tampa Scale for Kinesiophobia (TSK), Hospital and Anxiety Depression Scale (HADS), Numerical Rating Scale for pain (NRS) and Pain Self-Efficacy Questionnaire (PSEQ), each crossing over in three studies; and Fibromyalgia Impact Questionnaire (FIQ), Brief Pain Inventory (BPI), Neck Disability Index (NDI) and Fear Avoidance Beliefs Questionnaire (FABQ) each crossing over in two studies. *Education around physical activity was most prominent (n = 23) followed by cognitive behavioral strategies (n = 22). While not explicitly stated, two other studies were likely to have involved exercise education, for example on “training to maintain gains” or ergonomics and three additional studies were likely to have used cognitive behavioral aspects. Education about medications and optimization of analgesic treatment were included in eight studies, with advice on alternative pain management strategies also part of the medication management training in these studies. Education about nutrition was included in one study.	restriction of the authors’ search strategy to only four databases and four languages, which implied that other relevant studies may have been missed. No grey literature was searched, and it is likely that studies identifying negative effects of education may not have been reported.	High quality/ Level I

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		<p>and duration of suitable chronic pain interventions targeted at patient self-management.</p>		<p>participants, and provided take-home materials and homework activities. The modules were delivered via lecture, seminars, written materials, telephone calls, books, and emails.</p>	<p>*The educational approaches: medications & optimization of analgesic treatment, behavioral strategies, physical movement, and education nutrition demonstrated that is likely to reshape beliefs and behavior of people with chronic pain. *This systematic review identified that education, as part of MD interventions, appeared to contribute to an immediate amelioration in chronic pain management, with benefits improved long-term. * Hospital and Anxiety Depression Scale (HADS) was used in one of the systematic reviews but not much focus on the evidence linked to management, depression, and anxiety. *Developing an interdisciplinary team providing comprehensive care demonstrated medication optimization, reduced pain catastrophizing, and reduced utilization of secondary care services. *Considered variables: <i>education, providers, chronic pain, interdisciplinary team.</i></p>		
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Article Number or abbreviated title	Author & Year	Purpose	Evidence type Methods/ Stats	Sample/Setting	Findings that help answer clinical questions	Limitations	Evidence rating/level-Quality
Two/ used External	Tang et al., 2019	the purpose is to evaluate the effectiveness, suitability, and sustainability of nonpharmacological pain management interventions for community-dwelling older adults.	Systematic review. The criteria for inclusion were: 2005 to February 2019 on randomized controlled trials. Search terms were adopted: Pain, Pain management, non-pharmacological interventions, older people, elderly, complementary, pain management	ten articles were included. The mean age of the older adults was from 66.75 to 76. The interventions. met The PRISMA checklist To make comparisons about the pain intensity in different studies, pain intensity levels were converted to a numeric rating scale ranging from zero to ten, with zero indicating no pain and ten representing the worst pain.	As pain is present in 25 to 50% of community-dwelling older adults, providing them pain with management skills may be one of the solutions to promoting better health and quality of life. * The studies showed that the pain reduction effects were maintained in the follow-up assessment, with participant dropout rates of 3 to 24%. * Acupressure and one on guided imagery. There were two articles each on acupressure, qigong, periosteal stimulation, and Tai Chi: The net change in pain intensity in the intervention group in the post-intervention assessment ranged from - 3.13 to - 0.65 after the conversion. * Although improvements in pain intensity were found, statistically significant reductions in pain intensity were not found in all of the studies. No statistically significant reductions in pain intensity (4 articles).	Diverse interventions were included, and there was no in-depth investigation of individual interventions. In addition, no measurement was used to assess the suitability of the interventions used by the older adults. A limited number of relevant articles were found in the review. It is possible that the combinations of search terms used resulted in inadequate coverage of the relevant articles.	Level I/A

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Article Number or abbreviated title	Author & Year	Purpose	Evidence type Methods/ Stats	Sample/Setting	Findings that help answer clinical questions	Limitations	Evidence rating/level-Quality
Three/used Internal	Casey et al., 2020	The aim of this study was to explore three particular topics related to ACT (acceptance & commitment therapy) treatment processes. Acceptance and values are core processes of psychological flexibility, and mindfulness is a construct relevant to four of the individual processes of the ACT model (acceptance, contact with the present moment, self-as-context and diffusion)	A qualitative methodology was used. This study was embedded in a larger randomized controlled trial (RCT) evaluating a multidisciplinary ACT (<i>acceptance & commitment therapy</i>) based intervention for people attending a hospital pain clinic for treatment of chronic pain. The study comprised of four semi-structured focus group interviews with eleven participants. Focus groups were audio-recorded and transcribed verbatim	*10 participants. RCT included presence of persistent non-cancer pain for over 12 weeks, a reported score of 2 on the Brief Pain Inventory Interference Scale and absence of a major medical or psychiatric disorder *all participants (8wk program) with 2h each week ACT with 30 min of education.	*Transcripts were analyzed using a thematic analysis approach. This method of analysis is well suited to our research question. *Ability to understand chronic pain as a long-term condition seemed to facilitate a different perspective of acceptance, as a choice that may enable one to move forward and live a fulfilling life. *The practice of mindfulness has been incorporated in PMP's, with the aim of reducing pain-related distress and there is good evidence to support its use. It was found that many participants in this study found that mindfulness helped them deal with the everyday stresses of living a life with chronic pain and this has been reported elsewhere. Other participants reported mindfulness to be a useful sleeping aid. While this would not be considered a goal of mindfulness practice, it has been noted in previous studies	examine all of the ACT treatment processes, and only the processes acceptance and values were explored. Other possible limitations relate to the selection of study participants. Eleven individuals declined to attend the focus group interviews and it is unclear why five chose not to attend.	Level V

