2017

Patients and Nurses Attitudes to Hysterectomy and Postoperative Pain Management

Blessing Agu
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral dissertation by

Blessing Agu

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Kimberly Dixon-Lawson, Committee Chairperson, Health Services Faculty
Dr. Chinaro Kennedy, Committee Member, Health Services Faculty
Dr. Daniel Okenu, University Reviewer, Health Services Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2017

Abstract

Patients and Nurses Attitudes to Hysterectomy and Postoperative Pain Management

by

Blessing Uwemediso Otong-Agu

MHA, Walden University, 2012

BSN, Brenau University, 2000

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Healthcare Administration

Walden University

November 2017

Abstract

Over 500,000 hysterectomies are performed yearly in the United States, and they often result in a moderate to severe amount of pain. Nurses play a significant role in postoperative pain management. However, studies have shown that despite technological advances and nurses' theoretical knowledge of pain, postoperative pain management remains a challenge among healthcare providers. The purpose of this study was to examine how nurses' and patients' attitude towards abdominal hysterectomy can impact postoperative pain management and hospital length of stay after a hysterectomy. Informed by the theory of reasoned action, the study examined the differences in the nurses' and patients' attitudes to abdominal hysterectomy and postoperative pain management. It also examined the correlation between attitudes toward postoperative pain management and hospital length of stay after a hysterectomy. A convenience sample of 147 participants were recruited from a self-administered online survey. Using the SPSS software, data was analyzed by an independent *t* test, Pearson correlation, and multiple regression. No statistical difference was found between patients and nurses' attitudes toward abdominal hysterectomy. However, a significant difference was found between the attitudes of each group toward postoperative pain management. There was also a strong negative correlation between attitudes to postoperative pain management and hospital length of stay. This study may aide nurses on ongoing pain management education for both new and seasoned nurses in practice. It will also help hospitals with pre- and postoperative patient education, which will lead to better collaboration with their nurse caregivers. Finally, this study will add to the existing body of research

Patients and Nurses Attitudes to Hysterectomy and Postoperative Pain Management

by

Blessing Uwemediso Otong-Agu

MHA, Walden University, 2012

BSN, Brenau University, 2000

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Healthcare Administration

Walden University

November, 2017

Dedication

This dissertation is dedicated to the two people who gave me wings to fly. My grandparents, Bishop, Dr. Daniel and Deaconess Marit Otong. Without their unconditional love and support, I don't think I could ever soar as high as my mind could imagine. Papa and mummy. I strive to be half the person, and make even half the impact that you both made in other people's lives during your time here on earth. I honor you, love you and miss you both every day. Rest in peace.

Acknowledgments

First and most importantly, I give all praise and glory to God who provided me with constant wisdom, and answered all my cries for help. I thank my parents Engr. Uwemediso Otong and Mrs. Alice John for being trailblazers, and opening the door for me to pass through.

I especially wish to thank my dissertation chair, Dr. Kimberly G. Dixon-Lawson, and my dissertation committee member, Dr. Chinaro M. Kennedy. It has indeed been a long journey, one that I would not have been able to complete if it were not for you both. I sincerely appreciate both of your expertise, commitment and patience throughout this journey. I would also like to thank my URR, Dr. Daniel Michael Nwabufo Okenu for assisting in this dissertation process.

I wish to give a heartfelt thank you to my husband of 17 years for his love and support always. To my three beautiful and amazing daughters. My gifts from heaven. who have been patient with me, loved me, wiped my tears and listened to me whenever I needed to complain. I will make it up to you guys for all the vacations missed. My three brothers Wisdom, Prize and Daniel for their encouragement. My sister-friend Victoria, who dubbed herself my one-woman risk assessment department. Thank you for everything.

Lastly, to all my friends and family, the weekly updates may have ended, but the journey to make a difference in people's lives continues. I am excited to see what God has for the next phase of my life.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

Introduction

Nurses play a significant role in the assessment and management of postoperative pain (Francis & Fitzpatrick, 2013; Rognstad et al., 2012). Although several studies have shown that nurses possess the theoretical knowledge of pain (Francis & Fitzpatrick, 2013, Rognstad et al., 2012; Al, Rhind, Saleh & Bhattacharya, 2010), research also shows that despite nurses' theoretical knowledge and outstanding technological advances, postoperative pain management remains a challenge among healthcare providers (McNamara, Harmon, & Saunders, 2012). Pain is subjective in nature (Francis & Fitzpatrick, 2013), and as such, adequate pain management calls for accurate assessment of a patient's pain, which requires a collaboration between the nurses and the patients. Hence, the collaborative relationship between patients and their nurse caregivers can hinder adequate postoperative pain management or it can propel fast, quality pain management and relief. To that end, Yava et al. (2013) asserted that nurses' attitudes can play a vital role in relieving pain related discomfort for the patient and help to improve their quality of life.

Although there are innumerable studies on postoperative pain medications such as analgesics (Ayalon et al., 2012; Arbel, Stanleigh, & Loscovich, 2013; Francis & Fitzpatrick, 2015; Nilson et al, 2012), and studies on nurses knowledge and attitudes towards pain in surgical patients (Abdalrahim et al, 2011, there is a consensus among researchers that there still is a significant discrepancy between nurses' documentation of patients' pain and patients' pain reports (McCaffery & Pasero, 2000 Yava et al, 2013;

White & Kehlet, 2010). Following their study to assess nurses' knowledge and patients' experiences of postoperative pain, Francis & Fitzpatrick (2013) recommended more studies that pair both nurses' and patients' as participants to capture more robust empirical evidence to further understand postoperative pain management and improve nurses' and patients' roles in it. In support of this recommendation, a study by Lorentzen, Hermansen, & Botti (2012) indicated that although analgesic administration practices did not consistently meet adequate response of pain management by the patient, they still expressed satisfaction with their care. In other words, there is more to postoperative pain management than medication administration, and it is worth exploring, particularly the role of nurses in the management of postoperative pain.

In this chapter, I will provide the background of the current study, problem statement, the purpose of the study, the research questions and hypotheses, Fishbein and Azjen's (1975) theory of reasoned action (TRA) and theory of planned behavior (TPB), the nature of the study, assumptions critical to the current study, scope and delimitations, limitations, and significance of the study. The chapter will end with a summary and transition to Chapter 2.

Background of the study

The number of inpatient hysterectomies in the United States has declined substantially since 1998. Nonetheless, there were about 433, 621 cases of hysterectomy performed in the country in 2010 (Wright et al., 2013). Neiboer et al. (2012), Office on Women's Health (Office on Women's Health, 2015), and Wright et al (2012) substantiate this assertion by stating that over 500, 000 hysterectomies are performed yearly in the

United State for benign pelvic disease. Askew (2009) also postulated that the rate at which hysterectomies are performed in the United States is far higher than many other countries. In addition, there is a consensus among researchers that hysterectomy is the most commonly performed gynecologic procedure (Papadopoulos, Tolikas, & Miliaras, 2010; Santoso, Ulm, Jennings, & Wan, 2014; Wright et al., 2013; Askew, 2009).

A hysterectomy involves the removal of the uterus, which can be a partial or total removal (The American Congress of Obstetrician and Gynecologists [ACOG], 2015). It is a major surgical procedure and the OWH concurs that a hysterectomy is the second most frequently performed surgical gynecologic procedure after cesarean section. However, the reasons for hysterectomy and the methods vary greatly. Women undergo hysterectomies for reasons such as (a) uterine fibroids, (b) heavy menstrual bleedings, (c) precancer or cancer, (d) uterine prolapse, (e) endometriosis, and (f) adenomyosis (OWH, 2015). Depending on the diagnosis and counseling by the physician, both the woman and her provider would decide on the type of hysterectomy that would be most beneficial for her. The different types of hysterectomies are (a) total hysterectomy, which is the most common type and involves the removal of the uterus with or without the removal of the fallopian tubes (ACOG, 2015; OWH, 2015); (b) partial hysterectomy, also known as supra-cervical or subtotal hysterectomy, which involves the removal of the upper part of the uterus without the cervix and with or without the removal of the ovaries (ACOG, 2015; OWH, 2015); and (c) radical hysterectomy, which involves the removal of the uterus, the cervix, the upper part of the vagina and the tissue on both sides of the cervix. (OWH, 2015).

Once the decision has been made on the type of hysterectomy, the next step involves how the procedure will be performed, which depends on the woman's health history and diagnosis. The options are (a) an abdominal hysterectomy, which involves a cut in the woman's lower abdomen (OWH, 2015); (b) a vaginal hysterectomy, involving a vaginal incision; (c) a laparoscopic hysterectomy, or (d) a robotic hysterectomy. Both the laparoscopic hysterectomy and the robotic hysterectomy involve very small incisions. Although, a study by Pitter et al. (2014) indicated a decline in abdominal hysterectomy, as it is the most invasive type of hysterectomy, it remains the most common approach (Payne & Dauterive, 2008) even with the increase in robotic surgery. Pitter et al (2014) asserted that given a choice, most women would prefer a robotic or laparoscopic procedure rather than an abdominal incision due to the level of pain and discomfort following an abdominal hysterectomy. However, circumstances such as the type of diagnosis continue to cause many women to undergo an abdominal hysterectomy.

Khan et al. (2006) asserted that postoperative complications consume considerable health care resources, and initiatives that target the prevention of such complications can both reduce the cost of health care and ensure an improved quality of care for the patients. Thus, there is a need to understand the factors involved in postoperative pain management for women who have undergone an abdominal hysterectomy in order to enhance faster recovery, prevent lengthy hospital stay, and prevent or limit the rate of readmission due to postoperative complications as a result of inadequate pain management. Neiboer et al. (2014) postulated that although healthcare professionals are more focused on classical outcome measures such as surgical

complications and operation time, patients are more concerned with outcome measures such as symptom resolution and the ability to return to their normal activities. Studies have shown that postoperative pain management is a significant factor in the rate of a patient's recovery, prevention of complications (Francis & Kilpatrick, 2012), and eventual return to normal activities.

Nurses are the primary caregivers once a patient is admitted to the hospital. For patients undergoing a surgical procedure such as a hysterectomy, the nurse assumes the role of a primary caregiver from the moment when the surgical procedure is completed, and patients are transferred from the operating room to the postanesthesia care unit (PACU). As such, their contribution to the management of postoperative pain is crucial to a patient's recovery and is worth exploring. Although pain management is a collaborative effort between physicians, nurses, and patients, it is evident that the nurses' role in the assessment of pain and the administration of pharmacologic and nonpharmacologic interventions is crucial to adequate pain management. In addition, Samuels and Manworren (2014) asserted that nearly 10% of nursing time is devoted to pain management activities such as assessment, administration of pharmacologic and nonpharmacologic pain interventions, and evaluation. However, Samuels and Manworren (2014) postulated that despite the amount of time that nurses devote to pain management during each shift, their actions are not necessarily resulting in positive outcomes.

The findings by Samuel and Manworren (2014) indicates a significance gap in the knowledge and efficiency of nurses' management of postoperative pain. Despite the plethora of study and articles on the nurses' role in pain management, including their

knowledge and attitudes towards pain and pain assessment instruments (Young et al., 2006; Francis & Kilpatrick, 2012), an exhaustive literature review revealed minimal information on research that focused on how nurses and patients' attitudes towards a specific procedure or disease impacted pain management. No specific study was found that investigated nurses' and patients' attitudes toward abdominal hysterectomy and its relationship to the management of postoperative pain. A study by McCaffery, Ferrell, & Pasero (2000) revealed that nurses sometimes base their pain assessment on opinion, which may influence their attitudes towards intervention. The current study built on this finding by investigating how nurses and patients' attitudes towards abdominal hysterectomy may impact postoperative pain management. The study then went a step further to investigate the possible relationship of postoperative pain management to hospital length of stay after an abdominal hysterectomy. In this study, I also investigated the relationship of postoperative pain management to readmission following discharge from the hospital, with a focus on the first 30 days after discharge.

Problem Statement

Hysterectomy is a common operative procedure in gynecology (Arbel et al., 2013; Nilsson et al., 2012; Santoso et al., 2014; Wright et al., 2012). Over 500,000 hysterectomies are performed yearly in the United State (Nieboer et al., 2012). Of all the approach to hysterectomies, Kjolhede et al. (2012) asserted that an abdominal hysterectomy is a common approach for benign conditions such as bleeding and/or uterine fibroids. However, an abdominal hysterectomy often results in moderate to severe postoperative pain (Kjolhede et al., 2012; Perniola, Fant, Magnuson, Axelsson, & Gupta,

2013). Recent research has shown that adequate pain control after surgery is crucial in preventing postoperative complications (Francis & Kilpatrick, 2012), which may result in delayed discharge from the hospital. However, despite technological advances in pain management, the knowledge of pain physiology, utilization of patient-controlled analgesia and multimodal analgesia (White & Kehlet, 2010), postoperative pain management remains a challenge among healthcare practitioners (Lorentzen et al., 2011; Al Samaraee et al, 2010), indicating that more research is needed in understanding and providing efficient postoperative pain management.

Nurses play a significant role in pain management. However, a study by Samuels and Manworren (2014) postulated that although nurses are assessing and intervening more frequently to patients' reports of pain, their actions are not necessarily resulting in a positive outcome. In addition, Samaraee et al. (2010) contended that even though nurses have the theoretical knowledge about pain assessment and intervention, they have at times been unable to translate that knowledge into practice, partly because they rely on traditional habits or personal judgement instead of clinical knowledge and patients' reports based on direct questions. This indicates a significant gap in translating nurses' knowledge of pain management into clinical practice. Research shows that pain management is a collaborative effort involving patients and the clinicians (Arberl et al 2013; Francis & Fitzpatrick, 2013; Samuel & Manworren, 2014). Therefore, to bridge the gap between theory and practice, it is important to understand how nurses and patients' knowledge and attitudes toward certain procedures such as abdominal hysterectomy may impact postoperative pain management.

Purpose of the Study

The purpose of this quantitative study was to examine (a) the differences in the attitudes of nurses and patients toward abdominal hysterectomy, (b) the relationship between the attitudes towards hysterectomy and attitudes towards postoperative pain management, and (c) the association between attitudes towards postoperative pain management and the outcome measures of hospital length of stay. The answer to these questions adds to the existing body of knowledge about postoperative pain management, and also provides significant information for nurses in translating theoretical knowledge of pain management into clinical practice. The independent variables in the study were patients and nurses and the dependent variables were attitudes towards abdominal hysterectomy, attitudes towards postoperative pain management, and hospital length of stay.

Research Questions and Hypotheses

The study sought to answer the following hypotheses and related research questions:

RQ1: Is there a difference in the attitudes of patients and medical surgical nurse caregivers towards abdominal hysterectomy?

$H_0$1: There is no significant difference between the attitudes of patients and their nurse caregivers toward abdominal hysterectomy

H_a1: There is a significant difference in the attitudes of patients and their nurse caregivers towards abdominal hysterectomy.

RQ2: What is the association between patients and nurses' attitudes toward abdominal hysterectomy and attitudes towards postoperative pain management?

$H_0$2: There is no significant association between the attitude of patients and nurses towards abdominal hysterectomy and attitudes towards postoperative pain management

H_a2: There is a significant association between patients and nurses attitude towards abdominal hysterectomy and attitudes towards postoperative pain management.

RQ3: Is there a relationship between the attitude of nurses and patients towards postoperative pain management and the outcome measure of hospital length of stay?

$H_0$3: There is no significant relationship between nurses' and patients' attitudes towards postoperative pain management and the measured outcome of hospital length of stay.

H_a3: There is a significant relationship between the attitudes of nurses and patients towards postoperative pain management and the measured outcome of hospital length of stay.

Theoretical Framework

There are many theories that explain human behaviors and attitudes. However, the foundational theory for this study is based on the Fishbein and Azjen (1975) theory of reasoned action (TRA).

Theory of Reasoned Action

Fishbein and Azjen's (1975) TRA posits that if an individual believes that performing a favorable action will mostly yield positive outcomes, the individual will be more likely to hold a positive attitude toward that behavior, while a person who believes that performing the same behavior will lead to an unfavorable outcome will hold a negative attitude toward the same behavior. Individuals' attitudes are unconscious motivations for their actions and reactions (Bell& Duffy, 2009). Thus, the nurses and patients' knowledge and attitudes either positive or negative will affect their approach to post abdominal hysterectomy pain. A crucial part of pain management is an assessment that is primarily conducted by nurses, and effective pain assessment and intervention depends on the attitudes, knowledge, and skills of the nurses (Abdalrahim et al., 2011) as well as the knowledge and attitude of the patients because pain management is a collaborative effort. TRA indicates that the attitude held by both nurses and patients would influence this process of pain management. Therefore, TRA plays an important role in evaluating how nurses and their patients' knowledge and attitudes toward abdominal hysterectomy can affect postoperative pain management. I discuss the theoretical base for this study in more detail in Chapter 2

Nature of the Study

The study was a retrospective data analysis of postoperative pain management after an abdominal hysterectomy and the outcome measures for hospital length of stay. A Fishbein and Azjen (1975) modified Likert scale questionnaire was utilized to obtain information regarding participants' attitudes toward abdominal hysterectomy. A cohort of

patients was obtained from the list of patients who had an abdominal hysterectomy at a local hospital in the State of Georgia. The hospital is a 310-bed medical and surgical hospital located in Dekalb County. One of the inclusion criteria for the participants was that abdominal hysterectomy was performed at the local hospital within six months to one year of data collection. A cohort of nurses was also obtained from the medical surgical floor at the hospital. The data analysis tested these hypothesis: (a) to compare patients and nurses' attitudes towards abdominal hysterectomy, (b) to determine if a relationship existed between patients and nurses' attitudes toward abdominal hysterectomy and postoperative pain management, and (c) to determine if a correlation existed between postoperative pain management and the outcome measures of hospital length of stay.

Definition of Key Terms

Attitudes: An accumulation of information about an object, person, situation, or experience (Fishbein & Azjen, 1975).

Hospital length of stay: The number of nights the patient remained in the hospital

Postoperative pain management: A comprehensive pain assessment that involves nurses screening patients for pain, reassessing patient's response to pain interventions, and development of a plan of care that is safe and individualized, involves a collaboration between the patient, family members, and clinicians, and provides access to specialty care when required (Gordon et al, 2010).

Hysterectomy: The surgical removal of a woman's uterus.

Abdominal hysterectomy: The removal of the uterus via an incision in the abdominal wall.

Benign conditions: Noncancerous conditions such as leiomyoma, endometriosis, uterine prolapse, and so forth. (Keshavarz, 2002).

Child bearing age: For this study, and according to the Centers for Disease Control and Prevention (CDC), women of child bearing age are between 18 and 45 years (Keshavarz et al, 2002).

Uterine fibroids: A noncancerous growth on the uterine wall.

Adenomyosis: A thickening of the uterine walls, causing severe pain. It occurs from an abnormal growth of the lining of the uterus into the uterine walls.

Assumptions

The following are the assumptions considered for this study: I assumed there would be enough data from this single organization to provide a meaningful conclusion. My second assumption was based on the assertion that abdominal hysterectomy is involved with moderate to severe pain (Kjolhede et al, 2012; Perniola et al, 2013). I assumed that pain management after an abdominal hysterectomy is critical to optimal recovery. I assumed that medical surgical nurses would appreciate the expansion of knowledge regarding postsurgical pain management and therefore, would present accurate and honest information. I assumed that women who have experienced an abdominal hysterectomy would be willing to answer questions regarding their experiences in order to advance knowledge in postoperative pain management.

Scope and Delimitations

This study focused on postoperative pain management, specifically on women who had undergone an abdominal hysterectomy and the medical surgical nurses who cared for these patients. This focus was chosen because of limited research that paired patients and nurse caregivers, not merely to identify pain ratings, but to identify and compare attitudes as an underpinning for the transition of nurses' theoretical knowledge of pain management to a practical provision of evidence-based postoperative pain management. All participants in the study were derived from a local hospital in Dekalb County, Georgia. All hospital documents reviewed were those provided by the hospital. Participants in this study included all registered nurses (RN) and licensed practical nurses (LPN) who worked on the medical surgical unit at this local hospital.

