Primary Care Providers' Barriers to Opioid Prescribing for Chronic Non-Cancer Pain

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Abstract

Pain is one of the most common and debilitating patient complaints, affecting individual patients, their friends, families, the workforce, and society in general (Rosenquist 2015). Because pain is subjective it is challenging to manage effectively. Pain management is complicated by comorbidities. In recent years, pain has become the fifth vital sign. It must be assessed, addressed, and evaluated per the Joint commission statement on pain management (2002). The use of opioid medication to treat chronic non-cancer pain in adults, especially in older adults, is controversial. Pain management for geriatric patients is inconsistent and suboptimal. Ineffective pain management continues to be prevalent across healthcare settings. Under-utilization of opioids is a significant reason for inadequate pain management in adults. Most patients with chronic non-cancer pain receive care in the primary care setting, and primary care providers struggle with the decision to prescribe opioids to patients. A review of 20 studies from 6 countries with varied methodologies examined barriers to and facilitators of primary care providers' opioid prescribing. Identified barriers include inadequate knowledge and training; personal beliefs of providers; excessive regulation of opioid drugs; fears of causing harm, dependence, drug misuse, and diversion; lack of support from pain specialists; and patient reluctance to take opioids due to fear of adverse effects or addiction. Two of the facilitators of opioid prescribing were providers' adherence to a protocol that enhanced their knowledge of opioid use and satisfaction with patient outcomes.

Keywords: Chronic non-cancer pain, opioids, pain management, older adults.

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CHAPTER 1: INTRODUCTION

Pain is a universal health issue that affects millions of people around the world. The subjectivity of pain makes it challenging for practitioners to manage effectively, especially with opiate therapy. Opioids are groups of compounds that act on the nervous system to relieve pain. Opioids can act as agonists, antagonists, and partial agonists/antagonists at peripheral and central opioid receptors (Guerriero, 2017). An agonist is a drug that activates certain receptors in the brain resulting in the full opioid effect. Examples of opioid agonists are heroin, opium, fentanyl, methadone, hydromorphone, morphine, and oxycodone. An antagonist is a drug that blocks opioids by attaching to the opioid receptors without activating them. It causes no opioid effect and blocks full agonist opioids. Examples are Naloxone and Naltrexone. Lastly, a partial agonist activates the opioid receptors in the brain, but to a lesser degree than a full agonist while allowing for some opioid effect of its own to suppress withdrawal symptoms and craving. An example is Buprenorphine, which may be marketed as Suboxone, Bunavail, or Probuphine

The International Association for the Study of Pain defined pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage" (Jamison & Edwards, 2012, pg. 50). A revised definition identified pain as a somatic perception containing a bodily sensation experienced threat associated with sensation, and a feeling of unpleasantness. Chronic pain is generally defined as pain persisting for more than 6 months or past the normal healing time. (Jamison & Edwards, 2012). Chronic pain causes functional impairments and disability. It is a costly problem that influences every aspect of a person's quality of life. Chronic pain interferes with sleep, employment, social functioning, and activities of daily living. Chronic pain may contribute to the progressive and gradual decline in physiological reserve that comes with aging. Also, chronic pain is associated

with a decline in social events and resultant isolation. Persistent pain is also associated with mental distress, anxiety, depression, and decreased cognitive ability.

Over 100 million Americans suffer chronic pain, and roughly 63% of chronic pain patients seek help from primary care providers (Rosenquist, 2015). Fifty-five percent of patients across the United States and Europe experience some degree of chronic pain, and about 19% report chronic pain of moderate to severe intensity. The annual cost of chronic pain in the United States alone exceeds $200 billion, the bulk of which occurs as lost productivity, disability payments, and rising medical costs for treatments (Cohen & Jangro, 2015). Pain accounts for 20% of outpatient visits and 12% of all opiate prescriptions. The population of adults age 65 and older is growing, with numbers of the frailest, most pain-ridden, and oldest (85 years and over) increasing the most rapidly (Galicia-Castillo & Weiner, 2016). Fifty percent of older adults' report pain that interferes with normal functions. Musculoskeletal disorders are common with aging. Osteoarthritis is the leading cause of persistent pain in older adults. Other non-cancer causes include neuropathies, vascular diseases, vertebral compression fractures, osteoporosis, end-stage organ failure, and stroke.

Opioids are powerful pain reliever drugs. They are often prescribed in response to the clinical needs of older adults with chronic non-cancer pain who require effective relief from moderate to severe pain. However, the use of opiate medication to treat chronic non-cancer pain in older patients is controversial. Current guidelines recommend that opioid therapy be considered for older patients with moderate to severe chronic pain. Despite the authoritative indications, however, "management of persistent pain in older adults still lack in everyday practice" (Guerriero, 2017, pg. 75).

The Problem

Healthcare providers encounter multiple barriers to prescribing opiates to older adults with CNCP. If opiates are prescribed at all, they are to be used cautiously, considering potential tolerance, physical dependence, adverse effects, polypharmacy, and frailty. Providers are also concerned that pharmacological interventions such as opioid use may inadvertently contribute to the under-treatment of pain and adversely affect independence and quality of life in geriatric patients. Treatment of patients with chronic pain tends to be complicated, especially older adults with comorbidities. Most patients with chronic pain are managed in primary care settings; therefore, providers have an ethical responsibility to relieve pain-related suffering by providing informed and unbiased access to pain medications.

The use and misuse of opioids for CNCP management are significant health issues. Chronic pain occurs in 45-85% of older adult; treatment is essential to maintenance of good quality of life and active roles in both family and society. In 2010, a meta-analysis of 43 treatment studies examined the effects of opioid use among older adults with musculoskeletal disorders. Evidence from the trial showed that opioid therapy for geriatric patients can be safe and effective with appropriate cautions (Guerriero, 2017). Opiates are not absolutely contraindicated for managing chronic pain in older adults and other adults with chronic pain. In fact, they have been proven to be effective analgesics for older adults. However, opiate prescribing for chronic pain is under-utilized because of concerns about polypharmacy and fear of adverse drug effects.

Several studies have identifying primary care providers' hesitance or barriers to prescribing an opiate for adults with chronic pain. These barriers are associated with professional knowledge and training and inappropriate attitudes and beliefs. Underlying the barriers to

prescribing the medication are professional misconceptions about opioids, insensitivity to pain experiences in the older population, and concern about the possibility of family member/caregiver abuse and diversion. Legal and regulatory sanctions, as well as disagreement between providers' assessment of pain and the patient-reported pain experience, are common barriers to opiate prescribing.

Purpose of the Study

There are many studies in the medical literature on opiate prescribing, but few focus on the provider's perceptions of impediments to prescribing opioids to older adults with CNCP. Therefore, I conducted an integrative literature review to explore the barriers to opiate prescribing among primary care providers (PCPs) in the management of CNCP in adults. I expected my review to highlight essential opportunities for improving the opioid prescribing practice among providers and thus also the quality of chronic pain management in older adults with chronic nonmalignant pain.

Research Question

This literature review was guided by the following research question: What do primary care providers perceive as barriers to prescribing opioids for the management of chronic non-cancer pain in adults?

CHAPTER 2 LITERATURE REVIEW

The literature review was conducted with the primary objective of exploring primary care providers' barriers to opiate prescribing in the management of CNCP in older adults. The study was an integrative review providing a comprehensive understanding of this global health concern. I used Whittemore and Knafl's (2005) framework to simultaneously synthesize data from qualitative and quantitative research that used a variety of designs and methods.

Literature Search Strategy

The literature search was conducted per Whittemore and Knafl (2005). A search of PubMed/Medline, CINAHL, Cochrane Library, AHRQ Evidence Reports, Google Scholar, Medscape and Update databases was conducted. Keywords and terms used in the search were *providers' attitudes and beliefs about chronic non-cancer pain, barriers to opiate prescribing in older adults, persistent non-cancer pain*, and *providers' perspectives on opioid treatment*. This strategy generated 100 articles, which I narrowed to 20. I appraised the 20 articles individually for validity, results, and applicability to my research question using the CASP appraisal tools. Both qualitative and quantitative articles were reviewed for this project as well as nonexperimental research articles.

The Literature

Each of the 20 studies reviewed is described below. They are summarized and their important features listed in Table 1.

