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DETERMINING THE KNOWLEDGE, ATTITUDES AND BELIEFS OF HEALTHCARE PROVIDERS IN TREATING NON-SPECIFIC ACUTE AND CHRONIC BACK PAIN

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DETERMINING THE KNOWLEDGE, ATTITUDES AND BELIEFS OF
HEALTHCARE PROVIDERS IN TREATING NON-SPECIFIC ACUTE AND
CHRONIC BACK PAIN

A Scholarly Project Submitted to the Graduate School
In Partial Fulfillment of the Requirements
For the Degree of
Doctor of Nursing Practice

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An Abstract of the Scholarly Project by
Stacey Kale

Managing back pain has become a public health and clinical challenge (Krein et al., 2016). Incidence of back pain related complaints requiring treatment in the US is estimated at 11.2% of the adult population (Dowell, Haegerich, & Chou, 2016). New research suggests that it is the most common pain problem (Pauline, 2016). It is the third most expensive health disorder and is exceeded only by cancer and heart disease. Many health care providers lack formal pain management education and training thus leaving them at risk for failing to properly manage patients who have the risk for movement towards chronicity, disability, and medication misuse (Hudspeth, 2011). This educational needs assessment project asks questions regarding the knowledge, attitudes and beliefs (KABs) of health care providers in treating non-malignant acute and chronic back pain in the four state area (Kansas, Oklahoma, Arkansas, and Missouri) and rural Southeast Kansas four County area (Bourbon, Allen, Anderson and Neosho). The purpose of the study was to discover provider knowledge, attitudes and beliefs (KABs) in the assessment and management of NSABP and CBP. This will allow for consideration of recommendations regarding education and policy improvements in pain management. A modified version of the Knowpain-50, Knowpain-12 survey, was used to measure healthcare provider knowledge, attitudes and beliefs in back pain assessment and management.

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CHAPTER I

INTRODUCTION

Description of Clinical Problem

Advanced Practice Registered Nurses (APRNs) and other clinicians in primary care find assessing and treating back pain challenging. Managing non-specific acute back pain (NSABP) and chronic back pain (CBP) has become a public health and clinical challenge (Krein, Bohnert, Kim, Harris, & Richardson, 2016). Current clinical guidelines recommend use of various self-care and non-pharmacologic strategies such as cognitive behavioral therapy, physical therapy, stay active instructions, and graduated walking (Krein et al., 2016). Use of guideline treatment plans such as physical therapy, non-steroidal anti-inflammatories, and acetaminophen have stabilized or decreased (Krein et al., 2016). Use of advanced imaging and opioids have increased as use of non-pharmacologic clinical therapies have decreased (Krein et al., 2016). Efforts in the U.S. to improve the use of guideline recommended exercise therapy and non-opioid medications are fueled by the identified overuse and medication abuse risks associated with opioid medications (Krein et al., 2016). Opioids are often prescribed for pain, with approximately 3%-4% of the adult US population prescribed long term opioid therapy (Dowell, Haegerich, & Chou, 2016). Federal and state policy stakeholders are alarmed at

the increasing overdoses and deaths attributed to opiate addiction and what is being

referred to as the "opioid epidemic" (Tavernise, 2016).

Significance

Understanding the development of the current practice in treating acute and

chronic pain is as important as understanding the current backlash and urgent support for

change (Tavernise, 2016). It is suggested that our current opioid prescribing practices

began roughly two decades ago amid claims by pharmaceutical companies and a few

medical experts suggesting that opiates could be used for common conditions like back

pain and arthritis without addiction (Tavernise, 2016). Since then opiates have become

the most widely prescribed medications in the country "with sales of nearly $2 billion a

year, according to IMS Health, a research firm that collects prescribing data" (Tavernise,

2016, p.2).

In 2013, an estimated 1.9 million adults were dependent on opioid prescription

pain medication (Dowell et al., 2016). According to the Centers for Disease Control

(CDC), each day 46 people die from an overdose of prescription painkillers in the US. In

addition the CDC reports that health care providers wrote enough painkiller prescriptions

for every American adult to have a bottle of pills" (Dowell et al., 2016). Additionally, the

CDC fact sheets indicate the highest prescribing areas for painkillers are in the southern

United States.

The State of Kansas average of opiate claims according to the Centers for

Medicaid and Medicare (CMS) is 5.84% compared to a national average of 5.32%. In the

location of the study the average is 6.51%. The Kansas Department of Health and

Environment (KDHE) reports that in the U.S. in 2012 there were 41,502 drug overdose

deaths and opioid analgesics are the most commonly abused groups of drugs. This is expensive for the U.S. with an average expenditure of $55.7 billion in 2007 (Center for Disease Control [CDC], 2014, p. 1). Kansas experiences equally problematic numbers with hospitalizations for drug poisonings increasing three fold from 1999 to 2009 and deaths due to opioid analgesics tripled from 1999 to 2010 (Kansas Information for Communities [KIC], 2013, p. 1). Southeast Kansas had the highest age-adjusted death rate from acute drug poisoning (13.4 deaths per 100,000 population) in the 2009-2013 period (Oakley, Crevoiserat, & Crawford, 2014). The total number of acute poisonings for Kansas residents from 2009-2013 was 1,475 (Oakley et al., 2014). To highlight the issue, the most common drug category implicated in cause of death was opioid analgesics, a group that includes morphine, methadone, oxycodone, hydrocodone (Oakley et al., 2014). However, it is most often impossible to specify a specific drug due to multiple drugs being causative including psychostimulants and methamphetamines (Oakley et al., 2014).

Primary care providers (PCPs) report insufficient training in prescribing opioids for treating pain including NSABP and CBP (Dowell et al., 2016). Due to the reported misuse and personal experiences with prescribing opiate pain medications, PCPs are finding it increasingly difficult to manage patients with acute and chronic pain and complain of insufficient guidance and educational preparation (Dowell et al., 2016). Education in organized pain clinics are not usually included in the Nurse Practitioner (NP) preceptorship or clinical experience (Hudspeth, 2011).

However, today NPs are providing care for increasing numbers of chronic pain patients without the benefit of pain preceptorships or exposure to the standards of care established by national pain societies (Hudspeth, 2011). The NP pain management practices may be self-developed through experience or learned from other providers during clinical residency who have not benefited from formal pain management education (Hudspeth, 2011). Treating pain is a complicated issue and clinicians are finding themselves in complicated situations that involve regulatory boards and the Uniform Controlled Substance Act, which is enacted in every state and based on federal code (Hudspeth, 2011).

Description of Clinical Issue

Depending upon the source, NSABP pain is listed as the second to third leading cause for primary care visits. PCPs find assessing, and managing acute, subacute, and chronic low back pain challenging. There are many recommendations or evidence based guidelines for treating adult patients with back pain complaints ranging from acute to chronic. However, until recently there have been few evidence based guidelines for the use of opioids for acute and chronic pain outside of active cancer treatment, palliative care, and end-of-life care (Dowell et al., 2016).

The CDC has made 12 recommendations regarding preferred treatment for chronic pain. Primarily the report indicates that non-opioid therapy is preferred for treatment of chronic pain (Dowell et al., 2016). However, the recommendations are voluntary and recommend decision making between clinician and patient based on relationship, clinical situation, functioning, and life context (Dowell et al., 2016). The

federal government is now giving clear precautionary suggestions communicating to the

medical community that long term use of opiates for common conditions is inappropriate

(Tavernise, 2016). The recommendations are directed at PCPs who it is estimated

prescribe about half of all opioids (Tavernise, 2016).

   The cost of providing care for NSABP and the frequent move towards chronicity

and medication misuse is associated with an increasing proportion of health care

expenditures without corresponding outcomes (Hallegraef, Van der Schans, Krijnen, &

De Greef, 2013). Most back pain of this type will resolve in a few weeks with self-care

(Gatchel et al., 2003). Approximately one quarter of adults in the United States reported

having low back pain lasting at least one whole day in the past three months (Chou et al.,

2007). However, up to one third of patients will have pain one year following initial

presentation (Hallegraef et al., 2013). Recurrence within a year may be influenced by

patients behavior, as the cognitive and emotional process of pain often translates into

complaints (Hallegraef et al., 2013, p. 2). One out of five patients will complain of

continuing disability and limitations in movement (Hallegraef et al., 2013).

   According to the Federal Food and Drug Administration (FDA), it is the

responsibility of health care providers to routinely monitor patients receiving opiates for

signs of misuse, abuse, addiction, and diversion and to continually re-assess throughout

the duration of treatment to determine whether or not non-opioid medications could be

effective or prescription opioids continue to be indicated (Dowling & Denisco, 2012).

Prior to prescribing any medication, including opioids, the clinician must determine if the

benefits of the treatment outweigh the risks to the patient – a risk to benefit framework (Dowling & Denisco, 2012).

The potential benefits verses risks for a specific patient should be considered by comparing the patient's current level of function with the expected level to which the opioid medication would reduce the pain (Dowling & Denisco, 2012). The potential risks of opioid medications, including sedation, confusion, constipation, tolerance, or addiction can be assessed against the benefits (Dowling & Denisco, 2012).

There are screening tools that can be used to identify patients that are at risk for medication misuse (Dowling & Denisco, 2012). These tools assess for current substance abuse including cigarette and alcohol use, use of non-prescribed narcotics, depression or mood disorders (particularly of bi-polar depression), level of contentment with employment, level of contentment with family relationships, history of childhood sexual abuse, driving under the influence, and drug related legal problems (Dowling & Denisco, 2012) . Some of the tools are available for download as an app for smart phone are the National Institute on Drug Abuse (NIDA), Opioid Risk Assessment (ORT), and the Screener and Opioid Assessment for Patients with Pain (SOAPP) (Dowling & Denisco, 2012).

Unfortunately, evidence on the accuracy of the recommended risk assessment tools for predicting opioid abuse or misuse was inconsistent for the Opioid Risk Tool (ORT) and limited for other risk assessment instruments (Dowell et al., 2016). There are no studies that evaluate for the effectiveness of risk mitigation strategies (Dowell et al., 2016). A recent study identified the single question test, "In the past year, how often have

you used alcohol (4+/5+ drinks in a day, depending upon gender), tobacco products, prescription drugs for nonmedical reasons, or illegal drugs?" is highly sensitive for patients at risk for medication misuse (Dowling & Denisco, 2012, p. 5). Further complicating the issue for providers is the assertion by regulating authorities and educational guidelines stating that, "Even patients at high risk of abuse can be prescribed opioids, although they will require close and careful monitoring" (Dowling & Denisco, 2012, p. 8).

