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Staff Education: Nonpharmacological Interventions for Pain in Older Adults with Osteoarthritis

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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,
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Walden University
2020

Abstract

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by

Rachel O. Ilesanmi, APRN, FNP-BC

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

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Abstract

Osteoarthritis (OA) pain is a major social problem for older adults and has psychological and physical implications. In the clinic where the project was implemented, the family nurse practitioners (FNPs) are not addressing the OA pain of the older adult patients according to the evidence-based practice (EBP) guidelines. The purpose of this project was to educate FNPs on EBP guidelines regarding nonpharmacological intervention for chronic pain in OA patients. Knowles' adult learning theory guided the development of the education program specific to the unique learning style of the FNPs. Fourteen FNPs who treat patients with OA in 3 clinic settings participated in the staff education program regarding the most current, evidence-based, nonpharmacological guidelines to manage chronic pain in older adults with OA. The participants completed a pretest to measure FNPs' knowledge about managing chronic pain in older adults with OA prior to the education program and a posttest after the program through the facility intranet. The implementation of this project was completed within 9 months Descriptive statistical analysis was used to determine the percentage difference between the pre- and posttest scores. The findings indicated that FNPs' knowledge increased after participating in the education program. Recommendations include continuing education courses on arthritis management for the FNPs and access to online disease management tools that provide quick EBP guidelines on OA management. The project has potential implications for positive social change for several groups, including FNPs, older adult patients suffering from OA pain, the caregivers, and family members of the patients with OA, by increasing the FNPs' knowledge and provides tools needed to decrease the patients' pain.

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Dedication

I dedicate this project to my husband (Fred Ilesanmi) and children (Victor, Melody, and Vincent), for your unconditional love, inspiration, prayers, and encouragement in achieving my dream. Thank you for being my rock and shoulders to lean on. Through it all, I am highly blessed to have all of you in my life. I love you more!

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To my Godsent Chair, Dr. Cynthia Fletcher, and wonderful committee member, Dr. Barbara Barrett, thank you for your guidance throughout this journey. Your suggestions and directions are priceless. I have grown under your leadership and guidance. I am very honored to have learned from both of you.

To Dr. Victor Thomas, my mentor, thank you for your words of wisdom and support throughout this journey. It is a pleasure learning from you. I am more than grateful, sir.

To my parents, Revd. Jonathan and Ruth Olaoye, thank you for teaching me the meaning of hard work and perseverance. To my sisters, Elizabeth Olaoye and ‘Tife Olaoye, thank you for your love, moral support, and prayers. Having a sister is like having a best friend that you cannot get rid of. I am blessed to have two best girlfriends that are always there for me. I appreciate you guys and I love you!

To my oldest son, Victor Ilesanmi, who was diagnosed with hypohidroitic ectodermal dysplasia (HED), a very rare congenital disease, thank you for coming into my life. You are my inspiration to embark on this interesting journey. You made me the family nurse practitioner that I am today. Without you, I would not have chosen this path. I love you more, son!

Above all, I am more than grateful to my Lord Jesus Christ, who has been my pillar, helper, comforter, and strength throughout this journey. To Him, I give all glory, honor, and adoration. Thank you, Jesus!

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Section 1: The Introduction

Osteoarthritis (OA) is a common condition, affecting millions of older adult patients worldwide (Aciksoz, Tunay, & Uzun, 2016; Sharma, Kudesia, Shi, & Gandhi, 2016). In the United States, OA is extremely common in older adults, affecting 50% of people aged 65 years and older (Tang, McCurry, Pike, Von Korff, & Vitiello, 2017). OA causes inflammation in the joints, which leads to pain, functional impairment, loss of mobility, activity limitations, decreased independence in activities of daily living, and a significant reduction in quality of life (QOL) (Aciksoz et al., 2016; Sharma, Singh, Dhillon, & Kaur, 2018).

The most common psychological comorbidities that impact the QOL of OA patients are anxiety, depression, and insomnia (Sharma et al., 2016; Tang et al., 2017). More than half of older adults with OA report insomnia due to the inability to manage arthritic pain (Tang et al., 2017). OA patients with anxiety and depression experience more pain, have more frequent hospital and clinic visits, use more pain medications, and report less optimal outcomes (Sharma et al., 2016).

Pharmacological pain management for patients with OA provides mild to moderate relief; however, it poses a safety risk with long-term use (Schlenk & Shi, 2019). Nonpharmacological pain management was recommended by the American College of Rheumatology (ACR, 2017), Osteoarthritis Research Society International (OARSI, 2019), and Arthritis Foundation (AF, n.d.). Communications with the family nurse practitioner (FNPs) at the clinic facility under study in the northeastern United States

revealed that some of the FNPs do not adhere to the evidence-based practice (EBP) guidelines recommended by these agencies in their plan of care.

In this project, I focused on educating the FNPs on the current, evidence-based guidelines regarding nonpharmacological interventions for chronic pain in patients with OA. Educating the FNPs on the recommended EBP guidelines of nonpharmacological interventions in OA patients will prepare them to effectively manage chronic OA in older adults by providing them with knowledge development in chronic pain management.