Decision Support for Chronic Pain Care: How Do Primary Care Physicians Decide When to Prescribe Opioids? A Qualitative Study

Harle et al. (2015) conducted in-depth qualitative interviews with family medicine and general internal medicine physicians to explore their struggle in the treatment of CNCP and the

factors influencing their decisions regarding prescribing opioids. The PCPs described their uncertainty in diagnosing CNCP and assessment of opioid-related risks and benefits. Two of the problems identified were inadequate resources such as point-of-care urine drug screen and time constraints. Participants reported a large number of patients and limited time allotted to them. They described most the patients as elderly with comorbidities that crowded the time needed to manage pain and opioid use efficiently.

Another factor influencing the physicians' prescribing decisions was a lack of trust in their patients; sometimes patients' self-reported pain did not match the clinical findings (Harle et al., 2015). The researchers reported providers' frustrations with patients' dishonesty about their pain and their abuse, misuse, or diverting of opioids, all of which made it hard for the providers to manage patients on opioids effectively.

The results of the study reflect the actual decision-making process of the primary care providers in treating CNCP in older adults with opioid. The findings suggest the use of electronic health records-based decision support that fosters the clinical team-based approach to information management (Harle et al., 2015). This approach allows providers to diagnose chronic pain conditions and weigh the risks and benefits of opioid use. The primary limitation of the study is its use of a small sample of physicians from only one state in the United States; the sample cannot be representative of the physician population across the entire country much less internationally. Aside from this limitation, the study is valuable and applicable to improving outcomes for patients with CNCP through decision support systems and physician education on pain management in primary care settings.

Understanding Long-term Opioid Prescribing for Non-Cancer Pain in Primary Care: A Qualitative Study

This qualitative study conducted by McCrorie et al. (2015) described the growing concern of the inappropriate use of potent opioids and the underutilization of alternative approaches in the management of chronic non-cancer pain. This study was a semi-structured interview with patients and focus groups with general practitioners. The study sample comprised 37 general practitioners out of 158 approached and 23 out of 391 invited patients from practices with high and low opioid prescribing levels for diversity in experiences. The age range of the patients on stable, prescribed, strong opioids interviewed was 31-89 years. The researchers reported clear aims for the study and used an appropriate design to answer the research questions, following the CASP appraisal tools.

The survey revealed the problems and challenges faced by patients with chronic pain in explaining the legitimacy of their symptoms so they would be taken seriously by the practitioners. The providers reported difficulties in assessing pain and concerns about prescribing strong opioids to their patients (McCrorie et al., 2015). The survey highlighted four features of the interactions between the patients and the providers that influenced prescribing of the opioid: lack of clear strategies; uncertainty in decision making, especially regarding prescribing; continuity in the doctor-patient relationship; and mutuality and trust. The researchers concluded that both patients and general practitioners found the management of chronic pain unsatisfactory. The patient groups believed their pain was not well controlled despite continuing or increasing the dose of their opioid. On the other hands, the practitioners' awareness of the limitations of prescribing opioids compromised their ability to formulate a coherent pain management plan. The results of the study were helpful and consistent with other meta-ethnography of qualitative

studies. The findings, especially the struggle faced by patients in explaining their pain symptoms and negotiating the healthcare system, are consistent with those of previous studies. The only limitations of the study were the under-representation of patients from minority ethnic groups and the inclusion of more women than men.

Barriers and Facilitators to Chronic Non-Cancer Pain Management in Primary Care: A Qualitative Analysis of Primary Care Providers' Experiences and Attitudes

Lincoln, Pellico, Kerns, and Anderson (2013) conducted a descriptive and qualitative analysis of primary care providers' experiences and attitudes. The study explored the providers' experiences with the factors that facilitate chronic pain management. The settings of the study were the Veterans Administration Connecticut healthcare system and six community-based sites. Of the 60 primary care providers invited to participate in the survey, 45 responded to the open-ended survey questions via mail and email. The 45 respondents were 40 physicians, 4 nurse practitioners, and 1 physician's assistant. Five percent of each provider's panel of patients received opioid for chronic pain management. The methodology of the study was appropriate for addressing the study's purpose, and the purpose related directly to my research question.

The results of the Lincoln et al. (2013) study agreed with previous findings that PCPs find pain management challenging and have negative feelings about pain care in general. The study results were divided into three domains: systems, personal/professional, and interpersonal. The researchers identified multiple barriers to caring for patients with CNCP. These barriers included system factors: the inadequacy of education and deficiencies among PCPs in assessing and managing common chronic pain conditions. In the personal/professional domain, which focused on factors associated with the provision of optimal care, the PCPs reported frustrations with the complexity of pain management in patients with multiple comorbidities, given the time

constraints they faced. In the interpersonal domain, the PCPs identified as challenges issues related to sharing care among providers and specialists, provider-patient interactions based on trust, and communication. As for facilitators, study participants identified the intellectual satisfaction of problem solving involving difficult diagnosis and management problems. Other facilitators included the rewards of healing and building a therapeutic alliance with patients.

The major flaw in the Lincoln et al. (2013) survey was the use of written survey data that limited the capacity for in-depth exploration of the participants' responses. Also, the sample was small and the participants were from only one veterans' medical center; therefore, the results cannot be generalized to non-veterans. Otherwise, this study applied to my research project. Multiple barriers to managing CNCP were identified by PCPs as well as strategies for overcoming those obstacles.

Primary Care Providers' Perspective on Prescribing Opioids to Older Adults with Chronic Non-Cancer Pain: A Qualitative Study

The qualitative cross-sectional study conducted by Spitz et al. (2011) described primary care providers' experiences and attitudes towards CNCP as well as prescribed barriers and facilitators to prescribing opioids for older adults with chronic pain. The study settings were New York City's community health centers and two academically affiliated primary care practices. Six focus groups were conducted with a total of 23 physicians and three nurse practitioners. This study was critically appraised using the CASP appraisal tools to ensure validity. The results of the study apply to my research question. Providers in this study cited multiple barriers, including fear of adverse effects, lack of education, the subjectivity of pain, problems converting between opioids, and stigma. Other hurdles described were the reluctance of patients/family members to

try an opioid and concern about the potential for opioid abuse by patients' family members or caregivers.

The participants expressed frustrations managing chronic pain. Some of the providers stated they were more comfortable using opioids in palliative or hospice care versus care of patients with chronic pain (Spitz et al., 2011). Of the 26 participants, 25 said they prescribed opioids as a treatment for older adults with CNCP, but 100% of the providers did not consider them as first-line treatments. Ninety-two percent of the providers agreed they were "cautious" or "hesitant" when describing their opioid-prescribing practice regarding older adults. Some of the facilitators discussed in the study were patient and family education about opioids, easy access to peer or specialist support, evidence-based tools to help calculate starting dose as well as long-term benefits.

Spitz et al. (2011) concluded that providers perceived multiple barriers to prescribing opioids to older adults with chronic pain, and if they prescribed them at all, they did so with caution. The results provided support for future efforts to improve provider training and access to peer support. Tools for identifying older patients at risk for adverse effects were discussed. Limitations of this study included its small sample, the nonrandom sample selection, and limitation to only two academically affiliated and three community-based primary care practices in New York. The results may not be generalized to other groups.

General Practitioners and Chronic Non-Malignant Pain Management in Older Patients: A Qualitative Study

This qualitative study explored the influences on general practitioner practices regarding pain management for older adults with chronic non-malignant pain using the micro, meso, and macro model as a framework to interpret the findings (Kennedy, Henman, & Cousins, 2016).

The researchers conducted semi-structured interviews of 12 general practitioners in Ireland. The practitioners were recruited using a snowball sampling approach. The factors influencing a general practitioner's decision-making process when prescribing opioids were classified into micro, meso, and macro factors. The main micro factors were clinical considerations such as pain severity, co-prescriptions or comorbidities, and concern about potential adverse effects. Other micro factors included the provider's attitudes towards chronic non-malignant pain management goals, "opiophobia" attributed to inadequate knowledge and experience with opioids, and concern about professional scrutiny when prescribing opioids. Providers' education and training in chronic non-malignant pain management also influenced prescribing practices. Meso factors included guidance from local formularies, access to specialists, and cultural perceptions of the primary care provider's roles (Kennedy et al., 2016). Macro factors refer to factors in the national and international context that are common to most general practitioners, including the availability of information and guidance on prescribing medication for chronic non-malignant pain.