Inclusion criteria regarding patient participants were women of child bearing age 18 to 44 years who underwent abdominal hysterectomy as in-patients at the hospital. Inclusion criteria were hysterectomies performed due to benign conditions within 6 months to a year of the study. Those who underwent hysterectomies for malignant conditions such as ovarian cancer and so forth were excluded. Those who underwent fast track procedures were also be excluded as there were no criteria to compare nurse and patient interactions for those who recovered at the home setting. Other theories such as the caring theory by Watson (1979), which emphasizes developing and sustaining a helping-trusting, authentic caring relationship (Lachman, 2012) between caregivers and the patient are related to the current study. Although the caring theory could be relevant if the focus were on the outcome of the nurse-patient relationship, the Fishbein and Azjen

(1975) theory provided the most relevance to the current research because of the focus on attitudes and potential outcome.

Limitations

Potential limitations for this study were concomitant with the limitations of a retrospective study. The major limitation of this study design was that as researcher, I had limited control over the data collection, which could be incomplete, inaccurate, or inconsistently measured between subjects (Song & Chung, 2010). Second, generalizability is another limitation of the study because the study was not randomized and all participants were either employees of a single hospital or patients who underwent their abdominal hysterectomy at the same hospital. Because this was a retrospective cohort study, the limitation may be the lack of adequate sample size, as a cohort study calls for a large sample size (Song & Chung, 2010). To address the limitations of this study, the following steps were taken: I limited the length of time when participants underwent abdominal hysterectomy to between 6 months and 1 year, and I utilized the source population (Song & Chung, 2010) for selection of participants, excluding those who did not meet criteria for the study.

Significance

This study fills a gap in the understanding of postoperative pain management, and bridging the gap between theory and practice in nursing. Hence, the result of this study will facilitate nurses' abilities to move from a theoretical understanding of postoperative pain management to a practical application. This paradigm shift may aid in the prevention of postoperative complications resulting from inadequate pain management and may

facilitate patients' recoveries and return to productivity in the society. The study further enhances the nurse-patient collaboration in pain management by providing a better understanding of the impact of patients' and nurses' attitudes toward abdominal hysterectomy and pain management. Hayes and Gordon (2015) posited that healthcare organizations rely on the scores derived from the publicly reported performance pain measures through the Centers for Medicare & Medicaid Services and the Hospital Consumer Assessment of Healthcare Providers and Systems as a tool for competition as consumers utilize those report cards for decision making.

Moreover, the average cost per hospital stay in 2010 was $9,700, while the aggregate cost for all hospital stays in the same year totaled $375.9 billion (Pfunter, Wier, & Steiner, 2013). Thus, the results of this study may yield significant positive financial outcomes for healthcare organizations in aiding understanding of what needs to be changed to provide optimal pain management that leads to timely hospital discharge. This could lower some of the cost of hospitalization and provides a better performance score from the centers for Medicare and Medicaid Services, as well as the Hospital Consumer Assessment of Healthcare Providers and Systems. Further, postoperative complications consume a large amount of the United State healthcare resources (Khan et al., 2006). The current study adds to the already existing information in healthcare management and advances the process of health care cost reduction that may result from extended hospitalization due to postoperative complications related to pain management.

Ultimately, the result of this study has the potential to promote change on the individual, family, organizational, and community levels through a better understanding

of the importance of attitudes in pain management and the nurse-patient collaboration in the management of postoperative pain.

Social Change Implication

The social significance of adverse postoperative pain management, which is often unrelated to the disease process or the surgical procedure itself, can be debilitating. The patient's quality of life and productivity in the family and the community can be greatly reduced. When patients, nurses, and other healthcare workers have a better understanding of how their individual attitudes impact adequate postoperative pain management, they will be more apt to adjust and make the necessary changes.

The immediate implication of this study would be evident in nursing education, particularly in how nurses assess, collaborate on, and intervene in the management of postoperative pain. This is imperative because successful pain management is dependent on ongoing education of health professionals (Grinstein-Cohen, Sarid, Attar, Pilpel, & Elhayany, 2009).

Furthermore, the cost of inpatient hospital services accounts for the largest share of total health care spending in the United States (Pfunter et al., 2013). Understanding the critical role that both the nurses and patients' attitudes play in adequate postoperative pain management and timely hospital discharge would allow both the patients and the healthcare workers to better evaluate their attitudes and understand the need for collaboration in the management of postoperative pain. In summary, the social change implication of this study is that it could impact the over 500,000 women who undergo abdominal hysterectomy yearly, as well as the healthcare industry where there is an

ongoing competition to provide the highest rate of satisfaction to patients, and help to prevent complications while keeping down the ballooning cost of healthcare.

Summary

Despite technological advances in pain management, studies continue to show that pain management remains a challenge among healthcare providers (Pasero & McCaffery, 2011; Yava et al, 2013; White & Kehlet, 2010). Moreover, the improvement in the frequency of nurses' assessment and evaluation of patients' pain still yields unfavorable results (Samuels & Manworren, 2014). The management of postoperative pain can ultimately affect both the patients' recovery and the financial burden of the healthcare organization because of the extended length of stay after an abdominal hysterectomy. These findings provide an underpinning for the current study, the purpose of which was to investigate the attitude of nurses and their patients toward abdominal hysterectomy, the relationship of those attitudes to postoperative pain management, and the outcome measures of postoperative pain management on hospital length of stay.

In this chapter, I discussed the background of the current study, the problem statement, the purpose of the study and the research questions and hypotheses. I also provided the theoretical base for the current study of Fishbein and Azjen's TRA. In this chapter, I also discussed the nature of the study, assumptions critical to this current study, scope and delimitations, limitations and significance of the study, and positive social change implications of the study. In Chapter 2, I present a comprehensive literature review to support the current study regarding the attitudes of patients who underwent

abdominal hysterectomies and their nurse caregivers, the impact of those attitudes on postoperative pain, and outcome measures of hospital length of stay.

Chapter 2: Literature Review

Introduction

In Chapter 2 I provide an in-depth exploration and explanation of abdominal hysterectomy, postoperative pain management, the critical role that nurses play in the management of postoperative pain, and the responsibility of the patients in their own pain management process.

A study by Rognstad et al. (2012) indicated that 86% of nurses believed that postoperative patients often achieved satisfactory pain relief. However, a study conducted by Popping et al. (2008) revealed that about 80% of postoperative patients continue to report moderate to severe pain. Moreover, other studies concur that postoperative pain remains a challenge among healthcare providers (CDC, 2012; Lorentzen et al., 2011; White & Kehlet, 2012). In addition, Bell and Duffy (2009) asserted that nurses and patients' attitudes and beliefs are a significant factor in good clinical practice and worth investigating. Although nurses have the theoretical knowledge about pain assessment and intervention (Al Samaraee et al., 2010), a gap remains in understanding how nurses and patients' knowledge and attitudes toward a specific surgical procedure such as a hysterectomy may contribute to their attitude towards postoperative pain management. Therefore, there was a need for research that examined the predictive relationship between nurses and patients' attitudes towards hysterectomy, its relationship to postoperative pain management, and the correlation between postsurgical pain management and hospital length of stay following an abdominal hysterectomy.

Overview of Content

In this chapter, I present a critical overview of the theories and prior research that undergirds the current study. The purpose of this quantitative study was to investigate the attitudes of nurses and their patients toward abdominal hysterectomy and the predictive relationship between those attitudes and postoperative pain management, and to assess the impact of postoperative pain management on hospital length of stay following an abdominal hysterectomy. This chapter is divided into four sections. The introduction consists of an overview of the content, organization, and strategy utilized for the literature search. Section two is the review of foundational theories, Fishbein and Azjen's (1975) TRA and Azjen's (2005) TPB. Section three is a review of literature, which includes (a) a background on hysterectomies, abdominal hysterectomy, complications of abdominal hysterectomy, and complications of inadequate postoperative pain management; (b) the nurses and patients' role in postoperative pain management; (c) and the consequences of postoperative pain management on hospital length of stay. Section four closes with a discussion of the relevant literature to this study and the social change impact of the proposed study.

Strategy for Literature Search

The research strategy utilized in this literature review consisted of examining mostly peer-reviewed articles from 2005 to 2015, except for a few documents with particular relevance to the study. The search was based on the Boolean system. The Bolean system uses keywords and phrases such as those I used in the search process: *postoperative pain management, postoperative complications, postsurgical*

complications, hysterectomy, abdominal hysterectomy, nurses' knowledge of pain management, and *attitudes theory*. Literature searches were conducted via PUBMED, Google scholar, ProQuest online dissertation and thesis search, and other Walden University Library databases. Although literature search revealed a plethora of studies on pain management and nurses knowledge and attitudes towards pain management instruments, there is a distinct gap in the availability of scientific studies pertaining to the relationship between abdominal hysterectomy patients and their nurse caregivers' attitudes toward abdominal hysterectomy, its impact on postoperative pain management, and the correlation between patients and nurses' management of post abdominal hysterectomy pain and the measured outcome of hospital length of stay and readmission after discharge from hospital.

The literature searches included a review of each article's abstract, when available, before reviewing the full article. Due to the substantial number of articles available on postoperative pain management, I developed criteria to assist in narrowing down the focus of the review. The priority for the search criteria were as follows. First, any non-English language study was eliminated. Second, all studies that were not peer-reviewed were eliminated, and most studies older than 10 years were also eliminated with the exception of a few due to their relevance to the current study. Lastly, all articles that involved postoperative pain management, postoperative complications, hospital length of stay and readmission, and abdominal hysterectomies were given special attention.

Theoretical Foundation

Theory of Reasoned Action

The Fishbein and Azjen (1975) TRA is a dominant theory used to explain why human beings act the way they do. Essentially, Fishbein and Azjen's (1975) TRA postulates that much of human behaviors are intentional. Individuals have volitional control over their actions, and as such, people often behave in a rational manner (Dwyer & Williams, 2002), making decisions based on available information and the expected consequences of an action. Thus, TRA posits that if an individual believes that performing a favorable action will mostly yield positive outcomes, that individual will be more likely to hold a positive attitude toward that behavior, while a person who believes that performing the same action will lead to an unfavorable outcome will hold a negative attitude toward the same behavior.

TRA makes a connection between an individual's intentions to perform a behavior such as pain management and performing the action. For instance, the determinant of how a nurse manages a patient's pain or how the patient collaborates with nurses in her postoperative pain management is determined by the individual's subjective norms and attitude towards the said behavior (in this case, abdominal hysterectomy and postoperative pain management). Fishbein and Azjen (1975) defined the subjective norm as the perceived social pressure to perform or not to perform the behavior. In a broader context, the National Institute of Health (NIH, n.d) defines subjective norm as individuals' opinions or perceptions of what people in authority or important people expect from them. Thus, the central focus of TRA is the idea that a behavioral intention

occurs because of a person's subjective norm (perception) and attitude toward an act or behavior.

As such, if caregivers who are often nurses are grounded with an accurate knowledge base regarding pain management, they become empowered in their approach to management of the patient's pain. The same concept applies to patients who receive adequate education regarding their procedure (abdominal hysterectomy) and subsequent postoperative pain. Based on Fishbein and Azjen's postulation, they too are likely to possess a stronger tendency to report and collaborate with their nurse caregivers in managing their postoperative pain.

The review of literature revealed an extensive application of the principles of Fishbein and Azjen's (1975) TRA in research, particularly in the healthcare field. Previous studies (De Silva & Rolls, 2011; Ho Se et al., 2013) have shown that nurses' belief systems and attitudes influence how they assess and manage patient's pain. According to Lord (2004), a change in a caregiver's behavior toward pain management will eventually lead to a change in the caregiver's attitudes towards a patient in pain. This assertion raises a relevant question for the current study, which is: Can a nurse caregiver's and patient's behavior towards an abdominal hysterectomy affect their behavior towards postoperative pain management? Shu-Yuan Liang et al (2013) found that nurses who hold a negative belief towards opioid medication and the patient's pain were less likely to adhere to an around-the-clock administration of pain medicine. In this regard, there was a positive correlation between nurses 'attitudes towards opioid medication, the patient's pain, and adherence to medication administration.

Edwards, Nash, Najman et al., (2001) utilized the principles of TRA in their study to develop a pilot peer interventional program aimed at educating nurses on effective pain management. TPB provided a framework for the researchers to address how the attitudes and beliefs of nurses influenced pain management. The initial assessment showed that nurses who participated in the study had no volitional control over the administration of analgesics as part of pain management. Thus, the researchers utilized Azjen's TRA to fashion an interventional program. Assessments after the interventional program revealed a significant change in the perception of control among the nurses and resulted in stronger beliefs about narcotic analgesia, increased feelings of self-efficacy, and positive attitudes and beliefs regarding pain assessment and management (Edwards, Nash, Yates et al., 2001). The study confirmed that the presence of volitional control equates to a stronger motivation to perform a certain action or behavior, while the absence of volitional control provides the opposite effect.

A study by Layman et al. (2006) also utilized the Fishbein and Azjen's (1975) TRA to assess the attitudes and beliefs of nurses towards pain assessment instruments and pain management. One of the principles of TRA as postulated by Fishbein and Azjen is that an individual's attitude towards an object is a function of the individual's belief about that object. As such, using Fishbein and Azjen's model, the researchers elicited beliefs and attitudes from the study participants. Layman et al. used those beliefs to create a fixed response instrument to assess the beliefs and attitudes of nurses towards pain assessment instruments and the possible relationship between the nurses' attitudes and the individual nurses' educational levels and experience. Results of the study indicated

that although most of the nurses (mean score of +8.3) held a positive belief about pain assessment instruments, about 9.6% of the 52 participants in the study viewed pain assessment instruments negatively. The study concluded that although education or years of work experience did not necessarily result in a positive attitude towards pain assessment instruments, an attempt to change caregivers' behavior should be grounded in an accurate knowledge base regarding pain.

Further, McCaffery and Pasero (2011) postulated that although nurses utilize pain assessment instruments to obtain pain ratings from patients, the nurses do not necessarily accept the rating provided by the patients. This finding suggests that in order for nurses to practice evidenced based pain management, there is a critical need to assess and understand patient's feelings and attitudes towards pain management. Thus, Williams, Povey, & White (2008) conducted a study to determine women's intentions to use pain medications after childbirth. Utilizing the Fishbein and Azjen's model, the study found that intentions to use pain medications were predicted to some degree by both attitude and subjective norm, a component of TRA.

Shu-Yuan Liang et al (2013) conducted a study to assess pain management experience among cancer patients in Taiwan, a different patient population and country. The findings of the study aligned with the findings by Williams et al. (2008) that subjective norms and attitudes affect an individual's response to pain management. In their study, Shu-Yuan Liang et al. (2013) found a significant correlation between opioid beliefs and patient adherence to opioid analgesics. Since participants believed that the use of opioid analgesics may lead to an addiction, there were less motivated to adhere to the

prescribed pain relief. These findings lend itself to Fishbein and Azjen's (1975) assertion that if an individual believes that performing a certain behavior will lead to a negative outcome, they will hold a negative attitude toward that behavior and vice versa. In other words, a patient's attitudes towards receiving opioids medication for the management of pain is influenced by the patient's beliefs and attitudes about opioids analgesics.

Although there is a plethora of studies in healthcare utilizing Fishbein and Azjen's (1975) TRA, McCaffery and Pasero (1999) asserted that barriers to effective pain management were numerous, multifaceted, and often not easily understood. However, TRA provided a foundation for combing through and making sense of this multilayered barriers. The current study mirrors previous research, particularly the research by Layman et al (2006), in utilizing Fishbein and Azjen's (1975) TRA to (a) assess the differences between the attitudes of nurses and patients toward abdominal hysterectomy, (b) the association of attitudes to hysterectomy and attitudes to postoperative pain management, and (c) the association of postoperative pain management to hospital length of stay after an abdominal hysterectomy.

Literature Review Related to Key Variables

Hysterectomy is the most commonly performed surgical procedure for women in the United State (Reis et al, 2008; Whiteman et al, 2008; Wright et al, 2013), second only to a cesarean delivery. Previous studies (Banu & Manyonda, 2005) estimates that about 600,000 hysterectomies are performed annually within the United State and approximately 20 million women in the country have had a hysterectomy (CDC, 2013). The Center for Disease Control and prevention (CDC) further reports that between the

year 2011 to 2013, 10.4% of women ages 40 to 44 have had a hysterectomy, and in the years 2006 to 2010, about 96.2% of women 15 to 44 years of age had hysterectomies because of a medical condition (CDC, 2013). Although, the statistics of hysterectomies are staggering, and the procedure is often performed due to a medical necessity, Reis et al (2008) cautions that a hysterectomy is often not an urgent procedure except with a diagnosis of cancer, as such women should consider all available options prior to deciding to undergo a hysterectomy.

The OWH defines hysterectomy as the surgical removal of a woman's uterus or womb, resulting in the cessation of menstrual periods and subsequent inability to conceive (Women'shealth.gov, 2014). Although there has been an incredible technological advance in how hysterectomy is performed, the procedure itself dates to the Athenians in 50 BC (Sparic et al, 2011). The first planned hysterectomy was a vaginal procedure performed by Conrad Langenbeck in 1813 without due credit, until evidence was found during an autopsy 26 years later after the patient died from other causes (Gary 2004, Sparic et al, 2011). However, the first vaginal hysterectomy with an entry into the peritoneal cavity without a prolapse was performed nine years later in 1822 by Sauter of Baden, and was performed because of a cervical cancer. Although it was a successful procedure, the patient later died due to post-surgical complications (Sparic et al, 2011).

Current literature indicates that most hysterectomies are performed due to benign conditions (Kjolhede et al, 2012), but historically, cancer was the major reason for a hysterectomy (Sparic et al, 2011) with detrimental outcomes. However, with the 20th century came the introduction of anesthesia, antibiotics antisepsis, blood transfusions and

intravenous therapy (Sutton, 1997; Sparic et al, 2011), and a new perspective to how hysterectomies were performed. The mortality rate in the 20th century decreased dramatically from a postulated rate of 15% in 1886 to 2.5 % by 1910 (Sparic et al, 2011). Noble Sproat Heaney of Chicago is asserted to have been a great proponent of vaginal hysterectomies, and reported performing 627 vaginal hysterectomies by 1934 for benign pelvic disease with only 3 deaths (Sparic et al, 2011). This was a remarkable statistic considering the reported amount of mortality mentioned above.

Current advances in technology and an evidenced based practice in medicine has changed both the process and indications for a hysterectomy. A study by Whiteman et al (2008) examined the trends in hysterectomy rates between 2000-2004 in the United State, and the results indicated that the highest number of hysterectomies were among women ages 40-45. The lowest among women aged 25-29 years of age. The study also showed that women in the Southern part of the country had the highest rate of hysterectomies during the period of their evaluation. The lowest rate was among women in the northern part of the United State. The study also indicated that during their evaluation period (2000-2004) one-third of hysterectomies were done vaginally, and approximately two-thirds of hysterectomies were performed abdominally.

Abdominal Hysterectomy

In the early part of the twentieth century, before gynecology was established as a separate specialty, general surgeons performed hysterectomies, and because they were unfamiliar with vaginal surgery, they opted to perform hysterectomies abdominally (Sparic et al, 2011). Although there is a consensus on the first recorded hysterectomy

being vaginally performed by the surgeons listed in the previous paragraph, there are conflicting historical reports in literature regarding who gets credit for performing the first abdominal hysterectomy. Sutton (1997) asserted that the first abdominal hysterectomy was performed by Charles Clay in Piccadilly, Manchester in the year 1843. The author reported that the operation was not successful as the patient coughed during the procedure causing an extrusion of a large fibroid, prompting Charles Clay to finish the procedure as a subtotal hysterectomy. The Patient died shortly after.