Problem Statement

Many older adult patients continue to report OA pain despite being treated with pharmacological agents (Schlenk & Shi, 2019). How best to manage chronic pain can be very challenging and has been a subject of much debate. There is no known cure for OA; hence, pharmacological and nonpharmacological treatments are used to maintain and/or improve joint mobility and limit functional disability (Schlenk & Shi, 2019). Most drug therapies provide mild to moderate relief in patients with OA; however, their long-term safety, efficacy, and effects remain undetermined and debatable (Reid, Shengelia, & Parker, n.d.).

In the clinic where the project took place, many patients see different FNPs for follow-up visits at the healthcare facilities where I work as one of the FNPs in the northeastern United States. This health organization is a federally qualified health center (FQHC). During follow-up visits with me, some OA patients report to me that they have difficulty managing their arthritic pain effectively. They report mild relief with the prescribed pain medication. Many patients verbalized little or no knowledge of how to

manage chronic pain effectively on their own, apart from the administration of prescribed pain medication. No documentation was identified in the patients' records that showed prior patient teaching regarding nonpharmacological techniques in managing arthritic pain. I review the patient's medical record during their follow-up visit with me.

According to three FNPs in the clinic setting, they prescribe pain medications and refer the patients to physical therapy (PT), an orthopedic specialist, and/or a pain management specialist for pain management. These referrals are part of the EBP guidelines; however, the guidelines stipulate that patient education and self-management are the first line for OA management (Bannuru et al., 2019; Schlenk & Shi, 2019). After the PT sessions, patients return to the clinic for continued pain medication management. Patients who continue to experience severe pain are then referred to an orthopedic surgeon. The usual practice is to prescribe pharmacological agents and refer the patients to the specialists without the initial trial of first-line nonpharmacological interventions (Thorstensson, Garellick, Rystedt, & Dahlberg, 2015).

Two FNPs stated that they provide their patients with OA management pamphlets and print out the OA instruction from the facility's intranet; however, they do not discuss options for nonpharmacological pain techniques for self-management with the older adult patients or verify the patients' understanding. FNPs at the clinic site are providing the patients with pharmacological prescriptions and referring them to different specialists; however, based on informal discussions with the nurses and lack of documentation in my patients' records, they are not educating the patients according to the guidelines as stipulated by the AF.

The OARSI (2019) developed patient-focused treatment guidelines for patients with OA. The first-line management of OA is arthritis education and land-based exercise programs, which include healthy eating, active living, walking with ease, and aquatic exercise (Schlenk & Shi, 2019). The AF (n.d.) and the ACR (2017) developed guidelines for both pharmacological and nonpharmacological therapies to help patients and practitioners. Pharmacological management includes oral and topical nonsteroidal anti-inflammatory drugs, corticosteroids, antipyretics, and counterirritants, while nonpharmacological management includes exercise, dietary management, education, and physical therapy for OA management (Geenen, 2018; Wan-Jie & Wen-Xiao, 2016).

Despite the potential benefits of nonpharmacological pain management, most patients do not utilize these techniques to manage arthritic pain, and there was no documentation that they were educated about these therapies by their practitioners in the clinic setting (Wan-Jie & Wen-Xiao, 2016). According to Healthy People 2020, only 11.4% of OA adult patients received evidence-based arthritis education for self-management from health care providers in the clinic setting (Schlenk & Shi, 2019). This gap in practice also existed at the project setting.

An EBP educational training/in-service on nonpharmacological OA management will fill this gap in practice. Increasing the FNPs' knowledge about options for nonpharmacological management of arthritic pain in older adult patients will empower them to develop plans of care for pain management to decrease the patients' pain. Implementing strategies to decrease the patients' pain has the potential to increase the

patients' ability for self-care pain management and improve the quality of care they receive.

Purpose Statement

Older adult patients with OA continue to report chronic pain due to lack of knowledge about different nonpharmacological techniques to properly manage their pain (Briggs et al., 2019). FNPs in the clinic setting do not include the most recent evidence-based guidelines provided by the OARSI, AF, and ACR when treating older adult patients with OA pain. The practice-focused question for this project was: Will educating FNPs on nonpharmacological interventions to manage chronic pain in older adult patients with OA increase their knowledge about the different nonpharmacologic approaches to OA pain management? Educating FNPs with the most current evidence-based guidelines on nonpharmacological OA management will provide them with information to develop plans of care that incorporate different nonpharmacological pain management strategies that have the potential to increase the QOL for older patients with OA.

Nature of the Doctoral Project

To conduct a review of the literature and locate relevant journal articles, I accessed the following databases and search engines through the Walden University Library: CINAHL, Google Scholar, JAMA Network, the National Library of Medicine-National Institute of Health, and the Cochrane Database of Systematic Reviews. Current, evidence-based guidelines on nonpharmacological pain management techniques through the OARSI, (2019, 2020), AF (2020), and the ACR (2019, 2020) were reviewed to

identify their protocols for pain management. The keyword search terms used were *osteoarthritis, chronic pain, coping strategies,* and *nonpharmacological interventions.*

I first conducted an informal interview with FNPs in the clinic setting. These interviews revealed a knowledge deficit in providing older adult patients with evidence-based guidelines regarding different nonpharmacological management for chronic pain. This was an informal discussion with my colleagues to establish whether the problem exists and not an initiation of the project implementation.