This study showed that the clinical guidelines for chronic pain management are not widely accessed by clinicians. The unfamiliarity with the guidelines is itself a barrier to their use (Kennedy et al., 2016). The findings in this article are consistent with results from other studies and addressed my research question. There are potential implications for practice at all three levels identified in the study, as they relate to primary care and pain management. The study was limited by the potential bias stemming from the participant recruitment method as well as from telephone interviews. However, the study provides insights on the introduction of standardized assessment tools that aid practitioners in evaluating patients systematically as well as education intervention to enhance knowledge of pain management and opioid prescribing for older adults.

Collaborative Efforts May Improve Chronic Non-Cancer Pain Management in Asia: Findings from a Ten-Country Regional Survey.

In a quantitative survey, 16 international experts investigated the attitudes and perceptions of physicians and patients towards chronic pain management with a focus on opioid use in Asia (Cheung et al., 2016). Participants were recruited from 10 countries in two regions in Asia: China, Hong Kong, Indonesia, the Republic of Korea, Malaysia, the Philippines, Singapore, Taiwan, Thailand, and Vietnam. Questionnaires were sent to 699 physicians (orthopedists and general practitioners, 49.3%; pain management specialists, 17.3%) and 1,305 patients. The response rate for physicians ranged from 6.8% in Hong Kong to 54.7% in Indonesia; patient response rate ranged from 5.2% in Hong Kong to 69% in the Philippines. The study design, research objectives, and findings were clearly described. Chronic pain is a global issue and a leading cause of long-term disability. It was intriguing to see the similarities in the physician-perceived barriers to opioid therapy for patients with CNCP from across the 10 Asian countries.

In this study, 89.3% of patients interviewed reported experiencing moderate to severe pain for 24 months, and their opioid use was suboptimal (Cheung et al., 2016). The researchers reported that one-third of the physicians had inadequate training on opioids; 71.1% reported having 10 or fewer hours of continuing education in pain management. Seventy-eight percent of physicians reported disparities between their evaluation of patients' pain and patients' self-reported pain level. The researchers concluded the suboptimal use of opioids in CNCP management was due to insufficient physician knowledge partially attributed to inadequate pain assessment. Patients' reluctance to take opioid therapy was due to fear of adverse effects and excessive regulations on opioid drugs, further hindering optimal treatment. The main limitation

of the study was the multi-country approach, which created challenges in maintaining similar response rates between countries due to cultural differences and the diverse nature of the physician-patient relationship.

Knowledge and Beliefs about Chronic Non-Cancer Pain Management for Family Medicine Group Nurses

Bergeron, Bourgault, and Gallagher (2015) conducted a mixed-methods study with a quantitative preponderance cross-sectional mailed survey of family medicine group nurses in Quebec. The primary purpose of the study was to explore the knowledge and beliefs of nurses working in family medicine groups about management of CNCP and barriers in managing patients with chronic pain in their practices. The literature revealed suboptimal knowledge about chronic pain management due to lack of training. The Patiraki-Kourbani model was used to examine different barriers associated with effective pain management by nurses. The specific variables examined were: knowledge about best practices in CNCP management, beliefs, and the barriers preventing nurses from performing CNCP management actions.

Theoretical knowledge about pain plays a significant role in the ways individual nurses manage pain. The study found that primary care for CNCP patients in Quebec was unsatisfactory (Bergeron et al., 2015). The findings in this study showed suboptimal knowledge and inappropriate beliefs among nurses about opioid use in the management of chronic pain. Nurses were unable to diagnose chronic pain syndrome, lacked in-depth training on pain, and displayed ignorance of pharmacological treatment options. The researchers concluded that positive attitudes of providers with appropriate beliefs and knowledge play a significant role in effective chronic pain management. The limitation of this study was the low response rate, which suggest

the possible presence of favorable systemic bias in the survey answers. Nevertheless, the study was applicable and addressed my research questions.

An Integrative Review of the Literature on Pain Management Barriers: Implications for the Canadian Clinical Context

In an integrative review, Ortiz, Carr, and Dikareva (2014) examined 24 articles on barriers to pain management; 14 were quantitative studies, 7 were qualitative studies, and three mixed-methods studies. A Prisma flow chart was used to summarize the research. The articles described the responses of general practitioners, emergency department nurses, advanced practice nurses, and nursing home patients to pain management; responses were obtained via interviews, telephone surveys, focus groups, and structured and unstructured observations.

In the literature, Ortiz et al. (2014) identified multiple barriers to pain management. Individual patients' barriers, which can be a central challenge to effective pain management, included negative attitudes and beliefs about pain medications, poor communication with providers, and lack of involvement in their care. Professional barriers were associated with providers' knowledge and training. These barriers stemmed from the providers' attitudes and beliefs that led to overly conservative pain management and misconceptions about the dangers of opioids. Providers sometimes saw pain as an age-related phenomenon and they demonstrated less sensitivity to pain in older adults. Organizational barriers, those associated with workplace dynamics, culture, and practices, included demanding workloads, time constraints, and policies that sometimes-negated optimal pain management. This integrative study concluded with an analysis and synthesis of the barriers to effective pain management from the literature. It highlighted the complexities and interrelatedness of the identified barriers. Several suggestions were given for future research to improve pain management.

A Better Approach to Opioid Prescribing in Primary Care

In a best practice evidence-based guidelines quality improvement interventional study, Canada, DiRocco, and Day (2014) evaluated providers' adherence to the electronic medical record (EMR)-based protocol, attitudes towards management of CNCP patients, and knowledge of opioid prescribing. The setting for the study was the University of Pennsylvania Division of General Internal Medicine. The researchers developed an EMR-based protocol and trained providers and selected staff from three primary care practices in the use of the protocol for managing CNCP patients on opioid therapy.

The participants were 26 providers and 33 staff members. Physician and staff attitudes and knowledge were assessed pre-and post-intervention through a questionnaire. The investigators measured protocol adherence by evaluating providers' use of standard diagnosis (chronic pain, and-9code338.29A) urine drug screen order for the patient and follow up visits at least once every 6 months (Canada et al., 2014).

The researchers found that providers' adherence to the protocol significantly improved patient-measured outcomes (Canada et al., 2014). The number of urine drug screen ordered increased by 145%. Diagnosis of chronic pain on problem list increased by 424%. The providers' attitudes towards patients taking opioids for CNCP improved significantly. The study reported a significant statistically improvement in providers' role-related self-esteem, role support, and job satisfaction when working with patients on opioid treatment. This study was not designed for practice-level comparisons. It involved monetary incentives for providers, which may not be feasible elsewhere. The researchers did not have access to individual charts for review.

Attitudes of Healthcare Professionals to Opioid Prescribing in End-of-life Care: A Qualitative Focus Group Study

Gardiner et al.'s (2012) qualitative study explored the views of healthcare professionals regarding opioid prescribing for patients at end of life. I included this article in my research because the findings revealed significant barriers to appropriate use of opioids. This article focused on end-of-life care; it is relevant to my research questions because it describes obstacles to opioid prescribing. Older adults with CNCP may sometimes fall into this category of patients due to their comorbidities.

Gardiner et al. (2012) collected descriptive information from 31 healthcare providers in South Yorkshire, England, through focus groups. Four focus group were formed and classified into two larger groups. Two groups contained 19 general practitioners and two groups contained 12 hospice care providers. The study was critically appraised using CASP appraisal tools. The findings revealed that many practitioners in primary care have concerns relating to opioid prescribing, not only with CNCP in older adults, but also with patients receiving end-of-life care. The participants in this study reported being very "cautious" with the use of opioids in the management of pain at end of life. Most primary care providers stated the need for education on pain management with opioid therapy based on the lack of appropriate knowledge and expertise, which hindered the initiation of opioids or optimum dose management, therefore resulting in suboptimal care.

Gardiner et al.'s (2012) results highlight the need for the development of improved guidance for general practitioners in regards to decision making on opioid use. Guidelines are needed for assessment of correct dosage, listing of patient benefits, supports for pain specialists, and collaborative efforts to overcome barriers. This study was limited in that it did not explore

the views of the patients or the caregivers. The study participants were drawn from a single region of the United Kingdom.