On the contrary, Basket (2005) and Sparic et al (2011) both credit the foundation of abdominal hysterectomy to a surgeon from Danville, Kentucky by the name of Ephraim McDowell. The authors postulated that McDowell was the first surgeon to perform a planned abdominal hysterectomy via laparotomy in 1809 to a 46-year-old female named Jane Todd Crafford (Sparic et al, 2011). The procedure was performed to remove a 10.2kg ovarian tumor which was initially thought to have been a pregnancy. Sparic et al (2011) reported that the procedure was performed under anesthesia and was the first recorded successful abdominal hysterectomy because the patient survived the procedure and lived for more than thirty years. Perhaps, the reason that Sutton (1997) and other researches credited Richard Clay as the pioneer in abdominal hysterectomy lies in technicality. Sutton (1997), Basket (2005) and Sparic et al (2011) agree that McDowell performed the first deliberate abdominal surgery; they also agree that he did not publish the result of his work immediately, but waited to perform two other similar and successful procedures which he termed “ovariotomies” prior to publishing his case in

1817. In that period, Richard Clay became the first to publicly mention the term "ovariotomy" as related to the abdominal hysterectomy.

With advances in hysterectomy, literature shows that although McDowell and Clay were pioneers in performing abdominal hysterectomy via laparotomy and subtotal hysterectomy, the first successful abdominal hysterectomy was performed by Walter Burnham from Lowell, Massachusetts in 1853 (Basket, 2005; Gary, 2004; Sparic, 2011; Sutton, 1997), however, the diagnosis was wrong as Burnham thought the patient had an ovarian Cyst, only to find upon opening the abdomen that she had fibroids. This subtotal hysterectomy was considered successful because the patient survived the procedure. However, in the same year, a subtotal abdominal hysterectomy under chloroform anesthesia was successfully performed by Kilman Gimbal, also a surgeon from Lowell, Massachusetts (Basket, 2005; Gary, 2005; Sparic et al, 2011; Sutton, 1997). Three factors can be credited for making Gimbal's procedure unique from the others. These are: correct diagnosis (uterine fibroids), the patient survived the procedure, and the patient made a full recovery. Aurangzeb (2013) added that 1863 was equally a significant year in the history of abdominal hysterectomy because Clay and Koebele performed the first elective abdominal hysterectomy in with a positive outcome.

The 20th century brought about remarkable technological advances in how hysterectomies are performed. As such, Physicians and patients are now presented with various options and approaches to a hysterectomy such as a laparoscope assisted vaginal hysterectomy (Garry et al 2004) and a robot assisted laparoscopic hysterectomy (Hopkinsmedicine.org, n.d; Sinha et al., 2015). Donnez et al. (2008) asserted that the

reason physicians choose other methods of hysterectomy such as a laparoscopic assisted vaginal hysterectomy (LAVH) and laparoscopic subtotal hysterectomy (LASH) is mainly due to the magnification provided in the pelvis, facilitating access to the uterine vessels, ureter, rectum and vagina. Thus, LAVH and LASH minimizes trauma to the patient and provides a better view and access for the physicians. As such, the patient is spared the painful abdominal incision, and benefits from a shorter length of hospital stay and faster recuperation time.

Despite the changes and alternative process for a hysterectomy, the abdominal hysterectomy remains the most utilized approach for both malignant and benign conditions (Kjolhede et. al., 2012; Landeen et al., 2011) in the United State. It is indicated for conditions such as leiomyoma, endometrial hyperplasia, adenomyosis, pelvic inflammatory disease (PID), uterine prolapse, dysfunctional uterine bleeding (Aurangzeb, 2013) and cervical intraepithelial neoplasia. Johnson et al (2005), Donnez et al. (2006) and Kluivers et al. (2008) also asserted that abdominal hysterectomy remains the preferred method when the uterus cannot be removed by other approach, such as the presence of an enlarged uterus.

An abdominal hysterectomy often involves the removal of the uterus via a surgical opening in the abdomen (hopkinsmedicine.org, n.d.). This approach is often indicated for the following: when the ovaries and the fallopian tubes are to be removed, in the presence of an enlarged uterus, and the presence of endometriosis or cancer that has spread to the pelvic cavity (hopkinsmedicine.org, n.d). Surgical approaches to an abdominal hysterectomy includes: A total abdominal hysterectomy which involves the

removal of the entire uterus and the cervix, a supracervical, subtotal, or partial hysterectomy which involves the removal of the top of the cervix (Arbel et al., 2013; Stovall & Mann, 2013) while the uterus is left in place. Arbel et al. (2013) postulated that the choice of a surgical approach is dependent on different factors such as the indication for surgery, history of abdominal or pelvic surgery, patient's previous medical history, mass body index, comorbidities, and the surgeon's expertise.

Complications of Abdominal Hysterectomy

An abdominal hysterectomy may be associated with significant postoperative infectious morbidity (Nilsson, et al 2012). However, age, smoking habits, obesity, and duration of surgery and length of hospital stay are some of the contributing factors to the occurrence of postoperative morbidity (Nilsson, et al, 2012). Other complications associated with abdominal hysterectomy includes bladder and urinary injuries (Johnson, et al, 2005; Tanner, 2006), intraperitoneal hemorrhage (Kai, 2014), wound infection, hematoma, deep vein thrombosis and pulmonary embolism (Cook et al, 2006). Possible complications also include symptomatic vault granulation (Thaker et al, 2002) which is the growth of scar tissue at the top of the vagina when the cervix has been removed (Hysterectomy-association.org, n.d). Although a symptomatic vault granulation is not a life-threatening complication, it can cause discomfort, pain and can lead to postoperative bleeding.

Moreover, a study by Thaker et al (2002) found that a total abdominal hysterectomy is associated with a significantly longer duration of surgery, greater blood loss and a longer duration of hospital stay. However, the study compared two groups of

women, one who underwent a subtotal abdominal hysterectomy versus a group of women who underwent a total adnominal hysterectomy. Although the study assessed several factors that determine the differences between the two groups regarding postoperative complications and hospital length of stay, it did not assess the possible relationship between the variables such as postoperative pain management outcome on hospital length of stay. Thaker et al (2002) found that out of 133 participants among the subtotal abdominal hysterectomy group, pain score in day 2 and day 4 ranged between 3.6 and 2.7, and of 146 participants in the total abdominal hysterectomy group, pain score between day 2 and day 4 was between 3.7 and 2.4. This statistic indicated a relatively higher level of pain among total abdominal hysterectomy patients. Although there was no significant difference between the pain scores in both groups, the study highlighted pain as a significant postoperative factor in abdominal hysterectomies regardless of the method.

Previous studies (Arbel et al, 2013; Gupta et al, 2004; Perniola et al, 2013) have also shown that abdominal hysterectomy is associated with moderate to severe pain. Aside from the presence of pain as a symptom of hemorrhage, the occurrence of post abdominal hysterectomy pain is mostly because of the abdominal wall incision (Carney, et al, 2008; Mcdonald, et al, 2007) which causes trauma to several structures of the body, leading to somatic pain at the incision site, muscle, peritoneal and visceral pain (Perniola, 2013) regardless of co-morbidities. To further establish the significance of postoperative pain management following a hysterectomy, Good et al (2000) conducted a descriptive study of pain following gynecological surgeries. The study found that among the

gynecological surgeries reviewed, which were abdominal hysterectomy, oophorectomy, and laparotomy; hysterectomies resulted in more pain than other surgical procedures such as laparotomies where the uterus was not removed. Woods (2010) deepens the conversation by Mcdonald, et al (2007) and Good et al (2000) by postulating that postoperative pain is further influenced by the interactions of several factors such as biological, psychosocial and environmental factors. The consensus then remains that abdominal hysterectomy is unlike other gynecological surgery, but is as serious as any other abdominal surgery and perhaps more so because of the removal of the uterus which exacerbates the patients' pain.

Complications of Postoperative Pain Management

Although there are several definitions of pain, the best denotation for this study is derived from the International Association for the study of Pain (IASP), and it states that pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage (IASP, 2012). Nonetheless, Woods (2010) took the definition a step further by defining postoperative pain as "a highly individualized, complex and multidimensional experience influenced by biological, physiological and environmental factors." The centers for disease control (CDC) contend that pain is a major concern in healthcare. Surgery is the most common cause of acute pain, and a major concern for both patients and health care providers (2012). Despite technological advances and a plethora of studies in pain management, pain assessment and pharmacological treatment for pain, post-surgical pain remains undermanaged.

The United State department of Health and Human Services reports that pain affects more Americans today than diabetes, cancer and heart disease combined (National Institute of Nursing Research, 2010). The U.S department of Health and Human Services, and the American Academy of Pain Medicine both agree that pain is the most reason many Americans access the healthcare system. As such, the effect of pain places a tremendous burden on the US healthcare cost (painmed.org, 2015). The length of hospital stay due to inadequate pain management adds to the increasing financial burden on the United State Healthcare system. In addition, Chung and Lui (2003) report that despite the advances in postoperative pain management, 50-75% of patients do not receive adequate postoperative pain management.

Previous studies (Ayalon et al, 2011; Ward, 2014) have shown that inadequate postoperative pain management can result in several complications such as the patient's inability to breathe or cough effectively, which can ultimately lead to atelectasis and pneumonia (Bell & Duffy, 2010) a condition that may extend the patient's stay in the hospital. Nonetheless, Good et al (2000) argues that postoperative pain does not necessarily lead to complications. According to the authors, their research evaluated pain after gynecological surgeries, and the result indicated that even in the presence of postoperative pain, most patients recovered quickly and were discharged home without complications. In other words, the presence of unrelieved pain did not necessarily result in complications. However, researchers such as Mackintosh (2007), Middleton, (2014) Newton (2004), Wood (2010) all contend that unrelieved postoperative pain (POP) can lead to several complications including delayed mobility which can lead to thrombosis

(Bell & Duffy, 2010), and a subsequent delayed recovery. In addition, inadequate management of postoperative pain can result in chronic pain which is pain that last longer than 6 months.

Postoperative pain is classified as a type of nociceptive pain occurring from tissue damage. Ward (2014) asserted that nociceptive pain occurs because of body tissue or organ damage, causing the body to perceive the resulting stimulus as pain. Woods (2010) further explains that nociception involves a complex interaction between the peripheral nervous system (PNS) and the central nervous system (CNS). This occurs in four stages known as transduction, transmission, perception and modulation. These four stages accounts for the release of the chemical mediators by the noxious stimuli, transmission of the nerve impulse, a conscious sensation of pain, and the inhibition or facilitation of the stimuli through the pain pathway (Johnson, 2009; Wood, 2010). The tissue damage itself is a result of the surgical incision or dissection (Ward, 2014) that occurs during the surgical procedure.

Although pharmacological management of pain is crucial after a surgical procedure such as an abdominal hysterectomy. The management of pain requires a multidisciplinary, and multifaceted approach which should include the patient, family members, nurses, physicians, anesthesiologists and the physiotherapist (Elvir-Lazo & White, 2010). However, to better facilitate postoperative pain management, effective communication is also crucial. Abdalrahimm et al (2011) asserted that an effective postoperative pain management should be an essential component of an overall quality of care. Measurements for quality of healthcare should include how pain is assessed,

managed and evaluated. As such, postoperative pain management should not be a reactive endeavor (Manias, Botti, & Bucknall, 2006) but a preemptive action in the part of the nurses.

The most effective postoperative pain management often begins during the pre-operative stage (Arbel et al., 2013; Wood, 2010) and continues during and after the procedure. McDonald et al. (2008) furthered the discussion for the importance of pre-operative pain management by exploring the role of pharmacology. The authors posited that to provide adequate postoperative pain relief, surgeons often block the sensory nerve supply to the anterior abdominal wall during surgery. However, the reliability of that approach is often limited due to the lack of clarity concerning the positioning of the needle and not knowing if the medication was deposited in the right anatomical space. Abdominal hysterectomy patients still suffer from moderate to severe pain in spite of the pre-and intraoperative endeavors by the physicians using anesthesia to curb postoperative pain. That assertion further legitimizes the argument by Elvir-Lazo and White (2010) that the management of postoperative pain requires a multidisciplinary and multifaceted approach. Thus, indicating the need to evaluate the critical contribution and relationship of nurses and their patients to postoperative pain management.

Nurses and Patients Role in Postoperative Pain Management

Nurses play a significant role in the assessment and management of postoperative pain, as they are the primary care takers of the patient while in the hospital. Nurses are responsible for many aspect of pain management beginning with the assessment, analysis, planning, implementation and evaluation of postoperative pain. Abdalrahim et

al (2008) and Ward (2004) asserted that nurses' knowledge, attitudes, and skills are pivotal to ensuring optimum patient outcome. Due to the importance of nurses in the management of post-operative pain, especially within the acute post-operative period, Yava et al (2013) concurred that nurse's strong foundation in pain management and their attitude can play a vital role in relieving pain related discomfort for the patient, and can help to increase their quality of life. In the same vein, Topolovec-Vranic et al. (2010) highlights that fact that nurses' personal beliefs and attitudes can be a potential barrier to adequate post-operative pain management.

In addition, one of the factors that hinder adequate postoperative pain management includes the lack of report by the patient (Topolovec-Vranic et al., 2010; Carr, 2007). Patient's reluctance to report their pain level could be because they don't want to be perceived as complaining, or the nurse not believing their reports. As a result, the patient may end up accepting their pain as a normal component of the postoperative experience (Manias, Bucknall, & Botti, 2005). This further emphasizes the importance of communication in pain management. Studies show that without patient's report of their pain level, nurses tend to underestimate patient's pain (Ene et al, 2007) resulting in inadequate treatment.

Along the same line, Sugai et al (2013) conducted a study to determine the impact of communication in the management of postoperative pain. Although, the study focused on physicians' communication with regards to pre- and postoperative education, and did not address nurses who are often the providers of patient education. The result of the study by Sugai et al (2013) showed a significant positive outcome of pain management

among the group who received pre-and postoperative education, and ongoing communication, as opposed to those who did not. Although, the result of this study highlighted the importance of communication in pain management, one of its limitations was not disclosing the role of the nurses in the pain management process. This is important because nurses are often the primary care givers present at the patient's bedside once the operation is completed and the patient is return to the medical surgical floor for recovery. They are the middle practitioners who assess, evaluate and communicate findings their findings to the physician. Therefore, it is not known if much of the communication was between the patients and their nurses, or directly between the patients and the physicians of whom the earlier would be the norm.

Wood (2010) postulated that it is critical for nurses to have an underpinning knowledge of the physiology of pain to better understand and respond to their patient's pain. It is also essential to add that having a theoretical understanding of pain physiology is not sufficient because nurses may fall into a pattern of not prioritizing pain management as critical, since it is viewed as an expected component of surgical outcome (Dihle, Bjolseth, & Helseth, 2006). Therefore, nurses also need to have a practical understanding of pain assessment, pain assessment tools, the impact of knowledge, and personal beliefs and attitudes on pain management and its outcome. Hence, the current study will assess how the knowledge and attitudes of nurses toward abdominal hysterectomy impacts pain management and the resulting outcome on hospital length of stay and readmission after discharge from the hospital. According to Lui et al (2008),

although nurses believe that pain is subjective and the best judge of the intensity of pain is the patient, most nurses still believe that patients over report their pain.

In accordance with the findings by Lui et al. (2008), research by Ene et al. (2008) conducted to determine the influence of surgical ward nurses on postoperative pain found a discrepancy between patients' report of pain, and nurses' documentation of patients' pain level. Such discrepancy negatively affected how the patient's pain was being treated. The treatment of pain was largely dependent on the nurses' documentation and not on what the patient reported. This crucial finding adds to the many factors that influences postoperative pain management, and further validates the need for research that evaluates how nurses' knowledge and attitudes towards certain surgical procedures, such as abdominal hysterectomy may impact postoperative pain management. Moreover, the findings by Ene et al. (2008) underlines the idea that although nurses possess the theoretical understanding that pain is subjective, and is exactly what the patient says it is, there is still an issue in the practical application of that concept. Instead, nurses often react based on their personal beliefs and attitudes, and often base their assessment on the patient's behavior (Yava, et al, 2013) and not their words. Essentially, a patient who is seated up, walking, talking and smiling yet reports high pain intensity is less believable than the patient who maybe crying, cringing or behaving in a way that is socially acceptable as a sign of discomfort or pain.

Several literatures (Manias et al., 2005; Ene et al, 2008; Bell & Duffy, 2009) have shown that nurses knowledge, beliefs and attitudes play a significant role in how they assess and respond to a patient's pain. The beliefs and attitudes held by nurses and

patients are greatly influenced by an individual's inherent cultural beliefs (Kloper et al, 2006; Bell & Duffy, 2009). As such it is expressed in different ways, and greatly impacts how patients communicate or view pain, as well as how nurses respond to, and prioritize pain management (Manias et al., 2005). For instance, previous studies found that cultural factors influence an individual's perception of pain (Soleman er al, 2005; Klopper, Andersson, Minkkinen, Ohlsson, & Sjostrom, 2006). According to a South African based study by Klopper et al. (2006), black patients had a higher tolerance to pain than whites or Indian patients. As a result, the communication or self-report of pain by these patients varies greatly. Despite these findings on cultural beliefs about pain, there is a dearth of study that assesses the possible relationship between patients and/or healthcare providers' attitudes regarding certain surgical procedures and postoperative pain management. This is a gap that the current study will attempt to fill.

Klopper et al. (2006) postulated that the fear of predisposition to an addiction is another barrier to postoperative pain management as his study found that many individuals have a deep-rooted fear about addiction because of taking pain medicine. Nurses on the other hand have developed similar beliefs regarding addiction despite their nursing knowledge. There is still a struggle between personal beliefs and theoretical knowledge of pain. Those beliefs are then expressed by their attitudes in how they assess, document and offer pain medication or utilize other pain relieving methods to the patients. Moreover, nurses attitude may also be a result of a multitude of factors such as staff shortage (Bell & Duffy, 2009), resulting in the lack of time for adequate assessment, treatment and evaluation of a patient's pain. Richards and Hubbert (2007) concurred that

while many expert nurses view patients in a holistic context with regards to pain management, they also struggle with balancing their personal beliefs and attitudes with their understanding of pain. Many nurses continue to trivialize or minimize patient's report of pain (Manias et al., 2005), causing some patients who are already passive recipients of pain medication (Manias et al., 2006) to continue to suffer in silence because nurses are not consistent in their assessment, treatment and evaluation of postoperative pain.

Consequences of Postoperative Pain Management: Hospital Length of Stay

A review of literature reveals a plethora of study on the different types of pharmaceuticals utilized in postoperative pain management, and their effect on hospital length of stay (Bryson, Charapov, Krolczyk, Taljaard, & Reid, 2010; Hong & Lee, 2014). However, literature review did not unearth any study that focused on the possible relationship of nurses and patients' pain management to hospital length of stay, particularly for gynecological surgeries such as an abdominal hysterectomy. However, Ganter et al. (2014) conducted a study to assess the impact of pain and other factors on the length of stay in the post anesthesia unit (PACU). The study found that the higher the intensity of a patient's pain, the longer their stay in the PACU. While the average stay of patients in the PACU was 5.7 to 5.9 hours, those with a higher intensity of pain, plus other factors such as nausea and vomiting had an increase in length of stay up to 15.1 hours. Nevertheless, pain as a factor was a significant reason for increased length of stay in the PACU.

Although the study by Ganter et al. (2014) highlighted the consequence of postoperative pain management on length of stay, it merely focused on the first few hours while the patient was in the PACU, but did not address pain management after the patient has been discharged to the medical surgical unit. As such, the goal of the current study is to further the assessment beyond the PACU to the medical surgical floor. To determine if an association exists between the attitudes of nurses and patients towards postoperative pain management and hospital length of stay, and readmission 30 days after discharge. Ayalon et al (2012) addressed a multimodal intervention approach to reduce hospital length of stay after surgery, but much like the previous studies, the authors focused on the administration of analgesics, and no comparison or focus on nurses and patients' attitudes. The study incorporated pre-and post-operative teaching as part of its intervention, and the result of the study indicated a reduction in the length of stay from 10 to 4.5 days. This, and the study by Ganter et al. (2014) provides further anchor to the current study in identifying how attitudes to postoperative pain management may relate to hospital length of stay.