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Article Number or abbreviated title	Author & Year	Purpose	Evidence type Methods/ Stats	Sample/Setting	Findings that help answer clinical questions	Limitations	Evidence rating/level-Quality
Four/used Internal EBP	Schmid et al., 2019	the purpose of this study was to assess the feasibility and benefits of an 8-week yoga intervention delivered in a community-based pain clinic (Clinic) to people with any type or location of pain.	This was an 8-week feasibility and pilot randomized controlled trial (RCT) comparing yoga to usual care. This study included a sample of individuals with various types of pain, reasons for pain, and location of pain. Feasibility and pre- and post-outcome measures were included to examine the use of a group yoga intervention with various types and locations of pain in a community setting.	Yoga was offered twice a week for 8 weeks. Eighty-three people were recruited; 67 people completed the study and were included in the analyses. Average age of participants was 50.78 ± 10.43 years and most participants had pain >10 years. The study was conducted at an outpatient pain Clinic that provides care for underserved and underinsured individuals.	Used scaled: *Pain severity and pain interference on daily activities was measured with the Brief Pain Inventory (BPI). *We assessed quality of life (QoL) with the Rand 36-item Health Survey. *We included the Chronic Pain Self-Efficacy Scale (CPSS) and the 6-item Stanford Self-Efficacy for Managing Chronic Disease (SSMCD-6) assessments. *All scaled showed improvement except the BPI. only the QoL Rand-36 scores increased significantly and had an effect size of 1.20, nearly the same as changes demonstrated by individuals randomized to the yoga intervention. This is perhaps secondary to the high level of care. *QOL increased with yoga after yoga, BPI pain interference scores, or how pain interferes with day-to-day life, significantly decreased (P 1/4 .007) by 14% with an effect size of 0.493. Hatha yoga was found benefits with back pain, muscle soreness, and arthritis.	Because of a pilot RCT, they were not powered to detect differences between groups, instead, the sample size was simply based on the number of individuals who could be recruited in a short recruitment period. An additional limitation, is that on average, only about 75% of the yoga classes were attended. Most participants were not able to financially afford to continue with yoga outside of the Clinic, thus limiting sustainability of their improvements.	Level II Moderate

SELF-MANAGEMENT PROGRAM FOR HISPANIC PATIENTS

Article Number or abbreviated title	Author & Year	Purpose	Evidence type Methods/ Stats	Sample/Setting	Findings that help answer clinical questions	Limitations	Evidence rating/level -Quality
Five Internal Evidence	Grønning et al., 2018	The aim of this study was to explore whether participants' experiences <i>with a chronic pain self-management intervention aligned with the</i> developers' rationale and desired outcome of the intervention under development.	this qualitative study. Offer interventions to people at risk of developing non-communicable diseases and people in need of support to carry out health behavior changes or to cope with health-related problems or chronic conditions Two thematic semi-structured interview guides were developed	inclusion criteria (1) user of the HLC in mid-Norway, (2) self-reported chronic pain for 3 months or +, (3) having attended the intervention under development (entitled participants), or (4) being a health professional developing the intervention (entitled developers). *Seven participants, six females and one male in the age from early thirties to mid-seventies attended the chronic pain self-management intervention developed by the staff at a Healthy Life Centre. *Taught classes: education/theory (chronic pain, the consequences of having chronic pain, how to manage the consequences of chronic pain, and how to cope with chronic pain (problem-solving, goal-setting, and coping techniques), group discussions, and movement exercises (movement exercises aimed to improve balance, posture, and breathing and were based on Norwegian psychomotor physiotherapy).	Analyzed via systematic text condensation (STC), which is a modification of Giorgi's phenomenological method. *The question regarding pain and discomfort is from the European Quality of Life Scale 5 Dimensions. *participants stated that they had no pain or discomfort, one had slight pain or discomfort, two had moderate pain or discomfort, and one had severe pain or discomfort. *pts said they had expected to learn more about coping, and that a great deal of the theoretical content was already known. They expressed, however, that the repetition was important, because they were reminded about things they had learned before	small sample size and possible lack of information power. As such, the aim of this study was narrow. Did not pilot test the interview guide, and therefore may have missed some important questions. They did not validate the findings by returning the transcripts to the participants for comments. The first author had previously cooperated with one of the developers, which could have influenced what the developers expressed during the interview.	Level V