Attitudes of Primary Care Practitioners in Managing Chronic Pain Patients Prescribed Opioids for Pain: A Prospective Longitudinal Control Trial

Jamison, Scanlan, Matthews, Jurcik, and Ross (2016) explored the benefits of interventions for tracking compliance with opioid medication prescribed to CNCP patients in primary care and assessed the attitudes of PCPs to opioid prescribing practices. The study was critically appraised and the validity established. Fifty-six PCPs and 253 chronic pain patients participated in the study; they were monitored for 6 months for pain and compliance. Practitioners' knowledge about opioids, practice behavior, attitudes, and concerns about analgesic prescriptions for managing chronic pain patients were assessed. A follow-up questionnaire was given a year after the initial research. Patient measures consisted of a demographic questionnaire, a pain inventory, a catastrophizing pain scale, a pain disability index, a hospital anxiety and depression scale, and an opioid compliance checklist.

The results of the study demonstrated perceived improvement in the practitioners' identification of patients at risks for opioid misuse, improved communication with the pain specialist, and perception of adequate training in opioid prescribing (Jamison et al., 2016). However, many providers remained concerned about opioid addiction and dependency and felt the need for direction and more support from pain specialists. The study highlighted the importance of training in pain and opioid therapy with primary care and improved communication among primary care providers and pain specialists.

The Jamison et al. (2016) study was limited by possible selection bias based on willingness to participate in the survey. Also, there was a limited number of primary care

participants and all the practitioners were from the northeast region of the United States. Thus, the results may not be generalized to populations located elsewhere. Despite the limitations, the findings provided suggestions for clinical interventions such as careful monitoring of patients with opioid therapy, provision of sufficient support, and direction from pain specialists as well as strategies for improving education and communication among PCPs and pain specialists.

Opioid Prescribing Habits of Physicians in Kwara State, Nigeria

In a descriptive cross-sectional study conducted in workshops sponsored by the International Association for the Study of Pain at the University of Ilorin Teaching Hospital in Nigeria, Suleiman, Wahab, and Kolawole (2016) explored opioid-prescribing practices of physicians in the management of moderate to severe chronic pain. One hundred thirteen physicians participated in the study, attending monthly workshops organized by the pain and palliative care units of the hospital between August 2011 and July 2012. A pretested semi-structured questionnaire was used to obtain information on participants' pain management practices, including opioid utilization.

The researchers found that opioid analgesics such as morphine, hydromorphone, and oxycodone were underutilized in secondary and tertiary healthcare facilities with palliative care services (Suleiman et al., 2016). Participants reported fear of respiratory depression (86.8%), fear of addiction (85.1 %), and non-availability of strong opioids (28.9%) as barriers to opioid prescribing. Provider under-prescribing resulted in unrelieved pain and complaints among patients. Many practitioners prescribed non-opioid analgesics, especially acetaminophen and non-steroidal anti-inflammatory drugs, for patients experiencing severe pain. Misconceptions and unfounded safety concerns adduced to the under-prescription and suboptimal dosing of opioids. Another barrier was lack of education on pain management among the providers. These

findings suggest that physicians in developing countries may have little confidence in prescribing opioids even when they are available. The study was limited by its small sample size and monthly workshops. The researchers concluded there is a need for improvement and education for physicians in pain management and opioid prescribing practices.

Chronic Non-Cancer Pain Management in Primary Care: Family Medicine Physicians' Risk Assessment of Opioid Misuse

In a cross-sectional study, Kavukcu, Akdeniz, Avci, Altug, and Oner (2015) sought to improve primary care family physicians' knowledge, attitudes, and practices regarding opioid use in CNCP management through education on risk assessment of opioid misuse. The study was appraised and validity established. The researchers divided 36 family practice physicians working at a family health center into interventional and control groups. The interventional group received education on risk assessment of opioid misuse while the control group did not. A post intervention survey was administered 6 months after the educational intervention and the interventional groups received a core examination at that time. The results showed that 61.1% percent of the family physicians reported concerns and hesitation in prescribing opioids due to risks of overdose, addiction, dependency, or drug diversion; therefore, the researchers agreed that risk assessment should take place before opioids are prescribed for CNCP. Results also showed that primary care physicians, compared to specialized providers, had not received focused training in pain management or opioid prescribing but were responsible for managing many chronic pain patients in primary care settings.

Guidelines recommend that opioid use for patients with CNCP must be preceded by an assessment of potential benefits and risks of aberrant drug-related behaviors. The results of the Kavukcu et al. (2015) study highlight the need to integrate assessment of the risk of opioid

misuse in CNCP patients with routine clinical evaluation of the patients. The study was limited by its small sample. Otherwise, its findings are applicable to all settings and address my research questions.

Barrier to Guideline-concordant Opioid Management in Primary Care: A Qualitative Study

A qualitative study of 14 primary care providers and 26 of their patients receiving long-term opioid therapy for CNCP was conducted by Krebs et al. (2014). The primary care physicians were recruited from five primary care clinics associated with the Veterans Administration using a purposeful sampling approach. Participating patients had been on long-term opioid therapy for 6 months. The study explored physicians' and patients' perspectives on recommended opioid management practices and identified potential barriers and facilitators of guideline-concordant opioid management in primary care. This study was critically appraised using the CASP appraisal tools to ensure validity. The results of the study apply to my research question.

The researchers identified three significant barriers and one facilitator to use of the recommended opioid management practices. One barrier was inadequate time and resources for opioid management due to short or infrequent appointment times, complex patients with comorbidities, and lack of time to assess patients' pain or the effectiveness of the opioid treatment (Krebs et al., 2014). A second barrier was physicians' reliance on general impressions of risk for opioid misuse. Most physicians used their "gut feelings" about patients to inform their opioid management decisions. The third barrier was the tendency of physicians to view opioid monitoring as a law enforcement activity that is incompatible with patient-centered practice. Most of the physician participants saw opioid monitoring as destructive to the patient-doctor

relationship. The primary facilitator to participants' opioid management practice was the need to protect patients from opioid-related harm. The patients interviewed believed the physicians needed to know about their use of alcohol and drugs and their adherence to opioid therapy to protect them.

The findings of this study (Krebs et al., 2014) complement those of other reviews of attitudes and beliefs of primary care providers regarding managing CNCP with opioids and their opioid prescribing practices. The study conducted in Veterans Affairs clinics in one metropolitan area was not designed to be generalizable to physicians and patients in other geographic locations or healthcare systems. However, this study provided data on how physicians and patients view opioid management, and these can be an enormous contribution to the design of future interventions for improving assessment, prescribing, and monitoring of opioid therapy.

Beliefs and Attitudes About Opioid Prescribing and Chronic Pain Management: Survey of Primary Care Providers

Jamison, Sheehan, Scanlan, Matthews, and Ross (2014) surveyed 56 primary care providers from eight centers in the Boston metropolitan area about their perceptions of prescribing opioids for patients with chronic pain. The purpose of the study was to examine ways to improve providers' confidence in managing challenging patients with CNCP. The participants completed four questionnaires: The General Health Questionnaire, the Test of Opioid Knowledge, an opioid therapy survey, and a questionnaire soliciting concerns about analgesic prescriptions. Forty-five (80.4 %) of the participants practiced internal medicine, eight (14.3%) were nurse practitioners, and three (5.4 %) were physician assistants. They ranged in age from 27 to 65 years.

The findings of the study showed adequate opioid knowledge among the PCPs and their general health was unrelated to their prescription attitude (Jamison et al., 2014). However, providers in the study expressed concerns about medication misuse (89%) and fear of addiction (82%). Nearly half (46%) felt confident in their training in opioid prescribing and 84% felt that managing patients with chronic pain was stressful. Younger providers were less knowledgeable about opioids, more reluctant to prescribe opioids and experienced more stress than older providers. Most of the providers expressed willingness to prescribe opioids if supported by pain specialists.

One limitation of the Jamison et al. (2014) study was the fact that the providers chose to participate. Thus, results might be affected by selection bias based on willingness to engage. The number of participants in the study was small, the data were self-reported study, and no information was obtained about the actual prescribing practices of the participants. Despite the limitations, the results of the survey study indicate the importance of training in pain and opioid therapy management and the need for improved communication between pain specialists and primary care physicians.

The Risks of Opioid Treatment: Perspective of Primary Care Practitioners and Patients from Safety-net Clinics

Patients with a history of substance use are more likely to experience CNCP, to be prescribed opioids, and to experience misuse and overdose of the opioids (Hurstak et al., 2017). Employing a qualitative grounded theory methodology, Hurstak et al. (2017) interviewed 23 PCPs and 46 of their patients with histories of CNCP and substance use from six safety-net health care settings in the San Francisco Bay Area. The researchers analyzed how the clinicians

and their patients with CNCP and past or present substance use perceived the risk of opioids in their treatment.