Due to the current opioid crisis, federal and state organizations that provide oversight to the medical community is in a debate regarding whether or not family practice providers specifically physicians, NPs and PAs have been adequately prepared to appropriately treat non-malignant back pain and the appropriate use of opiate pain medications verses other treatment modalities. More specifically, they have been given the responsibility of evaluating their patients prior to initiating prescription analgesics and to continually reassess whether non-opioid medications could be effective or prescription opioids continue to be indicated without the appropriate education, tools, training and guidance (NPA, 2012). Therefore, in order to improve the current clinical practice, an assessment of the knowledge, attitudes and beliefs (KABs) of clinicians in treating NSABP and CBP in rural Southeast Kansas is warranted.

Specific Aim/Purpose

The purpose of this scholarly project was to discover knowledge, attitudes and beliefs of healthcare providers in the four state area (Kansas, Oklahoma, Arkansas, and Missouri) and rural Southeast Kansas four County area (Bourbon, Allen, Anderson and Neosho) in assessing and treating patients with NSABP and CBP. A Likert Type scale was used for the survey.

Theoretical Framework

According to Benner's (1984) From Novice to Expert model, through investigation, observation and use of evidence based skills, one moves from reliance on abstract principles and rules and shifts from reliance on analytical rule based thinking to intuition and competency (Alligood, 2014). A perception of competency in managing continually expanding and increasingly complex situations develops as the clinician is engaged in a cumulative learning process (Alligood, 2014). It is asserted that with increased up to date knowledge, training, clear guidelines and access to improved tools, clinicians will be better prepared to make evidence based decisions evaluating risks verses harms with regard to benefits for pain control, and functional improvement.

Practice Questions

What is the knowledge, attitudes and beliefs of health care providers in the four state area (Kansas, Oklahoma, Arkansas, and Missouri) and rural Southeast Kansas four County area (Bourbon, Allen, Anderson and Neosho) in regards to treating patients with NSABP and CBP? What are the educational needs of health care providers regarding clinical practice guidelines, non-pharmacologic, non-steroidal and opioid therapy in treating NSABP and CBP?

Definition of Key Terms/Variables

Acute back pain is pain lasting less than twelve weeks (Hallegraef et al., 2013).

Subacute back pain is back pain lasting greater than four weeks but less than twelve weeks (Chou et al., 2007).

Chronic back pain is back pain lasting greater than twelve weeks (Chou et al., 2007).

Opiate pain medications examples are Hydrocodone, Oxycodone, Fentanyl, and Morphine Sulphate (UpToDate, 2017).

Hydrocodone, Oxycodone, Fentanyl, and Morphine Sulphate are opioid analgesics that bind to opioid receptors in the central nervous system (CNS) resulting in inhibition of ascending pain pathways altering the individual perception and response to pain (UpToDate, 2017).

Nurse Practitioner is a licensed registered nurse who has advanced nursing credentials (demonstrated through formal education and training) (American Medical Association [AMA], 2009, p. 8).

Physician assistants are limited licensure primary care providers (AMA, 2009).

Figure 1. Logic Model of the DNP Project
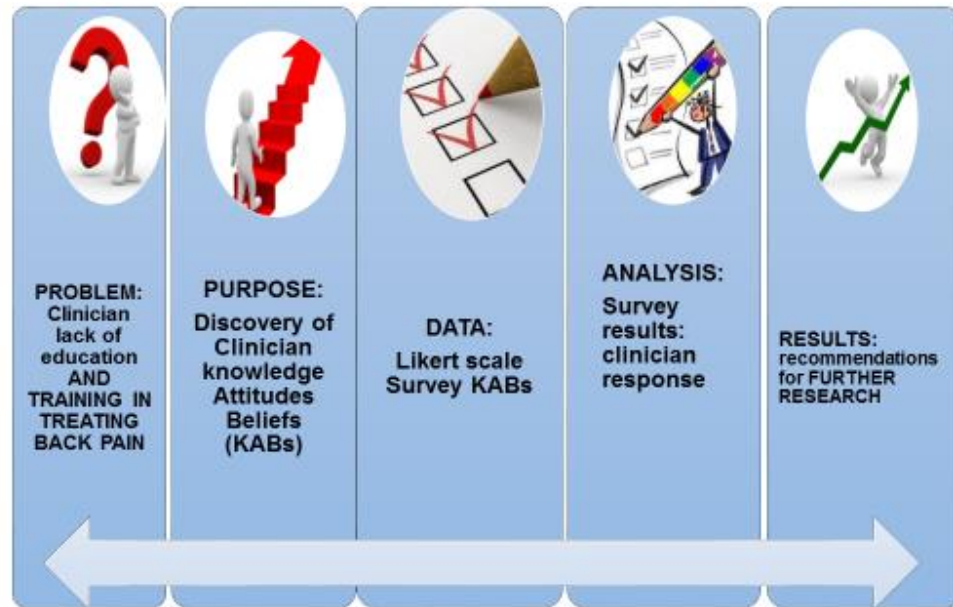
Summary

The number of people experiencing chronic back pain is substantial (Dowell et al., 2016). New research suggests that it is the most common pain problem (Pauline, 2016). It is the third most expensive health disorders and is exceeded only by cancer and heart disease (Kevin & James, 2016).

Despite the need for improved pain management education, there are no widely accepted assessment or outcome measures to access the educational needs and effectiveness of primary care pain management education (Harris et al., 2008). Many NPs lack formal pain management education and like medical students, they must request and participate in elective residency programs for improved learning opportunities in pain management (Hudspeth, 2011).

According to the data, where the provider practices influence how they treat and prescribe prescription opiate pain medications (NPA, 2012).   In order to improve clinician practice it is necessary to understand the thoughts guiding current practices in treating NSABP and CBP. Inquiry and research regarding clinician knowledge, attitudes and beliefs will allow for the creation of improved training, clinical tools and clear guidelines for the complex treatment of non-specific acute back pain and chronic back pain.

It is the researcher's assertion that NPs, physicians and PAs are inadequately prepared in their medical education to treat acute and chronic back pain complaints. In addition to address the issues surrounding appropriate evaluation and use of non-pharmacologic treatments, non-opiate pain medications and use of risk assessment tools for safe prescribing of opiates for treating non-cancer related pain. Furthermore, there is currently confusion and frustration with the lack of clarity in recommendations regarding the use of pain medications. Primarily there is a lack of evidence to support answers regarding when it is appropriate to use prescription opiate pain medications, short acting verses long acting and a timeline for continued opioid therapy in the treatment of NSABP and CBP. Primary care NPs are responsible for treating an increasing number of pain patients that use opiates as it is often the primary reason for initially seeking care (Hudspeth, 2011). The pressure and attention placed on PCP, to treat pain has increased as it has been labeled the "fifth vital sign" (Hudspeth, 2011, p. 515). This is fueling concerns regarding the potential legal liability of patients asserting clinician failure to treat pain (Hudspeth, 2011). Thus, NP's, PAs, and physicians face the expectation to use

methods and prescribing modalities that are described as a risk to patients and society

(Hudspeth, 2011). It is suggested that there is a lack of reliable data, tools, and guidance

for decision making based on proven practices and clinical practice guidelines to aid

clinicians in the assessment and decision making process. In addition, accuracy of current

risk assessment tools has not been validated (Dowell et al., 2016). There is a need for

reliable education and guidance in order to improve clinician knowledge, comfort and

confidence in the treatment of the patient presenting with NSABP and CBP.

CHAPTER II

LITERATURE REVIEW

Introduction

A literature review was conducted using the search criteria of: treatment of non-specific acute low back pain and chronic back pain, opiates in treatment of pain, evidence of best practice in treating back pain, tools for treatment of back pain and medical education in treating pain. The literature review includes recommendations from a variety of professional medical associations in order to ascertain the collaborative thoughts of the varying professionals involved in treating non-malignant, non-specific acute back pain and chronic back pain. Literature includes recommendations for clinicians from the CDC, and FDA regarding when it is appropriate to use prescription opiate pain medications, short acting verses long acting and a timeline for continued opioid therapy in the treatment of non-specific acute back pain and chronic back pain.

The literature also indicates health care providers feel they lack knowledge and training in the many aspects involved in treating pain and the use of opioids to treat non-malignant pain (Harris et al., 2008). Physicians, physician assistants and nurse practitioners express inadequate preparation in their medical education in evaluating non-specific acute back pain and chronic back pain complaints and to address the issues

surrounding appropriate and safe prescribing of opiates and non-opiates for treating non-cancer related pain. Mechanical low back pain is one of the most common complaints of patients presenting to the emergency department in the US and is the second most common complaint in ambulatory care (Kevin & James, 2016). Research suggests primary care providers are poorly prepared in their medical education to treat acute and chronic low back pain complaints and to address the issues surrounding appropriate evaluation and use of non-pharmacologic treatments, non-opiate pain medications and tools for safe prescribing of opiates (Dowling & Denisco, 2012). PCPs indicate concern about opioid pain medication misuse. Additionally, providers acknowledge increased stress and fatigue in managing patients with NSABP and CBP and report insufficient education, and training in treating non-malignant pain and prescribing opiates.

Education in Non-Malignant Pain Management

In 2001, a survey created by the Association of American Medical Colleges indicated only 3% of medical schools required a course in pain management education (Bair, 2011). Because there is an insufficient number of pain specialists, most patients with pain are managed within primary care by physicians, nurse practitioners and physician assistants (Bair, 2011). Unfortunately, most Primary Care Providers (PCPs) have had very little formal education or training in pain management and the training is usually fragmented and learned on the job (Bair, 2011). The NP pain management practices may be self-developed through experience or learned from other providers who have not benefited from formal pain management education (Hudspeth, 2011). NP preceptorships rarely include clinical hours in a dedicated pain management or

orthopedic clinics (Hudspeth, 2011). As a result PCPs lack the knowledge, and skills to effectively diagnose and treat patients presenting with musculoskeletal acute and chronic back pain (Bair, 2011). This leads to a frustrating and difficult experience for PCP's treating acute and chronic pain (Bair, 2011). Studies indicate that improving pain management requires equipping PCPs with knowledge relevant to pain and clinical skills to increase their confidence in managing chronic pain (Bair, 2011).