SELF-MANAGEMENT PROGRAM FOR HISPANIC PATIENTS

Article Number or abbreviated title	Author & Year	Purpose	Evidence type Methods/ Stats	Sample/Setting	Findings that help answer clinical questions	Limitations	Evidence rating/level-Quality
Six Intern Evidence	Torres et al., 2017	To obtain patients' perspectives and understanding of the cultural beliefs influencing pain management decisions of foreign-born Spanish-speaking Hispanics with low acculturation.	This study used a qualitative design with quantitative measures to describe the sample. At arrival, participants completed the demographic questionnaires, pain catastrophizing scale (PCS), the positive and negative affect schedule (PANAS), and Spanish version of the memorial pain assessment card (MPAC), followed by an interview. The interview guide consisted of open-ended questions about the participants' pain experience, interference, coping mechanisms, past and current treatment experiences, attitudes toward medications, and willingness to try other pain treatments. All interviews were done at the health center, moderated by the primary author, and audio-recorded for transcription purposes. *The (PAS) was used to examine psychological aspects of acculturation, such as feelings of belonging and emotional attachment to the Anglo-American and Latino/Hispanic culture. *The Spanish-validated version of the PCS was included to measure pain catastrophizing based on three domains, magnification, rumination, and helplessness. * The MPAC is used to capture a multidimensional overview of the current state of patients with cancer pain who are in treatment.	A total of 17 (70.8%) FM & 7(29.2%) M. participated in the study. The mean age of our participants was 41.9 years (SD 1/4 8.6 years), with a range of 27 to 55 years. All the participants were Hispanic. *Most of our participants were married (88.0%), noninsured (83.0%), educated below high school (77.0%), worked full-time or part-time (54.0%) in housekeeping (58.0%), and reported an annual household income below \$15,510 (71.0%).	Participants reported a preference for pain self-management and noninvasive medical treatments. Expressed negative attitudes toward pain medications, although wanting the option of pain medications as a "last resort." <i>Satisfaction with medical care for pain was highly influenced by the participants' expectations and preference for personal, warm, and friendly interactions. (perception)</i> *reported family is a great support system; however, felt sadness about not being able to do things on their own. *fear to be fired; thus, pain is hidden. *pts who leaned onto using meds to manage pain felt weak. Meds is considered last resource. *MD treatment is felt quick and impersonal feeling that is all business and do not care about the pt's experience. The PCS, PANAS, and VAS-MPAC participants' scores were comparable with the PCS but different from the PANAS and pain intensity VAS of the MPAC. As expected, our participants' scores on the pain intensity scale of the MPAC were different that those reported by the normative sample of cancer patients. Given that the MPAC was designed as an assessment instrument for cancer pain, we were not surprised to find that the pain intensity ratings of our sample are much lower than those reported in the validation study.	The transferability of the findings is limited due to the depth of information and understanding obtained from this particular sample. These are perspectives of "low-acculturated" patients and should be interpreted with caution as these themes may not reflect the pain experience.	level V

SELF-MANAGEMENT PROGRAM FOR HISPANIC PATIENTS

Article Number or abbreviated title	Author & Year	Purpose	Evidence type Methods/ Stats	Sample/Setting	Findings that help answer clinical questions	Limitations	Evidence rating/level-Quality
Seven Internal Evidence	Giannitrapani et al., 2018	The current analysis aims to identify and understand veteran-perceived <i>experiences with and barriers to</i> complementary non-pharmacologic approaches for pain, adding the voices of veterans themselves to the literature.	Qualitative analysis was collected as part of the Effective Screening for Pain (ESP) study (2012–2017), a national randomized controlled trial of pain screening and assessment methods. This study was approved by the Veterans Affairs (VA) Central IRB and veteran participants signed written informed consent. *Team meetings fostered consensus for code development and resolutions for coding discrepancies. All analyses used qualitative analytic software ATLAS.ti	semi-structured interviews (25–65 min). 36 veterans, including 7 FM & 29M, from three VA health care systems. Ranged in age from 28 to 94 yr and had pain intensity ratings ranging from 0 to 9 on the “pain now” numeric rating scale at the time of the interviews. *Veteran experiences with accessing complementary non-pharmacologic approaches for pain clustered main themes: communication with provider about complementary non-pharmacologic approaches, care coordination, veteran expectations about pain experience, veteran knowledge and beliefs about various therapies, & accessing complementary non-pharmacologic approaches	specific access barriers included <i>local availability, time, distance, scheduling flexibility, enrollment, and reimbursement</i> . Conclusion: The veterans in this qualitative study expressed interest in using non-pharmacologic approaches to manage pain, but voiced complex multilevel barriers. *Veterans highlight importance of education and communication in shaping knowledge, beliefs, and expectations about the course of pain and treatment options may also affect utilization of non-pharmacologic approaches. *Respondents wanted providers to offer non-pharmacologic approaches for pain. They are interested in both improved access to passive therapies. *Flexibility and accommodation are essential to make non-pharmacologic approaches that require multiple sessions a viable option. *Veterans’ views further validate the importance of these efforts and inform health care providers of the need for additional steps including strengthening education and patient–provider communication about pain.	Limitations of study include that interviews were conducted only in five clinics and with seven female veterans. These limitations are minimized in that the clinics covered are diverse ranging to include urban, suburban, and rural residents. *sample is not gender-balanced and cannot make conclusive thematic comparisons	level V