In the semi-structured interviews, providers reported fear of harming their patients and the community by prescribing opioid; they cited the risks of overdose, opioid medication diversion, and medico-legal consequences and related emotional costs (Hurstak et al., 2017). Patients' perceptions of opioid risk were quite different from those of their providers. They believed they could control how they use their prescribed opioids. They feared addiction or dependence on the opioids and perceived stigma and discrimination. Patients perceived the safety policies and interventions for opioid prescribing to patients with chronic pain as unfair. They felt the policies were designed to address clinicians' concerns rather than improving patient safety. The researchers concluded that the clinicians and their patients did not share an understanding of opioid risks. The providers and their patients need to share knowledge of opioid risks to improve the informed consent process for opioid therapy as well as patient safety and CNCP treatment.

The methodology of the Hurstak et al. (2017) study did not include clinical observations of how clinicians communicated the risks of opioid treatment to their patients or observations of patients' responses to clinicians' communications. The providers-patient relationship was not evaluated. The study was conducted in safety-net settings serving patients with substance use, limiting the ability to generalize the results to other population with CNCP.

Practices, Perceptions, and Concerns of Primary Care Physicians about Opioid Dependence Associated with the treatment of Chronic Pain.

This cross-sectional descriptive study (Keller et al., 2012) examined the concerns, perceptions, and practices of primary care physicians regarding opioid dependence associated

with the treatment of chronic pain. Participants were recruited from the Upstate New York Practice-based Research Network. Surveys were sent to 81 physicians and completed by only 35. Of the 35 physicians, 91.4% reported prescribing opioid analgesics for CNCP at an average of 15.5 prescription for opioids per week. The opioids included hydrocodone/acetaminophen (91.4%), extended-release oxycodone (22.9%), immediate release oxycodone/acetaminophen (8.6%), transdermal Fentanyl (48.6%), Propoxyphene (42.9%), and other opioid analgesics (22.9%).

Keller et al. (2012) found that most physicians had a low knowledge/comfort level in the management of opioid dependence. Many of the clinicians rated their medical training in chronic pain management with opioids as inadequate and unsatisfactory. They had little knowledge of state and federal guidelines for treatment of CNCP. The physicians indicated high levels of concern about the development of tolerance, physical dependence, and/or addiction in their patients with chronic pain; this concern resulted in denial of opioids for chronic pain treatment in their practice. Physicians also reported that legal ramifications did not play a significant role in their decisions regarding prescribing opioids for chronic pain. The researchers concluded that educating primary care physicians on effective practices was fundamental and crucial because primary care providers are the most frequent prescribers of opioids.

The Keller et al. (2012) study was limited by its cross-sectional descriptive design; the survey was substandard and the psychometric properties unknown. The relatively low response rate from primary care physicians who received the survey resulted in sampling bias. The results may not be generalized to other geographic areas of the United States. However, the findings provide insight into physicians' views of opioid prescribing for chronic pain.

Knowledge, Attitudes, and Beliefs About Chronic Non-Cancer Pain in Primary Care: A Canadian Survey of Physicians and Pharmacists

Lalonde et al. (2014) identified and evaluated the determinants of the knowledge, attitudes, and beliefs of 137 primary care physicians and 110 pharmacists regarding CNCP and explored how these factors constitute barriers to the optimal management of patients with CNCP. The researchers developed a multivariate linear regression model to identify the determinants through a 16-page questionnaire. The questionnaire was divided into three sections: socio-demographic information, previous training, and needs and preference for continuing education.

Participants scored low on all aspect of pain management. Scores for physicians and pharmacists, respectively on the various measures were as follows: initial assessment, 68.3% and 65.4%; definition of treatment goals and expectation, 76.1% and 61.6%); development of treatment plan, 66.4 and 59.0%; and reassessment and management of longitudinal care, 66.3% and 53.1% (Lalonde et al., 2014). All the participants in this survey found continuing education for CNCP to be essential for their clinical practice. This study revealed a lack of awareness of CNCP among the physicians and pharmacists and failure to follow recommended guidelines.

Use of the KnowPain-50 questionnaire was a limitation in this study. The instrument used double-barrel questions that may have been difficult to answer and thus may have reduced the interpretability and reliability of the results. The participating physicians may not represent the entire community of primary care physicians and pharmacists. However, the sample consisted of providers who managed chronic pain patients daily. Therefore, it is applicable to my research. The researchers concluded that continuing education is imperative to the improvement of primary care providers' knowledge and competency in managing CNCP and to the reduction of false beliefs and inappropriate attitudes regarding chronic non-cancer pain (Lalonde et al., 2014).

GPs Prescribing of Strong Opioid Drugs for Patients with Chronic Non-Cancer Pain: A Qualitative Study

In a qualitative study, Seamark, Seamark, Greaves, and Blake (2013) examined the factors influencing general practitioners' decision making in prescribing opioid drugs for CNCP. Participants constituted a purposive sample of general practitioners with experience of prescribing strong opioids. The researchers conducted semi-structured interviews with 17 practitioners and a focus group with five participants. The interview questions were open-ended to elicit as much information as possible.

The findings of the study revealed variations in practice experience, which was important because experience facilitates prescribing. Practitioners with more experience felt comfortable prescribing opioids for their chronic pain patients. The practitioners in this study followed accepted stepwise approaches in their prescribing for CNCP (Seamark et al., 2013). Most of the practitioners interviewed expressed concerns over the duration of patients' use of potent opioids, possible side effects, fear of tolerance, and addiction. Most the practitioners showed difficulty distinguishing true pain from possible secondary pain; this difficulty is an area of concern that indicates the need for training.

One limitation of the study was its reliance on the personal views and experiences of only a small group of practitioners; the small size means the results cannot be generalized. The study was, conducted in the southwest of the UK, did not claim to be representative of the whole of the UK. However, the results provide an in-depth exploration of the strategies and underlying reasoning behind general practitioners' opioid prescribing decisions. Lastly, the study reveals the need for further training on pain assessment and long-term management of patients with CNCP.

A Qualitative Evidence Synthesis to Explore Healthcare Professionals' Experience of Prescribing Opioids to Adults with Chronic Non-malignant Pain

The first qualitative evidence synthesis to provide an understanding of the challenges of healthcare professionals in providing effective treatment to patients with chronic non-malignant pain was conducted by Toye, Seers, Tierney, and Barker (2017). The authors reviewed 17 studies investigating concepts specific to the experience of prescribing opioids to CNCP patients. The findings were drawn from 486 healthcare professionals from several geographic locations: The United States, the United Kingdom, Canada, and Spain. Six themes were developed to help explain healthcare professionals' experience of prescribing opioids to patients with chronic pain: (a) Should I; shouldn't I? (b) pain is pain, (c) walking a fine line, (d) social guardianship, (e) moral boundary work, and (f) regulations and guidelines. This conceptual model demonstrates the complexity of factors involved in deciding whether to prescribe opioids to treat chronic pain. It also indicates that the providers' decisions are influenced by intra- and interpersonal factors and external concerns.

The study results demonstrate that opioid prescription is underpinned by the therapeutic aim of alleviating pain. However, recent guidelines state that patients who do not achieve pain relief from opioids within 2-4 weeks are unlikely to benefit from long-term opioid use (Toye et al., 2017, p. 11). The healthcare professionals in this study were aware of adverse effects of opioids and were concerned that not prescribing opioids (walking the fine line) to older adults who metabolize medication differently from younger adults would result in unnecessary suffering for patients. Findings also revealed a potent antagonist for prescribing opioids was a feeling of personal responsibility to police and protect society from opioid misuse. Participants displayed ambivalence toward the external regulation of opioid prescription. The providers felt

the law limited their professional autonomy and thus led to mistrust and hostility, negatively affecting the physician-patient relationship. The researchers concluded that there is a need for education, policy, and practice for pain assessment and intervention whereby opioid treatment would be discontinued if no benefit was achieved from its use.