National Surveys

Back pain issues that lead to primary care visits do not vary much among the states. However, ten of the states in which providers are prescribing the highest percentage of opioid pain killers are in the south (NPA, 2012). Evidence suggests lower socioeconomic status, and higher levels of unemployment may explain why health care providers in the highest prescribing states wrote almost three times as many opioid painkiller prescriptions per person as those in the lowest prescribing states (NPA, 2012). Economic depression may be the contributing variable in communities with increased prescribing and sales of opiate pain medications, misuse, overdose and death (Galewitz, 2017)

According to the literature, where the provider practices influences how they treat and prescribe prescription opiate pain medications (NPA, 2012).   In order to improve clinician practice it is necessary to understand the thoughts guiding current practices in treating NSABP and CBP. Research regarding clinician knowledge, attitudes and beliefs will improve education, training, clinical tools and use of clinical practice guidelines for the complex treatment of non-specific acute and chronic back pain.

Current Recommendations

Research indicates chronic pain, in particular, needs to be viewed as an illness without a definite cure or end and the goal of pain care is more related to decreased pain and improved physical function (Bair, 2011). Pain management education should center on the interdependence and effects of biological, psychological, and social factors that influence the experience of pain (Bair, 2011).

The medical focus on the pathophysiology of pain and biomedical approach to treatment may not be the optimal approach to pain management (Bair, 2011). There is often a misconceived or misdirected emphasis on providing a cure leading to frustration for the patient and clinician (Bair, 2011). In addition the literature indicates that a critical component to the educational curricula is instruction on effective communication and relationship skills (Bair, 2011). Improved communication skills are believed to enhance care, improve clinical interactions and foster shared clinical decisions between patient and provider (Bair, 2011).

Adding to the clinical confusion and frustration in treating non-malignant pain is the potential legal liability of patients asserting clinician failure to treat pain (Hudspeth, 2011). Thus, nurse practitioners and physicians face the expectation to use methods of prescribing that pose risk to patients and society (Hudspeth, 2011). It is suggested that there is a lack of reliable data, tools, and guidance for decision making based on proven practices to aid clinicians in the assessment and decision making process. In addition, accuracy of current risk assessment tools has not been validated (Dowell et al., 2016).

Current clinical guidelines recommend use of various self-care and non-pharmacologic strategies such as cognitive behavioral therapy, physical therapy, stay active instructions, and graduated walking (Krein et al., 2016). In the U.S. the use of guideline treatment plans such as physical therapy, non-steroidal anti-inflammatories, and acetaminophen have failed to improve or have decreased (Krein et al., 2016). Use of advanced imaging and opioids have increased as use of non-pharmacologic clinical therapies have decreased (Krein et al., 2016). Current recommendations for non-malignant acute back pain include mono-therapy with anti-inflammatories or muscle relaxants and indicate that the use of opioids leads to worse functioning at six months (Frazer & Stevermer, 2016).

 The U.S. is making efforts to improve the diminished use of guideline recommended exercise therapy and non-opioid medications. This effort to increase use of recommended guidelines in the U.S. is fueled by the overuse and medication abuse risks associated with opioid medications (Krein et al., 2016). Complicating the issue is the ongoing confusion and frustration experienced by providers due to the lack of clarity in recommendations and managing patients with chronic use of opiates due to patient expectations of receiving prescription opiates for non-malignant acute and chronic back pain (Dowling & Denisco, 2012).

Policy

Decades ago the Veterans Health Affairs and professional groups such as the American Academy of Pain Medicine and the International Association for the Study of Pain developed curricula to help improve pain management education for academic centers (Joranson & Gilson, 2001). The current climate of opioid misuse and abuse is leading policy makers to address the prescribing habits of clinicians once again.

Medical board guidelines vary and some, as with the Kansas Board of Pharmacy Laws and Regulations (2014), does not specifically address pain management prescribing. A national survey of U.S. medical board members supported the request for medical boards to clarify their policies (Joranson & Gilson, 2001). Most medical boards accept the use of opioids to manage chronic non-cancer pain, however, as in Kansas Controlled Substance Prescribing Guidelines (2012), they do not outline the board's basic expectations (Joranson & Gilson, 2001). As guidelines vary from state to state, this leaves an environment where physicians, nurse practitioners and physician assistants face fears of disciplinary action for failure to treat or treating in a poorly regulated environment leaving them open to disciplinary action (Joranson & Gilson, 2001). State medical boards have an obligation and duty to protect the public from improperly managed chronic non-malignant pain and improper prescribing (Joranson & Gilson, 2001). They also have an obligation to promote public health (Joranson & Gilson, 2001). Management of acute and chronic pain is being reassessed clinically and scientifically (Joranson & Gilson, 2001). Policy making by state medical boards in collaboration with the CDC, FDA, associations on substance abuse and pain management community have

adopted guidelines on the use of controlled substances in pain management to address inappropriate uses of opioids and unprofessional prescriptive practices (Joranson & Gilson, 2001).

According to the CDC in their 2016 guideline for prescribing opioids for pain, the use of opiates for treating pain has been increasing and in 2010 an estimated 20% of patients presenting to family practice offices in the U.S. with pain symptoms or a diagnosis of pain, were prescribed opiates (Dowell et al., 2016).

Research indicates some evidence supporting the use of opiates for pain of 12 weeks or less (short-term) (Dowell et al., 2016). However, current guidelines recommend ibuprofen and aspirin for first line treatments and that opioid prescriptions be limited to three days, but rarely longer than seven (Tavernise, 2016). Research reveals that current practice among providers for treatment of acute pain is two to four weeks of opiates (Tavernise, 2016). However, there have been few randomized clinical trials to rigorously assess the long-term benefits of opioids for pain lasting greater than three months (Dowell et al., 2016). Currently studies are limited that evaluate long-term (greater than or equal to one year) benefit of opioids for chronic pain (Dowell, Haegerich, & Chou, 2016). Opiates like OxyContin, Percocet and Vicodin have become the most commonly prescribed medications in the U.S. (Tavernise, 2016). Evidence suggests that short term use of opioids for acute back pain is associated with increased risk of chronicity and opioid use disorder, overdose, and death (Dowell et al., 2016). Policymakers are alarmed at the increasing overdoses and deaths attributed to opiate addiction and what is being referred to as the "opioid epidemic" (Tavernise, 2016).

Objective

The purpose of the study was to conduct an educational needs assessment survey of health care providers in the four state area (Kansas, Oklahoma, Arkansas, and Missouri) and rural Southeast Kansas four County area (Bourbon, Allen, Anderson and Neosho) regarding knowledge, attitudes, and beliefs in providing care for patients presenting with non-specific acute back pain and chronic back pain.

Patient Satisfaction Verses Current Clinical Guideline

Although use of opiates in treatment for back pain is associated with opioid use disorder and overdose, many clinicians in family practice are unsure of treatment modalities to provide evidence based treatments associated with improved outcomes and functionality in patients presenting with non-specific back pain (CDC, 2016). The initial evaluation and management are important to prevent chronic progression, disability and associated medication misuse (Hallegraef et al., 2013).

Due to current abuse, misuse, overdose and death related to opiate prescribing, the CDC, National Center for Injury Prevention and Control (NCIPC), National Institute on Drug Abuse (NIDA), and the Substance Abuse and Mental Health Services Administration (SAMHSA), have reviewed eight common current practice guidelines to identify common recommendations for clinician (Dowell et al., 2016).

The common agreements between the eight guidelines reviewed included conduction of physical exam, pain history, past medical history, and family/social history, urine drug testing, weighted decisions regarding use of opioid therapy when alternative treatments are not effective, starting on lowest possible dose of opiate,

implementing pain treatment agreements, monitoring pain and treatment progress

vigilantly and using safe and effective methods for discontinuing opioids (Dowell et al.,

2016).

      Current CDC guidelines have been created to address the treatment of chronic

pain (greater than three months or past the time of normal tissue healing) in the outpatient

primary care setting in order to improve communication between clinicians and patients

regarding the risks and benefits of opioid therapy for treatment of chronic pain (Dowell et

al., 2016). The guidelines are an effort to reduce the risks associated with long-term

opioid therapy, including opioid use disorder, overdose and death (Dowell et al., 2016).

Current clinical guidelines for chronic back pain recommend patient use of self-care and

non-pharmacologic strategies such as cognitive behavioral therapy, physical therapy, stay

active instructions, and increase in walking (Krein et al., 2016). However,

recommendations for acute care are not specifically addressed by their guidelines

(Dowell et al., 2016).

      Interestingly, studies investigating patients who underwent back surgery or

experienced low back pain from injury indicated that opioid therapy prescribed for acute

pain was associated with greater likelihood of long term opiate use (Dowell, Haegerich,

& Chou, 2016). Additionally, early opioid use for acute low back pain, specifically

receiving 5 or more opioid prescriptions from 30-730 days after onset for 1-140 morphine

milligram equivalents (MME) per day increased the risk odds ratio for adverse events

such as misuse, overdose and death (Dowell et al., 2016).

According to the Journal of Family Practice (JFP) acute low back pain (ALBP) precipitates close to 2.7 million emergency department visits annually in the United States (Frazer & Stevermer, 2016). Persistent subjective impairment and ongoing analgesic use at 7 days and at three months after emergency department discharge is greater than 50% based on current studies (Frazer & Stevermer, 2016). Systematic reviews indicate that monotherapy with non-steroidal anti-inflammatory drugs (NSAIDs) or muscle relaxers provides better pain relief than placebo (Frazer & Stevermer, 2016). Additionally, patients prescribed opiates for acute low back pain complaints in a cohort study had worse functioning at six months than those not prescribed opiates (Frazer & Stevermer, 2016).

A problematic issue for clinicians is a considerable subset of patients that expect and anticipate a prescription for opiates (Frazer & Stevermer, 2016). The physicians are inclined to prescribe based on the expectation verses educating the patient on the expectation for recovery, role of exercise, stretching, physical/massage therapy and other non-pharmacologic interventions (Frazer & Stevermer, 2016). This drives the motivation to discover the clinician's practice, methods of assessing and treating patients with acute and chronic low back pain and to discover the reasoning behind the inclination to prescribe opiate pain medication.

Financial and Political Implications

The symptoms of the disorder are costly to employers, and state and federal family welfare agencies and include unsuccessful efforts to reduce or control use resulting in social problems, failure to fulfill role obligations at work, school or home (Dowell et al., 2016). However the new guidelines recommended by the CDC reveal that although evidence suggests risk of serious harms with opiate pain medication therapy the evidence for improved outcomes with use of clinical based guidelines are limited (Dowell et al., 2016).