SELF-MANAGEMENT PROGRAM FOR HISPANIC PATIENTS

Article Number or abbreviated title	Author & Year	Purpose	Evidence type Methods/ Stats	Sample/Setting	Findings that help answer clinical questions	Limitations	Evidence rating/level-Quality
Eight External evidence	Hollingshead et al., 2016	Literature review on non-malignant pain, pain behaviors, and pain treatment seeking among Hispanic Americans (HAs). Pain management experiences were examined from HA patients' and healthcare providers' perspectives.	Specified terms were used in combinations to search for articles on PubMed, Embase, Web of Science, ScienceDirect, and PsychINFO. The search terms for Hispanic (i.e., "Latino," "Latina," "Hispanic," "Ethnic," and "Ethnicity") were combined with "AND Pain" for each search. *The organization of our results was guided by a conceptual model. Our model was adapted from "the social communication model of pain." <i>To measure:</i> *The model micro-level (biological and psychological) and macro-level (sociocultural and systems-level; bottom portion of the model) factors that influence HAs' experience of pain, response to pain, decision to seek pain care, and experience of receiving pain care. *The psychological and systems-level factors that influence healthcare providers' care for HA pain patients.	A total of 117 studies met inclusion criteria. It was organized the results into a conceptual model with separate categories for biological/psychological and sociocultural/systems-level influences on HAs' pain experience, response to pain, and seeking and receiving pain care.	Barriers for patients: *Response to pain: HAs are more likely use religious coping for the management of pain and seeking pain care outside of the U.S., using off-label medications. *Seeking pain treatment: lower levels of acculturation were found to be significant predictors of lower access to pain care. *Pain management: HAs reported concerns about taking strong pain medications. the cultural belief that pains "should be" overcome without medications. In qualitative interviews, HA patients reported negative interactions w/ HCPs about their pain care. Health literacy to be assessed to provide education w. adequate and culturally-sensitive pain care. *Providers Perceptions: face language barriers, trained Spanish-speaking interpreters should be readily available in clinical settings. * providers should not assume that HA patients have the health literacy and access to suitable information resources that are necessary for the receipt of quality healthcare	Failed to include some studies, which could lead to an incomplete representation of the existing literature. Due to limited study sampling of non-English speaking HAs, undocumented Hispanic immigrants, and HAs who do not utilize U.S. healthcare, the conclusions of this review may not generalize to these groups. Conceptual models missed pain treatment outcomes. This is due to the paucity of literature on pain outcomes among HAs. This gap should be addressed in order to optimize HA patients' clinical outcomes and satisfaction with care.	level VI

SELF-MANAGEMENT PROGRAM FOR HISPANIC PATIENTS

Article Number or abbreviated title	Author & Year	Purpose	Evidence type Methods/ Stats	Sample/Setting	Findings that help answer clinical questions	Limitations	Evidence rating/level-Quality
Nine External EBP	Elma et al., 2020	The purpose was to perform a review on the link between nutrition and chronic musculoskeletal pain by specifically focusing on dietary patterns, the components of patients' diet, and pain in patients with chronic musculoskeletal pain.	This systematic review was conducted and reported in line with the "Preferred Reporting Items for Systematic reviews and Meta-Analyses" (PRISMA) guidelines. *The review protocol was registered in the PROSPERO database. *The search strategy was based on the Patient, Exposure, Comparison, Outcome (PECO) framework (P = people with chronic musculoskeletal pain; E = (behavioral) nutrition; C = non-comparison or comparison with a healthy, pain-free population; O = chronic musculoskeletal pain-related outcomes). *Two reviewers (blinded to each other) extracted the information: this focus resulted in 149 eligible articles with evidence on the link between nutrition, but 12 included (dietary patterns, dietary supplements, specific nutrients, intravenous nutrient therapy, intramuscular vitamin injection, etc.) and chronic musculoskeletal pain.	Finally, 12 articles were found eligible to be included in the present systematic review.	lacto-ovo vegetarian diet might be effective in decreasing pain in patients with general chronic musculoskeletal pain. *In a randomized controlled trial, the effect of a (commercialized) liquid peptide diet on rheumatoid arthritis pain was investigated: were not allowed to eat and drink anything else during the 4-week liquid peptide diet except for (soda) water. The average VAS pain score improved significantly after 4-weeks. *hypo-energetic diet might decrease pain severity in patients with chronic osteoarthritis pain. *Some evidence that a lacto-ovo vegetarian diet has no effect on pain in patients with rheumatoid arthritis. However, the VAS pain score showed a significant improvement in response to the low-fat vegan diet. In conclusion, there was some evidence that a vegan diet might alleviate chronic musculoskeletal pain (level of evidence B and strength of conclusion 3). *no evidence that a diet without monosodium glutamate and aspartame has an effect on chronic musculoskeletal pain in patients with fibromyalgia. *it is suggested that the intake of energy, calcium, folic acid, zinc, magnesium, and B6 is lower than the dietary reference values in patients with chronic rheumatoid arthritis pain. *Pain threshold was also found to be positively associated with protein intake in patients with chronic fibromyalgia, and pain severity was found to be positively associated with the intake of sugar and fat in patients with chronic osteoarthritis pain. *Pain-reducing diets included a vegan diet for fibromyalgia and rheumatoid arthritis. *weight loss diet for osteoarthritis, a vegetarian diet for general musculoskeletal pain. *FODMAP diet for fibromyalgia and a peptide diet for rheumatoid arthritis. Two studies out of nine did not find any effect of a dietary pattern intervention on pain (i.e., the monosodium glutamate and aspartame eliminated diet for fibromyalgia.	low methodological quality of the included studies. Results discussed in this review mainly relied on observational research, uncontrolled clinical trials, and non-randomized clinical trials. Additionally, all included experimental studies were single-blinded, which means patients were aware of the intervention. Selection of the participants was done according to the willingness of the patients to participate.	level VI