Relevance of the Current Study and its Impact on Social Change

This chapter has presented the theoretical principle that provides a foundation for understanding human behaviors in terms of the factors that drives, or motivates one to act a certain way. Individual subjective norms, perceived control, motivation and the ability to perform a certain task influences how a person behaves or performs certain actions. Pertaining to attitude towards abdominal hysterectomy and postoperative pain management, the theory of Reasoned Action (TRA) undergirds the factors that may

contribute to nurses and patients attitude towards abdominal hysterectomy and postoperative pain management. Moreover, a detailed history of hysterectomy beginning from the 1800s is also discussed, leading into current technological advances which have given way to new and current trends in hysterectomy.

Prior studies that examined postoperative complications and the critical nature of postoperative pain have also been reviewed. Given the plethora of information obtained from previous studies regarding abdominal hysterectomy, the role of nurses in postoperative pain management, as well as the impact of nurses attitudes on pain assessment and pain assessment instruments, it is clear that postoperative pain management is a critical factor worthy of in depth examination to assess: 1.) the differences in attitude of nurses and patients towards abdominal hysterectomy, 2.) the relationship between nurses and patient's attitude towards abdominal hysterectomy and attitudes to postoperative pain management, and 3.) the association between postoperative pain management and hospital length of stay after an abdominal hysterectomy This closing section will discuss major themes and interrelationships between the presented literatures. It will also highlight possible lessons learned, recommended directions for further studies, the social change implications of the current study, conclusion and transition to chapter 3.

Themes and Interrelationships Among Presented Literature

The work of several researchers, such as Perniola et al. (2013), Samuels and Fetzer (2009), Edwards et al. (2001), Ho SE et al (2013), Abdalrahim et al. (2011), Bell & Duffy (2009) and many others have provided extensive information on the issue of

postoperative pain management. These authors and many others have provided literature on studies that scatters into different tangents on the issue of pain as a component of postoperative care and postoperative complications. Arbel et al (2013) presents the idea that pain management goes beyond the physicians, and should be a collaborative effort among all clinicians to provide adequate pain control to the postoperative patient. Samuels and Fetzer (2009) adds a different angle to the conversation by pointing in the direction of nurses who spend the most time with the patients, and needs to understand and adhere to evidenced based practice (EBP) in order to promote safe, effective and adequate pain management to the patients.

On the front of hysterectomy, although advances in technology has provided alternatives to how hysterectomies are performed, Kjolhede, et al (2012) and Landeen et al (2011) asserted that abdominal hysterectomy remains the choice for many women and their physicians for the treatment of certain malignant and benign conditions. However, there is a scarcity of literature that focuses on pain management from the nurses and patient's point of view regarding abdominal hysterectomies. Arbel et al (2013), Perniola et al (2013) and many other researchers focus on the pharmacological aspect of pain management such as the utilization of patient-controlled analgesia and preemptive analgesia etc. However, studies (Wood, 2010) have shown that postoperative pain is complex and influenced by many factors. As such, a focus on pharmaceuticals alone is not sufficient.

Studies by Gunningberg and Idvall (2007), Hutchinson (2007), Topolovec-Vranic et al. (2010) and Yava, et al. (2013) have established individual attitudes as a key factor

in the assessment and report of pain. Researchers such as Bell and Duffy (2010) and Ene et al. (2008) further concur that it is important to assess nurses' beliefs and attitude as part of the multifaceted factor that may impact postoperative pain management. Moreover, Abdulrahim et al. (2011), Arbel et al. (2013), Manias et al. (2006), and Wood (2010) all postulated that postoperative pain pain management should be a preemptive action. It should begin at the preoperative stage, and should involve a multidisciplinary and multifaceted (Elvir-Lazo & White, 2010) approach.

With regards to the relationship of postoperative pain on hospital length of stay and readmissions after discharge, Ganter et al. (2014) conducted a related study that evaluated the impact of pain and other variables on length of stay in the PACU. Although the study showed that pain was a significant factor in how long a patient stayed in the PACU, it only looked at a short amount of time, and did not consider the part that nurses play in postoperative pain management. Other researchers such as Bryson et al. (2010) and Hong and Lee (2014) also conducted research that evaluated hospital length of stay. However, the study focused on the effect of certain pharmaceutical interventions on pain management. Nonetheless, these studies highlighted pain as a significant factor in how long a patient stays in the hospital.

Possible Lessons From the Literature Reviewed

Lessons from the literature review on postoperative pain and hysterectomy include: (a) the remarkable advances in the practice of hysterectomy, which shows the move from a relatively blind operative procedure with a staggering number of mortality, to a steady, deliberate, elective and advanced procedure that often appears to be

effortless, and minimal; (b) significant advances in the understanding of the physiology of postoperative pain, the pharmacological aspects of pain management, and individual knowledge and attitudes as a factor in pain management; (c) that while research efforts have increased the understanding of aspects of the physiology of postoperative pain and its relationship to postoperative complications and associated outcome of hospital length of stay, further research is needed to identify any relationship that may exist between individuals' knowledge and attitudes towards a specific surgical procedure and postoperative pain management.

While empirical evidence is growing on the contributions of nursing intervention to pain management, and the prevention of postoperative complications, more work is required to identify the relationship between postoperative pain management, and hospital length of stay and readmission after discharge. Although, there is a consensus among researchers that the presence of post-operative pain and other complications can lead to longer hospitalization, and readmission after discharge (Mackintosh, 2007; Middleton, 2014; Newton, 2004; Wood, 2010), the counter argument by Good et al (2000) enters a cloud in the discussion by asserting that the presence of postoperative pain does not necessarily result in postoperative complications and long hospitalization. Their study found that the presence of postoperative pain did not prevent discharge. Such argument prompts a need to further investigate pain as an independent variable in how long a patient remains in the hospital after a surgical procedure, void of other complications. Therefore, a focus on pain as a factor in hospital length of stay after

surgery will help to bolster the conversation by presenting further empirical evidence to advance evidenced based practice in postoperative pain management.

Social Change Implications

Its impact potential could be both extensive and remarkable. The short term or immediate impact would involve a shift in the pattern of how clinicians approach postoperative pain management. Since successful pain management is dependent on ongoing education of health professionals (Grinstein-Cohen et. al., 2009), the finding of this study, if accepted and validated would provide important data for the implementation of attitude education as part of pain management courses in nursing schools, and continuing education for surgical nurses. Additionally, the result of this study may also provide a nudge for researchers to perform more studies that focus on nurses as a crucial team member in the management of postoperative pain.

Possibly, the two ardent social changes outlined here may be influenced by the result of this and subsequent studies. The first impact is for the over 500,000 women who undergo abdominal hysterectomy yearly and their nurses. It would be a welcomed relieve to know that further strides have been made to improve the collaboration between the patients and their nurses, resulting in a more efficient management of postoperative pain. The second part of the social change may impact both the healthcare industry and the health policy makers. Previous studies (Dallal & Trang, 2012; Kelly et al, 2012) have shown that longer length of hospital stay is a strong predictor for hospital readmissions, with profound cost implications. Thus, if the results of this study show that pain is a strong predictor for hospital length of stay, it is anticipated that the extent of societal

change in both local and national policies, insurance providers or payer groups, hospital administrations, healthcare administrations, nurses' organizations and patient advocacy groups may be profound.

Summary and Conclusions

Research has shown that abdominal hysterectomy remains the choice for several benign and malignant conditions. It also accompanies a moderate amount of pain. Studies also showed that the management of postoperative pain remains an ongoing issue in healthcare. Although several studies have focused on nurses' attitudes to pain assessment tools, and on pharmacology to solve the issue of postoperative pain, research also show that a multidisciplinary and multifaceted approach is required to provide quality pain management. Literature review further indicated that nurses play a significant role in the assessment and management of postoperative pain, and their knowledge and attitudes is a critical factor to assess. Chapter 3 will discuss the study design that will be utilized to assess the possible difference between the attitude of nurses and patients towards abdominal hysterectomy, the relationship between nurses and patients' attitudes towards abdominal hysterectomy and postoperative pain management, the possible relationship of postoperative pain management on hospital length of stay.

Chapter 3: Research Method

Introduction.

As described in Chapter 1, the primary purpose of this quantitative study was to explore the relationship between the attitude of nurses and patients toward abdominal hysterectomy and attitudes towards postoperative pain management. Further, the study investigated the relationship between postoperative pain management and the measured outcome of hospital length of stay after surgery. The reason for choosing a quantitative study was primarily because quantitative research allows the researcher to test theories within the constraints of statistical significance (Howell, 2010). This chapter comprises five major sections: Introduction; Research Design and Rationale; Methodology (which includes population, sampling and sampling procedures, procedures for recruitment, participation, procedure for gaining access to archival data, and necessary permissions for utilizing archival data from the hospital discharge records); Instrumentation and Operationalization of Constructs (which includes instruments and data analysis); and threats to validity (which includes ethical procedures). The chapter concludes with a summary section and a transition to Chapter 4.

Research Questions and Hypotheses

The current study addresses four research questions, which are:

RQ1: Is there a difference in the attitudes of patients and medical surgical nurse caregivers towards abdominal hysterectomy?

$H_0$1: There is no significant difference between the attitudes of patients and their nurse caregivers toward abdominal hysterectomy

H_a1: There is a significant difference in the attitudes of patients and their nurse caregivers towards abdominal hysterectomy.

RQ2: What is the association between patients and nurses' attitudes toward abdominal hysterectomy and attitudes towards postoperative pain management?

H_02: There is no significant association between the attitude of patients and nurses towards abdominal hysterectomy and attitudes towards postoperative pain management

H_a2: There is a significant association between patients and nurses attitude towards abdominal hysterectomy and attitudes towards postoperative pain management.

RQ3: Is there a relationship between the attitude of nurses and patients towards post-operative pain management and the outcome measure of hospital length of stay?

H_03: There is no significant relationship between nurses and patients' attitudes towards postoperative pain management and the measured outcome of hospital length of stay.

H_a3: There is a significant relationship between the attitudes of nurses and patients towards postoperative pain management and the measured outcome of hospital length of stay.

Research questions 1 and 2 were addressed with data collected by utilizing a Likert-type survey questionnaire. The survey questionnaire measured the nurses and patients' attitudes towards abdominal hysterectomy and attitudes towards postoperative pain

management. Research questions 3 was addressed with data collected through a retrospective review of patient's charts, primarily the hospital discharge summaries. Questions 3 was also addressed by a comparison of data obtained from the Likert-type survey questionnaire regarding attitudes of patients towards postoperative pain management.

Research Design and Rationale

The general intent of this nonexperimental, quantitative study was to determine if there is a relationship between the attitudes of patients and nurses towards abdominal hysterectomy and their attitudes towards postoperative pain management. The choice of a nonexperimental approach was appropriate because the basic premise of this study was to make comparison and to find relationship between defined variables without any manipulation or attempt to control the variables involved. The study compared the difference between nurses and patients' attitudes towards abdominal hysterectomy, the relationship between the attitudes of nurses and patients towards postoperative pain management and the outcome measures of readmission rate thirty days after discharge, and the relationship between the attitudes of nurses and patients towards postoperative pain management and the outcome measures of hospital length of stay after an abdominal hysterectomy.

The study utilized a cross-sectional survey design. The choice of the design for this study was driven by the research questions, which required the collection of data that could find a possible difference between two groups, nurses and patients. The design also allowed me to examine the association among variables such as attitudes toward

hysterectomy and attitudes towards postoperative pain management. The design further allowed for assessing the association between attitudes to postoperative pain management and the outcome measure of hospital length of stay after a surgical procedure.

Further, the rationale for utilizing a survey questionnaire rested on the understanding that it is a primary means of "developing a representative picture of the attitudes and characteristics of a large population" (Fowler, 2014, p.160) such as hysterectomy patients and nurses and their attitudes towards abdominal hysterectomy and postoperative pain management. Moreover, a survey design is versatile, generalizable, and efficient (Fowler, 2014), making it a suitable method for the current study. In contrast, a structured interview was initially considered as a means of data collection or this study; however, the question of researcher bias with regards to the possibility of influencing the participants response to questions (Phellas, Bloch, & Seale, 2011) was the reason for not pursuing this data collection method. The Table 1 below highlights the research questions and provides a concise explanation of the study variables. It further details each variable as it relates to the research question.

Table 1

Research Questions and Variables

Research Questions	Independent Variables	Dependent Variables	Covariates
Is there a difference in the attitudes of patients and nurse caregivers towards abdominal hysterectomy	Nurses and patients	Attitudes towards abdominal hysterectomy	**Patients**: age, race, previous hospitalization, previous surgeries, socio-economic status, relationship status **Nurses:** Age, race, sex, years of experience, license type (RN/LPN), level of education
Is there an association between nurses and patients' attitudes towards abdominal hysterectomy, and attitudes towards postoperative pain management?	Nurses and patients	1. Attitude towards abdominal hysterectomy 2. Attitude towards Postoperative pain management.	**Patients:** age, race, previous hospitalization, previous surgeries, socio-economic status, relationship status **Nurses:** Age, race, sex, years of experience, license type (RN/LPN), level of education
Is there a relationship between nurses and patients' attitudes towards postoperative pain management and the outcome measures of hospital length of stay?	Nurses and patients	1. Attitudes towards postoperative pain management 2.Hospital length of stay	**Patients:** Age, race, previous surgeries, previous hospitalizations, socio-economic status, relationship status, insurance types **Nurses:** Age, race sex, years of experience, license type (RN/LPN)

Time and Resource Constraints

Due to the research design, it was anticipated that there would be a reasonable constraint on time and other resources in conducting this study. The first constraint would be in the time and the finances involved in acquiring hospital approval and credentialing to have access to patient records. I also anticipated that it would be time consuming traveling back and forth to the hospital to review patients' charts to determine which of

the patients fell within the criteria required for the current study. Also, considerable time would be involved in reviewing the discharge summaries to obtain data related to hospital length of stay following an abdominal hysterectomy. Moreover, the utilization of a questionnaire augured a potential constraint on time and finances, especially in the attempt to construct, send out and receive responses from participants within a given time frame.

Methodology

Population

The population for the study consisted of patients and nurses from a local hospital in DeKalb County, Georgia. An a priori sample size calculation was conducted using the G*power sample size calculator for a two-tailed test. Given an effect size of ($p < .03$), alpha ($\alpha = 0.05$), and 1-β error probability (0.95), the estimated sample size required to adequately test the hypotheses outlined in this study would be 134 participants. The patient population was defined as women in their child bearing ages; 18-45, who had undergone an abdominal hysterectomy within 6 months to 1 year of the current study. The patient participants only included those who were inpatients at the hospital for at least one night following an abdominal hysterectomy. The nurse participants consisted of medical surgical nurses who worked on the medical surgical unit of the local hospital and had done so within 6 months to a year of the present study. The nurses were only RNs and LPNs who worked both day and night shifts at the hospital, and were directly involved in the care of patients after an abdominal hysterectomy and during the postoperative period until discharge from the hospital.

Sampling and Sampling Procedures.

The sampling strategy for the current study was selected to serve a specific purpose. The study targeted a designated group of participants who were women who had had an abdominal hysterectomy within 6 months to a year of the current study and medical surgical nurses who were directly involved in the care of abdominal hysterectomy patients at the hospital within the same period. As such, a nonprobability, convenience sampling strategy was appropriate and was utilized for this study. (Kandola, Banner, O'Keefe-McCarthy, & Jassal, 2014) asserted that a convenience sampling allows for a nonrandom selection in which participants are selected due to accessibility and ease of access. This held true for this study because I only included patients who met the inclusion criteria and who were available and willing to participate in the study.

A snowball sampling may also have been very useful in reaching both patients and nurses through referral. Postabdominal hysterectomy patients may belong to a hysterectomy support group such as HysterSisters (HysterSisters, 2015) and perhaps would have been able to recommend others who met the criteria set for the study. Nurses would also have been able to recruit other medical surgical nurses at the hospital. While individual participants were able to refer potential participants for the study, no burden was placed on individuals because participation was voluntary without any monetary reward or other form of coercion. However, participants were informed of their potential contribution to an existing body of knowledge in nursing and healthcare administration with regards to postoperative pain management. Initial participant selection was derived from a review of discharge summaries from patients' charts at the local hospital for

patients who underwent an abdominal hysterectomy within 6 months to 1 year of the present study. The table below delineates the inclusion and exclusion criteria.

Table 2

Inclusion and Exclusion criteria for which participants are drawn

Inclusion Criteria	Exclusion Criteria
1. Women 18-45 years of age 2. Patients and nurses must sign informed consent 3. Patients must have undergone an abdominal hysterectomy within 6 months to one year of current study 4. Patients must have been inpatient at the local hospital for at least one night following abdominal hysterectomy 5. Nurses must work in the Medical Surgical units of the local hospital 6. Nurses must be Registered Nurses (RN) or Licensed Practical Nurses (LPN).	1. Women under age 18 and over age 45 2. Patients underwent a fast track outpatient abdominal hysterectomy 3. other forms of hysterectomies 4. Other clinical workers e.g. physician, nursing students.

Data Collection and Recruitment

Prior to recruitment, I applied for, and received permission from the Walden University Institutional Review Board (IRB) to conduct this research. The approval number from the Walden IRB was 03-18-16-0246351. Further, an exemption was received from the local hospital's IRB. (Appendix A), where recruitment and the study will occur. Following an approval from the Walden University IRB, participants were recruited via mail, e-mail and fliers at the hospital. Convenience sampling was utilized, and nurses and patients were asked to encourage their colleagues and patients to participate in the study. The solicitation letter included a concise explanation of the purpose of the study, and their potential contribution to the existing body of knowledge

regarding postoperative pain management particularly as it relates to abdominal hysterectomy.

I recognized that some participants may be regarded as vulnerable, particularly those who are not fluent in the English language. This was mainly directed to the patients' participants in the study. As such, no coercive methods were utilized to recruit participants for this study. With regards to participants' safety, no known safety issues were projected, as participant's identity was kept confidential. No identifying information were used in the study, and all collected data were securely stored with only the researcher having access to the information.

For efficiency, and due to the time constraint in completing the research study, the initial recruitment and information letter included a request for participants to respond via e-mail to a designated email address. Once I received the email addresses, participants were sent an invitation via email with a link to Survey Monkey, where an electronic informed consent was given prior to beginning the self-administered survey. Participants were instructed to read and sign the informed consent as an indication of their voluntary agreement to participate in the current study. They were also informed that participation is voluntarily, and although no financial incentive will be given, their involvement in the study will contribute immensely to the existing body of knowledge and help to improve the management of postoperative pain, and the relationship between nurses and their patients with regards to postoperative pain management.

Debriefing Process

The study was a survey questionnaire conducted via Survey Monkey, as such, debriefing was also completed online as well. At the end of the 10 to 15-minute survey, a debriefing page was provided where participants were thanked for their time and for participating in the study. Participants were once again reminded of the purpose of the study, and were given an opportunity to withdraw their survey at that time. If participants may want to contact the researcher or the university, such contact information was also provided on the debriefing documents and also included information for the IRB. They were given an opportunity to print a copy of the debriefing form for their records. Finally, participants were given an option to indicate whether they fully understand and consent to the use of their data in the study, or do not consent to their data being used. A button was provided to help participants in making this decision to "agree" or "disagree" with using their data in the study.

Archival Data

Research question three and four required a retrospective review of patients' chart, particularly discharge summaries to obtain additional data about diagnosis and hospital length of stay after abdominal hysterectomy. For the study and the hospital to comply with the Health Insurance Portability and Accountability Act (HIPAA), it was also necessary to apply to the institutional review board of DeKalb Medical hospital where participant recruitment and some data collection occurred. To gain access to patients' charts, I contacted the IRB of the local hospital, and was asked to complete an extensive application stating the purpose of the current study and potential data collection

method. After careful review by the IRB at the hospital, I received an exemption letter (see Appendix A) stating that the study would not pose any harm to the participants, and study could commence based on the presented prospectus.