I presented an evidence-based educational project using PowerPoint to 14 FNPs. Both the chief medical officer (CMO) and the chief executive officer (CEO) of the practicum facility approved this project in the facility. However, due to the outbreak of the coronavirus disease of 2019, the education program was presented through the facility intranet for the FNPs.

After receiving Walden University Institutional Review Board approval, I posted the recruitment flyer that contained information on the purpose of the program and when the providers could participate in the presentation through the facility intranet. A formal pretest questionnaire was given to the FNPs in their personal intranet site in the clinic setting prior to their participation in the education program. I provided a PowerPoint presentation of the most recent EBP guidelines on different nonpharmacological interventions used to manage OA pain in older adult patients. The CMO informed the FNPs during the providers' monthly phone conference meeting that the education program was mandatory for all FNPs. After the PowerPoint presentation, the participants completed a posttest questionnaire. I used descriptive statistics to determine the extent to

which there was a change in the FNPs' knowledge regarding nonpharmacological pain management through calculating the percentage differences between the pre- and postsurvey data.

This project focused on staff education was aligned with Walden University's Doctor of Nursing Practice Staff Education Manuals. In this project, I focused on bridging the knowledge gap and promoting awareness among the nurse practitioners (NPs) on different nonpharmacological pain interventions to manage OA pain effectively in older adults.

Significance

OA pain is a major social problem for older adults and has psychological and physical implications. Effective pain management fulfills humanistic and ethical purposes and provides dignity for the individual (Dueñas, Ojeda, Salazar, Mico, & Failde, 2016). Older adults suffering from chronic pain exclude themselves from society gradually (Dueñas et al., 2016).

This evidence-based educational program has the potential for positive social change for several groups: FNPs, older adult patients suffering from OA pain, the caregivers, and family members caring for patients with OA. The evidence-based educational program provided FNPs with knowledge development on evidence-based guidelines for OA management, which includes arthritis education and different land-based exercise programs as first-line management per the guidelines in the clinical setting (see Bannuru et al., 2019; Schlenk & Shi, 2019).

Social significance is concerned with whether the health condition experienced by people is regarded as having a considerable actual or potential impact on the desired lifestyle. Chronic pain in OA patients has the potential to negatively impact their desired lifestyles (Sharma et al., 2018). With the U.S. population aging, the prevalence of OA is increasing, and its outcomes are impacting society significantly (Bannuru et al., 2019). Educating the FNPs on EBP guidelines for OA management empowers them to develop plans of care that incorporate the different nonpharmacological pain management strategies. Implementing strategies to decrease the patients' pain has the potential to optimize their use of self-management, prevent unnecessary referrals to secondary care, and positively impact their QOL (Pelle, Bevers, Van der Palen, Van den Hoogen, & Van den Ende, 2019).

Summary

OA is a significant social problem among older adult patients and has physiological and psychological implications (Dueñas et al., 2016). In the United States, OA affects 50% of people aged 65 years and older (Tang et al., 2017). Pain management is of high importance in older patients with OA because untreated pain can have detrimental impact, impeding their response to treatment and negatively affecting their QOL (Duenas et al., 2016).

Knowledge deficit among NPs relating to nonpharmacological pain management was reported as one of the major obstacles for effective pain management implementation in OA older adult patients (Samarkandi, 2018). Educating the providers on nonpharmacological interventions to manage chronic pain in OA patients has the

potential to empower them to develop plans of care for pain management for older adult patients with OA pain. Patients will then have information that they can use to guide their self-care pain management with the potential for improved QOL. In Section 2, I will discuss the concept model and theory guiding the project, the relevance to nursing practice, the local background and context, and the role of the doctor of nursing practice (DNP) student.

Section 2: Background and Context

Introduction

Older adults with OA continue to report chronic pain despite being treated with pharmacological agents (Schlenk & Shi, 2019). Patients reported no knowledge of self-management of OA during their clinic visit with me, and FNPs also stated little or no knowledge regarding the most current EBP nonpharmacological guidelines in OA management. Therefore, the problem-focused question for this project was as follows: Will educating the FNPs on nonpharmacological interventions to manage chronic pain in OA older adult patients increase their knowledge about the different nonpharmacologic approaches to OA pain management? In this section, I discuss the concept model and theory guiding the project, the relevance to nursing practice, the local background and context, and the role of the DNP student.

Theory and Model

Knowles's (1984) adult learning theory (ALT) and the ADDIE model guided the implementation of the staff education project. The ADDIE model is vital in providing an educational program to embrace a change in the current practice (Jeffery & Longo, 2016). It is recommended by the Sigma Theta Tau International and the Honor Society of Nursing as an instructional model to support the learning, knowledge, and development of healthcare providers committed to creating a positive difference in healthcare (Jeffery & Longo, 2016). I discuss their specific application to the project in the following subsections.