SELF-MANAGEMENT PROGRAM FOR HISPANIC PATIENTS

Article Number or abbreviated title	Author & Year	Purpose	Evidence type Methods/ Stats	Sample/Setting	Findings that help answer clinical questions	Limitations	Evidence rating/level-Quality
ten Internal	Rod, 2016	The goal was to observe if using Internet-based patient self-management education would improve measurable outcomes in chronic noncancer patients who were stable on their severity of pain, depression, anxiety, and impact on quality of life for one year and were not able to access noninsured services otherwise.	Observational study. measure the levels of pain and comorbid conditions of depression and anxiety along with impact on quality of life through standardized questionnaires (The Numeric Pain Rating Scale (NPRS), Hamilton Depression Rating Scale (HDRS), Hospital Anxiety and Depression Scale (HADS), and Quality of Life Scale (QOLS) follow-up visits the Patient Global Impression of Change Scale) for all patients before treatment and in follow-up visits to monitor our treatment outcomes. *Patients were encouraged to visit two Internet sites (a blog and Twitter postings) *for educational postings written by the author about exercise, nutrition, mindfulness meditation, disease management methods, evidence-based supplements, daily relaxation exercises, and overall self-management methods 15 minutes per day for six months. Patients were also encouraged to share their ideas and comments on a blog. *Activity logs were kept by patients and reviewed by physician at follow-up visits. *Compliance was encouraged via weekly email reminders and phone calls during the observation period. *used these standardized scales to measure pain, anxiety, depression, and quality of life in this chronic pain patient population.	Two hundred (200) patients (61% females, 39% males, between 18 and 75 years old) from one community pain clinic in Toronto, Canada participated. Patients had moderate to severe pain, depression, and anxiety. These patients committed patients with chronic noncancer pain who were stable on their levels of pain, anxiety, and depression for 12 consecutive months before start of study and could not afford noninsured treatment modalities like physiotherapy, psychology, nutrition, or exercise therapy consultation.	*Patients with moderate or severe pain before treatment, 45% reported mild levels of pain after treatment, with a reduction of severe pain from 40% before treatment to 25% after treatment (p value 0.0184). On the depression scale, severe depression was observed to be reduced from 30% before treatment to 10% after treatment and, of all of the patients who participated in the study having moderate or severe depression before treatment, 50% reported mild depression after treatment. On the anxiety scale, the severe anxiety group was reduced from 25% before treatment to 15% after treatment. Quality of life improved from 25% before treatment to 60% after. More than half (60%) of patients reported much improved results on the PGIC scale after treatment *Innovative low-cost and effective methods for disseminating self-management techniques to a large proportion of patients are necessary given the increasing burden caused by inactivity and chronic disease.	Because there was no control group, statistical comparisons were made to an expected improvement. Patients who agreed to participate that made them more receptive to this type of treatment and thus resulted in a bias in the result. A more robust study would randomize participants to either treatment or control	Level III

SELF-MANAGEMENT PROGRAM FOR HISPANIC PATIENTS

Article Number or abbreviated title	Author & Year	Purpose	Evidence type Methods/ Stats	Sample/Setting	Findings that help answer clinical questions	Limitations	Evidence rating/level-Quality
Eleven External	Brain et al., 2019	the present systematic review aimed to summarize the available current literature evaluating the impact of nutrition interventions in participants experiencing a chronic pain condition, specifically focusing on participant reported pain severity, or intensity of pain.	meta-analysis. categorized into four groups. Eight databases were systematically searched for studies that included adult populations with a chronic pain condition, a nutrition intervention and a measure of pain. Where possible, data were pooled using meta-analysis. Seventy-one studies were included, with 23 being eligible for meta-analysis. Systematic Reviews and Meta-Analyses (PRISMA) guidelines and the PRISMA	Seventy-one studies were included, with 23 being eligible for meta-analysis. *Studies excluded: Participants were adults, aged ≥ 18 years, who reported experiencing chronic pain. Chronic pain was defined as pain that persists beyond the typical healing time of 3 months	(i) altered overall diet with 12 of 16 studies finding a significant reduction in participant reported pain; (ii) altered specific nutrients with two of five studies reporting a significant reduction in participant reported pain; (iii) supplement-based interventions with 11 of 46 studies showing a significant reduction in pain; and (iv) fasting therapy with one of four studies reporting a significant reduction in pain. The meta-analysis identified significant reductions in pain scores (0.905 on a VAS) for all nutrition interventions combined ($P = 0.000$). Within subcategories of intervention type, the altered dietary pattern and altered specific nutrient had the largest statistically significant reductions (1.415 on a VAS, $P = 0.030$ and $P = 0.000$, respectively). The 'fasting therapy' intervention category, where total daily energy intake is very low, did not demonstrate a consistent reduction in pain scores. *Overweight linked to chronic pain: The majority of participants in the included studies were in the overweight BMI category ($BMI 25.0-29.9 \text{ kg m}^{-2}$), predominately being women and aged over 50 years. This is similar to the clinical chronic pain population.	the age and quality of the studies. Almost half of the studies are ≥ 10 years old and 56% of the studies were of poor or neutral methodological quality. Over this time span, chronic pain treatments have changed, as pain science has developed and the evidence base has grown. The search was limited to studies published in English, with 30% published in the USA, which limits the generalizability of results.	Level I