Once the exemption letter was received, I was asked to complete a credentialing application, and was given permission to have access to the data. Patient's medical charts are considered legal documents; Karp et al (2008) asserted that patients' charts are the primary objective evidence for health care providers and organizations against any legal malpractice claims. It records every contact and treatment that a patient receives from admission to discharge. It is also the best evidence for reimbursement of claims for healthcare providers and organizations. As such, it is the best source of data for the current study with regards to hospital length of stay. Moreover, it provides accurate demographic information for the patient participants.

Instrumentation and Operationalization of Constructs

Instruments

A comparative correlational research design was utilized to explore the attitudes of nurses and abdominal hysterectomy patients towards post-surgical pain management. The survey questionnaire for the current study included three published instruments and demographic information to describe the sample. Nurses and patients' attitudes towards abdominal hysterectomy were measured by the Beliefs and Attitudes toward Hysterectomy Questionnaire (BATH) (Marvan, Quiros, Lopez-Vazquez, & Ehrenzweig, 2012). Nurses' attitudes to postoperative pain management were measured by the Nurses Pain Management Attitude Survey (NAS; McMillan, Tittle, Hagan, Laughlin, & Tabler,

2000) and Strategic and Clinical Quality Indicators in Postoperative Pain Management (Idvall, Hamrin, & Unosson, 2002).

The BATH, is a 25 question, 5-point Likert scale, designed from a previous study where participants from Mexico were asked if they believed the life of a woman would change if her uterus was removed (Marvan et al., 2012, p. 516). The question on the BATH consists of three parallel forms which are: for women without hysterectomy, for men, and for women with hysterectomy. The instrument is appropriate for the current study as it addresses the variables within this study. The form that addresses men and women without hysterectomy will be utilized with the nurses, while the form addressing women with hysterectomy will be utilized with the participants who have undergone abdominal hysterectomy. Participants will be asked to rate the responses from "strongly disagree" to "strongly agree." The validity of each item on the questionnaire was tested by a review of nine judges using the Lawshe formula which is an item statistic also known as the content validity formula. It is used after items have been identified for inclusion in a final form; the content validity formula is then calculated for the whole test (Lawshe, 1975). The revised questionnaire was further tested with 271 adults (Marvan et al., 2012). The reliability of the instrument was .82 using the Cronbach's alpha coefficient.

The NAS is a 25-item attitude instrument developed from the Nurses Knowledge and Attitude Survey regarding pain. The NAS uses a 4-point Likert type scale to assess nurses' attitudes towards pain and the administration of narcotics, because nurses are often in control of the assessment and administration of medications. The NAS allows for

level of expertise to be differentiated among groups (McMillan, Tittle, Hagan, Laughlin, & Tabler, 2000) such as Registered nurses versus Licensed practical nurses, and it is appropriate for use within the current study. Internal consistency reliability was found through Cronbach's alpha (r=0.70) and construct validity demonstrated a significant difference (p=<0.00). The instrument was utilized in previous studies to assess factors associated with postoperative pain management (Darjee, Dungpaeng, & Masingboon, 2013), and nurses' attitudes to pain management in patients with cancer (McMillan et al., 2000). Nonetheless, the NAS will be utilized in the current study to assess nurses' attitudes towards postoperative pain management in patient who have undergone an abdominal hysterectomy.

The Strategic and Clinical Quality Indicators in Postoperative Pain Management is a 14-item instrument which uses a 5-point Likert type format to measure the quality of postoperative pain management (Idvall et al., 2002). The instrument focuses on four factors: communication, Action, Trust, and Environment which are all essential to an individual's beliefs and attitudes, and makes it a suitable instrument to measure the variables within the current study. The item was initially developed based on a qualitative study using an interview format (Idvall & Rooke, 1998) and a review of literature (Idvall, Hamrin, Liselotte, & Sjostrom, 1999). The items were tested for content validity, and the indicators were judged by nurses to be essential, realistic and possible for nurses to influence (Idvall, Hamrin, Sjostrom, & Unosson, 2001). Internal consistency reliability was found using Cronbach's alpha (r=0.84), and validity was demonstrated with item-total correlation of (<.30). Previous studies have utilized the Strategic and Clinical

Quality Indicators in Postoperative Pain Management to measure postoperative pain management in varied groups of surgical patients including thoracic and abdominal surgery (Idvall et al., 2002; Milutinovic et al., 2009). However, the present study will utilize the instrument to measure post abdominal hysterectomy patients' attitude to postoperative pain management.

Operationalization of Constructs

Table three highlights the variables in the study, including the descriptions of the variables. The table also highlights the level of measurements for each stated variable in the study. It contains information about the participants demographics and the covariates in the study. With relation to the participants demographics, the description pertains to the representation of the demographics in the SPSS software for identification during analysis.

Table 3

Variables: Operationalization, Descriptions, & Measurement

Independent variable	Description of variable	Level of measurement
Nurses	Registered nurses and Licensed practical nurses	Nominal
Patients	Women who have undergone abdominal hysterectomy within six months of the current study	Nominal
Dependent variables		
Attitudes to abdominal hysterectomy	Nurses and patients' attitudes to abdominal hysterectomy	Ordinal
Attitudes to postoperative pain management	Nurses and patients' attitudes to postoperative pain	Ordinal
Hospital length of stay	1=1 hospital days 2= 2 hospital days 3=3 to >7 hospital days	Ordinal
Demographics		
Age	Age	Ordinal
Gender	0=Male 1=Female	Nominal
Race	1=white 2=African American 3 = Hispanic 4 = Asian/pacific Islander 5 = Native American 6 = Other	Nominal
Education Completed	1=Diploma 2=Associate Degree in Nursing 3=Bachelor of Science in Nursing 4=Masters of Science in Nursing 5=Other	Nominal Nominal
Covariates		
Relationship status	0=single 1= married	Nominal Nominal
Socio-economic status	Socio-economic status	Nominal
Previous hospitalizations	Previous hospitalizations	Nominal
Previous surgeries	Previous surgeries	Nominal
Years of experience	1=1 year of nursing experience 2=2 years of nursing experience 3=3 years> of nursing experiences	Ordinal

The data sets are comprised of a total of 2 independent variables (nurses and patients), and includes four demographic variables which are: Age, Gender, Race/Ethnicity, and highest level of nursing education. The variables will be used in descriptive statistical analysis and in correlation analysis. For instance, to determine whether a relationship exist between the attitudes of nurses and patients towards abdominal hysterectomy and postoperative pain management, a Pearson product moment correlation coefficient (r) will be utilized to quantify the direction (-1 or +1) and strength of the linear association.

Data Analysis Plan

This research investigated the attitudes of nurses and patients towards abdominal hysterectomy and postoperative pain management. Statistical analyses and data management were performed using the Statistical Package for Social Sciences (SPSS) software, version 21 (SPSS, Inc., Chicago, IL, USA). The link to the survey questionnaire via Survey Monkey was emailed to the participants. Once all data were collected, they were exported into a spreadsheet to categorize all data elements and their details. To ensure protection of all participants' identity, data were scrubbed of all identifiable information such as names, dates of birth, and MRN#, and was replaced with random identification numbers. Demographic information such as age, gender and race were maintained. Coding and analysis were conducted using the assigned numbers and demographic information. Before and after data were entered in the SPSS software, it was checked twice to ensure that all data were coded and transferred appropriately. With

regards to missing data, the SPSS can identify missing values (Green & Salkind, 2011), the researcher was also able to identify and define missing values into the SPSS software.

Table 4

Statistical Procedures by Research Question and Hypotheses

Research question	**Corresponding hypotheses**	**Statistical test/procedures**
RQI: Is there a difference in the attitudes of patients and nurse caregivers towards abdominal hysterectomy	H1 Null: There is no significant difference between the attitudes of patients and medical surgical nurse caregivers toward abdominal hysterectomy H1 Research: There is a significant difference in the attitudes of patients and medical surgical nurse caregivers towards abdominal hysterectomy	Independent t-test to compare the means between the two groups. Mann-Whitney U test to compare differences between the two groups (nurses and patients).
RQ2: Is there an association between nurses and patients' attitudes towards abdominal hysterectomy, and their attitudes towards postoperative pain management?	H2 Null: There is no significant association between the attitude of patients and nurses towards abdominal hysterectomy and their attitudes towards postoperative pain management. H2 Research: There is a significant association between patients and nurses attitude towards abdominal hysterectomy and their attitudes towards postoperative pain management.	Independent t-test to compare the means between the two groups. A correlation analysis to determine the relationship between attitudes of both groups.
RQ3: Is there a relationship between nurses and patients' attitudes towards postoperative pain management and the outcome measures of hospital length of stay?	H3 Null: There is no significant relationship between nurses and patients' attitudes towards postoperative pain management and the measured outcome of hospital length of stay. H3 Research: There is a significant relationship between the attitudes of nurses and patients towards postoperative pain management and the measured outcome of hospital length of stay.	A Pearson correlation coefficient was computed to assess the relationship between the attitudes that patients have towards postoperative pain management. Bonferroni approach was used to control for type 1 error between both correlations

Data analysis will be conducted via the SPSS software (SPSS, Inc., Chicago, IL, USA). Data obtained from the questionnaire and chart review were entered in the SPSS

software. The Significant level for the study was set at a value of less than 0.01($P \leq 0.01$) and a two-sided t-test. A Bonferroni post hoc testing was used to control for type 1 error between correlations in question 3.

Threats to Validity

One of the many threats to external validity in retrospective studies is often the lack of comparison or control (Tofthagen, 2012). To account for this, the current study assessed and compared variables for two groups of participants which were nurses and patients. Another potential threat to external validity with the current study is the selection bias, mainly because all participants, both nurses and patients are selected from one single hospital. Moreover, generalization is another threat due to the utilization of convenience sampling. Landers & Behrend (2015) assert that this non-probability sampling method allows for a non-random selection or sampling from a convenient population which is like the intended population, and this limits generalizability. As such, Generalizability can only be limited to the organization where recruitment occurred.

With regards to internal validity, potential threats are historical and instrumentation. To address historical threats with patients who are post abdominal hysterectomy, the study only included participants who had abdominal hysterectomy within 6 months to a year of the current study. To address threats to validity based on instrumentation, the study utilized all valid and reliable measuring tools (see above) to address the research questions within the current study, and were also suitable for both participants group. Threats with statistical conclusion validity (SCV) may arise from

inadequate sample size. This was addressed by utilizing the G power analysis to ensure selection of adequate sample size, and by using an alpha level of 0.01.

Ethical Procedure

The data utilized in this study are both secondary and primary in that research question number three calls for a retrospective review of patients charts and discharge summaries, while research questions one and two was addressed through a questionnaire survey. Institutional permission was acquired through the two organizations pertinent to this study. This was necessary for the protection of participants' rights. The researcher applied for and obtained an IRB exemption from the healthcare institution (local hospital) where recruitment and data collection occurred (see Appendix A). Application to Walden University IRB was also obtained prior to recruitment and data collection. Nurse participants were recruited through the hospital surgical units (nurses), and patients were contacted via mail and e mail. All medical surgical nurses and patients who met the criteria for the study had an opportunity to participate. Participants were advised via the informed consent that no monetary incentive or reimbursement of any manner would be offered.

Participation was voluntary without any adverse consequence for refusal to participate or for withdrawal from the study. Questionnaires were administered online via Survey Monkey. Prior to giving participants access to the online questionnaires, additional measures were taken to ensure participants confidentiality and data security. Each participant received an email with a link and an assigned identification number for completing the survey. All data were password protected; both on Survey Monkey and

SPSS, and only the primary researcher have access to the data. Data will be maintained for a minimum of 5 years, after which it will be destroyed to comply with the Health Insurance Portability and Accountability Act (HIPPA) of 1996, and with the requirements of Walden University, the researcher holds a certificate of completion from the NIH Office of Extramural Research (see Appendix B).

Dissemination of Findings

Findings from this study are expected to be disseminated to the local hospital where recruitment and data collection occurred, the gynecologist who serves as the contact person for the researcher at the hospital and to Walden University through a final dissertation presentation and paper. Based on the results of the analysis and its interpretation, the researcher will consider presentations at seminars and the potential for publication to diverse healthcare journals, nursing journals and journals dealing with hysterectomy and or pain management.

Summary

This chapter presented the research design and methodology for assessing the difference between the attitudes of nurses and patients towards abdominal hysterectomy, the association between the attitudes of nurses and patients towards abdominal hysterectomy and attitudes towards postoperative pain management, and the relationship between the attitudes of nurses and patients towards postoperative pain management and hospital length of stay after an abdominal hysterectomy. A non-probability, convenience sampling of 134 participants including patients who had abdominal hysterectomy within six months to a year of the present study, and medical surgical nurses were analyzed

using descriptive statistics. The primary purpose for the descriptive analysis is to determine if there is any association between attitudes towards abdominal hysterectomy and postoperative pain management, and to determine if the attitude towards postoperative pain management has any correlation to hospital length of stay. Chapter 4 will include the result of the analysis, and chapter 5 will address the interpretation of the findings, limitations of the study, implications to positive social change and recommendations for future research.

Chapter 4: Results

Introduction

This study followed a recommendation by Francis & Fitzpatrick (2013) to conduct more studies that pair nurse and patient participants to capture more robust empirical evidence to further understand and improve nurses' and patients' roles in postoperative pain management. To that end, the purpose of this study was to examine the attitudes of nurses and patients towards abdominal hysterectomy and postoperative pain management using a primary data set collected from a local hospital in the State of Georgia. The purpose of this quantitative, retrospective study was three-fold: to examine (a) the differences in the attitude of nurses and patients toward abdominal hysterectomy, (b) the relationship between the attitudes towards hysterectomy and attitudes towards postoperative pain management, and (c) the association between attitudes towards postoperative pain management and the outcome measures of hospital length after a surgical procedure. The independent variables in the study were nurses and patients while the dependent variables were attitudes towards abdominal hysterectomy, attitudes towards postoperative pain management, and hospital length of stay

There were three research questions that guided this study: The first research question and hypothesis was related to participant attitudes towards abdominal hysterectomy.

RQ1: Is there a difference in the attitudes of patients and medical surgical nurse caregivers towards abdominal hysterectomy?

$H_0$1: There is no significant difference between the attitudes of patients and their nurse caregivers toward abdominal hysterectomy.

H_a1: There is a significant difference in the attitudes of patients and their nurse caregivers towards abdominal hysterectomy.

The second research question and hypothesis asked the relationship of patient and nurse attitudes towards abdominal hysterectomy to and their attitudes towards postoperative pain management.

RQ2: What is the association between patients and nurses' attitudes toward abdominal hysterectomy and attitudes towards postoperative pain management?

$H_0$2: There is no significant association between the attitude of patients and nurses towards abdominal hysterectomy and attitudes towards postoperative pain management.

H_a2: There is a significant association between patients and nurses attitude towards abdominal hysterectomy and attitudes towards postoperative pain management.

The third research question was related to the relationship between the attitudes that both nurses and patients have towards postoperative pain management and hospital length of stay.

RQ3: Is there a relationship between the attitude of nurses and patients towards post-operative pain management and the outcome measure of hospital length of stay, and readmission 30 days after discharge?

$H_0$3: There is no significant relationship between nurses and patients' attitudes towards postoperative pain management and the measured outcome of hospital length of stay.

H_a3: There is a significant relationship between the attitudes of nurses and patients towards postoperative pain management and the measured outcome of hospital length of stay.

In this chapter, I describe the data collection and analysis conducted to address the three research questions of this study. I further present findings from a retrospective data collection and analysis that paired 134 nurses and patients together with the primary goal of examining their attitudes towards abdominal hysterectomies, postoperative pain management and hospital length of stay.

Data Collection

Process of Data Collection

Participants for this study were recruited from a large local hospital in DeKalb County, Georgia. The participant group was comprised of both nurses and patients, which included a total of 147 participants. Of the 147 participants, nurses were the largest group (n = 111); the remainder were patient participants (n = 28). Participants were recruited by passing out fliers at the hospital campus and sending out e-mails to potential participants. E-mail addresses were collected from nurses and patients who referred other nurses and patients; participation was voluntarily. Once participants indicated interest in the study, they also indicated willingness to receive a paper survey or a link to the survey

via SurveyMonkey. The recruitment flier included an e-mail address where participants could indicate interest in the study.

Prior to gaining access to the hospital for recruitment, I obtained an exemption from the hospital IRB. This process took about 2 months. Once IRB approval was obtained and I passed the security screening and obtained an access badge at the hospital, I could begin recruitment. Since most of the participants were nurses who were computer savvy, they chose to participate via SurveyMonkey. The process took about 2.5 months. Participants were eager to answer questions about their personal experiences by completing the survey. It was also interesting to note how nurses and patients were eager to refer others, resulting in a response rate that was well over expectation at 100%. Some individuals were excluded because they did not meet the criteria for the study as outlined in chapter 3.

One of the expectations outlined in Chapter 3 was the possibility of not being able to obtain enough participants because the study was focused on a single hospital. However, the eagerness of participants to refer others allowed for utilization of the snowball sampling method, resulting in a much faster recruitment time frame than originally anticipated. No discrepancy occurred from the plan outlined in Chapter 3 except for the inability to recruit an equally large number of patients during data collection. Moreover, the snowball sampling method allowed for a sample that is very much representative of the population of interest, which was patients who underwent an abdominal hysterectomy within 1 year of the current study and medical surgical nurse caregivers.

The surveys used specific scales, and were administered according to the instructions for each instrument used. Seventy-six percent (n = 111) of the surveys, those of the nurse participants, were completed in their entirety, and 19% (n = 28) of the surveys, those of the patient participants, were also completed in their entirety. Five percent (n = 8) had missing data because of partial completion or insufficient responses. There was no major discrepancy between planned data collection and actual data collection

Baseline Descriptive and Demographic Sample

Age. There was a total of 147 participants in the study. The mean age for the population was 41.5 years. The patient population group proved to be the youngest with a mean of 40 years. The maximum age for the patient sample group was 45 years old. The nurses' population group provided the lowest participant age of 25 years. The mean age was 41 years for the nurse participants. The nurse population group also provided the oldest participant at 68 years old. However, it is important to note that age was one of the criteria for participation in the study for the patient population, with the stipulation that participants should be between 18-45 years of age (see Table 5).

Gender. Although one of the criteria for participation among the patient sample group was that the participant be female, the nurses' population was expected to include both male and female participants, provided the nurse was a medical surgical nurse. This was a minor discrepancy in data collection as both genders among nurses were not represented in the sample. Table 5 shows that females composed 100% of the overall data sets. However, there were 8 surveys (5.4%) with missing values in which individuals did

not indicate gender.

Race/ethnicity. Table 5 below also presents information about the race of participants involved in the study. It indicates that European Americans composed the largest portion of the overall data set at 60, 40.8% of the total sample of 147. African Americans came in at a close second with 54, 36.7% of the overall data set. Hispanics were a distant third with 19 (12.9%), Asians/Pacific Islanders numbered 2 (1.4%), Native Americans had 1 (.7%), and the remainder of the data set identifying as "Other" was 3, 2.0% of the overall data set.

Level of education. As indicated in Chapter 3, level of education was only a considered demographic among the nurse population. Although all the participants in the nurse population worked as medical surgical nurses, their level of education differed (see Table 5). Nurses with a bachelor's degree (BSN) composed of the largest portion of the participants with 53 (36.1%), associate degree nurses (ADN) came in second with 47, 32.0% of the overall participants. Nurses with a master's degree (MSN) came in at a distant fourth with 11, 7.5% of the participants, and the last level of education identified was "other," which may represent education higher than a master's degree, numbered 1, .7% of the overall data set.