Knowles's Adult Learning Theory

Knowles (1984) developed the ALT (also referred to as andragogy) in 1968 (Illeris, 2018). Knowles recognized that there were several differences in the way adults learn compared to children and developed andragogy seeking to capitalize on the unique learning styles and strengths of adult learners. Knowles identified the following five assumptions of adult learning (Illeris, 2018):

- Self-concept: Maturity is needed to be a self-directed human being.
- Adult learner experience: Maturity is needed to accumulate experience, which becomes an increasing resource for learning.
- Readiness to learn: Maturity is needed to be ready for developmental tasks regarding social roles.
- Orientation to learning: Maturity is needed for perspective changes during learning.
- Motivation to learn: Maturity is needed for internal motivation for learning (Knowles, 1984, p. 12).

Based on these assumptions, Knowles suggested four principles of ideology that are applied to adult learning:

1. Engagement of adults in the planning and evaluation of their instruction is recommended.
2. Personal history of experience provides the foundation for the learning activities.

3. Adults are interested in learning activities that have a direct impact on their profession.
4. Adult learning is not content oriented but problem centered (Kearsley, 2010).

I used Knowles' ALT as the theoretical framework to guide the development of this staff education project. FNPs are encouraged to incorporate the most recent guidelines when developing plans of care for older adults with OA. The chosen framework provided the principles needed to guide my approach in developing an education program for FNPs, who were all adult learners.

I chose Principles 2 and 3 of ALT to guide this project. Concerning Principle 2, the current, evidence-based guidelines are not being followed by the FNPs in managing OA pain in older adult patients at the project site, which provided evidence that the problem exists and created a foundation for this project. Concerning Principle 3, the content of the PowerPoint was developed using evidence-based guidelines on nonpharmacological interventions in older patients with OA. This information can be directly applied to their practice as FNPs (see Illeris, 2018).

The ADDIE Model

The ADDIE model was developed by the Center for Education Technology at Florida State University for the U.S. Army in 1975 and adapted by the U.S. Armed Forces (Usta & Güntepe, 2017). The ADDIE model is an acronym for analysis, design, development, implementation, and evaluation (Parks, Lee, & Yun, 2019). The ADDIE model is used frequently in healthcare settings to present new information to key

stakeholders responsible for implementing EBP guidelines (Parks, Lee, & Yun, 2019). The ADDIE model steps are as follows:

- Analysis: Conducting assessment for needs and ensuring employees' readiness for training.
- Design: Develop objectives, demographic survey, pre- and posttest, and determine sequence and structure for the staff education.
- Development: Review and select the learning materials and develop the PowerPoint presentation for staff education.
- Implementation: Conduct in-service training as approved by the CEO and the CMO of the facility.
- Evaluation and control: Conduct the evaluation of the effectiveness of the educational program (Parks et al., 2019; Usta & Güntepe, 2017).

Relevance to Nursing Practice

A consistent evidence-practice gap in OA care is noted in primary care settings globally (Briggs et al., 2019). The overall management goal for older adult patients is to help manage their pain and improve their QOL (Aciksoz et al., 2016). A knowledge deficit about chronic pain management is not uncommon among health care professionals, especially nurses (Samarkandi, 2018). In clinical practice, it is estimated that about 50% of health care providers reported lack of knowledge related to pain assessment and management (Samarkandi, 2018).

Among NPs, a knowledge deficit toward OA pain management was reported as one of the major obstacles for effective pain management implementation (Samarkandi,

2018). There is an inconsistency between attitude and practice, which suggests that NPs may have a positive attitude towards chronic pain management but do not have adequate knowledge to manage pain effectively due to overwhelming patient loads and their inability to keep up with the current EBP guidelines in chronic pain management (Briggs et al., 2019; Samarkandi, 2018).

Primary care providers often lack training related to the specifics of teaching their patients an exercise regimen, which is a significant obstacle in managing chronic pain among older adult patients with OA (Fink & Lewis, 2017). Different approaches, including referrals to various specialists, may be of benefit for chronic pain management (Fink & Lewis, 2017). However, it is not always an option and not the first-line approach in managing chronic pain in patients with OA.

In the three clinic facilities under one healthcare organization project site, FNPs follow some of the EBP guidelines to manage OA pain in older adults, which include the prescription of pharmacological agents and referrals for PT, pain management specialty, and orthopedic surgery. The FNPs reported a knowledge deficit related to the most current EBP nonpharmacological guidelines to manage OA pain effectively. EBP is considered a goal for the nursing profession and practicing nursing (Dueñas et al., 2016). Educating NPs about evidence-based, nonpharmacological pain management guidelines will empower them to develop plans of care to educate older adult patients about self-management to decrease their OA pain.

Local Background and Context

In the healthcare organization where this project was implemented, the older adult patients report chronic pain due to OA, which has the potential to result in a decreased QOL. They further report mild relief when taking prescribed pain medication. These reports led me to conduct informal interviews with FNPs in the clinic facility. The findings revealed the FNPs' lack of knowledge regarding the most current, evidence-based, nonpharmacological guidelines to manage chronic pain in older adults with OA.

The settings for this project were three primary care clinics in a health organization in the northeastern United States. The FQHC is an outpatient setting that provides care to patients of all populations. The project site was also a not-for-profit organization, where every patient, with and without insurance, receives quality and equal care, regardless of status.

I received the permission of the CEO and the CMO of the facility to present this project in this facility to the FNPs. According to the chief operation officer, the mission of the facility is to provide high-quality primary healthcare and related services to the community regardless of the ability to pay as well as to provide services in a manner that demonstrates in word and deed, the love of Jesus Christ. In addition, the vision of the facility is to provide an integrated and coordinated healthcare and social services system, promoting the health and well-being of the communities served.