SELF-MANAGEMENT PROGRAM FOR HISPANIC PATIENTS

Article Number or abbreviated title	Author & Year	Purpose	Evidence type Methods/ Stats	Sample/Setting	Findings that help answer clinical questions	Limitations	Evidence rating/level-Quality
Twelve Internal	Turner et al., 2018	This trial was designed specifically to evaluate two relatively low-cost approaches for providing pain management education and support to patients in communities with limited access to resources.	A parallel-group randomized trial. <i>*Five times Sit-to-Stand test (5XSTS) assessed at baseline and 3 and 6 months. Other reported physical and cognitive measures include the 6-Min Walk (6 MW), Borg Perceived Effort Test (Borg Effort), 50-ft Speed Walk (50FtSW), SF-12 Physical Component Summary (SF-12 PCS), Patient-Specific Functional Scale (PSFS), and Symbol-Digit Modalities Test (SDMT). Intention-to-treat (ITT) analyses in mixed-effects models adjust for demographics, body mass index, maximum pain, study arm, and measurement time. Multiple imputation was used for sensitivity analyses.</i>	<p>Eligible subjects were 35–70 years of age, with chronic non-cancer pain treated with opioids for >2 months at two primary care and one HIV clinic serving low-income Hispanics.</p> <p>Study subjects were recruited from academic general internal medicine, family medicine, and HIV clinics that were affiliated with the University of Texas Health Science Center at San Antonio (UT Health San Antonio) and that treated low-income, primarily Hispanic patients.</p> <p>The health educator held six monthly one-on-one meetings for 30–45 min. The eight core lectures were condensed into six, but the same PowerPoint slides were reviewed and exercises demonstrated.</p> <p>The Living Better Beyond Pain/Vivir Mejor Más Allá del Dolor training program addressed community stakeholders' priorities and themes from other self-management programs for high-literacy patients: Explain Pain, the</p>	<p>Despite a greater number of educational sessions for the community arm than the clinic arm, only clinic arm subjects had statistically and clinically significant improvement on the 6 MW test and SF-12 PCS in ITT analyses. The clinic arm subjects averaged 172 ft or 52.4 m farther, exceeding the MCID value of 14.0–30.5 m reported in a review. The mean 12-PCS score increased by an estimated 6.2 points, which is above the range of 3.2–6.1 for an MCID. These results add to evidence supporting the role of the CHW as a health educator for persons with chronic disease, especially in communities with limited resources. Compared with chronic pain self-management support from nurse practitioners, Community Health Worker may be more feasible for practices serving low-income communities.</p>	<p>challenges in recruiting and retaining subjects. Half of potentially eligible subjects could not be reached by telephone, and about one-third of subjects dropped out after baseline assessment. In addition, two-thirds of participants needed to make up missed sessions.</p>	Level II

SELF-MANAGEMENT PROGRAM FOR HISPANIC PATIENTS

				<p>Progressive Goal Attainment Program (PGAP), the Pain Toolkit, & the Community Health Association of Mountain/Plains States (CHAMPS)</p> <p>Eight Living Better Beyond Pain topics were presented on PowerPoint slides in English or Spanish at a sixth-grade reading level (Online Appendix). All subjects received a notebook with copies of slides for each topic and photos of local Hispanic community members performing stretching and strengthening exercises at different levels of difficulty.</p> <p>-Additional materials included activity logs with personal goals, program DVDs (walking exercises, self- massage techniques), exercise mats, tennis balls for massage, and multi-pronged self-massage tools. All subjects were instructed not to attempt activities that were too difficult, such as floor exercises or walking without support.</p>			
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SELF-MANAGEMENT PROGRAM FOR HISPANIC PATIENTS