Table 5

Frequency and percentage distribution of four demographic variables among participants

	N	%
Age		
Overall	128	87.1
Patients	28	19.0
Mean	40.7	
Minimum	35	
Maximum	45	
Nurses	111	75.5
Mean	41	
Minimum	25	
Maximum	68	
Gender		
Male	0	
Female	130	100
Race/Ethnicity		
White/Caucasian	60	40.8
African Americans	54	36.7
Hispanics	19	12.9
Asians/Pacific Islanders	2	1.4
Native Americans	1	.7
Other	3	2.0
Education		
BSN	53	36.1
ADN	47	32
MSN	11	7.5
Other	3	2.0

Note. N = 147. BSN = bachelor of science nursing, AND = associate degree nursing, MSN= master of science nursing.

As stated in Chapter 3, the four demographic variables were also used in a correlation analysis. There was a strong negative correlation between age and attitudes towards hysterectomy (HYSscore), attitudes towards postoperative pain management (PMScore), and outcome measures of hospital length of stay (HosStay) as a result of correlation analysis returned *p* values of -.132 for HYScore, *p* = -.012 for PMScore, and *p* = -.265 for HosStay (see Table 6). Gender could not be used in a correlation analysis because its variable was constant. Among the 139 participants (*n* = 139) who completed the survey in its entirety and identified their gender, all were female. No male participant was involved in the study. Further, there was a negative correlation between race/ethnicity and attitudes towards hysterectomy (HYSScore) and a negative correlation between race/ethnicity and outcome measures of hospital length of stay (HosStay) with *p* = -*.031* for HYSScore and *p* = -*.165* for HosStay. However, there was no correlation between race/ethnicity and attitudes towards postoperative pain management with *p* = .035. (see table 6).

Education was not correlated with attitudes towards hysterectomy as result of correlation analysis returned *p* value of .019. There was also no correlation between education and hospital length of stay with a *p* value of .154. On the other hand, a correlation analysis showed a significant negative correlation ($p \leq 0.01$) between level of education and nurses attitudes towards postoperative pain management, *p* = -.662 (see Table 6)

Table 6

Demographic Variables Among Participants (n=147) and Correlation to Attitudes to Hysterectomy, Postoperative Pain Management and Hospital Length of Stay.

	HYSScore *n* = 139	PMScore *n* = 28	HosStay *N* = 139
Age	-.132	-.012	-.265
Gender	a	a	a
Race/Ethnicity	.031	-.165	.035
Education	.019	-.662	.154

*Significant at $p \leq 0.01$. *n* = number of cases for the specific variable, *a* = constant variable not computed.

Results

Attitudes Towards Hysterectomy

An independent sample *t* test was conducted to address research question 1, which asked if there was a difference in the attitudes of patients and medical surgical nurse caregivers towards abdominal hysterectomy, and to evaluate the null hypothesis (H_{01}) that there was no significant difference between the attitudes of patients and their nurse caregivers toward abdominal hysterectomy, and the alternative hypothesis (Ha1) that there is a significant difference in the attitudes of patients and their nurse caregivers towards abdominal hysterectomy The independent group *t* test was specifically utilized to compare the means between the two groups (patients and nurses). The test was not significant t (137) =-.062, p=.950. Patients who had undergone an abdominal hysterectomy (M=3.04, SD =0.31) did not have a significant difference in their attitudes towards the procedure (abdominal hysterectomy) when compared to the attitudes of the medical surgical nurses (M=3.05, SD=0.47) who cared for them. (see figure 1). The 95% confidence interval for the difference in means ranged from -0.19 to 0.18 which was a

wide range. To further establish the magnitude of the difference between the means of patients and nurses' attitudes towards abdominal hysterectomy (Sullivan & Feinn, 2012), a Cohen *d* was computed, and it revealed a rather small effect size d= -0.02. No further independent analysis was calculated, such as Mann-Whitney U test to compare differences between the two groups or the Multivariate analyses of covariance (MANCOVA).

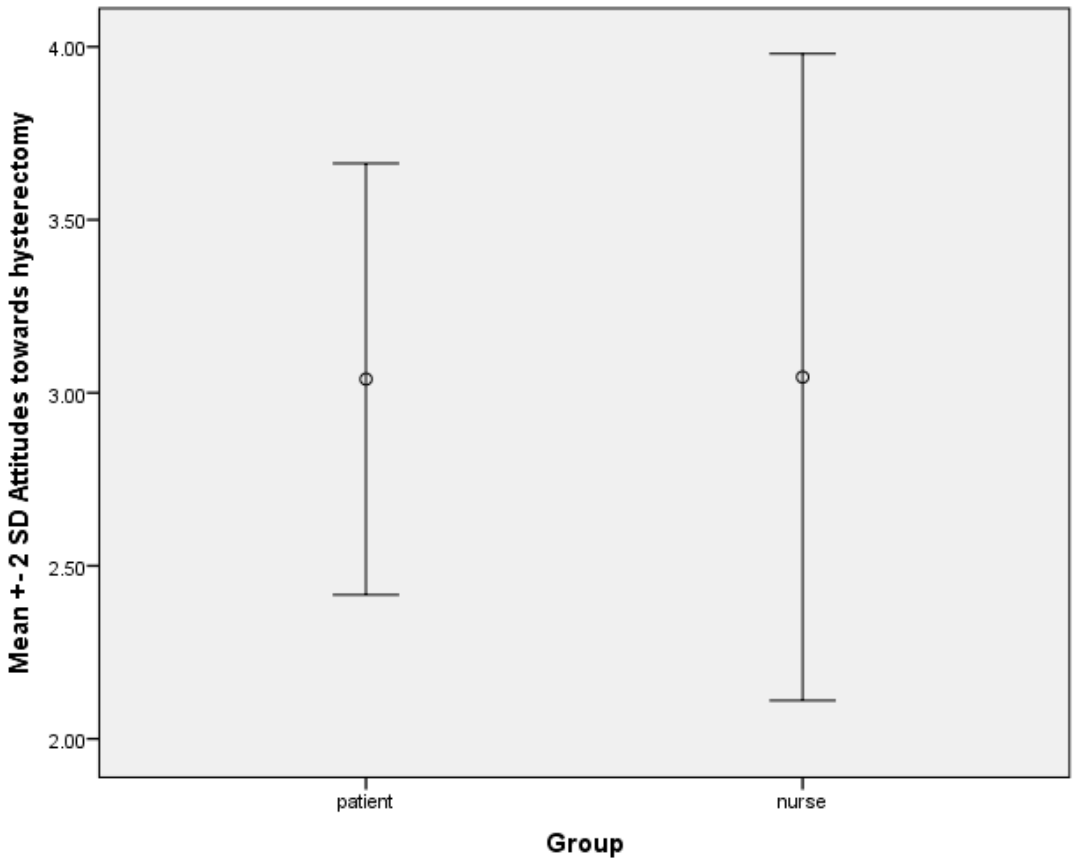


Figure 1. Error bars (two standard deviations above and below the mean) for attitudes of patient and nurses towards abdominal hysterectomy.

Attitudes to Postoperative Pain Management

Although it was not part of the stated purpose of this study, to better analyze research question two (RQ2) and the hypothesis that there is no significant association between the attitudes that nurses and patients have towards abdominal hysterectomy, and the attitudes that they have towards postoperative pain management, it was necessary to first evaluate the attitudes of nurses and patients towards postoperative pain management. Therefore, research question two was first segmented to two parts. In the first part, an independent sample *t* test was conducted to evaluate the null hypothesis that there was no difference in the attitudes of patients and nurses towards post-operative pain management (H_{o2}). The alternative hypothesis stated there was a significant difference in the attitudes of patients and nurses towards post-operative pain management. This test was significant, t (30.7) = 20.45, $p < 0.001$. The results opposed the research hypothesis. Interestingly, the average, patients attitude towards postoperative pain management (M = 4.14, SD = 0.39) was much different than the attitudes (M =2.6, SD = 0.21) of their medical surgical nurse caregivers, using Cohen's *d* indicated a moderate effect size where d=4.5. The 95% confidence interval for the difference in means was very narrow, ranging from 1.4 to 1.7. Figure 2 shows the distribution for the two groups.

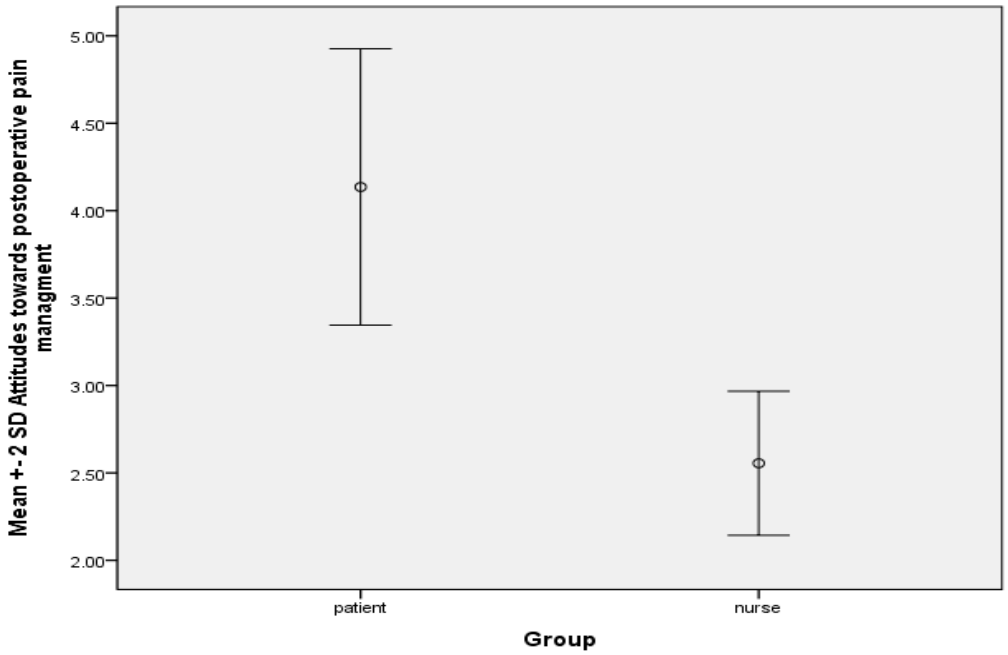


Figure 2. Error bars (two standard deviations above and below the mean) for attitudes of patient and nurses towards post- operative pain management.

Association of Attitudes to Hysterectomy and Post-Operative Pain Management.

The next step addresses part B of research question two. A correlation analysis was conducted to determine the relationship between the attitudes that nurses and patients have towards abdominal hysterectomy, and the attitudes that they have towards post-operative pain management. However, to garner an initial representation of expectation for the correlation analysis, and determine the extent of the influence of outliers on the value of the correlation coefficient, as well as the existence of a nonlinear relationship between attitudes towards hysterectomy and attitudes towards postoperative pain management (Geen & Salkind, 2011) a simple scatterplot of the variable was first generated (See Figure 3).

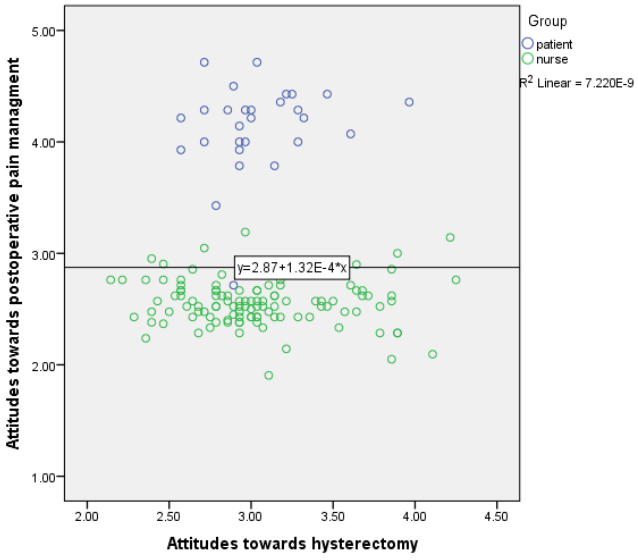


Figure 3. Pattern of relationship between patients and nurses' attitudes towards abdominal hysterectomy and attitudes towards postoperative pain management.

A quick observation of the scatterplot indicates that no linear ($p < 0.001$) relationship exists between the attitudes that nurses and patients have towards abdominal hysterectomy and the attitudes they have towards postoperative pain management. As such, a bivariate Pearson Correlation analysis was abandoned as it cannot address nonlinear relationship among the categorical variables (Green & Salkind, 2011) in this study. However, a paired sample *t* test was conducted to evaluate if there was any association in the attitudes that patients and their nurse caregivers have towards abdominal hysterectomy, and the attitudes that they have towards post-operative pain management. The results indicated that the mean attitudes towards abdominal hysterectomy (M= 3.04, SD =0.44) was significantly greater than the mean attitudes that patients and their nurse caregivers have towards post-operative pain management (M =

2.9, SD = 0.68), *t* (138) = 2.48, *p* = 015, effect size d = 0.17. In reviewing the boxplot presented in Figure 4, it is readily apparent that there is no association between the attitudes of both population towards the two variables.

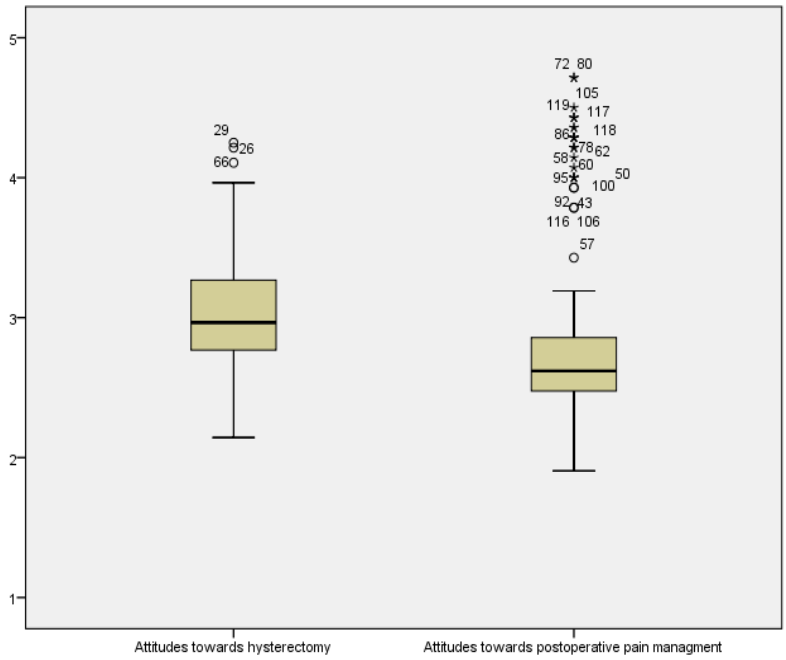


Figure 4. Boxplots of attitudes to hysterectomy and postoperative pain management.

Relationship Between Postoperative Pain Management and Hospital Length of Stay

For the analysis of the correlation between postoperative pain management and hospital length of stay after an abdominal hysterectomy See Table 7 for frequencies.

Table 7

Statistical Output of Frequencies for Hospital Length of Stay.

Days	Frequency	%LOS
1 Day	16	10.9
2 Days	10	6.8
3 Days	2	1.4
Total	28	19.0

Note. (*n*=28)

A Pearson correlation coefficient was computed to assess the relationship between the attitudes that patients have towards postoperative pain management, following an abdominal hysterectomy and the length of time they spend in the hospital before being discharged home. Bonferroni approach was used to control for type 1 error between both correlations. A *p* value of less than 0.01 was required for significance. There was a negative correlation between patients' attitudes towards postoperative pain management, and hospital length of stay $r = -.792$, n=28, $p < 0.001$. A scatter scatterplot summarizes the result. See Figure 5. The 95% confidence interval for the mean between the attitude towards hysterectomy and hospital length of stay was 2.25 to 3.02. Overall, the result suggests a strong negative correlation between patients' attitudes towards postoperative pain management and the length of time they spend in the hospital after an abdominal hysterectomy.

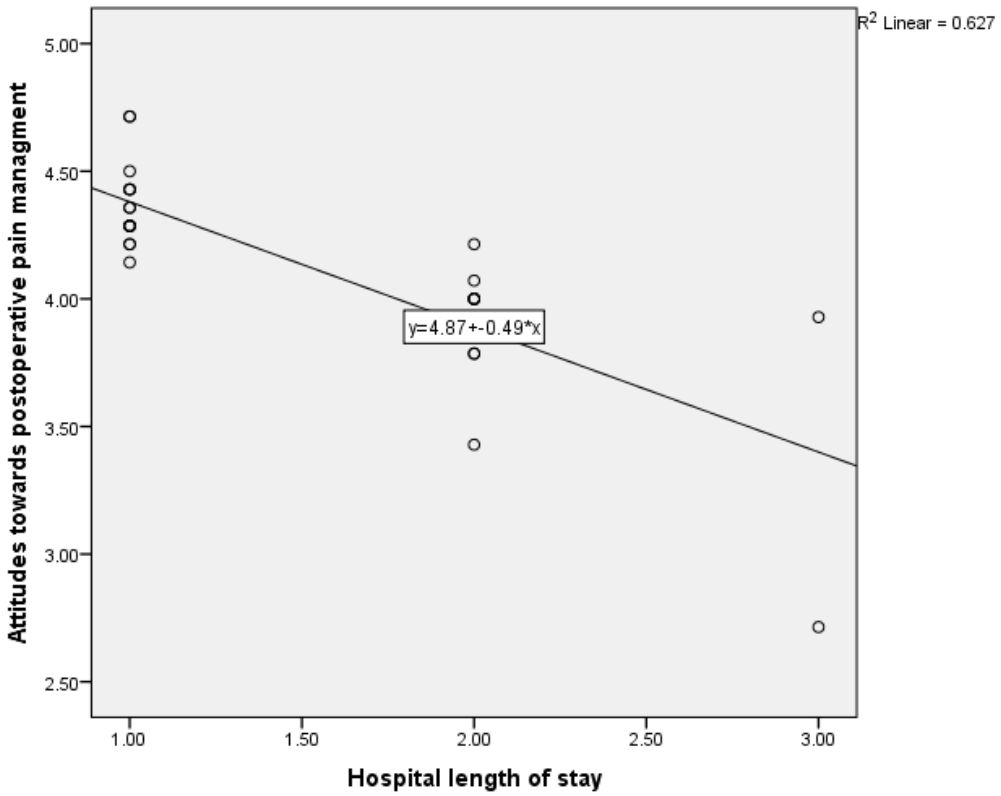


Figure 5. A bivariate scatterplot for attitudes towards hysterectomy and length of stay.

Summary

This section is organized according to the three research questions that expounds the purpose of this study. It wraps up the findings and justification of the analysis conducted. Result of the demographic analysis revealed the following:

Demographics

Age. The overall age of all participants from both sample groups in the study ranged from 25 to 68 years of age, with the oldest belonging to the nurses group. This is as expected because the age limit set for the patients' participants was 18 to 45 years of age.

Gender. The tremendous upset in the demographic was the fact that all; 100% of the participants were female. Only female samples were required for the patients' population. However, medical surgical nurses were expected to be a mix of both gender.

Race/ ethnicity. The largest racial group or ethnicity represented in the study were white/Caucasian with 40.8%. African Americans were 36% of the overall participants, Hispanics 12.9%, Asian/ Pacific Islanders 1.4? Native Americans 7% and at a distant 2% were those who identified self as other.

Level of education. This demographic variable was specific only to the nurse caregivers sample group. There were 53 nurses with a bachelors (BSN) degree. 47 nurses with an Associate degree (AND) in nursing, 11 nurses had Master's degree (MSN) Only 1 nurse had a degree higher than a MSN.

The second stage of the analysis focused on the independent variable (nurses and patients), and the dependent variables (Attitudes to hysterectomy, attitudes to postoperative pain management, Hospital length of stay). These were approached based on each research question.