OA is the most common joint disease affecting most older adults, most commonly in the fingers, knees, hips, and spine (Federal Bureau of Prisons, 2015). Elbows, shoulders, and wrist can also be affected but are not considered as part of the most

common sites (Federal Bureau of Prisons, 2015). Risk factors for OA development include, but are not limited to, older age; female gender; obesity; hereditary; occupation involving certain types of manual labor; prior injuries; and some medical conditions, such as acromegaly and calcium pyrophosphate deposition disease (Federal Bureau of Prisons, 2015). OA has a major impact on QOL; therefore, the societal burden of OA is high. As the prevalence of OA increases with age, it is also expected that the burden of OA will increase dramatically and result in decreasing the QOL for the individual affected (Pelle et al., 2019). Therefore, it is paramount to educate the FNPs in the clinic setting about the current EBP guidelines on nonpharmacological interventions in managing OA pain.

Role of the Doctoral of Nursing Practice Student

I work as one of the FNPs in the clinic setting where this EBP project was implemented. I provide primary and continuation of care to all populations, including patients with OA chronic pain. Over a year of working in this clinic setting, I identified that many older adult patients are scheduled for follow-up visits every 3 months for OA medication renewal. It is concerning that older patients who come to the clinic often complain of severe pain from chronic arthropathy that can effectively be managed if the most current EBP guidelines are being taught by the FNPs and followed by the patients.

The informal interviews I conducted with FNPs revealed that the FNPs are not implementing the most recent EBP guidelines in their patients' plans of care to manage chronic OA pain. The FNPs reported that they were not up to date with the most current EBP guidelines. All the patient records that I reviewed during follow-up visits with the patients with OA also showed that nonpharmacological interventions were not taught or

provided to them. The project site does not have guidelines in place in managing OA. The care given by the FNPs to the patients with OA is based solely on the FNP's individual knowledge of pain management.

Due to overwhelming patient loads in the clinic, many FNPs do not consult with updated guidelines because of the time restraint. Therefore, I felt compelled to educate the FNPs about the nonpharmacological recommended guidelines in managing OA chronic pain in older adult patients. Execution of this project in the clinic setting would have been impossible due to daily caseloads for the FNPs, but the CMO agreed to help me make this presentation possible by notifying the FNPs during monthly phone conference and encouraged them to find time during the weekend to complete the project.

Summary

Chronic pain is a major clinical problem of OA. Increased knowledge about the most current EBP guidelines on nonpharmacological pain management is highly needed among the FNPs in this project site clinic setting. The FNPs need to be familiar with the updated guidelines and incorporate them into their patients' plans of care to improve pain management. I presented the DNP project, an evidence-based education program on different nonpharmacological pain management for FNPs working with older adults with OA using PowerPoint. Two of Knowles' ALT (i.e., andragogy) principles and the ADDIE model guided the development of staff education.

The education program has the potential to increase the FNPs' knowledge about different nonpharmacological pain management that will guide their development of pain management plans of care to improve the QOL for older patients with OA. It was

paramount to create awareness and bring about knowledge development among FNPs in the clinic setting regarding evidence-based guidelines on different nonpharmacological pain management interventions in older adult patients with chronic OA pain.

Section 3: Collection and Analysis of Evidence

Introduction

OA is extremely common in older adults in the United States, affecting 50% of people aged 65 years and older (Tang et al., 2017). Older adult patients with OA continue to complain of chronic pain because they do not know about the different nonpharmacological ways to properly manage it (Briggs et al., 2019). OA is a chronic disease; therefore, a key element in managing it is evidence-based, nonpharmacological interventions (Bannuru et al., 2019).

Despite evidence-based recommendations for nonpharmacological interventions, the quality of pain management in OA patients is ineffective at the project clinic setting. Lack of time and detailed guidance in clinical practice leads to the underutilization of the nonpharmacological pain management option by NPs (Pelle et al., 2019). The settings for implementation of this project were three primary care clinics at a health organization in the northeastern United States. In this section, I discuss the practice-focused question, sources of evidence, evidence generated for the doctoral project, and analysis and synthesis.

Practice-Focused Question

In the clinic setting, the older adult patients reported chronic pain to me due to OA that is not relieved with the current pain management. Informal interviews with the FNPs at the clinic setting revealed that they lack knowledge about the most current EBP guidelines on nonpharmacological interventions in managing OA pain in older adults. Therefore, the problem-focused question was: Will educating FNPs on

nonpharmacological interventions to manage chronic pain in older adult patients with OA increase their knowledge about the different nonpharmacologic approaches to OA pain management?

Educating FNPs about the most current evidence-based guidelines on nonpharmacological OA management will provide them with the information to develop plans of care that incorporate the different nonpharmacological pain management strategies that have the potential to increase the QOL for older patients with OA. It is important to promote EBP guidelines to optimize the use of self-management and prevent unnecessary referrals to secondary care (Pelle et al., 2019).