The literature indicated benefits to stakeholders in surveying provider practice in the four state area (Kansas, Oklahoma, Arkansas, and Missouri) and rural Southeast Kansas four County area (Bourbon, Allen, Anderson and Neosho) regarding current practice KABs in treating patients presenting with NSABP and CBP. The costs of providing care are fiscally concerning to private and government insurers in disability and continued opiate medication abuse, misuse, overdose and death (Last & Hulbert, 2009).

Summary

The CDC reports that primary care clinicians indicate concern about opioid pain medication misuse and admit to increased stress in managing patients with chronic pain and report insufficient training in prescribing opiates (Dowell et al., 2016). There is also increasing concern regarding the association of long-term opioid therapy and problematic patterns of distress and impairment including the diagnosis of "opioid use disorder" (Dowell et al., 2016).

Therefore, it would benefit stakeholders, to survey provider practice in the four state area (Kansas, Oklahoma, Arkansas, and Missouri) and rural Southeast Kansas four County area (Bourbon, Allen, Anderson and Neosho) regarding current health care provider KABs in treating patients presenting with NSABP and CBP. Additionally, this project will aim to discuss the clinician's KABs results and the inclination to prescribe opiate pain medication verses other recommended modalities (NPA, 2012).

CHAPTER III

METHODOLOGY

Introduction

Research indicates that primary care clinicians indicate concern about opioid pain medication misuse. Primary care providers acknowledge increased stress in managing patients with NSABP and CBP and report insufficient education, and training in treating non-malignant pain. The purpose of this study is to assess the knowledge, attitudes and beliefs of primary care providers in the four state region (Kansas, Oklahoma, Missouri and Arkansas) and a four county area of Southeast Kansas (Allen, Anderson, Bourbon, Neosho Counties) regarding current practice in treating patients presenting with NSABP and CBP and assess educational needs in order to improve practice.

Design

Managing NSABP and CBP is a nationwide health and clinical challenge (Krein, Bohnert, Kim, Harris, Richardson, 2016). Efforts in the U.S. to improve the diminished use of guideline recommended therapy and non-opioid modalities are fueled by the identified overuse and medication abuse risks associated with opioid medications (Krein et al., 2016). A quantitative survey methodology was used with a Likert Type scale. A

modified condensed version of the KnowPain-50 survey, the KnowPain-12, was used for this research study.

Efforts to measure the KABs of providers in pain management has produced studies with conflicting assessments, particularly with NMCP (Harris et al., 2008). The KnowPain-50 and its predecessor, the KnowPain-12, were created when the area of pain management education did not have any broadly accepted assessments or outcome measures to support its development (Harris et al., 2008). The KnowPain-50 was developed by preparing a master list of survey items identified as important in optimal management of chronic non-malignant pain (CNMP) by a consensus of seven experts in pain treatment, education, and policy (Harris et al., 2008). The survey questions were based on the accepted theory that chronic pain is a bio-psychosocial disorder requiring a multi-modal approach to assessment and management (Harris et al., 2008). Development of the questions were based on the types of attitudes and beliefs used by Weissman in a questionnaire to assess the effectiveness of the "Role Model" program created to teach pain management to medical professionals (Janjan et al., 1996). Weismann's Questionaire was the only evaluation tool that had been evaluated and was found to have appropriate levels of internal consistency and reliability over time (Harris et al., 2008). However, a standardized tool was needed in the area of pain management KABs that would measure and compare effectiveness of pain management education that had also met standard validity concerns (Janjan et al., 1996).

Although the KnowPain-50 has a high internal consistency and validity across different populations studied, the KnowPain-12 was chosen for this project to encourage

response rates by reducing the number of survey items and therefore time and effort of participants in completing the survey (Gordon et al., 2014). Like the KnowPain-50, the Knowpain12 is a Likert Type scale survey designed to assess the knowledge, attitudes, and beliefs of healthcare providers in pain management within six domains of knowledge: 1) initial pain assessment; (2) definition of treatment goals and expectations; (3) development of a treatment plan; (4) implementation of a treatment plan; (5) reassessment and management of longitudinal care; and (6) management of environmental issues (Gordon et al., 2014). The Likert Type scale scoring of the KnowPain-12 provides graded points for correct answers and like the KnowPain-50 is sensitive to changes in knowledge, educational interventions and expertise (Gordon et al., 2014). The possible answers range from strongly agree, agree and somewhat agree to somewhat disagree, disagree, and strongly disagree which allows for a greater understanding of the confidence of the response and to understand degrees of oppositional KABs for further research development (Harris et al., 2008). The survey set includes 8 items with agreement and 4 with disagreement. The correct responses and the items were coded so that the most extreme correct response received a score of 5 points and the most extreme incorrect response resulted in a score of 0 points. This scoring yields a possible range of scores from 0 to 60 points.

Sampling

The knowledge, attitudes and beliefs of primary care providers in the four state region (Kansas, Oklahoma, Missouri and Arkansas) and a four county area of Southeast Kansas (Allen, Anderson, Bourbon, Neosho Counties) regarding current practice in

treating patients presenting with NSABP and CBP. Family practice clinics and emergency room providers were chosen because research has indicated that most patients with NSABP and CBP and opioid use are being treated by primary care providers in clinics and ER's (Hudspeth, 2011).

Surveys were distributed to 53 attendees of the annual 4 State APN Conference on March 4, 2017 to NPs of various roles and clinical specialties, years in practice and licensure. Forty-six surveys distributed at this conference were completed. One survey was returned without completion with the simple statement of "Don't see pain pts". Thirty surveys were hand delivered to four family practice and emergency room (ER) providers (physicians, NPs, and PAs) in the four county area of Southeast Kansas (Allen, Anderson, Bourbon, Neosho) and sixteen surveys were received by U.S. mail at the Irene Ransom Bradley School of Nursing, Pittsburg State University, Pittsburg, Kansas. An equal number of Demographic data surveys accompanied the KnowPain-12 surveys completed.

Instrumentation

Demographic data surveys included with the KnowPain-12 were included assessing gender, age, clinical role (MD, DO, APRN, and PA), years of practice, DEA licensure, clinical area of practice, State of current practice, and County of practice. Additionally, the demographic data survey assessed for participation in pain management residency or recent continuing educational class in pain management.

A modified version of the KnowPain-50 survey, KnowPain-12, was used to measure healthcare provider knowledge, attitudes and beliefs in pain management

(Gordon et al., 2014). The KnowPain-50 was created in the U.S. and is a self-assessment

tool to measure physician educational needs and the effectiveness of chronic pain

educational programs (Harris et al., 2008, p. 542). The item generation was based on the

consensus of a panel of seven experts in pain treatment, education, and policy (Harris et

al., 2008, p. 543). The 50-item survey assesses physician knowledge, attitudes and beliefs

in initial pain management, defining goals and expectations, development of a treatment

plan, implementation of a treatment plan, reassessment and management of longitudinal

care, and management of environmental issues (Harris et al., 2008, p. 542). Harris et al.

(2008) found the survey has good psychometric properties, correlates with clinical

behaviors, and appears to distinguish between the different levels of pain management

expertise (Harris et al., 2008, p. 542). Unfortunately use of the KnowPain-50 was

associated with low response by rate due to the burdensome number of questions and

possible survey fatigue (Gordon et al., 2014). The KnowPain-12 survey was created

under a structured consensus approach in order to create a condensed version of the

KnowPain-50 survey that would retain all the major domains of the theory of the

assessment and management of CNMP (Gordon et al., 2014).

Procedure

       Data collection began following approval from the nursing department internal review board and the Pittsburg State University Institutional Review Board. Verbal permission was obtained from individual clinic management to survey staff. To maintain confidentiality, surveys were collected by NPs not associated with the study and hand delivered to participants by the lead researcher and various APRNs, Physicians and PAs not associated with the study. The data collection began March 4, 2017 and ended on March 20, 2017. The survey was available for two weeks. Surveys were distributed to 53 attendees of the 4 State APN Conference on March 4, 2017 at the 4 State APN Annual Conference to NPs of various roles and clinical specialties, years in practice and licensure. Forty-six surveys distributed at this conference were completed. One survey was returned without completion with the simple statement of "Don't see pain pts". Thirty surveys were hand delivered to four family practice and emergency room (ER) providers (physicians, NPs, and PAs) in the four county area of Southeast Kansas (Allen, Anderson, Bourbon, Neosho) and sixteen surveys were received by U.S. mail at the Irene Ransom Bradley School of Nursing, Pittsburg State University, Pittsburg, Kansas. An equal number of Demographic data surveys accompanied the KnowPain-12 surveys completed. The survey results were collected anonymously by APRNs not associated with the study at the conference and stamped self- addressed envelopes for mailing were included with the hand delivered surveys for U.S. mail delivery return to research advisors at Irene Ransom Bradley School of Nursing, Pittsburg Kansas.

A consent was assumed upon answering the survey and instructions on completing the survey were also attached to the questionnaire. Data results were calculated by the lead researcher. All data will be kept in a locked cabinet at the nursing department for a minimum of two years and then destroyed.

Analysis and Plan

The research question of the current knowledge, attitudes and beliefs of primary care providers regarding treatment of NSABP and CBP was analyzed using percentages based on a Likert Type scale. The possible answers ranged from strongly agree, agree and somewhat agree to somewhat disagree, disagree, and strongly disagree. The survey set included 8 items with agreement and 4 with disagreement as correct responses and the items were coded so that the most extreme correct response received a score of 5 points and the most extreme incorrect response resulted in a score of 0 points. This scoring yields a possible range of scores from 0 to 60 points.

Assumptions

The major assumptions of this study are that the providers have answered each question honestly and there is a basic understanding of management of NSABP and CBP. It is also assumed that anonymity and confidentiality was preserved and the participants were volunteers who had the option to withdraw from the study at any time. An additional assumption is that the sample values are good estimates of provider populations in the four state region (Kansas, Oklahoma, Missouri and Arkansas) and a four county area of Southeast Kansas (Allen, Anderson, Bourbon, and Neosho Counties).