Table 1

Summary of Literature Identifying Barriers to Opiate Prescribing

Author (Year) Country	Level of Evidence	Study Design	Sample Size	Sample Characteristics	Methods	Results	Conclusions and limitations
Spitz et al. (2011) USA	Level 6	Qualitative cross-sectional	26 providers	Mean age-40 Female 77% Non-Hispanic White, 54%. Average 12 years in practice	Focus group, semi-structured discussion using open-ended questions	Barriers identified include fear of causing harm, lack of education, subjectivity of pain, patient/family member reluctance toward opioid therapy, potential of opioid abuse by caregivers, drug conversion, and stigma.	Identified provider's multiple barriers to opiate prescribing to older adults, and when they do, it is done cautiously. Study suggest implementing providers and patient educational interventions to improve the management of patients with chronic non-cancer pain in older adults. Limitations: small samples, non-random, and limited to providers at two academically affiliated and three community-based primary care practices.
Gardiner et al. (2012) UK	Level 7	Qualitative	31 healthcare providers	Male-31.9% mean age-45.1 GP practice 61.3% Hospice/ palliative care 38.7%	Focus group discussion	Barriers exist to appropriate use of opioids in end-of-life care. Insufficient training in opioid use. Concerns about giving high dose.	Significant barriers to appropriate use of opioids in end-of-life care. Need for education for general practitioners and inter-professional collaboration to improve pain management. Limitations: study participants drawn from a single region of U.K., views of patients and caregivers not explored.

Keller et al. (2012) USA		Qualitative cross-sectional descriptive design	35 physicians	Male- 25 Female-10 Mean age- 49.1 Duration of practice -18.5 Race: 29 (83%) White, 2 (6%) Black, 1 (3%) Hispanic, 3 (9%) other	Mail-in questionnaire	81.3% of physicians believed that "legitimate pain" was the main reasons for opioid use initially. 91.4% reported prescribing opioids for their CNCP patients. Comfort level for opioid treatment was low.	There is a need for training for primary care physicians about risks involved with chronic pain and opioid dependence. Limitation: survey was unstandardized and psychometric properties unknown. Sampling bias due to low response rate from primary care physicians.
Bergeron, Bourgault, & Gallagher (2013) Canada	Level 6	Mixed-methods design with quantitative quality.	53 family medicine group nurses.	Male -5.7% Female- 94.3% Pain training 35.8% Number of hours- 6	Mailed questionnaire	Perceptions of barriers to CNCP management: limited time. Lack of knowledge among physicians and nurses, need for ongoing training and refresher course. Complex nature of CNCP management.	Highlights the inadequate knowledge of FMG nurses. Also, revealed nurses are willing to play a significant role in the care of CNCP patients. Limitation: low response rate, 53 out of 195.

Lincoln et al. (2013) USA	Level 7	Descriptive and qualitative	45 PCPs	40 physicians, 4 APRNs, and 1 PA. 60 % FEMALE, 40% male	Open-ended survey questions via mail and email	Barriers: inadequate training, organization hindrance, share care among PCP and specialists, time factors, provider-patient interactions. Facilitators: intellectual satisfaction, rewards of healing. universal protocols.	PCPs experience substantial struggles in managing patients with chronic pain. Need for strategies that mitigate the barriers to chronic pain management. Providers need training and support in opioid management, and physical diagnosis. Limitations: sample size. VA settings only. Written survey data only.
Seamark et al. (2013) UK	Level 7	Qualitative	22 general practitioners	15 male and 7 female general practitioners from a wide range of practice. Practice experience ranges from 9 months to 30 years.	Semi-structured interviews and a single focus group	GPs followed accepted stepwise approach in their prescribing for CNCP. Expressed difficulty in assessing the level of pain, concern over long-term opioid use and side effects, tolerance, and addiction.	The study demonstrated a thoughtful attitude towards prescribing strong opioid for CNCP. There is need for training in long-term chronic pain management and pain assessment. Limitations: small sample size, cannot be generalized. Study situated in the southwest UK, thus not representative of the whole of the UK.

Canada, DiRocco, & Day (2014) USA	Level 6	Best practice evidence-based guidelines quality improvement Interventional study	26 Providers & 33 staff members at 3 primary care practice centers	Practice demographics located within the same zip code. Racial and ethnically different. Number of patients receiving opioids.	Perception questionnaire, knowledge survey.	Providers' attitudes towards patients taking opioids for CNCP significantly improved, knowledge test scores increased	Providers' adherence to protocol intervention improved patient outcomes. The interventions enhanced providers' knowledge and institutions' best-practice, therefore improved management of patients with CNCP. Limitations: study not design for practice-level comparisons. Monetary incentive for providers may not be feasible elsewhere. Researchers were not able to access individual patients' charts to investigate the component of the protocols.
Jamison, Sheehan, Scanlan, Matthews, & Ross (2014) USA	Level 7	Qualitative	56 PCPs from 8 centers around Boston metropolitan area	45 (80.4%) internal medicine physicians. 8 (14.3%) NPs, 3 (5.4%) PAs. Ages 27-65 (average 44.0 years). 58.9% females. 76.8% Caucasians.	19-item questionnaire.	Most providers expressed concerns about medication misuse, addiction. Younger providers less knowledgeable about opioid prescribing, older providers confident in their knowledge and experience.	General concerns and hesitance of PCPs to manage chronic pain patients on opioid therapy. Limitations: selection bias, small number of participants, self-reported data, no information about actual prescribing practices.

Krebs et al. (2014) USA	Level 7	Qualitative	14 primary care physicians, 26 patients receiving opioid therapy	Physicians 50% male, 50% female, 42.9% (*n*=6) Asian 14.3% (*n*=2) Black, 42.9% (*n*=6) White, Age 32-57 years. Patients 92% male, 76.9% (*n*=20) White, 15.4% (*n*=4) Black, 3.8% (*n*=1) American Indian, 3.8% (*n*=1) Hawaiian	Individual semi-structured interviews	3 major barriers to use of recommended opioid management practice: inadequate time and resources, general impressions of risk for opioid misuse, and viewing opioid monitoring as law enforcement activity. One facilitator: desire to protect patient from opioid-related harm.	Opioid guideline implementation strategies will be more effective when a patient-centered framework for opioid management is used and emphasized as a primary goal in preventing opioid-related harm to patients. Limitations: study not designed to be generalizable to physicians and patients in other geographic locations. The study was conducted in a VA- affiliated clinic.
Lalonde et al. (2014) Canada	Level 6	Cross-sectional survey	137 physicians, 110 pharmacists, 486 patients with CNCP	Physicians- 40 (36.4%) males, 70 (63.6%) females. Pharmacists- 84 (61.8%) males, 52 (38.2%) females	Cross- sectional survey. ACCORD cohort patients. Self-administered KnowPain-50 questionnaire	Low scores on all aspects of pain management. All clinicians considered continuing education for CNCP to be essential.	Continuing education program improve primary care providers' knowledge and competency in managing CNCP. It reduces false beliefs and inappropriate attitudes regarding CNCP.

Ortiz, Carr, & Dikareva (2014) Canada	Level 6	Integrative review of literature	24 articles (14 qualitative, 7 quantitative, 3 mixed-methods)	General practitioners, ER nurses, APNs, nursing homes patients	Interview, telephone interviews, focus groups, structured and unstructured observations	Primary barriers were physicians' lack of knowledge, experience, and skills in prescribing medication. Inadequate documentation of pain assessment, inconsistent pain management and demanding workloads.	Identified patient, professional, and organizational barriers to pain management. Several suggestions for research to overcome barriers and improve pain care. APRN to take leadership role in pain management. Limitation: some of the included studies lack scientific rigor. Quality assessment of the studies not included.
Harle et al. (2015) USA	Level 7	Qualitative	15 physicians (9 family medicine, 6 general internal medicine	7 men, 8 women. 3-32 yrs. in practice. From rural and urban settings with different racial, ethnic. and socioeconomic patient mixes.	Semi-structured interviews recorded and transcribed	Concern about opioid risks. Time and resource constraints. Consistent information, identifying "red flags" that indicate drug seeking.	Identified primary care physicians' struggle to deliver high-quality care. Decision to prescribe opiate based on incomplete, conflicting, and untrusted patient information. Need for decision support system and education. Limitations: small sample size, one U.S. state. Cannot be generalized to larger physician populations.
Kavukcu, Akdeniz, Avci, Altug, & Oner (2015) Turkey	Level 6	Qualitative cross-sectional	36 family physicians	22 males (61.1 %), 14 females (38.9%). Age range 30-58, mean age 43.6 years.	20-question pre/post-evaluation of education intervention	61.1% of family physicians reported hesitation in prescribing opioids: known risk of overdose, addiction, dependence, and diversion.	Need for family physicians to apply risk assessment before opioid use in chronic pain patients. Improvement in knowledge and competency of family physicians post education concerning risk evaluation. Limitation: small sample size.