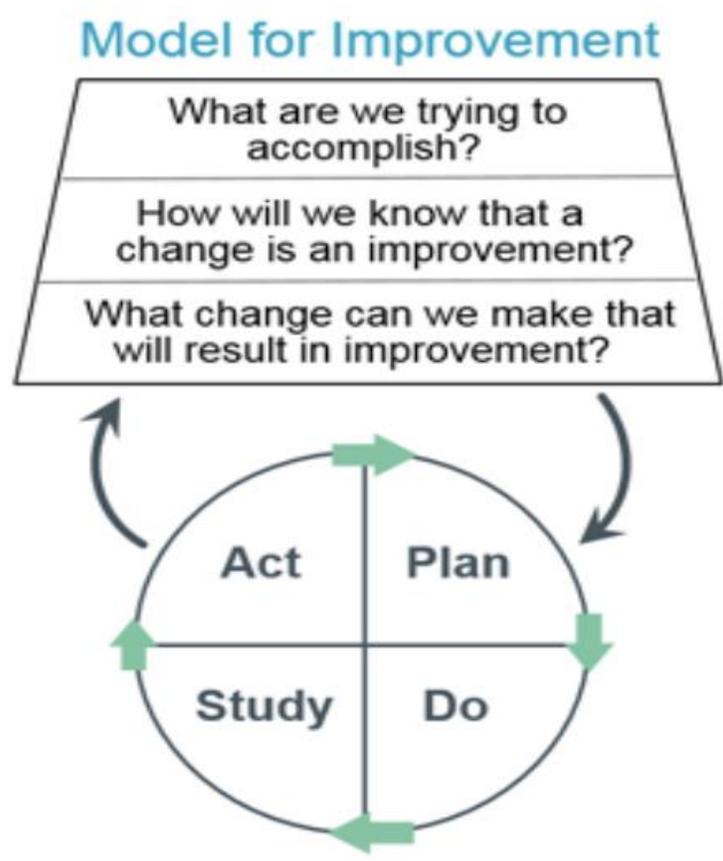
Article Number or abbreviated title	Author & Year	Purpose	Evidence type Methods/ Stats	Sample/Setting	Findings that help answer clinical questions	Limitations	Evidence rating/level-Quality
Thirteen Internal	Kwok et al., 2016	The aim of this study is to evaluate the effect of a self-management program on QOL among community-dwelling older adults with chronic knee pain. It was hypothesized that the level of self-efficacy of this population would rise if they practiced the skills taught in the program, and that they would see improvements in their level and frequency of pain and in their physical functioning (e.g., walking ability), thus ultimately resulting in an improvement in their QOL.	older adults (aged 60 or above) who had been recruited at a mobile health center in Hong Kong. Older adults who had experienced persistent knee pain for at least 3 months were screened for eligibility to participate in the study. The determination that they suffered from musculoskeletal pain was based on self-reports, and no diagnostic. *To measure: The participants had a Visual Analog Scale (VAS) score of 40 or above. Excluded: To avoid mixing the effect of multiple treatments, older adults who had participated in other intensive health promotion programs or received other treatment modalities within the previous 6 months were not included in the study.	A single-blinded randomized controlled design was employed in this study. Forty-six participants with chronic knee pain living in the community were randomly assigned to either the experimental group (n = 19) or the wait-list control group (control group, n = 27). All were blinded to the group allocation. Both groups joined the identical self-management program for knee pain, which adopted the construction of evidenced-based ASMP. The program was delivered to the participants in groups of 6 to 7.	Pain scale VAS: Satisfactory reliability and validity were established and test-retest reliability was illustrated in patients with rheumatoid arthritis before and after attending an outpatient clinic. Literate patients had a higher reliability value (r = .94) than illiterate patients (r = .71), but both values are satisfactory. 6-minute walk: The test-retest reliability was established, with ICC values that ranged from .95 to .97, Construct validity was illustrated with a positive correlation with maximum oxygen consumption in a cardiac rehabilitation population (r = .71), quadriceps/hamstring strength in hip or knee osteoarthritis (r = .44 to .47), SF-36 (r = .64) and the physical function scale (r = .62) (pg. 44). Qualified as mobility the implementation of the self-management program for older adults with chronic musculoskeletal pain at a mobile healthcare setting was beneficial and feasible.	the small sample size might have affected the statistical power of the study, and only the short-term effect of the program was evaluated. The sample was relatively healthy and had knee pain, and the findings may not be generalizable to a population of older adults who are not healthy and in more severe pain in other parts of their body.	Level II

Appendix B

The PDSA Model

Figure 1

Model for Improvement: Plan-Do-Study-Act (PDSA) Cycle



(Institute for Healthcare Improvement, n.d)