Limitations

One of the possible limitations of using the KnowPain-12 survey is that it does not specifically focus on back pain and includes questions regarding a more broad area of managing CNMP. In an effort to avoid a procrastination and create an impression of importance, a limited time frame was selected for PCPs to respond to the survey request. Time is a limitation in that it will only reflect the current KABs of a limited number of respondents on the optimal approach to pain management. This will leave the survey results open to the scrutiny regarding the relevance of the respondent's judgements on the modalities of care required for patients presenting for NSABP and CBP. This limitation is affected additionally by the evolving nature of medicine and changes in medical practice based on current knowledge to date (Harris et al., 2008). The potential limitation of self-reported data is balanced by the fact that patient self-reported data is often commonly used in research and clinical care, therefore there is no reason to dismiss the survey simply due to the dependence upon self-reported data (Harris et al., 2008). The KnowPain-12 is intended to be an informative assessment tool on KABs of primary care providers in the four state region (Kansas, Oklahoma, Missouri and Arkansas) and a four county area of Southeast Kansas (Allen, Anderson, Bourbon, Neosho Counties) in pain management for NSABP and CBP.

Delimitations

A delimitation regarding the broad focus of pain management with the KnowPain-12 is the assessment of provider KABs of the different modalities of pain management including the use of prescription medication and opiates for analgesia. Although the KnowPain-12 does not measure clinical endpoints, the data does effectively measure extent of expected knowledge and is potentially a more sensitive indicator of educational outcomes than supposedly "higher" measures, such as patient well-being, which may be affected by numerous factors beyond provider education (Harris et al., 2008).

Summary

This study will help identify current KABs in the treatment of NSABP and CBP of family practice providers in the four state region (Kansas, Oklahoma, Missouri and Arkansas) and a four county area of Southeast Kansas (Allen, Anderson, Bourbon, Neosho Counties).   In addition it may be a useful measure of the effectiveness of clinician pain management education and identify areas that would benefit from improvement in educational programs.

CHAPTER IV

EVALUATION RESULTS

Introduction

Non-specific acute back pain (NSABP) and chronic back pain (CBP) has become a public and clinical health challenge (Krein, Bohnert, Kim, Harris, & Richardson, 2016). Guidelines currently recommend use of various self-care and non-pharmacologic strategies such as cognitive behavioral therapy, physical therapy, stay active instructions, and graduated walking (Krein et al., 2016). However, use of guideline treatment plans such as physical therapy, non-steroidal anti-inflammatories, and acetaminophen have stabilized or decreased (Krein et al., 2016). Efforts have increased in the U.S. to improve the use of guideline recommended exercise therapy and non-opioid medications. The identified overuse and medication abuse risks associated with opioid medications is driving efforts to correct prescribing and medical management practices (Krein et al., 2016). Understanding the development of our current practice in treating acute and chronic back pain is fundamental in discovering the current Knowledge, attitudes and beliefs (KABs) of health care provider's and making recommendations for improved education and training (Tavernise, 2016).

Purpose/Aim

The purpose of this study was to discover the current KABs of primary care providers in the four state region (Kansas, Oklahoma, Missouri and Arkansas) and a four county area of Southeast Kansas (Allen, Anderson, Bourbon, Neosho Counties) in assessing and treating patients with NSABP and CBP.

Practice Questions

What is the knowledge, attitudes and beliefs of health care providers in the four state area (Kansas, Oklahoma, Arkansas, and Missouri) and rural Southeast Kansas four County area (Bourbon, Allen, Anderson and Neosho) in regards to treating patients with NSABP and CBP? The results are consistent with previous studies using the KnowPain-12 survey indicating that providers with pain management residency or specializing in pain management have higher scores in all six domains (Gordon et al., 2014). Providers without pain management residency had a mean score of 34% verses providers with pain management residency mean of 44%. Respondents working in pain management had a mean score of 47% verses providers in other areas of practice with a mean of 38%. The results are inconsistent with previous studies using the KnowPain-12 in regards to participants with pain management continuing education. Providers in this study acknowledging continuing education in pain management had a lower mean score 33% versus 38% for respondents without continuing education in pain management. What are the educational needs of health care providers regarding clinical practice guidelines, non-pharmacologic, non-steroidal and opioid therapy in treating NSABP and CBP?

This result would indicate the need for further research assessing outcomes of current pain management education following pain management education in order to make recommendations for improvement in didactic knowledge and training.

Demographics

Although the total number of surveys returned was 63, the total number of surveys returned with responses to questions was 62. One survey from the 4 State APN Conference was returned unanswered due to participant "not currently treating patients for pain". All of the participants were between the ages of 29 to 69 years. Please refer to Table 1-9.

Table 1
Demographics

Gender of Respondents	N= 62	%	Range of scores	Mean score	Median score
Male	6	10	35-43	33	40
Female	56	90	17-51	40	36

Ninety percent of respondents were female. Eighty percent of the female respondents were APRNs, 17% were MDs and three percent were PAs. The 10% of male responses were represented by DOs, MDs and APRNs in equal ratios.

Table 2

Role of Respondents	N= 62	%	Range of scores	Mean score	Median score
MD	5	8	38-43	40	40
DO	2	3	40-43	41	42
APRN	53	86	17-51	40	36
PA	2	3	33-38	35	36

There were 46 participants that completed surveys at the 4 State APN Conference. The surveys returned from the four counties included five MDs, two DOs, two PAs, and seven APRNs.

Table 3

Years of Practice of Respondents	N= 62	%	Range of scores	Mean score	Median score
1 to 2	13	21	34-47	39	43
3 to 5	16	26	17-47	36	33
6 to 10	16	26	27-51	38	39
11 to 20	10	16	26-50	40	38
>20	7	11	40-43	41	42

Twenty five percent of the participants indicated they have three to five and six to ten years of practice. Sixteen percent indicated they have 11 to 20 years of practice and only 11% have greater than 20 years of practicing medicine. Twenty percent have only one to two years of practice experience.

Table 4

DEA License Status of Respondents	N= 62	%	Range of scores	Mean score	Median score
Yes	42	68	17-51	39	34
No	20	32	27-43	36	35

Sixty seven percent of respondents have DEA licensure. APRNs were the only healthcare providers represented the remaining 33% without DEA licensure.

Table 5

Area of Practice of Respondents	N= 62	%	Range of scores	Mean score	Median score
Family Practice	36	58	17-51	39	34
Internal Medicine	4	6	34-37	35	35
ER	9	15	39-43	41	41
Pain Management	2	3	44-50	47	47
Other	11	18	32-43	37	38

Fifty eight percent of participants are in family practice and 18% chose other. Six percent are practicing in internal medicine. The participants practicing in the emergency room was 15% and only three percent are practicing in pain management. APRNs make up the three percent in pain management. Eighty percent of the APRNs in the four county responses were family practice providers.

Table 6

State Where Respondents Currently Practice	N= 62	%	Range of scores	Mean score	Median score
KS	29	47	33-51	41	43
OK	3	4	41-47	44	44
MO	29	47	27-47	38	37
AR	1	2	40	40	40
Other					

There were 46 participants that completed surveys at the 4 State APN Conference and 16 participants from the four county area. Roughly half of all participants practice in Kansas and Missouri.

Table 7

County Where Respondents Currently Practice	N= 62	%	Range of scores	Mean score	Median score
Allen	9	15	33-47	41	43
Bourbon	4	6	36-43	39	40
Anderson	4	6	38-42	40	40
Neosho	6	10	36-41	38	38
Other					

Many providers in the four county area provide care in more than one county. Fifty six percent of the 16 participants in the four county area practice in Allen County. Twenty five percent of participants practice in Anderson and Bourbon Counties and 37% practice in Neosho County.

Table 8

Respondent Participation in Pain Management Residency or Clinical	N= 62	%	Range of scores	Mean score	Median score
Yes	4	6	37-51	44	39
No	58	94	17-51	34	38

A total of four provider respondents, APRNs, acknowledged participation in pain management residency or clinical. Two of those APRNs stated they currently work in pain management. One provides pain management care in collaboration with a physician and one works in pain management and is currently studying for pain management certification. All four APRNs have participated in pain management continuing education as well.

Table 9

Respondent Participation in Pain Management Continuing Education	N= 62	%	Range of scores	Mean score	Median score
Yes	27	44	17-51	33	35
No	35	56	27-51	38	39

Twenty three APRNs at the conference and two APRNs included in the Kansas four county (Allen, Anderson, Bourbon and Neosho) surveys have participated in pain management continuing education. Two of the DOs and MDs were positive for participation in pain management continuing education.

Quantitative Findings

A modified version of the KnowPain-50 survey, KnowPain-12, was used in this study to measure healthcare provider current knowledge, attitudes and beliefs in pain management (Gordon et al., 2014).The KnowPain-50 was created in the U.S. and is a self-assessment tool to measure physician educational needs and the effectiveness of chronic pain educational programs and validated to measure and compare performance and effectiveness across the many pain management disciplines (Harris et al., 2008). The item generation was based on the consensus of a panel of seven experts in pain treatment, education, and policy (Harris et al., 2008, p. 543). The 50-item survey assesses physician knowledge, attitudes and beliefs in initial pain management, defining goals and expectations, development of a treatment plan, implementation of a treatment plan, reassessment and management of longitudinal care, and management of environmental issues (Harris et al., 2008, p. 542). Harris et al. (2008) found the survey has good psychometric properties, correlates with clinical behaviors, and appears to distinguish

between the different levels of pain management expertise (Harris et al., 2008, p. 542).

When the KnowPain-50 survey was created the area of pain management education did

not have any broadly accepted assessments or outcome measures to support its

development (Harris et al., 2008). Efforts to measure the KABs of providers in pain

management has produced studies with conflicting assessments, particularly with CNMP

(Harris et al., 2008). The KnowPain-50 was developed by preparing a master list of

survey items identified as important in optimal management of chronic non-malignant

pain (CNMP) by a consensus of seven experts in pain treatment, education, and policy

(Harris et al., 2008). The survey questions were based on the accepted theory that chronic

pain is a bio-psychosocial disorder requiring a multi-modal approach to assessment and

management (Harris et al., 2008). Development of the questions were based on the types

of attitudes and beliefs used by Weissman in a questionnaire to assess the effectiveness of

the "Role Model" program created to teach pain management to medical professionals

(Janjan et al., 1996). Weismann's Questionaire was the only evaluation tool that had been

evaluated and was found to have appropriate levels of internal consistency and reliability

over time (Harris et al., 2008). However, a standardized tool was needed in the area of

pain management KABs that would measure and compare effectiveness of pain

management education that had also met standard validity concerns (Janjan et al., 1996).