McCrorie et al. (2015) UK	Level 7	Qualitative	37 general practitioners, 23 patients	Area of residence. Female median age in years	Semi-structured interviews and focus groups	Patient driven by need for pain relief. Factors influencing prescribing practice: lack of clarity of strategy, uncertainty, continuity in the doctor-patient relationship, mutuality and trust.	Repeated consultations that do not meet patient need for pain relief. Inconsistent clinical encounters. Absence of mutually agreed formulations and plan of action to treat underlying problems. Improved access to appropriate specialist services. More women in the study. Under representation of Black and minority ethnic groups.
Cheung et al. (2016) Hong Kong	Level 2	Quantitative	699 physicians, 1305 patients	10 Asian countries. Physicians: female 26.2%, male-73.8%. Patients: female 60.8%, male-39.2%	Face-to-face interview, questionnaires	One-third of physician reported inadequate training on opioid use. There are disparities between physician- and patient-reported screening and assessment of chronic pain	The study concluded there is suboptimal use of opioids in CNCP management due to physician knowledge and patients' reluctance to take opioid therapy due to fear of adverse effects. Also, excessive regulations on opioid drugs hindered optimal treatment. Limitations: 10 Asian countries. Patients 18 years old included in the study.

Kennedy et al. (2016) UK	Level 7	Qualitative study	12 general practitioners.	GP exclusively in primary care treating older adults with CNCP, practicing physicians in rural and urban settings. Work experience 3-30 years.	Semi-structured interview, audio-recorded using Audacity	GPs reluctant to prescribe strong opioids to older patients, attributed to lack of education in pain care, fear of regulatory scrutiny, and concern about adverse outcomes.	The study provides insight into the factors influencing prescribing decisions of PCPs in managing CNCP. Introduction of a standardized assessment tool to aid GPs in evaluating patients' pain. Limitation: Potential selection bias due to method of recruitment. Telephone interview may cause loss of nonverbal cues.
Jamison, Scanlan, Matthews, Jurcik, & Ross (2016) USA	Level 6	Prospective	56 PCPs and 253 chronic pain patients	44 physicians, 8 NPs, and 4 PAs ages 27-65. 58.9% female, 76.8% Caucasian. Patients 59.7% female, 72.5 Caucasian.	19-item questionnaire	Improvement in identifying patients at risk for opioid misuse. Perceived confidence in opioid prescribing. Increased communication with pain specialist. Patient compliance with opioid medication.	Lack of confidence among PCPs in treating chronic pain patients with opioids. Need for more training on opioid prescribing. Limitations: limited number of primary care practitioners, all practitioners from northeast.
Suleiman, Wahab, & Kolawole (2016) Nigeria	Level 6	Descriptive cross-sectional	113 physicians.	Mean age 42.0, male 68.1%, female 31.9%	Monthly workshops, self-administered questionnaire	Physicians rarely prescribe opioid analgesics for chronic pain patients due to fear of adverse effects and addiction and non-availability of narcotics.	Opioid prescription rate for patients with moderate/severe pain is low due to physicians' myths and misconceptions. Limitations: small sample size, possible bias of participants, failure to address an unexplored question.

Toye, Seers, Tierney, & Barker (2017) UK	Level 7	Qualitative evidence synthesis study.	17 studies. 486 healthcare practitioners from different locations.	HCPs from USA (10), UK (4), Canada (2), Spain (1)	Seven stages of meta-ethnography.	Managing chronic pain and opioid prescribing is challenging to healthcare practitioners.	Complexity of decision making re opioid prescribing among PCPs. Need for education, policy, and practice regarding opioid prescribing and chronic pain management.
Hurstak et al. (2017) USA	Level 7	Qualitative	23 PCPs & 46 patients	Patients' age 25-55 years, Gender: 54% female, 46% male	Semi-structured interviews	Concerns about harming patients and community by opioid prescribing. Fear of overdose, adverse effect of opioid, and medico-legal risks related to opioid prescribing.	Clinicians and patients' needs to have clear understanding of opioid risks. Implementation of opioid prescribing policies and effective communication strategies to educate patients about chronic pain management and opioid therapy. Limitations: study failed to illustrate how clinicians communicate risk of opioid use to their patients. The study was conducted in a safety-net setting and may not be applicable to general populations.

CHAPTER 3: METHODOLOGY

This study is an integrative literature review using Whittemore and Knafl's (2005) framework for synthesizing data from quantitative, qualitative, and mixed-methods studies with a variety of designs and methods. I chose an integrative review methodology, the broadest research approach, to provide a comprehensive understanding of the global health concern of opioid prescribing for older adults with CNCP. I wanted to include both experimental and nonexperimental research studies. The process outlined by Whittemore and Knafl entails these five steps: problem formation, data collection and literature search, evaluation of data, data analysis and interpretation, and presentation of results. The first four steps are described below; the fifth step, presentation of results, is given in chapter 4.

Problem Formation/Identification

Under-treatment and under-utilization of opioids for pain management are global problems and major contributors to inadequate pain management in older adults with CNCP. Older adults are more likely than younger patients to have chronic pain with other comorbidities. The use of opioid analgesia to treat chronic pain in elderly patients is controversial and is an ongoing struggle for primary care providers. Many barriers and facilitators to prescribing opioids for CNCP were identified in the literature.

Data Collection

Studies were included in this review if they focused on chronic pain management, opioid prescribing barriers, and older adults with persistent non-cancer pain. Emphasis was placed on perceptions and beliefs of providers regarding opioid prescription and providers' perspectives on opioids for elderly patients. Relevant quantitative and qualitative studies as well as "grey" literature were considered. The results of the studies needed to report on the barriers or

facilitators of opioid prescribing, the experiences and perceptions of primary care providers in opiate prescription, or obstacles to chronic pain management. The literature was limited to studies published from 2005 to 2017. The aim of the study was to explore the attitudes and beliefs that influence providers' practices regarding opiate prescription for adults with CNCP.

The literature search was conducted per Whittemore and Knafl (2005). Data were retrieved from electronic bibliographic databases covering research in biomedical fields, nursing, and allied health, including PubMed/Medline, CINAHL, Cochrane, Up-to-date, Medscape, and Google Scholar. Furthermore, ancestry and grey literature were searched, revealing unpublished manuscripts relevant to the topic. The search was not limited to the United States, as I wish to gain an understanding of the international literature on pain management with opioids as a global concern. When applicable, MeSH terms were used in each database. Keywords used were: *chronic pain* OR *provider's attitude and belief about chronic non-cancer pain*, *barriers to opioid prescribing in older adults, persistent non-cancer pain* OR *provider's perspective on opioid* OR *opioid therapy in older adults*. Data from the primary sources were extracted using a table format, in a clear and succinct manner, to provide an overview of each study with its findings that support the objectives of the project.

Data Evaluation

The final piece of literature in this review included empirical and theoretical reports. All the studies were critical, individually appraised using the Critical Appraisal Skills Programme (CASP). Appropriate CASP appraisal tools were used for each survey to ensure validity of the results and applicability of the research outcomes to the project's aims and objectives.

Data Analysis

The articles included in this project were screened repeatedly. The study details of methodology, population, sample size and characteristics, results, and limitations as well as the level of evidence were organized in the literature matrix table. No report was excluded based on the standards of proof of the study. This integrative review methodology was evaluated by a committee of professional people. Dr. Donna Small agreed to be my advisor, serving as faculty chair. Dr. Small is a Fresno Pacific University professor with vast knowledge of nursing topics and extensive experience. Dr. Small reviewed the progress of my project periodically and provided advice and guidance along the way. Dr. Daniel Delgado assisted in this project as my mentor. Dr. Delgado is an emergency room physician at Kaiser Permanente medical center, Fresno. Dr. Delgado cares deeply about his patients. He is very knowledgeable and always takes time to explain procedures and concerns to his patients and the nurses.

CHAPTER 4: PRESENTATION OF RESULTS

As the researcher, I screened 100 full texts and included 45 studies in the full review. Twenty of these 45 studies included concepts that explored the primary care provider's barriers to opioid prescribing for adults with CNCP related to their experiences, attitudes, and beliefs.