Research Question 1 Results

RQ1: Is there a difference in the attitudes of patients and nurse caregivers towards abdominal hysterectomy?

The findings from the data analysis failed to reject the null hypothesis that there was a significant difference between the attitudes of patients and their nurse caregivers towards abdominal hysterectomy. Independent *t* tests disclosed *t* (137) = -062, p=.950. The mean and standard deviation for patients was (M= 3.04, SD = 0.31) and for Nurses

(M= 3.05, SD = 0.47). A Cohen *d* was further calculated and revealed a small effect size *d* = -0.02 between the nurses and patients' attitudes towards abdominal hysterectomy.

Research Question 2 Results

RQ2: What is the association between patients and nurses' attitudes toward abdominal hysterectomy and attitudes towards postoperative pain management.

To better answer this research question, it was segmented into two parts, creating a sub question to help answer the primary research question. Thus, the sub question or Part A addressed the attitudes that patients and their nurse caregivers had toward postoperative pain management, while part B answered the original; question regarding the association between the attitudes of both sample groups toward hysterectomy and postoperative pain management. The research question developed for Part A was: Is there a difference in the attitudes of patients and their nurse caregivers toward postoperative pain management. The hypothesis was:

$H_0 2_a$: There is no significant difference between the attitudes of patients and their nurse caregivers toward postoperative pain management.

$H_a 2_b$: There is a significant difference in the attitudes of patients and their nurse caregivers toward postoperative pain management

An independent sample t test analysis was conducted and there was a significant difference in the attitudes of patients and nurses toward postoperative pain management. With t (30.7) = 20.45, $p < 0.001$, the attitudes of patients (M = 4.14, SD = 0.39) Attitudes of nurses (M = 2.6, SD = 0.21). 95% confidence interval was narrow with a range of 1.4-1.7. Cohen's *d* was calculated for an effect size of *d* = 4.9.

Further, a paired sample *t* test was conducted to evaluate Part B of research question 2 which asked: What is the association between patients and nurses attitudes towards hysterectomy, and attitudes towards post-operative pain management. The paired sample *t* test was primarily utilized to evaluate the means between the attitudes of the two groups. The result of the analysis indicated that the mean attitudes toward hysterectomy (M = 3.04, SD = 0.44) was significantly greater than the mean attitudes toward postoperative pain management (M = 2.9, SD =0.68) t (138) 2.48, p = .015. No association was found between the attitudes towards hysterectomy and attitudes toward postoperative pain management.

Research Question 3 Results

RQ3: Is there a relationship between patients' attitudes towards postoperative pain management and the outcome measures of hospital length of stay?

This question was primarily focused on the patients' sample group. *P* value of ≤0.01 was required for significance. The result of a correlation analysis showed a negative significant correlation between attitudes held towards postoperative pain management and the length of time spent in the hospital. r = -.792, n=28, p <0.001, 95% confidence interval for mean between attitudes to postoperative pain management and hospital length of stay was 2.25 to 3.02. To control for type 1 error, a Bonferroni post hoc testing was performed.

What makes the results of this study rather interesting is that previous studies focused on attitudes towards hysterectomy, and attitudes towards postoperative pain management individually. None evaluated the association between the two variables and

its effect to how long a patient remains in the hospital after an abdominal hysterectomy. As such, even though findings did not explicitly answer all questions, it generated further queries on why results met or did not meet initial expectations. Therefore, this creates an opportunity for further research. The interpretation of the findings, limitations of the study, direction for future research, and the potential impact of the current study to positive social change will be discussed in chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

Over 500,000 hysterectomies are performed yearly in the United States (Nieboer et al., 2012), and abdominal hysterectomy is a common approach specifically for benign conditions such as bleeding and/or uterine fibroids (Kjolhede et al., 2012). However, this approach is not without significant unfavorable outcomes such as moderate to severe postoperative pain (Kjolhede et al., 2012; Perniola et al., 2013), which may lead to delayed discharge from the hospital based on recent research findings (Francis & Kilpatrick, 2012). Nurses on the other hand are the primary caregivers at the patients' bedside and are a bridge between the patients and the physicians when it comes to pain management. Due to the significant effect of postoperative pain management on certain factors such as healing time, length of days spent in the hospital after a surgical procedure, and the overall cost of healthcare, a considerable amount of research has been conducted on postoperative pain management. However, there were few if any studies with a focus on abdominal hysterectomies and comparing attitudes of patients and their nurse caregivers in relation to postoperative care.

The present study stemmed from other studies that have evaluated postoperative pain management. The current study stepped further by focusing its approach on abdominal hysterectomies while also evaluating attitudes to both abdominal hysterectomy and postoperative pain management. The primary purpose of the present study was to examine (a) the differences in the attitude of patients and their nurse caregivers toward abdominal hysterectomy, (b) the relationship between the patients' and

nurses' attitudes towards hysterectomy and attitudes towards postoperative pain management, and (c) the association between attitudes towards postoperative pain management and the outcome measure of hospital length of stay.

The attitudes that women in general have towards abdominal hysterectomy, either negative or positive, may not be so different. Factors such as age, race, and education may not cause a significant difference in how most women (nurses or patients) feel about hysterectomy. Conversely, attitudes held towards postoperative pain management differ between groups, depending on whether a person is a patient receiving care or the person giving care. The findings of this study further support H_a3 that alternatively predicated an association between postoperative pain management and hospital length of stay. The findings evince a need for studies that primarily focuses on the difference between patients and nurses with regards to managing pain after a hysterectomy, delving more into the specific ways to bridge the gap between theory and practice for nurses. Therefore, ensuring a more collaborative and positive pain management outcome for patients, and possible reduction in complications, and delayed hospital discharge after a surgical procedure.

Interpretation of the Findings

The goal of this quantitative study was to examine the relationship between two independent variables (patients and nurses) and three dependent variables (attitudes towards hysterectomy, attitudes towards postoperative pain management, and hospital length of stay). Although part of the findings from the current study did not support the hypothesis, it did confirm some previous research such as studies by Manias et al., 2005,

Ene et al., 2008, and Bell and Duffy, 2009, which found that beliefs and attitudes played a significant role in how nurses assess and respond to a patient's pain. This could provide a springboard for further studies focused on attitudes towards various operative procedures and the correlation to postoperative pain management. This is critical because postoperative pain management begins with a preoperative assessment of the patient and the development of a plan of care (Chou et al., 2016). The execution of a plan of care is often carried out by the nurse caregivers in collaboration with the patients. Thus, understanding attitudes towards specific procedures and pain management itself would not only help in the development of a care plan but also in the implementation of such plan.

These study findings are not merely for establishing a connection between attitudes and postoperative pain management. Rather, there is a potential for impacting healthcare insurers, policy makers, financial departments of health organizations, and more importantly, nurses' education, particularly in transitioning knowledge into practice, and patient education with regards to preoperative teaching. It is therefore logical to examine the findings of this study in relation to each of the research questions.

Findings of Research Question 1

RQ1 asked: Is there a difference in the attitudes of patients and medical surgical nurse caregivers towards abdominal hysterectomy? It was interesting that no statistical difference was found between patients' and nurses' attitudes towards hysterectomy, especially considering the study by Marvan et al. (2012), which indicated that both women and men in Mexico with lower education believed that women who had

hysterectomies would be incomplete. However, men scored higher in that aspect of devaluation than women with a similar level of education. Thus, findings of the present study tend to disconfirm those previous findings because education did not seem to impact how patients and nurses felt towards abdominal hysterectomy. Nonetheless, the study by Marvin et al. (2012) compared both men and women, while the current study only consisted of female participants. It can be deduced that regardless of level of education or race, women tend to have similar beliefs towards hysterectomy as a necessary procedure to alleviate or treat certain conditions.

Findings of Research Question 2

RQ2 asked: What is the association between patients and nurses attitudes toward abdominal hysterectomy and attitudes towards postoperative pain management? To better evaluate any relationship that may exist between the two dependent variables (attitudes towards hysterectomy and attitudes towards postoperative pain management), it was necessary to first examine the attitudes that nurses and patients had towards postoperative pain management itself. Thus, a sub question was posed, and it asked if there was a difference between patients' and nurses' attitudes toward postoperative pain management. The finding of this sub question was significant, and confirmed much of the findings from previous research that nurses' personal beliefs and attitudes can be a potential barrier to adequate postoperative pain management (Topolovec-Vranic et al., 2010). Their beliefs and attitudes affect how nurses assess and respond to patients' pain (Manias et al., 2005; Ene et al., 2008; Bell & Duffy, 2009). The scatterplot in Figure 3

shows a great divide with nurses' attitudes on the opposite end of patients' attitudes towards postoperative pain management.

The uniqueness of this finding was that no linear relationship existed in the attitudes of patients and nurses towards postoperative pain management. However, there was a great disparity in the attitudes held by both groups towards postoperative pain management. This further begs the question of how both groups can collaborate (Elvir-Lazo & White, 2010) in their effort to provide effective postoperative pain management if their attitudes towards this single dependent variable are so different. The extreme of the attitudes held by the two groups further confirms findings from the study by Manias et al (2005), which posited that nurses continue to trivialize patients' reports of pain. Therefore, the findings of the current study, though they may raise further questions, provide a direction for educational programs to help bridge this significant gap between how nurses and patients think or feel about postoperative pain management.

The second primary question of RQ2 asked if there was an association between attitudes held by patients and nurses towards hysterectomy and the attitudes towards postoperative pain management. Analysis showed that no association existed between the attitudes held towards hysterectomy and attitudes held by either group towards postoperative pain management. Attitudes towards a specific operative procedure such as an abdominal hysterectomy does not correlate to how either group feels about postoperative pain management. The fact that nurses and patients may both hold a positive attitude towards a woman undergoing an abdominal hysterectomy does not correlate to a positive attitude towards how pain is assessed, reported, or managed.

One explanation for the discrepancy could be as postulated by Dihle et al. (2006) that nurses lack the practical assessment of pain, viewing pain as an expected component of surgical outcome. As such, nurses' perceptions of a patient's pain (M = 2.6, SD = 0.21) were much lower than those of patients. Conversely, patients hold an underlying fear of predisposition to addiction (Klopper et al., 2006), resulting in a higher pain perception (M = 4.14, SD = 0.39), and if their nurse caregivers trivialize their pain, this further suppresses their eagerness to communicate their pain, fearing judgement or disbelief (Klopper et al, 2006; Bell & Duffy, 2009). TRA propounds that individuals make decisions based on available information and the expected consequences of an action or behavior. This could apply in two ways. First, patients fail to report pain because they are made by their nurse care givers to believe that pain is inevitable with regards to operative procedures such as abdominal hysterectomy, and if reported, there may be unpleasant consequences. Second, the findings of this current study provide critical information for nurses to change their approach to pain management.

Findings of Research Question 3

RQ3 asked if there was a relationship between the attitude of nurses and patients towards post-operative pain management and the outcome measure of hospital length of stay. A strong negative correlation was found. Generally, it cannot be concluded that patients' and nurses' attitudes towards postoperative pain management determines how long patients remain in the hospital following an abdominal hysterectomy. However, findings suggest that some relationship exists between the two variables. This opens the gateway for more thorough research that focuses on the types of attitudes that patients

may have towards abdominal hysterectomy and their effect on hospital length of stay. One deduction from the findings of this question substantiates previous studies where results indicated that the higher the intensity of a patient's pain, the longer they stayed in the PACU (Ganter et al., (2014). Although the previous study was focused on the immediate postoperative period, it did shine some light into the effect of pain on recovery. Moreover, other studies (Ayalon et al., 2012; Bryson et al., 2010; Hong & Lee, 2014) also found that postoperative pain can lead to complications, thus increasing the length of days that a patient remains in the hospital following a gynecological surgery such as an abdominal hysterectomy. The result of these previous studies circles back to the findings of the present study, which shows that as attitude moves in a positive direction, length of hospital stay decreases. Ultimately, this finding provides a peak into how attitude may intensify postoperative pain, hence increasing length of hospital stay.

The finding of this current study raises a cautious excitement because while it appears significant, it does not claim to provide a direct answer to the ongoing issue where 50% to 75% of patients do not receive adequate postoperative pain management (Chung & Lui, 2003). A situation that that the CDC refer to as a major healthcare concern. What's exciting is that this finding provides an interlude for both patients and healthcare employees in determining the aspect of teaching that could be utilized for both nursing education, and preoperative patient education to help reduce the intensity and complications of poor postoperative pain management that could increase the time a patient remains in the hospital following an operative procedure, and the cost that it places on patients, families, healthcare organizations and payors.

Limitations of the Study

While the result of this study could significantly extend knowledge, and contribute to further research regarding nurse and patient relationship, bridging the gap between theory and practice for nurses (Abdalrahim et al., 2009; Carr, 2007; Topolovec-Vranic et al., 2010; Yava et al., 2013) and the overall management of postoperative pain (Ayalon et al., 2011; Bell & Duffy, 2010; Chung & Lui, 2003; Ward, 2014). There are certain limitations to ponder. Generalizability is limited in this study for several reasons, particularly due to the number of participants and the sampling method. Although the study had enough participants, there was an imbalance in the representation from the patients' participant group. There were also no male nurses among the participants. It is possible that a larger number of participants from the patients' group and the representation of male nurses would have allowed more generalization. A G*power analysis was utilized to ensure selection of adequate sample size, yield significant results, and minimize the possibility for a type I or type II error (Frankfort-Nachmias & Nachmias, 2008). Generalizability must be limited to the organization where recruitment occurred.

Historical and recall bias is another concern as a limitation in this study. Pannucci and Wilkins (2010) asserted that recall bias is more likely when exposure and disease status are both known at the time of study. In this case, participants were already within 6 months to a year of their procedures and could very well recall the events differently from what they were. Nonetheless, validated scales were used for data collection. Another limitation was the cross-sectional design of the study. Although it allowed for a

nonrandom assignment of participants in groups (Frankfort-Nachmias & Nachmias, 2008), it limited the ability to control the independent variables in this study, hence limiting the ability to draw unambiguous conclusions.

Recommendations

The premise for the current study emanates from a plethora of previous studies asserting that postoperative pain management is an enduring issue in the healthcare industry (NIH, 2015; Ayalon et al, 2011; Bell & Duffy, 2010; Chung & Lui, 2003;). Although previous researchers concurred that nurses play a significant role in pain management, and that a gap existed between nurses theoretical understanding of pain management and actual practice, there was a dearth of research into the nurse-patient relationship, and postoperative pain management. As such, the current study followed a logical series of research questions aiming to advance nurses and patients' knowledge about hindrances to adequate postoperative pain management. Doing so may help to limit the occurrence of unsatisfactory pain management, and the complications that may lead to a lengthy hospital stay after an operative procedure.

Recommendations for a larger study is imperative, and it should include a larger sample size, and should comprise of both female and male nurses. This would assure confidence and allow for inferences to a larger population. Moreover, it would be important to replicate the study with other gynecological procedures, and employ other study site in addition to the current site. Future studies should also consider the possibility of a prospective observational studies which would eliminate the concern over historical and recall bias. Finally, future researchers should consider utilization of a

qualitative approach to better assess the emerging themes from women who have undergone abdominal hysterectomy and their nurse caregivers. This could possibly uncover confounding variables influencing attitudes to postoperative pain management and hospital length of stay.

Implications for Social Change

Previous studies (Ward, 2014; Ayalon et al, 2011; Bell & Duffy, 2010) have found that inadequate postoperative pain management can result in several complications, that can ultimately extend a patient's stay in the hospital. This can translate to an increased financial burden on the patient, the hospital and the payers. In addition, nurses are at the forefront of pain management because they are the primary caregivers when the patient is in the hospital, and nurse's strong foundation in pain management and their attitude can play a significant role in relieving pain related discomfort for patients, which can help to increase their quality of life (Yava et al, 2013). Evidently, the findings of this study bear the ability to impact positive social change in various societal levels beginning with the individual, family, health organizations, educational organizations, healthcare payers, the community and ultimately the nation.

The immediate social change of this study affects the educational, clinical and research community. Specifically, this current study fosters the need to further explore attitudes that patients and nurses hold towards certain surgical procedures, and its effect on postoperative pain management. Secondly, pertaining to education, nursing schools and healthcare organizations can develop a more focused approach to attitudinal teaching

that would help to bridge the gap between theoretical knowledge, and the practical application of pain management from assessment to intervention and evaluation.

The most ardent social change implication maybe to the individual patient. Studies show that many patients are not reporting their pain, and suffering in silence because they fear that nurses may perceive them negatively (Topolovec-Vranic.et al., 2010; Carr, 2007). As such, healthcare organizations can add the findings of this study to preoperative teaching. Doing so will both enlighten the patient on the fact that pain is not necessary an expected outcome, it should be reported, and more importantly that nurses are their partners in postoperative pain management. This would not only empower the patient to collaborate with their nurse caregivers, but help them understand how certain attitudes may hinder pain management and healing. In a broader context, the theory of reasoned action (TRA) propounds that most of, much of human behaviors are intentional. Thus, patients' opinion or perception of what people in authority (nurses) expects from them. Would enable them to be more proactive in their post-operative pain management, leading to faster recovery.

Further implications for social change on organizational or community level include policy and procedure changes. For instance, incorporating initial attitudinal and pain management education, and ongoing in-service education to all nursing staff. Procedure changes regarding pre-and post-operative education for patients admitted for surgical procedures. These probable changes can expand beyond individual and organization to a national level with regards to the national healthcare cost. Specifically, as to the cost of managing postoperative complications (NIH, 2015; CDC, 2012) most of

which are a direct result of inadequate pain management. Although this current study is not expected to single-handedly cause an overwhelming social change impact, it is however expected to make a dent in the ongoing discussion on improving postoperative pain management.

Conclusion

The primary reason for utilizing an exploratory design was to gain insight into an area of study with very few literatures. As such, it can be concluded that the goal of this study was met. The results of this study were consistent with previous research and further provided new insight into the importance of nurse/patient attitudes and relationship to post-operative pain management. It also highlights an important incentive for educational organizations to provide a practical pain management educational approach to their nurses in addition to the theoretical knowledge. At the same time, healthcare organizations can incorporate attitudinal education to patient pre-operative teaching before admission to the hospital.

Despite its limitations, the ramifications of this study can provide an impetus for immediate social change. Particularly in the research community regarding replication of the current study, and future research to better ascertain how attitudes affect different operative procedures and subsequent post-operative pain management. Evaluating the findings of the current study opens a well of questions, and possible direction for further research involving nurses and patients as collaborators in pain management. Shifting from the direction of previous studies that focuses on the pharmaceutical aspects of post-operative pain management rather than the human aspect. Ultimately, the overreaching

goal is to reduce inadequate postoperative pain management, and its complications. This would provide faster healing that sends individuals back to the community after an operative procedure. Thereby, reducing the financial burden on individuals, organizations, community and the nation.

References

Abdalrahim, M. S., Majali, S. A., & Bergbom, I. (2008, March). Documentation of postoperative pain by nurses in surgical wards. *Acute Pain, 10,* 73-81. http://dx.doi.org/10.1016/j.acpain.2008.04.001

Abdalrahim, M. S., Majali, S. A., Stomberg, M. W., & Bergbom, I. (2011, July). The effect of postoperative pain management program on nurses' knowledge and attitudes toward pain. *Nurse Education in Practice, 11*(4), 250-255. http://dx.doi.org/10.1016/j.nepr.2010.11.016

Al Samaraee, A., Rhind, G., Saleh, U., & Bhattacharya, V. (2010). Factors contributing to poor post-operative abdominal pain management in adult patients: a review. *The surgeon: journal of the Royal Colleges of Surgeons of Edinburgh and Ireland*, 8. 151-8. http://dx.doi.org/10.1016/j.surge.2009.10.039.

Allen, R. D. (2008). *The genesis principle of leadership: Claiming and cultivating your creative capacity.* Mustang, OK: Tate Publishing.