Although the KnowPain-50 has a high internal consistency and validity across

different populations studied, the KnowPain-12 was chosen for this project to encourage

response rates by reducing the number of survey items and therefore time and effort of

participants in completing the survey (Gordon et al., 2014). Use of the KnowPain-50 was

associated with low response by rate due to burdensome number of questions and possible survey fatigue (Gordon et al., 2014).

The KnowPain-12 survey was created under a structured consensus approach in order to create a condensed version of the KnowPain-50 survey that would retain all the major domains of the theory of the assessment and management of CNMP (Gordon et al., 2014).Like the KnowPain-50, the Knowpain12 is a Likert Type scale method survey designed to assess the knowledge, attitudes, and beliefs of healthcare providers in pain management within six domains of knowledge: 1) initial pain assessment; (2) definition of treatment goals and expectations; (3) development of a treatment plan; (4) implementation of a treatment plan; (5) reassessment and management of longitudinal care; and (6) management of environmental issues (Gordon et al., 2014). The Likert Type scale scoring of the KnowPain-12 provides graded points for correct answers and like the KnowPain-50 is sensitive to changes in knowledge and expertise (Gordon et al., 2014).. The survey set includes 8 items with agreement and 4 with disagreement as correct responses. The items were coded so that the most extreme correct response received a score of 5 points and the most extreme incorrect response resulted in a score of 0 points. This scoring yields a possible range of scores from 0 to 60 points. Please refer to tables 10-21.

Table 10

Q1: When I see consistently high scores on pain rating scales in the face of minimal or moderate pathology, this means that the patient is exaggerating his/her pain.

Data analysis of KnowPain-12 survey	Study Participants					% Correct Answers
	MD	DO	APRN	APRN at 4 State Conference	PA	
Strongly disagree*				1		1.61

      The most extreme correct answer to this question is "Strongly disagree". One participant's answer had to be removed from the count because two answers were chosen for this question. Only one participant, an APRN, answered this question with the extreme correct answer. Seventeen percent answered "Disagree Somewhat" and 22.58% responded with "Disagree." This indicated roughly 39% of the respondents have some knowledge and belief that it is incorrect to assume that a patient is exaggerating pain if they are scoring high on pain rating scales in the face of minimal or moderate pathology. An incorrect answer of agreement with the statement was answered by 58% of participants and was a combination of MDs, DOs and APRNs.

Table 11

Q2. In chronic pain, the assessment should include measurement of the pain intensity, emotional distress and functional status.

Data analysis of KnowPain-12 survey	Study Participants					% Correct Answers
	MD	DO	APRN	APRN at 4 State Conference	PA	
Strongly agree*		2	5	28	2	59.68

The most extreme correct answer of "Strongly agree" was chosen by nearly 60% of respondents. The answer "Agree" and "Agree Somewhat" were chosen by roughly 35% of respondents indicating that at least one third of the respondents have some knowledge that the assessment should include measurement of pain intensity as well as emotional distress and functional status. The responses indicate that most participants in the study understand the chronic pain assessment should include a measurement of pain intensity, emotional distress and functional status.

Table 12

Q3. There is good evidence that psychosocial factors predict outcomes from back surgery better than the patient's physical characteristics.

Data analysis of KnowPain-12 survey	MD	DO	APRN	APRN at 4 Conference	State	PA	% Correct Answers
Strongly agree*		1	3	5		1	16.13%

The most extreme correct answer for this question is "Strongly agree". Sixteen percent of participants chose the correct answer to this question. One participant's answer had to be removed from the count because the mark was placed on the line between "Agree somewhat" and "Disagree somewhat". Fifty percent of respondents chose "Agree somewhat". Seventeen percent of respondents chose "Agree." The answers to this question indicated at least 67% of participants have some knowledge and belief that assessing psychosocial factors are more predictive of outcomes from back surgery than a patient's physical characteristics.

Table 13

Q4. Early return to activities is one of my primary goals when treating a patient with recent onset back pain.

Data analysis of KnowPain-12 survey	Study Participants					% Correct Answers
	MD	**DO**	**APRN**	**APRN at 4 State Conference**	**PA**	
Strongly agree*		2	3	14	1	32.26

The most extreme correct answer to this question "Strongly agree" was chosen by 32% of participants. Fifty percent of participants answered "Agree" and "Agree Somewhat was chosen by 8% of participants. This response indicates that at least 58% of respondents have some knowledge and belief that early return to activities should be a primary goal when treating patients with recent onset back pain.

Table 14

Q5. Antidepressants usually do not improve symptoms and function in chronic pain patients.

Data analysis of KnowPain-12 survey	Study Participants					% Correct Answers
	MD	DO	APRN	APRN at 4 State Conference	PA	
Strongly disagree*			2	8	1	16.13

The most extreme correct answer "Strongly disagree" was chosen by 16% of

participants. Forty six percent chose "Disagree" and 31% chose "Disagree somewhat".

The response to this question indicates that at least 77% of respondents have some

knowledge and belief that antidepressants can possibly improve symptoms and function

in chronic pain indicating a need for improved education on the use of antidepressants in

treating back pain.

Table 15

Q6. Cognitive behavioral therapy is very effective in chronic pain management and should be applied as early as possible in the treatment plan for most chronic pain patients.

Data analysis of KnowPain-12 survey	Study Participants					% Correct Answers
	MD	DO	APRN	APRN at 4 State Conference	PA	
Strongly agree*		1	2	9	1	19.35

The most extreme correct answer to this question "Strongly agree" was chosen by

roughly 20% of participants. Forty-five percent chose "Agree" and 27% chose "Agree

Somewhat" which indicates knowledge and belief of at least 72% of participants that

cognitive behavioral therapy (CBT) can increase positive outcomes in the treatment of patients with chronic pain. "Disagree" was not chosen by any of the participants. The responses indicate a limited agreement or KABs of the benefit of cognitive behavioral therapy in pain management. However, the 20% absolutely correct answers would lead to a recommendation of increasing provider education in the use of CBT and efforts to increase the availability of the therapy for patients with NMCP.

Table 16

Q7. I feel comfortable calculating conversion doses of commonly used opioids.

Data analysis of KnowPain-12 survey	MD	DO	APRN	APRN at 4 State Conference	PA	% Correct Answers
			Study Participants			
Strongly agree*		1	2	4	1	8.06

      The correct answer for this question is "Strongly agree". Eight percent of respondents chose this answer and 32% percent chose "Agree". Seventeen percent chose "Agree somewhat". This response indicates that at least 40% percent of respondents feel they have some knowledge and believe they feel somewhat comfortable calculating conversion doses of opiates. This could also be understood to indicate that providers do not often find it necessary to convert doses of opiates in practice. The recommendation with the less than 10% of extreme correct responses would be for increased education and training in the calculation of conversion doses of opioids.

Table 17

Q8. Long-term use of NSAIDS in the management of chronic pain has higher risk for tissue damage, morbidity, and mortality than long-term use of opioids.

Data analysis of KnowPain-12 survey	Study Participants					% Correct Answers
	MD	DO	APRN	APRN at 4 State Conference	PA	
Strongly agree*						0.00

The most extreme correct answer to this question is "Strongly agree" which was not chosen by any participant. Twelve percent answered "Agree" and 20% chose "Agree somewhat." Four participants did not answer this question. The responses to this question indicate that 32% of respondents have some knowledge that NSAIDs place people at higher risk for tissue damage, morbidity and mortality than long-term use of opioids. This low percentage of extreme correct responses could be due to the current recommendations to use NSAIDs as a first line treatment in the management of patients presenting for acute and chronic back pain. The responses could additionally be based on PCPs practice evidence regarding the safety of prescribing NSAIDs for NMCP. Insurance coverage for improved NSAIDs developed to reduce cardiac and gastrointestinal adverse reactions would be valuable to improve clinical practice. Additional research into the benefits and possible adverse effects of the long-term use of NSAIDs for chronic pain is recommended.

Table 18

Q9. There is good medical evidence that interdisciplinary treatment of back pain is effective in reducing disability, pain levels, and in returning patients to work.

Data analysis of KnowPain-12 survey	Study Participants					% Correct Answers
	MD	DO	APRN	APRN at 4 State Conference	PA	
Strongly agree*	1	1	2	16		32.26

The most extreme correct answer to this question is "Strongly agree" and was chosen by 32% percent of respondents. Almost 55%of respondents chose "Agree" and "Agree somewhat "was chosen by almost 5% of participants. The responses to this question indicate that 60% of participants have some knowledge that interdisciplinary treatment of back pain is effective at reducing disability and pain levels and improving the return to work.

Table 19

Q10. I believe that chronic pain of unknown cause should not be treated with opioids
even if this is the only way to obtain relief.

Data analysis of KnowPain-12 survey	Study Participants					% Correct Answers
	MD	DO	APRN	APRN at 4 State Conference	PA	
Strongly disagree*				2		3.23

The most extreme correct answer is "Strongly disagree" and only three percent of participants answered this correctly. Fourteen percent of participants answered "Disagree" and 30% of respondents chose "Disagree somewhat". The responses indicate that 44% of respondents have some knowledge and belief that chronic pain of unknown cause can be treated with opiates if it is the only way to obtain relief.

Table 20

Q11. Under federal regulations, it is not lawful to prescribe an opioid to treat pain in a
patient with a diagnosed substance use disorder.

Data analysis of KnowPain-12 survey	Study Participants					% Correct Answers
	MD	DO	APRN	APRN at 4 State Conference	PA	
Strongly disagree*	2		2	2	1	11.29%

The most extreme correct answer to this question is "Strongly disagree" which

was chosen by 12% of respondents. One additional respondent did not choose an answer

for this question. "Disagree" was chosen by 30% percent of respondents and 22% chose

"Disagree somewhat." This would indicate that 52% of providers have some knowledge

that it is not against the law to treat a patient diagnosed with a substance use disorder

with opiates for pain. However, this answer does not indicate that providers would or

would not treat pain in a patient with a substance use disorder with opiates. Additional

research into the actual prescribing practices of health care providers would be beneficial

in order to improve use of CPGs as well as improve education in the treatment of NSABP

and CBP.

Table 21

Q12. I know how to obtain information about both state and federal requirements for prescribing opioids.

Data analysis of KnowPain-12 survey	Study Participants					% Correct Answers
	MD	DO	APRN	APRN at 4 State Conference	PA	
Strongly agree*			2	9		17.74

The most extreme correct answer to this question is "Strongly agree", however only 17.74% of respondents gave this answer and another 38% responded with "Agree" and 21% answered "Agree somewhat." This indicates that at least 59% of respondents have some knowledge of how to obtain information about both state and federal requirements for prescribing opiates. However, this could also suggest that there is a degree of uncertainty and therefore lack of knowledge of how to obtain information regarding state and federal requirements for prescribing opiates.