The qualitative and quantitative studies in this integrative review identified several barriers to opioid prescription as well as providers' perceptions and beliefs about chronic pain management in adults. There were consistent reports about primary care providers struggling to achieve effectiveness in managing CNCP with opioids in primary care. The studies highlight several barriers to opiate prescribing: inadequate knowledge and training; personal beliefs; excessive regulation of opioid drugs; fears of causing harm, dependence, drug misuse, and diversion; lack of support from pain specialists; and patient reluctance to take opioids due to fear of adverse effects or addiction. Two of the facilitators of opioid prescribing were providers' adherence to a protocol that enhanced their knowledge of opioid use and satisfaction with patient outcomes. However, the literature showed that about 61% of family physicians reported hesitation in prescribing opioids due to the known risks of opioids such as overdose, addiction, and dependence. Some of the limitations of the studies were sample size, lack of scientific rigor, and potential selection bias due to study methodology or recruitment methods.

CHAPTER 5: DISCUSSION AND RECOMMENDATIONS

The purpose of this integrative review was to examine scholarly pieces of literature relevant to the exploration of primary care providers' barriers and facilitators to opiate prescribing in the management of patients with CNCP. Pain is a global health concern. Over 100 million Americans suffer chronic pain, and more than 63% of them seek help from their primary care providers. Effective pain management, especially with opioids is a challenge for many providers. About 8%-30% of patients with chronic pain receive opioids; average doses typically ranging from 13 to 128mg of morphine equivalent daily (Nuckols et al., 2014).

An opioid is a potent pain reliever but, unfortunately, the PCP is not adequately prepared to take on the frontline role of managing CNCP because of fear of causing harm, overdose, misuse, and diversion as well as lack of support from pain specialists. Therefore, opioid prescribing is underutilized, and patients with CNCP undertreated. However, clinical guidelines are available for achieving balance in addressing the treatment of pain while minimizing abuse, addiction, and diversion of opioids.

Many patients with CNCP report difficulty with the prescribed opioid, including psychosocial problems and poorly controlled pain. The difficulties often lead patients to resort to self-medication and diversion as coping strategies. This study aimed to reduce some of the difficulties by providing an understanding of providers' experiences, attitudes, and beliefs about opioid management. This topic is important because an increasing number of primary care practitioners must manage patients prescribed with opioids for CNCP in their practices, and they are not adequately trained to take up the role. Seventeen of the 20 studies reviewed explained that providers' experiences, beliefs, and attitudes contributed to barriers to opioid prescribing and

3 articles described the use of guidelines as a facilitator in opioid prescribing and management of CNCP in adults.

Findings from this review support findings from previous studies in another world region because pain is a universal problem and managing patients with chronic non-malignant pain through opioid treatment is a worldwide concern for primary care providers because of drug misuse, dependence, addiction, diversion, and adverse effects. Two studies focused on older adults; pain management in this population group is still lacking in everyday practice. The providers perceived multiple barriers to prescribing opioids to older adults, such as comorbidity, polypharmacy, adverse effects, and frailty. Providers' reluctance to treat chronic pain in older adults adversely affects their patients' independence and quality of life. This study has shown that primary care providers harbor significantly negative feelings about pain care and are therefore often not able to meet the needs of CNCP patients.

Recommendation for Further Research

This study and previous studies have highlighted multiple challenges that contribute to under-prescribing of opioids for chronic pain. Providers need training and support in opioid management. Better communication and care coordination with pain specialists are imperative in chronic pain management. There are multiple studies on pain management and few on physicians' perspectives, beliefs, and experiences. The author recommends more reviews on both providers' and patients' attitudes on prescribing opioids for chronic pain management for optimal pain control and patient satisfaction without inadvertent harm.

Limitations

The main limitation of this study was the lack of enough studies to reflect physicians' perceptions about opioid prescribing practices. Also, the articles reviewed were from several

different countries and not all were specific to conditions in the United States. Most of the studies utilized small samples and the results may not represent the views of the larger population of primary care providers.

Conclusion

The results of this integrative review provide insights into the challenges faced by primary care practitioners as frontline providers managing patients with CNCP on opioid therapy. Most of the articles reviewed described physicians' struggles to effectively treat patients' pain due to fear of causing harm, fear of drug misuse or diversion, concern about the possibility of addiction, and the potential side effects associated with opioid use. Primary care providers expressed dissatisfaction with their competency in treating patients with opioids. Inadequate training on pain assessment, insufficient opioid prescribing knowledge, time limitations, and lack of support from pain specialists constitute significant barriers to opioid prescribing for the management of patients with CNCP. This study demonstrated that adherence to clinical guidelines for opioid therapy for CNCP improves prescription practices, reduces misuse among patients, and prevents public health issues of opioid diversion, which were concerns of providers.

Future study should focus on decision support and education for primary care providers to correct misconceptions about chronic pain and opioid management.

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Primary Care Providers' Barriers to Opioid Prescribing For Chronic Non-Cancer Pain

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ABSTRACT

Pain is a universal health problem. It is one of the most common and debilitating patient complaints, affecting individual patients, friends and families, the workforce, and society in general (Rosenguist, 2015). Pain is subjective, and therefore challenging to manage effectively. Care is complex due to co-morbidities. Most patients with chronic non-cancer pain default to primary care settings for care. The use of opiate medication to treat chronic non-cancer pain in older adults remains controversial. Providers struggle with the decision to prescribe opioid analgesics to elderly patients for many reasons.

INTRODUCTION

- Pain is a universal health issues, under-treatment of pain remains a global concern. In recent years, pain has become the fifth vital sign. It must be assessed, addressed, and reevaluated. The subjectivity of pain makes it challenging for practitioners to manage effectively. Opioids are powerful pain reliever drugs; opiate prescribing is supposed to respond to the clinical needs of older adults with chronic non-cancer pain who require effective relief from moderate to severe pain. However, the use of opiates as a first-line treatment in older adults is still lacking in everyday practice (Guerriero,2017). Providers perceive multiple barriers to prescribing opiates, and this may inadvertently contribute to the under treatment of pain.

AIM/ PURPOSE OF PROJECT

- The aim of the project was to explore barriers to opiate prescribing among primary care providers in the management of chronic non-cancer pain in adults.

METHODS

- The study was an integrative literature review using Whittemore and Knafl's (2005) framework for synthesizing data from quantitative, qualitative, and mixed-methods studies. The integrative review methodology is the broadest literature research approach. The integrative review process involves 5 steps: problem formation, data collection and literature search, evaluation of data, data analysis and interpretation, and synthesis. The data for this study were retrieved from electronic bibliographic databases covering research in biomedical, nursing, and allied health including PubMed/Medline, CINAHL, Cochrane, Up-to-date, Medscape, and Google Scholar.

RESULTS

- The twenty articles appraised are consistent in identifying barriers to opiate prescribing by primary care providers in the treatment of adults with chronic non-cancer pain. Some of the barriers are restrictions associated with professional knowledge and training and inappropriate attitudes and beliefs, misconceptions about opiates, and insensitivity to pain experiences in the older population. The studies highlighted barriers and facilitators for opiate prescribing and significant opportunities for improving prescribing practice among providers and quality of chronic pain management in adults, particularly elderly adults.

PICO QUESTION

- What do primary care providers perceive as barriers to prescribing opioids for the management of chronic non-cancer pain in adults?

DISCUSSION OF IMPORTANCE

- This review describes primary care providers' perceptions about chronic pain management and barriers and facilitators for opiate prescribing for chronic non-cancer pain for older adults in primary care settings. Primary care providers struggled with the decision to prescribe opiates for their patients. Findings from this review are similar to those from studies in other parts of the world: Pain is a universal problem and managing patients with CNCP on opioid treatment is a worldwide concern for primary care providers because of drug misuse, dependence, addiction, diversion, and adverse effects. There was consistent evidence of the struggle of primary care providers to achieve effectiveness in managing chronic non-cancer pain with opioids. Opiates are not absolutely contraindicated for managing chronic pain in older adults; they have been proven to be effective analgesics for elderly patients when used appropriately. However, opiates are under-utilized for older adults with chronic pain, mainly due to lack of training in opiate prescribing and concern about poly-pharmacy. This study revealed that primary care providers harbor significantly negative feelings about pain care and are not always able to meet patients' needs.

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