SELF-MANAGEMENT PROGRAM FOR HISPANIC PATIENTS

Appendix C

Post-Event Satisfaction Survey

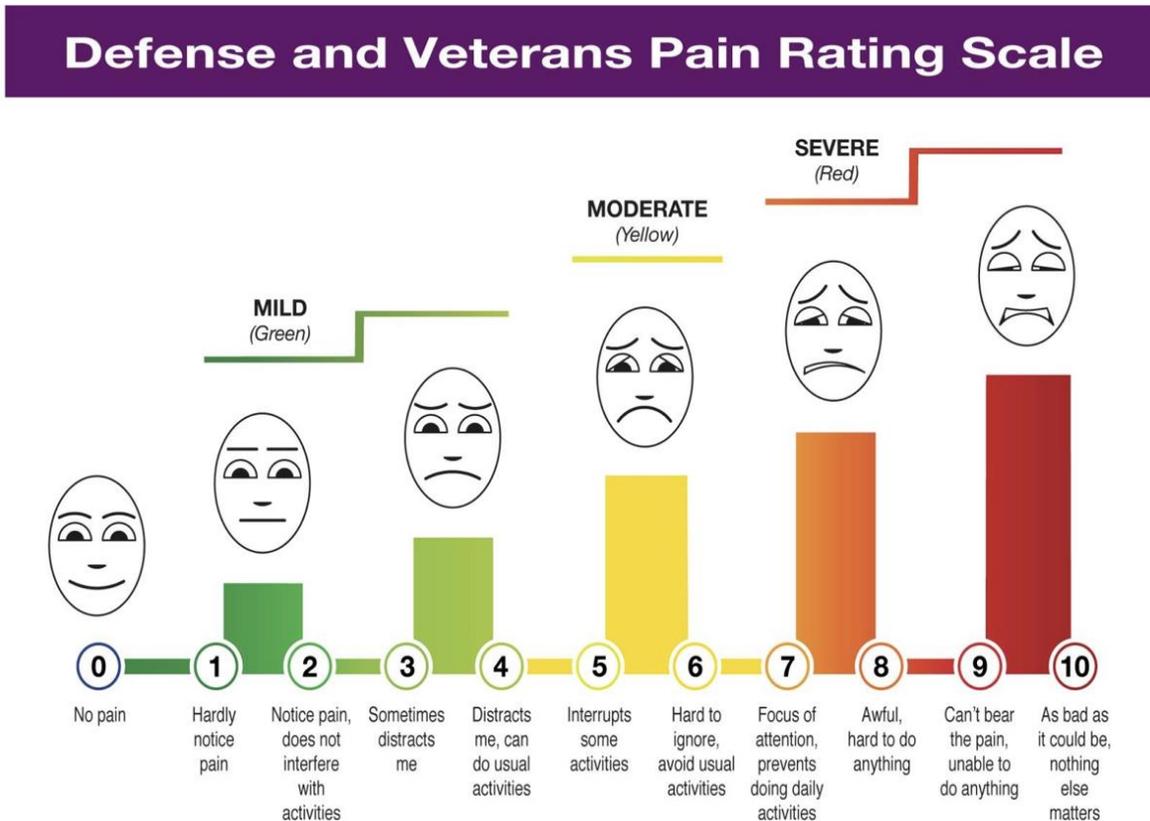
1. What is one thing that you learned from this class?
 - Que es algo que aprendió en la clase?
2. What did you enjoy the most from this class?
 - Que es lo que mas disfrutó de la clase?
3. Did you apply any of modalities that were taught in class?
 - utilizo o implemento alguna de las intervenciones que le enseñamos en las clases?
4. How would you want me to improve this class?
 - Como piensa que estas clases podrian mejorar?

Appendix D

The Defense and Veterans Pain Rating Scale (DVPRS)

Figure 1

Defense and Veterans Pain Rating Scale (DVPRS)



(U.S Department of Veterans Affairs, n.d)

Appendix D

The Defense and Veterans Pain Rating Scale (DVPRS)

Figure 2

Pain Supplemental Questions

DoD/VA PAIN SUPPLEMENTAL QUESTIONS

For clinicians to evaluate the biopsychosocial impact of pain

1. Circle the one number that describes how, during the past 24 hours, pain has interfered with your usual **ACTIVITY**:

0 1 2 3 4 5 6 7 8 9 10
Does not interfere Completely interferes

2. Circle the one number that describes how, during the past 24 hours, pain has interfered with your **SLEEP**:

0 1 2 3 4 5 6 7 8 9 10
Does not interfere Completely interferes

3. Circle the one number that describes how, during the past 24 hours, pain has affected your **MOOD**:

0 1 2 3 4 5 6 7 8 9 10
Does not affect Completely affects

4. Circle the one number that describes how, during the past 24 hours, pain has contributed to your **STRESS**:

0 1 2 3 4 5 6 7 8 9 10
Does not contribute Contributes a great deal

(U.S Department of Veterans Affairs, n.d)

SELF-MANAGEMENT PROGRAM FOR HISPANIC PATIENTS

Appendix E

Table 1.

Differentiating Quality Improvement and Research Activities Tool

Question	Yes	No
1. Is the project designed to bring about immediate improvement in patient care?	X	
2. Is the purpose of the project to bring new knowledge to daily practice?	X	
3. Is the project designed to sustain the improvement?	X	
4. Is the purpose to measure the effect of a process change on delivery of care?	X	
5. Are findings specific to this hospital/setting?	X	
6. Are all patients who participate in the project expected to benefit?	X	
7. Is the intervention at least as safe as routine care?	X	
8. Will all participants receive at least usual care?	X	
9. Do you intend to gather just enough data to learn and complete the cycle?	X	
10. Do you intend to limit the time for data collection in order to accelerate the rate of improvement?	X	
11. Is the project intended to test a novel hypothesis or replicate one?		X
12. Does the project involve withholding any usual care?		X
13. Does the project involve testing interventions/practices that are not usual or standard of care?		X
14. Will any of the 18 identifiers according to the HIPAA Privacy Rule be included?		X

Adapted from Foster, J. (2013). Differentiating quality improvement and research activities. *Clinical Nurse Specialist*, 27(1), 10–3. <https://doi.org/10.1097/NUR.0b013e3182776db5>