Sources of Evidence

To locate relevant journal articles on the topic, I searched the following databases and search engines, accessed through Walden University Library: CINAHL, National Library of Medicine-National Institute of Health, Google Scholar, JAMA Network, and the Cochrane Database of Systematic Reviews. Peer-reviewed journal articles on OA management that were published within the last 5 years (i.e., 2015–2020) were reviewed for the implementation of this project. The searches resulted in over 2,000 articles on OA management, so I narrowed down this number using the following search terms: *osteoarthritis, chronic pain, coping strategies, nonpharmacological interventions, chronic pain in older adults, dietary and osteoarthritis, self-care, self-management, adult learning theory,* and *ADDIE model*. The exclusion terms were *gender, race, pathophysiology, acute pain,* and *kinesthesia*. To guide the development of this project, I ended up reviewing 35 sources. To identify their protocols for pain management, I also

reviewed the current, evidence-based guidelines on nonpharmacological pain management techniques of the OARSI, (2019, 2020), the AF (2020), and the ACR (2019).

Informal interviews that I conducted with 10 FNPs in the clinic setting revealed a knowledge deficit about evidence-based guidelines regarding different nonpharmacological management for chronic OA pain. My review of patient charts during follow-up visits also revealed no record of FNPs' nonpharmacological teaching in managing arthritic pain. Educating FNPs with the most current, evidence-based guidelines on nonpharmacological OA management will provide them with the information needed to develop plans of care that incorporate the different nonpharmacological pain management strategies. Incorporating these strategies into the patients' plans of care has the potential to increase the QOL for older patients with OA. EBP is considered a goal for the nursing profession and practicing nursing (Pelle et al., 2019).

Evidence Generated for the Doctoral Project

Participants

The participants in this project were 14 FNPs that provide care to all patients in all three clinics under one healthcare organization. The informal interview that established the existing practice problem for this project was carried out among this same group of FNPs. The practice problem was discussed with the CMO and CEO of the health organization, who then mandated every FNP to participate in this project. I asked

the CEO to recommend three individuals, including organizational leadership and key stakeholders, to serve as reviewers for the educational plan.

Procedures

The content experts recommended by the CEO (i.e., the CMO, director of nursing, and a FNP) reviewed the educational plan. I took the following steps after obtaining approval from Walden University Institutional Review Board:

- A formative review (see Appendix A) of the educational plan to validate the content and ensure usability was conducted by the content experts. The objectives, PowerPoint presentation (see Appendix B) and pre- and posttests (see Appendix C) were revised based on their evaluations. I made revisions based on their recommendations and finalized the educational plan based on a second review by the content experts.
- The recruitment flyer was posted on the board in the providers' lounge at all three locations. The recruitment flyers contained information on the purpose of the program and the date, time, and place for the providers to participate in the presentation.
- The participants completed a pretest prior to the PowerPoint presentation. The questionnaire was made available to all the participants through each facility's e-mail account. The participants were informed that, although their CMO determined that their attendance in the educational program was mandatory, completion of the pre- and posttests was voluntary. The pre- and posttests informed the participants that by completing these questionnaires, they

provided consent for the information to be collected. These documents also informed the participants that they were not to write their names on the documents. Each document was numbered and did not include a name.

- I presented an education program through the facility intranet system (due to the coronavirus). The PowerPoint presentation included the most recent EBP guidelines on different nonpharmacological interventions used to manage OA pain. The staff was asked to complete the posttest within a week.
- The participants evaluated the program (see Appendix D) at the end of the education program.
- I communicated the results and recommendations to the organizational leadership and the program stakeholders through their facility e-mail addresses.

Formulation of Specific Learning Objective

After the completion of the educational program, the FNP were able to:

- Identify the first line of nonpharmacological EBP guidelines in managing OA pain.
- Identify land-based exercises used for pain management in patients with OA.
- Discuss the dietary plan recommended for patients with OA.
- Discuss strategies to implement nonpharmacological EBP guidelines for OA pain management in the patients' plans of care.

Protection

I did not collect the participants' names and identifying information. The pre- and posttest did not include the FNPs' names, only the document numbers. The names of the content experts did not appear on the formative evaluations they completed. The name of the organization, content experts, and FNPs did and will not appear on any written report of this project. I will store all project-related files for 5 years on my personal computer, which is password protected and accessible only by me.

Analysis and Synthesis

In this project, I used a descriptive statistical analysis to determine the difference between the data obtained from the pre- and posttests. The descriptive statistical program in Microsoft Excel was used to determine if there is a percentage difference in FNPs' overall knowledge after participating in the educational program. The results are shared in Section 4.

Summary

In this section, I discussed the practice-focused question, sources of evidence, evidence generated for the doctoral project, and analysis and synthesis. Evidence that guided the project was developed from a review of peer-reviewed literature and organizations. The participants were 14 FNPs that provide care to older adult patients with OA. To achieve the desired learning objectives, I developed a PowerPoint educational program that was evaluated by the key stakeholders and revised based on their recommendations. The participants completed pre- and posttests and an evaluation form. The PowerPoint educational program was sent to the participants through the

facility intranet. The name of the organization and the participants was not and will not be mentioned in any written report of this project. I discussed how the percentage of pre- and posttest was determined by using a descriptive statistical analysis.