* Correct Answer

MD= Medical Doctor

DO= Doctor of Osteopathy

APRN= Advanced Practice Registered Nurse

PA= Physician Assistant

Analysis of Project Questions

The results indicated a consistency with previous studies using the KnowPain-12 survey indicating that providers with pain management residency or specializing in pain management have higher scores in all six domains (Gordon et al., 2014). Providers without pain management residency had a mean score of 34% versus providers with pain management residency mean score of 44%. Respondents working in pain management had a mean score of 47% versus providers in other areas of practice with a mean score of 38%. The responses in this study contradicted previous studies using the KnowPain-12 survey suggesting PCPs with continuing education in pain management obtain higher scores in all six domains (Gordon et al., 2014). In this study providers with continuing education in pain management had a lower mean score of 33%, than respondents without continuing education in pain management, 38%. This result would indicate the need for further research assessing outcomes of current pain management education. . In the process of this research and discovery primary care providers acknowledged increasing stress in managing patients with NSABP and CBP and self-reported insufficient education and training in treating non-malignant pain. Therefore, assessing the current educational requirements in medical schools, NP and PA programs of study in pain management residency would be an additional recommendation.

Additional Statistical Analysis

Cronbach's alpha for the KnowPain-12 score in this sample was 0.61. The KnowPain-12 survey's internal consistency as measured by Cronbach alpha (0.61) was just below the threshold of what is considered acceptable (0.7). Using the guidelines by

Nunnally (1978), many researchers consider a Cronbach's alpha of at least 0.70 to be adequate for an instrument in early stages of development. The alpha reported for the KnowPain-50 was 0.77 to 0.85 (Gordon, et al., 2014). Cronbach alpha increases as number of survey items increases, therefore one would expect a survey with a reduced number of the original fifty items to have a lower alpha.

Summary

The purpose of this study was to conduct quality improvement research to assess the knowledge, attitudes and beliefs of primary care providers in the four state region (Kansas, Oklahoma, Missouri and Arkansas) and a four county area of Southeast Kansas (Allen, Anderson, Bourbon, Neosho Counties) regarding current practice in treating patients presenting with NSABP and CBP and make recommendations for educational improvements. The analysis of the data indicates that improving current continuing education in the treatment of NSABP and CBP is warranted. Advancing education on the assessment and understanding of pathology verses patient pain ratings, psychosocial issues affecting pain, cognitive behavioral training, interdisciplinary treatment and knowledge of pharmaceutical modalities including the use of antidepressants, NSAIDs and opiates would improve clinical practice and functional outcomes.

CHAPTER V

DISCUSSION OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

Discussion

The purpose of this scholarly project was to discover the knowledge, attitudes and beliefs of healthcare providers in the four state area (Kansas, Oklahoma, Arkansas, and Missouri) and rural Southeast Kansas four County area (Bourbon, Allen, Anderson and Neosho) in assessing and treating patients with NSABP and CBP.

The number of people experiencing back pain in the US are estimated at greater than 10% of the adult population (Dowell et al., 2016). New research suggests that it is the most common pain problem (Pauline, 2016). It is the third most expensive health disorder and is exceeded only by cancer and heart disease (Kevin & James, 2016).

Despite the need for improved pain management education, there are no widely accepted assessment or outcome measures to calculate the effectiveness of primary care pain management education (Harris et al., 2008). In order to improve clinician practice it is necessary to understand the thoughts guiding current practices in treating NSABP and CBP.

Practice Questions and Relationship of Outcomes to Research

What is the knowledge, attitudes and beliefs of health care providers in the four state area (Kansas, Oklahoma, Arkansas, and Missouri) and rural Southeast Kansas four County area (Bourbon, Allen, Anderson and Neosho) in regards to treating patients with NSABP and CBP? The results of this study were consistent with previous studies using the KnowPain-12 survey indicating that providers with pain management residency or specializing in pain management have higher scores in all six domains (Gordon et al., 2014). Providers without pain management residency had a mean score of 34% verses providers with pain management residency mean score of 44%. Respondents working in pain management had a mean score of 47% versus providers in other areas of practice with a mean score of 38%. The results are inconsistent with previous studies using the KnowPain-12 in regards to participants with pain management continuing education. Providers in this study acknowledging continuing education in pain management had a lower mean score of 33% versus 38% for respondents without continuing education in pain management. What are the educational needs of health care providers regarding clinical practice guidelines, non-pharmacologic, non-steroidal and opioid therapy in treating NSABP and CBP? The results from this study would indicate the need for further research assessing outcomes of current pain management education in order to make recommendations for improvement in didactic knowledge and training.

Additionally, research into the KABs verses the actual prescribing behaviors of health care providers would be recommended. The responses from surveys contradicted current ratios of opiate prescribing data in Southeast Kansas and the four State area,

according to the CMS website. Data from the CMS website indicated opiate prescribing in our four state region and Southeast Kansas four county demographic data is higher than the national average. The results of this study results indicate prescribers are less likely to prescribe to someone complaining of back pain without corresponding pathology. The results also indicate that providers are not inclined to prescribe to patients with known substance abuse or without corresponding pathology related to pain. The data provided by the State of Kansas regarding percentage of opiates prescribed by providers in the geographical area of the study would indicate less hesitancy to prescribe opiates.

The current recommendations for treatment of acute and chronic back pain do not recommend the use of opiates as a first line of care, however if opiates are indicated they should be used judiciously with frequent follow up and assessments to determine their efficacy or improvement of patients pain and functional status (CDC, 2014; Dowell et al., 2016; Frazer & Stevermer, 2016; Last & Hulbert, 2009).

Less than two percent of respondents chose the most extreme correct answer "Strongly agree", stating that it is incorrect to assume that a patient is exaggerating pain if they are scoring high on pain rating scales in the face of minimal or moderate pathology. This result indicated that more education is recommended in the understanding of pathology verses patient pain ratings and the overall assessment of patients presenting with acute and chronic back pain.

In chronic pain, the assessment should include measurement of the pain intensity, emotional distress, and functional status. Fifty nine percent of participants answered this question with the most extreme correct answer "Strongly Agree", indicating a greater

than average understanding by providers of importance of the accurate evaluation of pain intensity, consideration of emotional distress, and functional status.

The responses to question number three indicated that only 16% of participant strongly agree that assessing psychosocial factors are more predictive of outcomes from back surgery than a patient's physical characteristics. As advances in the understanding of psychosocial factors in pain science increase, results indicated we should seek to increase education in pharmacotherapy alternatives to opiates in pain management in order to improve treatment modalities and outcomes.

The ratio of most extreme correct responses to question number four (32.26%) confirms that providers could benefit from increased education in physical therapy and its benefits when treating patients with recent onset back pain. The response to question five indicates that most respondents agree that antidepressants can possibly improve symptoms and function in chronic pain. However the number of respondents that chose the most extreme correct answer (16.13%) indicates additional education in alternative medical therapy for pain treatment is recommended. More information and training on the use of antidepressants in the treatment of chronic pain would be recommended.

Participants indicated that use of cognitive behavioral therapy can increase positive outcomes in the treatment of patients with chronic pain. However, statistically the ratio of most extreme correct answer chosen, 19.35%, indicates a poor understanding and deficit in knowledge of the benefits of cognitive behavioral therapy is in treating pain. The response to question seven indicates that 58% of respondents feel somewhat comfortable calculating conversion doses of opiates. The ratio of most extreme correct

answers, (8.06%), to this question are concerning and additional education in opiate

pharmacology and conversion doses would be recommended.

Answers to question number eight indicate that PCPs do not agree that NSAIDs

place people at higher risk for tissue damage, morbidity and mortality than long-term use

of opioids. The most extreme correct answer was zero percent. This could be due to the

current recommendations to use NSAIDs and a first line treatment in the management of

patients presenting for acute and chronic back pain. The responses could additionally be

based on PCPs practice evidence of the safety of prescribing NSAIDs for NMCP. More

research in the adverse effects of NSAID use in acute and chronic pain versus opiates is

warranted due to the current recommendations to healthcare providers to use NSAIDs as

a first line therapy for pain (CDC, 2014; Last & Hulbert, 2009; Dowell et al., 2016;

Tavernise, 2016; Hudspeth, 2011).

The answers to question nine indicate a less than optimal knowledge level with

participants in using recommended interdisciplinary treatment for back pain. The most

extremely correct answer was only chosen by 32.26% of respondents. Recommendations

according to current guidelines is for the use of physical/massage therapy, cognitive

behavioral therapy and exercise therapy (CDC, 2014; Dowell et al., 2016; Frazer &

Stevermer, 2016). Increasing the knowledge of recommended interdisciplinary treatments

through continuing education and improvements in traditional medical education would

be recommended. The number of most extremely correct responses to question number

ten indicate that only 3.23% of respondents believe that chronic pain of unknown cause

can be treated with opiates if it is the only way to obtain relief. The current

recommendations for treatment of acute and chronic back pain do not recommend the use of opiates, however if opiates are indicated they should be used judiciously with frequent follow up and assessments to determine their efficacy or improvement of patients pain and functional status (CDC, 2014; Dowell et al., 2016; Frazer & Stevermer, 2016; Last & Hulbert, 2009).

The most extremely correct responses to question number eleven indicate that only 11.29% of providers understand that it is not against the law to treat a patient diagnosed with a substance use disorder with opiates for pain. The response to this question would call for more research into the prescribing practices of PCPs since the data regarding percentage of opiates prescribed by providers in the study would indicate less hesitancy to prescribe opiates. The responses from surveys contradicted current opiate prescribing data in Southeast Kansas and the four State area. The study results indicate prescribers are less likely to prescribe to someone complaining of back pain without corresponding pathology. The results also indicate that providers are not inclined to prescribe to patients with known substance abuse.

Finally, the most extremely correct provider responses to question number twelve indicate only 17.74% of respondents know how to obtain information about both state and federal requirements for prescribing opiates. This response would indicate a need for State medical and nursing boards to develop policy statements regarding opiate prescribing for pain and encourage provider use of the state and federal websites through public campaigns and improving website ease of use.

Educational Policy Implications

The results of the study indicate the need for additional education in all six domains on the KnowPain-12 survey. The research results indicated that pain management is an area of practice that would benefit from educational policy improvements in medical, NP, and PA educational programs.