The goal of the educational program was to increase the FNPs' knowledge about the most current EBP pain management options for patients with OA. It also provided FNP with the information needed to develop plans of care that incorporate the different nonpharmacological pain management strategies that have the potential to decrease the pain experiences of older patients with OA. In Section 4, I discussed the findings and recommendations.

Section 4: Findings and Recommendations

Introduction

In this project, taking place at three primary care clinics in a health organization in the northeastern United States, the findings revealed the FNPs' lack of knowledge regarding the most current, evidence-based, nonpharmacological guidelines to manage chronic pain in older adults with OA. The FNPs did not include the most recent evidence-based guidelines provided by the OARSI, AF, and ACR when treating older adult patients with OA pain. Therefore, the practice-focused question for this project was: Will educating FNPs on nonpharmacological interventions to manage chronic pain in older adult patients with OA increase their knowledge about the different nonpharmacologic approaches to OA pain management? Educating FNPs with the most current, evidence-based guidelines on nonpharmacological management of OA would provide them with the information to develop plans of care that incorporate the different nonpharmacological pain management strategies that have the potential to increase the QOL for older patients with OA. Review of patients' charts during their follow-up visits with me revealed no record of them receiving nonpharmacological teaching in managing their arthritic pain. Informal interviews that I conducted with 10 FNPs in the clinic setting also revealed a knowledge deficit about evidence-based guidelines regarding different nonpharmacological management strategies for chronic OA pain.

The participants were 14 FNPs that provide care in all three clinic locations of the one health organization. The FNPs completed the pretest, viewed the PowerPoint educational presentation, then completed the posttest and evaluation form. I carried out a

descriptive statistical analysis on the results to determine if there was a percentage difference in FNPs' overall knowledge after participating in the educational program with the data obtained from the pre- and posttests for this project.

Findings and Implications

I developed 10 questions for the pre- and posttests, with each question worth 10%. I calculated the percentage based on the individual's answer (see Table 1) and was able to determine the highest, average, and lowest score for both pre- and posttests. For the pretest score, the highest score was 80%, the average score was 60%, and the lowest score was 40%. For the posttest score, the highest score was 100%, the average score was 94%, and the lowest score was 70% (see Table 2). The graph created shows a vast margin between the percentages of pre- and posttest scores (see Figure 1). The findings show that PowerPoint presentation staff education increased the knowledge of the FNPs about the current, evidence-based guidelines on nonpharmacological OA pain management.

This education program has the potential for positive social change for several groups: NPs, older adult patients suffering from OA pain, the caregivers, and family members of the patients with OA. The program increased the FNPs' knowledge about different nonpharmacological pain management that will guide their development of pain management plans of care to improve the QOL for older patients with OA. It also provides tools needed to decrease the patients' pain, which has the potential to optimize their use of self-management of pain. In the community, effective pain management fulfills humanistic and ethical purposes and provides dignity for the individual suffering from arthritic pain (Dueñas et al., 2016).

Table 1

Pre- and Posttest Results

Participants by Number	Pretest scores	Posttest scores
1	40%	90%
2	50%	100%
3	70%	90%
4	80%	100%
5	50%	100%
6	80%	100%
7	70%	80%
8	50%	70%
9	70%	100%
10	50%	100%
11	70%	100%
12	40%	100%
13	60%	90%
14	60%	90%

Table 2

Pre- and Posttest Percentages

	Pretest percentage	Posttest percentage
Lowest score	40%	70%
Average score	60%	94%
Highest score	80%	100%

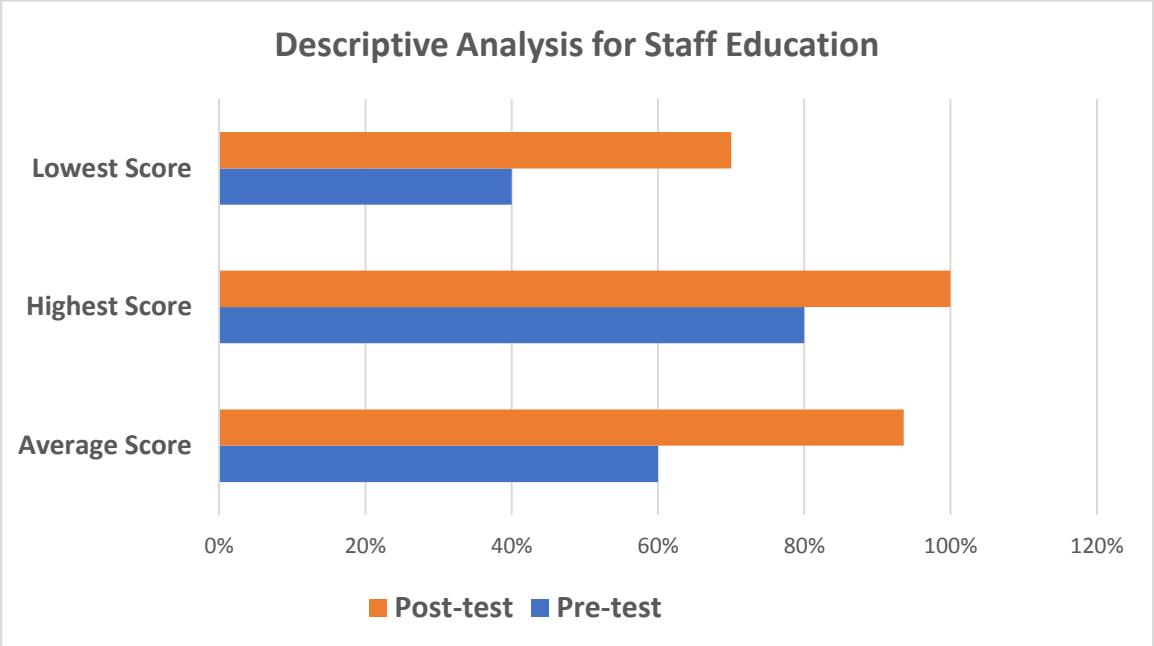

Figure 1. Descriptive analysis graph for staff education.

Recommendations

I recommended the following proposed solutions to address the gap-in-practice:

- Continuing education (CE) courses on arthritis management for the FNPs. CE helps the health care providers to stay current and updated about the latest findings and recommendations in the clinical practice. CE is considered a way for the FNPs to stay current with the practice guidelines and prevent gaps in practice (Shinners & Dickerson, 2019).
- Online access to disease management websites and tools, such as UpToDate.com and smartphone applications, that provide quick EBP guidelines on OA management. There is a need for access to the best possible care and treatment regimens as well as credible, up-to-date, and evidence-

based information. Having online access to medical updates is vital in primary care. An approved website, such as UpToDate.com, is reliable and helps the providers stay current in implementing the patient's plan of care according to the EBP guidelines (Kushniruk, 2019).

Strengths and Limitations of the Project

I conducted a staff education project among 14 FNPs that treat patients with OA in three clinic setting. One strength of the project was its effectiveness. The vast margin noted between the pre- and posttest scores showed that the staff education presented was needed and effective. The effectiveness of the project has the potential to decrease the patient's pain level and improve their activities of daily living.

I also identified limitations to the project One limitation was that the project was carried out among 14 FNPs only. Intervention research is advised for larger groups of FNPs to determine if the outcome identified can be replicated more clearly. In addition, the statistical analysis in this project compared the group percentage difference between the pre- and posttest scores. In the future, each individual score should be used to determine the need for further individual education.

Section 5: Dissemination Plan

To ensure that the benefits of this successful staff education project are shared and utilized, dissemination must occur. I explicitly designed the project for FNPs in the clinic setting to broaden their knowledge about the most current EBP guidelines on OA pain management. The FNPs will have access to the PowerPoint presentation at any time as needed for their review. I encouraged the FNPs to incorporate the knowledge received through staff education into their patient's plans of care, which has the potential to decrease the severity of the patients' pain level and improve their QOL.

As a member of the American Association of Nurse Practitioners (AANP), the *Journal of the AANP* would be a possible place to publish my findings and would be a great fit to disseminate this project. I will submit a manuscript to the journal for publication. AANP publications promote best practices in clinical practice (AANP, n.d.). The *Journal of AANP* provides timely, peer-reviewed articles addressing clinical practice, research, and other issues affecting NPs (AANP, n.d.). I will also submit an abstract for a poster or podium presentation to the AANP regional and national conferences. Dissemination of this project will benefit providers, nursing students, patients, and their family members as well as the community at large. In addition to the FNPs, all providers, including the primary care physicians caring for patients with OA, can benefit from the staff education program.

Analysis of Self

As a FNP in an outpatient clinic setting, providing staff education about EBP guidelines on first-line nonpharmacological interventions in managing pain in older adult

patients with OA has been a great learning experience for me. At the outpatient clinic, FQHC where this project was implemented, FNPs are faced with time restraints due to the overwhelming patient loads. Because of the time restraints, most of FNPs do not have the time to review the literature to obtain current EBPs on OA or any chronic diseases. Execution of this project in the clinic setting would have been impossible due to daily caseloads for the FNPs; however, because of the potential benefits, the CMO agreed to help me make this presentation possible.

I carried out this project to help my colleagues due to the knowledge deficit they demonstrated while caring for OA patients. In turn, the project gave me a better perspective and understanding of caring for patients with OA and other diseases in accordance with EBP guidelines. As I move forward in my career as a DNP-prepared nurse, I am ready to be a change agent at my workplace, in the community, and across the country at large. This journey has helped me tremendously to discover myself professionally and to enhance my focus on delivering quality patient care.

Summary

As discussed previously, OA is common among the older adults in the United States, affecting 50% of people aged 65 years and older (Tang et al., 2017). As the prevalence of OA increases with age, it is also expected that the burden of OA pain will increase dramatically and result in decreasing the QOL of older adults diagnosed with OA (Pelle et al., 2019). Therefore, it is paramount to educate the FNPs in the clinic setting who provide care for these patients daily about current EBP guidelines on nonpharmacological interventions in managing OA pain.

The statistical analysis in this project showed that the educational program presented increased the FNPs' knowledge about the most current EBP pain management options for patients with OA. The educational program also provides them with the information needed to develop plans of care that incorporate the different nonpharmacological pain management strategies that have the potential to decrease the pain experiences for older patients with OA and improve their QOL.

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Appendix B: PowerPoint Presentation