Policy Implications

Kansas Board of Pharmacy Laws and Regulations (2014), does not specifically address pain management prescribing. A national survey of U.S. medical board members supported the request for medical boards to clarify their policies (Joranson & Gilson, 2001). Most medical boards accept the use of opioids to manage chronic non-cancer pain, however, as in Kansas Controlled Substance Prescribing Guidelines (2012), they do not outline the board's basic expectations (Joranson & Gilson, 2001). As guidelines vary from state to state, this leaves an environment where physicians, nurse practitioners and physician assistants face fears of disciplinary action for failure to treat or treating in a poorly regulated environment leaving them open to disciplinary action (Joranson & Gilson, 2001).State medical and nursing boards need to develop policy statements regarding opiate prescribing for pain.

Finally in regards to policy, there is a need to address insurance reimbursement which limits the treatment modalities that can be utilized by providers. Insurance policies that encourage the use of opiates verses the NSAIDs with reduced side effects need to be changed. Reducing the costly progression to chronicity and disability could potentially be

improved with insurance coverage of currently recommended modalities for treating

NSABP and CBP.

Theoretical Model

Benner's theoretical model, From Novice to Expert (1984), was used for this

study and explains that through investigation, observation and practice in the use of

evidence based skills, one moves from reliance on abstract principles and rules to the use

of intuition and competency (Alligood, 2014). A perception of competency and

confidence in managing continually expanding and increasingly complex situations in

pain management develops as the clinician is engaged in a cumulative learning process

(Alligood, 2014). It is theoretically asserted that by increasing the knowledge, training,

clinicians will be more confident in making evidence based decisions evaluating risks

verses harms with regard to benefits for pain control, and functional improvement.

Relationship Outcomes

The ultimate goal in the development of the KnowPain-50 and its condensed

version, the KnowPain-12, which was used in this study, is the ability to accurately assess

the role of an educational tool or continuing education program in improving health care

provider KABs in pain management (Harris et al., 2008). It is asserted that the

KnowPain-50 and its predecessor the KnowPain-12 survey is a more accurate measure of

educational outcomes and therefore clinical competency, than patient well-being or

satisfaction surveys which are affected by numerous factors beyond physician KABs and

competency in treating pain (Harris et al., 2008).

The results of previous research indicate that the KnowPain-50 and condensed

version, KnowPain-12, have good psychometric properties that correlate to clinical

activity and differentiation between levels of pain management competence (Harris et al.,

2008; Gordon et al., 2014). The responses in this current study indicate that overall the

results could be considered consistent with previous uses of the survey. The providers

currently working in pain management had the highest mean score of 47% (Harris et al.,

2008; Gordon et al., 2014). The responses to the survey in this study indicated that

regardless of educational hierarchy, health care providers with pain management

residency had the highest mean score (M = 44 vs. 34).

Results in a study using the KnowPain-12 to assess physician groups following

attendance in two publicly available online CME pain management programs indicated

they can improve KABs important to pain management immediately after and in a three

month follow up period. However, in this study the results of those with continuing

education in pain management had a lower mean score than respondents without pain

management continuing education (M = 33 vs. 38). The results indicate the need for

more research using the KnowPain-12 survey to discover the effectiveness of current

continuing pain management education programs as well as recommended adjustments to

the KnowPain-12 survey to account for current recommended clinical practice guidelines.

Logic Model

The logic model designed for this study explains the process discovering KABs of

health care providers. In addition it outlines the benefits and progression of this study in

conducting research with a Likert Type scale to assess the knowledge, attitudes and

beliefs of primary care providers in the four state region (Kansas, Oklahoma, Missouri

and Arkansas) and a four county area of Southeast Kansas (Allen, Anderson, Bourbon,

Neosho Counties) regarding current practice in treating patients presenting with NSABP

and CBP and make recommendations for educational improvements. Unlike the previous

sequential research using the KnowPain-50 and KnowPain-12, which assessed provider

knowledge and competency in a logical sequence following completion of a continuing

education program on pain management, the goal of research in this study was to identify

current KABs in back pain management and make recommendations for improving

education in NSABP and CBP management. The results of the study advocate for the

logic model and its demonstration of discovering gaps in knowledge and using the results

to improve knowledge, attitudes and beliefs in order to improve practice. Results suggest

that there is a deficit in KABs and by increasing requirements for pain management

residency in education and continuing education, clinical management of NSABP and CBP can be improved upon.

Weaknesses

Cronbach's alpha for the KnowPain-12 score in this sample was 0.61. The KnowPain-12 survey's internal consistency as measured by Cronbach alpha (0.61) was just below the threshold of what is considered acceptable (0.7). Future research examining the potential of improving the KnowPain-12 and its internal consistency and reevaluating questions based on current guidelines would be recommended.

Recommendations for Further Research

Further research would be recommended in identifying provider prescribing habits due to CMS data indicating clinician tendency to prescribe opiates over other modalities in the treatment of acute and chronic non-malignant back pain. According to the CDC and CMS, national and state data indicate that opiates are the most common pharmaceutical modality for treatment of back pain and NMCP.

The results in this study lead to questions regarding whether our prescribing habits are based on knowledge of current clinical guidelines or on practitioner psychological bias or personality traits not addressed in this survey. Currently patient satisfaction scores are used to determined health care provider's competence versus the clinical outcomes of care (Hudspeth, 2011). Health care providers are caught between a desire to provide appropriate care based on clinical practice guidelines and health policies that are based on patient satisfaction which is questionably an accurate measure of clinical competence (Hudspeth, 2011).

Limitations

One of the possible limitations of using the KnowPain-12 survey is that it does not specifically focus on back pain and includes questions regarding a more broad area of managing CNMP. Time is a limitation in that it will only reflect the current KABs of a limited number of respondents on the optimal approach to pain management. This will leave the survey results open to the scrutiny of the relevance of the respondent's judgements on the modalities of care required for patients presenting for NSABP and CBP. This limitation is affected additionally by the evolving nature of medicine and changes in medical practice based on current knowledge to date (Harris et al., 2008).

This KnowPain-12 survey research is intended to be an informative assessment of current KABs of primary care providers in the four state region (Kansas, Oklahoma, Missouri and Arkansas) and a four county area of Southeast Kansas (Allen, Anderson, Bourbon, Neosho Counties) in pain management for NSABP and CBP and recommend educational program improvements in knowledge, competency and confidence in treating NSABP and CBP.

Conclusion

In an effort to improve the health care outcomes in the treatment of back pain, improved education is warranted to increase clinician use of CPG's, increase confidence in evaluating, discussing and creating recommended treatment plans with patients. As the survey responses indicate, requiring pain management residency and/or continuing education for healthcare providers would be recommended. The KnowPain-12 is a well validated tool, improving its reliability based on the most current recognized standards of care and CPGs would improve the ability to further assess the outcomes of continuing education and residency programs in pain management and improve educational standards and clinical outcomes.

Additionally, health care providers would benefit from a clinical environment that allows clinicians to have adequate appointment times that allow for a more complete history and physical including an evaluation of psychosocial health and substance use. The cost of providing care could be decreased as the disability and treatment for chronic pain is improved through insurance coverage of CPG recommended modalities of care.

There have been attempts to fix the educational gap in treatment of NMCP for greater than twenty years and it has led to our current problem with opioid misuse, abuse and increased mortality (CDC, 2014). Increasing health care provider knowledge of the pharmacologic and non-pharmacologic management of back pain is recommended to improve clinical outcomes and decrease the negative effects on society associated with chronicity, disability and opiate misuse and abuse. Improving patient safety could be accomplished by ensuring health care providers are regularly supplied with education,

tools, and guidance for decision making based on proven practices (NPA, 2012). Finally,

regulating boards should consider reevaluating standards of care in treating pain with

clear directions for the use of opiates in the Uniform Controlled Substance Act.

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APPENDIX

Appendix A

Table 1

Demographic Data Survey

1. Gender: Male____ Female____

2. Age_____

3. Role: _____(MD, DO, APRN, PA)

4. Years of practice: 1-2_____3-5____6-10____11-20____>20____

5. Do you have a current DEA License? Yes____ No____

6. Area of Practice: Family practice____ Internal Med____ ER____ Pain management
   _____Other (please specify)_____

7. State currently practicing in: KS_____ OK____ MO____ AR____ Other (please
   specify)_____

8. County of practice: Allen____ Bourbon____ Anderson____ Neosho____ Other (please
   specify)_____

9. Have you participated in a pain management residency or clinical? Yes____ No____

10. Have you participated in a pain management continuing education class in the
    last two years? Yes____ No____

Appendix B

Table 2

KnowPain-12 Survey

Please read each statement and mark your level of agreement or disagreement.

KnowPain-12 survey	Strongly Agree	Agree	Agree Somewhat	Disagree Somewhat	Disagree	Strongly Disagree
Q1. When I see consistently high scores on pain rating scales in the face of minimal or moderate pathology, this means that the patient is exaggerating his/her pain.						
Q2. In chronic pain, the assessment should include measurement of the pain intensity, emotional distress, and functional status.						
Q3. There is good evidence that psychosocial factors predict outcomes from back surgery better than the patient's physical characteristics.						
Q4. .Early return to activities is one of my primary goals when treating a patient with recent onset back pain						

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KnowPain-12 Survey	Strongly Agree	Agree	Agree Somewhat	Disagree Somewhat	Disagree	Strongly Disagree
Q5. Antidepressants usually do not improve symptoms and function in chronic pain patients.						
Q6. Cognitive behavioral therapy is very effective in chronic pain management and should be applied as early as possible in the treatment plan for most chronic pain patients.						
Q7. I feel comfortable calculating conversion doses of commonly used Opioids.						
Q8. Long- term use of NSAIDS in the management of chronic pain has higher risk for tissue damage, morbidity, and mortality than long-term use of opioids.						
Q9. There is good medical evidence that interdisciplinary treatment of back pain is effective in reducing disability, pain levels, and in returning patients to work.						

KnowPain-12 Survey	Strongly Agree	Agree	Agree Somewhat	Disagree Somewhat	Disagree	Strongly Disagree
Q10. I believe that chronic pain of unknown cause should not be treated with opioids even if this is the only way to obtain relief.						
Q11. Under federal regulations, it is not lawful to prescribe an opioid to treat pain in a patient with a diagnosed substance use disorder.						
Q12. I know how to obtain information about both state and federal requirements for prescribing opioids.						