Arbel, R., Stanleigh, J., & Loscovich, A. (2013). Pain management following abdominal hysterectomy:Novel approaches and review of the literature. *Journal of Clinical Gynecology and Obstetrics, 2*(2), 51-55. Retrieved from file:///C:/Users/blessing/Downloads/130-865-1-PB.pdf

Askew, J. (2009, August 1). A qualitative comparison of women's attitudes toward hysterectomy and myomectomy. *Health Care for Women International, 30*(8), 728-742. http://dx.doi.org/10.1080/07399330903018427

Aurangzeb, Islam, H., Ishfaq, I., Bibi, R., Bashi, S., Khan, S., ... Shabbir, S. (2013).

Indications of abdominal hysterectomy. *Annals of Pakistan Institute of Medical Sciences, 9*(1), 30-32. Retrieved from http://www.pakmedinet.com/APIMS

Ayalon, O., Liu, S., Flics, S., Cahill, J., Juliano, K., & Cornell, C. N. (2011, February). A multimodal clinical pathway can reduce length of stay after total knee arthroplasty. *HSS Journal, 7*(1), 9-15. http://dx.doi.org/10.1007/s11420-010-9164-1

Banu, N. S., & Manyonda, I. T. (2005). Alternative medical and surgical options to hysterectomy. *Best Practice & Research: Clinical Obstetrics & Gynecology, 19*(3), 431-449. http://dx.doi.org/10.1016/j.bpobgyn.2005.01.006

Basket, T. F. (2005). Hysterectomy: Evolution and trends. Best Practice & Research *Clinical Obstetrics & Gynaecology, 19*(3), 295-305. http://dx.doi.org/10.1016/j.bpobgyn.2004.11.007

Bell, L., & Duffy, A. (2009, January). Pain assessment and management in surgical nursing: A literature review. *British Journal of Nursing, 18*(13), 153-156. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19223798

Bryson, G. L., Charapov, I., Krolczyk, G., Taljaard, M., & Reid, D. (2010, August). Intravenous lidocaine does not reduce length of hospital stay following abdominal hysterectomy. *Canadian Journal of Anaesthesia, 57*(8), 759-766. http://dx.doi.org/10.1007/s12630-010-9332-2.

Carney, J., McDonell, J. G., Ochana, A., Bhinder, R., & Laffey, J. G. (2008, December). The Transversus abdominis plane block provides effective postoperative analgesia in patients undergoing total abdominal hysterectomy. *Anesthesia & Analgesia,*

107(6), 2056-2060. http://dx.doi.org/10.1213/ane.0b013e3181871313.

Carr, E. (2007, May). Barriers to effective pain management. *Journal of Perioperative Practice, 17*(5), 200-2003, 206-208. Retrieved from http://www.afpp.org.uk/books-journals/Journal-of-Perioperative-Practice

Centers for Disease Control and Prevention. (2013). Descriptive and Analytic Studies. Retrieved from http://www.cdc.gov/globalhealth/fetp/training_modules/19/desc-and-analytic-studies_ppt_final_09252013.pdf

Chung, J. W., & Lui, J. C. (2003, March). Postoperative pain management: Study of patients' level of pain and satisfaction with health care providers' responsiveness to their reports of pain. *Nursing & Health Sciences, 5*(1), 13-21. http://dx.doi.org/ 10.1046/j.1442-2018.2003. 00130.x

Chou, R., Gordon D.B., Leon-Casasola, O.A., et al. (2016). Management of postoperative pain: A clinical practice guideline from the American Pain Society, the American Society of Regional Anesthesia and Pain Medicine, and the American Society of Anesthesiologists' Committee on Regional Anesthesia, executive committee, and administrative council. *The Journal of Pain. 17*(2),131-157. http://dx.doi.org/10.1016/j.jpain.2015.12.008.

Dallal, R. M., & Trang, A. (2012, March). Analysis of perioperative outcomes, length of hospital stay, and readmission rate after gastric bypass. *Surgical Endoscopy, 26*(3), 754-758. http://dx.doi.org/10.1007/s00464-011-1947-z

Darjee, D., Dungpaeng, S., & Masingboon, K. (2013). Factors related to postoperative pain management among nurses in Jigme Dorgi Wangchuck National referral

hospital, Thimphu, Bhutan. *Journal of Science, Technology and Humanities, 11*(1), 43-48. Retrieved from http://digital_collect.lib.buu.ac.th/ojs/index.php/huso/article/view/2764

De Silva, B. S., & Rolls, C. (2011). Attitudes, beliefs, and practices of Sri Lankan nurses toward cancer pain management: an ethnographic study. *Nursing & Health Science, 13(*4), 419-424.http://dx.doi.org/10.1111/j.1442-2018.2011.00635.x

Dessources, K., Hou, J. Y., Tergas, A. L., Burke, W. M., Ananth, C. V., Prendergast, E., ... Neugut, A. L. (2015, February). Factors associated with 30-day hospital readmission after hysterectomy. *Obstetrics & Gynecology, 125*(2), 461-470. http://dx.doi.org/0.1097/AOG.0000000000000623

Dihle, A., Bjolseth, G., & Helseth, S. (2006). The gap between saying and doing in postoperative pain management. *Journal of Clinical Nursing, 15*(4), 469-479. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16553761

Donnez, O., Jadoul, P., Squifflet, J., & Donnez, J. (2008, November 13). A series of 3190 laparoscopic hysterectomies for benign disease from 1990 to 2006: evaluation of complications compared with vaginal and abdominal procedures. *BJOG: An International Journal of Obstetrics & Gynaecology, 116*(4), 492-500. http://dx.doi.org/10.1111/j.1471-0528.2008.01966.x

Dwyer, T., Williams, M. L. (2002). Nurses' behavior regarding CPR and the theories of reasoned action and planned behavior. *Resuscitation, 52*(1), 85-90. http://dx.doi.org/10.1016/S0300-9572(01)00445-2

Edwards, H. E., Nash, R. E., Najman, J. M., Yates, P. M., Dewar, A., Walsh, A. M., . . .

Skerman, H. M. (2001, September). Determinants of nurses' intention to administer opioids for pain relief. *Nursing and Health Sciences, 3*(3), 149-159. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11882191

Edwards, H. E., Nash, R. E., Yates, P. M., Walsh, A. M., Fentiman, B. J., McDowell, J. K., . . . Najman, J. M. (2001, March). Improving pain management by nurses: A pilot peer intervention program. *Nursing and Health Sciences, 3*(1), 35-45. Retrieved from http://eprints.qut.edu.au/500/1/edwards_improving.PDF

E Ho, S., Ho, C., Pang Y, H., L, R., Choy, Y., Z Jaafar, M., Cardosa, M., Das, S., (2013). A study of knowledge and attitudes of registered nurses towards pain management in an urban hospital. *La Clinica terapeutica*. *164* (3), 215-219. http://dx.doi.org/10.7417/CT.2013.1551.

Elvir-Lazo, O. L., & White, P. F. (2010). The role of multimodal analgesia in pain management after ambulatory surgery. *Current Opinion in Anesthesiology, 23,* 697-703. http://dx.doi.org/10.1097/ACO.0b013e32833fad0a

Ene, K. W., Nordberg, G., Bergh, I., Johansson, F. G., & Sjostrom, B. (2008, August). Postoperative pain management- The influence of surgical ward nurses. *Journal of Clinical Nursing, 17*(15), 2042-2050. http://dx.doi.org/ 10.1111/j.1365-2702.2008. 02278.x

Fitzner, K., & Heckinger, E. (2010, September/October). Sample size calculation and power analysis: A quick review. *Diabetes Educator, 36*(5), 701-707. http://dx.doi.org/10.1177/0145721710380791

Fowler, F. J. (2014). *Survey research methods.* Thousand oaks: Sage Publications.

Francis, L., & Fitzpatrick, J. J. (2013, December). Postoperative pain: Nurses' knowledge and patients' experiences. *Pain Management Nursing, 14*(4), 351-357. http://dx.doi.org/10.1016/j.pmn.2012.05.002

Frankfort-Nachmias, Chava, and David Nachmias. (2008). *Research Methods in the Social Sciences.* New York: Worth Publishers

Ganter, M. T., Blumenthal, S., Dubendorfer, S., Brunnschweiler, S., Hofer, T., Klaghofer, R., . . . Hofer, C. J. (2014, November). The length of stay in the post-anesthesia care unit correlates with pain intensity, nausea and vomiting on arrival. *Perioperative Medicine, 3*(10). http://dx.doi.org/10.1186/s13741-014-0010-8

Garry, R. (2005, February). The future of hysterectomy. *British Journal of Obstetrics and Gynecology, 112,* 133-139. http://dx.doi.org/10.1111/j.1471-0528.2004.0043.x

Garry, R., Fountain, J., Mason, S., Napp, V., Brown, J., Hawe, J., . . . Phillips, G. (2004, January 17). The evaluate study: Two parallel randomized trials, one comparing laparoscopic with abdominal hysterectomy, the other comparing laparoscopic with vaginal hysterectomy. *British Medical Journal, 328*(7432), 129. http://dx.doi.org/10.1136/bmj.37984.623889.F6

Good, M., Stanton-Hicks, M., Grass, J. A., Anderson, G. C., Makii, M., & Geras, J. (2000, September). Pain after gynecologic surgery. *Pain Management Nursing, 1*(3), 96-104. http://dx.doi.org/ 10.1053/jpmn.2000.9857

Gordon, D. B., Dahl, J. L., Miaskowski, C., McCarberg, B., Todd, K. H., Paice, J. A., ... Car, D. B. (2005, July). American pain society recommendations for improving the quality of acute and cancer pain management: American Pain Society Quality

of Care Task Force. Archives of Internal Medicine, 165(14), 1574-1580. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16043674

Green, S. B., & Salkind, N. J. (2011). *Using SPSS for Windows and Macintosh: Analyzing and understanding data* (6th ed.). Upper Saddle River, NJ: Prentice Hall.

Grimes, D. A., & Schulz, K. F. (2002, January 12). Descriptive studies: what they can and cannot do. *Lancet, 359,* 145-149. Retrieved from http://www.m-publichealth.med.uni-muenchen.de/download/mph/mph_wintersemester_2012_2013/epidemiologie/epi grimesdescriptive.pdf

Grinstein-Cohen, O., Sarid, O., Attar, D., Pilpel, D., & Elhayany, A. (2009, September/October). Improvements and difficulties in postoperative pain management. *Orthopaedic Nursing, 28*(5), 232-239. http://dx.doi.org/10.1097/NOR.0b013e3181b579ec

Gunningberg, L., & Idvall, E. (2007). The quality of postoperative pain management from the perspectives of patients, nurses and patient records. *Journal of Nursing Management, 15,* 756-766. http://dx.doi.org/10.1111/j.1365-2934.2006.00753.x

Gupta, A., Perniola, A., Axelsson, K., Thorn, S. E., Crafoord, K., & Rawal, N. (2004). Postoperative pain after abdominal hysterectomy: A double-bind comparison between placebo and local anesthetic infused intraperitoneally. *Anesthesia & Analgesia, 99,* 1173-1179. http://dx.doi.org/10.1213/01.ANE.0000130260.24433.A2

Harrington, P. (2014, August 5). Prevention of surgical site infection. *Nursing Standard, 28*(48), 50-58. http://dx.doi.org/10.7748/ns.28.48.50.e8958

Hayes, K., & Gordon, D. B. (2015, March). Delivering quality pain management: The challenge for nurses. AORN Journal, 101(3), 327-337. http://dx.doi.org/10.1016/j.aorn.2014.11.019

Hess, D. R. (2004, October). Retrospective studies and chart reviews. *Respiratory Care, 49*(10), 1171-1174. Retrieved from http://www.rcjournal.com/contents/10.04/10.04.1171.pdf

Hong, S., & Lee, E. (2014, April). Comparing effects of intravenous patient-controlled analgesia and intravenous injection in patients who have undergone total hysterectomy. *Journal of Clinical Nursing, 23*(7/8), 967-975. http://dx.doi.org/10.1111/jocn.12221

Howell, D. C. (2010). *Statistical methods for psychology*, Seventh Edition. Belmont, CA: Wadsworth Cengage Learning

Hutchinson, R. W. (2007, March). Challenges in acute post-operative pain management. *American Journal of Health-System Pharmacy, 64*(6), S2-5. http://dx.doi.org/10.2146/ajhp060679

HysterSisters: Woman-to-Woman Hysterectomy Support. (2015). *About HysterSisters,* Retrieved from http://www.hystersisters.com/vb2/view_aboutus.html

Hysterectomy Association. (n.d.). Hysterectomy Granulation and Post Op Bleeding. http://www.hysterectomy-association.org.uk/hysterectomy-recovery/hysterectomy-granulation-and-post-op-bleeding/

Idvall, E., Hamrin, E., Liselotte, R., & Sjostrom, B. (1999, December). A tentative model for developing strategic and clinical nursing quality indicators: Postoperative pain management. *International Journal of Nursing Practice, 5*(4), 216-226. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/10839032

Idvall, E., Hamrin, E., Sjostrom, B., & Unosson, M. (2001, January). Quality indicators in postoperative pain management: a validation stud. Scandinavian Journal of *Caring Science, 15*(4), 331-338. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12453175

Idvall, E., Hamrin, E., & Unosson, M. (2002, March 15). Development of an instrument to measure strategic and clinical quality indicators in postoperative pain management. *Journal of Advanced Nursing, 37*(6), 532-540. http://dx.doi.org/10.1046/j.1365-2648.2002.02130.x

Idvall, E., & Rooke, L. (1998, November). Important aspects of nursing care in surgical wards as expressed by nurses. *Journal of Clinical Nursing, 7*(6), 512-520. Retrieved from Important aspects of nursing care in surgical wards as expressed by nurses

International Association for the Study of Pain. (2012). http://www.iasp-pain.org/Taxonomy#Pain

International Association for the Study of Pain website. (2012). *IASP taxonomy.* Retrieved from http://www.iasp-pain.org/Taxonomy#Pain

John Hopkins Medicine. (n.d.). Hysterectomy. http://www.hopkinsmedicine.org/healthlibrary/test_procedures/gynecology/hyster

ectomy_procedure_92,P07777

Johnson, N., Barlow, D., Lethaby, A., Tavender, E., Curr, L., & Garry, R. (2005, June 25). Methods of hysterectomy: systematic review and meta-analysis of randomized controlled trials. *British Medical Journal, 750*(7506), 1478. http://dx.doi.org/10.1136/bmj.330.7506.1478

Kai, W. (2014, June). Total abdominal hysterectomy complication. *Dissector, 42*(1), 36-38. Retrieved from http://connection.ebscohost.com/c/articles/96883574/total-abdominal-hysterectomy-complication

Kandola, D., Banner, D., O'Keefe-McCarthy, S., & Jassal, D. (2014, August 1st). Sampling methods in cardiovascular nursing research: An overview. *Canadian Journal of Cardiovascular Nursing, 24*(3), 15-18. Retrieved from https://www.cccn.ca/content.php?doc=21

Karp, D., Huerta, J. M., Dobbs, C. A., Dukes, D. L., & Kenady, K. (2008). Medical record documentation for patient safety and physician defensibility. Medical Insurance Exchange of California. Retrieved from http://www.miec.com/Portals/0/pubs/MedicalRec.pdf

Kelly, M., Sharp, L., Dwane, F., Kelleher, T., & Comber, H. (2012). Factors predicting hospital length-of-stay and readmission after colorectal resection: A population-based study of elective and emergency admissions. *BMC Health Services Research, 12*(77). http://dx.doi.org/10.1186/1472-6963-12-77

Kent, T. S., Sachs, T. E., Callery, M. P., & Vollmer, C. M. (2011, October). Readmission after major pancreatic resection: A necessary evil? *Journal of the American*

College of Surgeons, 213(4), 515-523. http://dx.doi.org/10.1016/j.jamcollsurg.2011.07.009

Khan, N. A., Quan, H., Bugar, J. M., Lemaire, J. B., Brant, R. and Ghali, W. A. (2006), Association of Postoperative Complications with Hospital Costs and Length of Stay in a Tertiary Care Center. *Journal of General Internal Medicine, 21,* 177–180. doi:10.1111/j.1525-1497.2006. 00319.x

Kjolhede, P., Woodlin, N. B., Nilsson, L., Fredrikson, M., & Wijma, K. (2012, May). Impact of stress coping capacity on recovery from abdominal hysterectomy in a fast-track programme: a prospective longitudinal study. BJOG, 119, 998-1007. http://dx.doi.org/10.1111/J.1471-0528.2012.03342.X

Klopper, H., Andersson, H., Minkkinen, M., Ohlsson, C., & Sjostrom, B. (2006, February). Strategies in assessing postoperative pain- A South African study. *Intensive Critical Care Nursing, 22*(1), 12-21. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16005235

Kluivers, K. B., Opmeer, B. C., Geomini, P. M., Bongers, M. Y., Vierhout, M. E., Bremer, G. L., & Mole, B. W. (2008). Women's preference for laparascopic or abdominal hysterectomy. *Gynecological Surgery, 6,* 223-228. http://dx.doi.org/10.1007/s10397-008-0455-1

Lachman, V. D. (2012, March/April). Applying the ethics of care to your nursing practice. MEDSURG Nursing, 21(2), 112-114. Retrieved from https://www.amsn.org/professional-development/periodicals/medsurg-nursing-journal

Landeen, L. B., Bell, M. C., Hubert, H. B., Bennis, L. Y., Knutsen-Larsen, S. S., & Seshadri-Kreaden, U. (2011, June). Clinical and cost comparisons for hysterectomy via abdominal, standard laparoscopic, vaginal and robot-assisted approaches. *South Dakota Medicine: A Journal of the South Dakota State Medical Association, 64*(6), 197-9,201,203. Retrieved from http://www.sdsma.org/

Landers, R. N., & Behrend, T. S. (2015). An inconvenient truth: Arbitrary distinctions between organizational, Mechanical Turk, and other convenience samples. *Industrial and Organizational Psychology: Perspectives on Science and Practice, 8*(2), 1-23

Layman Young, J., Horton, F. M. & Davidhizar, R. (2006), Nursing attitudes and beliefs in pain assessment and management. *Journal of Advanced Nursing, 53*, 412–421. doi:10.1111/j.1365-2648.2006. 03735.x

Lawshe, C. S. (1975). A quantitative approach to content validity. *Personnel Psychology, 28*, 563-575. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.460.9380&rep=rep1&type=pdf

Liang, S. Y., Heng-Hsin, T., Shu-Fang, W., Shiow-Luan, T., Tsae-Jyy, W., Kang-Pan, C., Yu-Yin, L. (2013). 1.Concerns About Pain and Prescribed Opioids in Taiwanese Oncology Outpatients. *Pain Management Nursing, 14* (4), 336 – 342. http://dx.doi.org/10.1016/j.pmn.2011.08.004

Lord, B. (2004) Pain Control: The Paramedic's Role in Pain Management. *American Journal of Nursing*, 104, 50-53. http://dx.doi.org/10.1097/00000446-200411000-

00026

Lorentzen, V., Hermansen, I. L., & Botti, M. (2012, February). A prospective analysis of pain experience, beliefs and attitudes, and pain management of a cohort of Danish surgical patients. *European Journal of Pain, 16*(2), 278-288. http://dx.doi.org/10.1016/j.ejpain.2011.06.004

Lui, L. Y., So, W. K., & Fong, D. Y. (2008, August). Knowledge and attitudes regarding pain management among nurses in Hong Kong medical units. *Journal of Clinical Nursing, 17*(15), 2014-2021. http://dx.doi.org/10.1111/j.1365-2702.2007.02183.x

Mackintosh, C. (2007, October). Assessment and management of patients with post-operative pain. *Nursing Standard, 22*(5), 49-55. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/17977139

Manias, E., Botti, M., & Bucknall, T. (2006, June). Patients' decision- making strategies in managing postoperative pain. *Journal of Pain, 7*(6), 428-437. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/16750799

Manias, E., Bucknall, T., & Botti, M. (2005, March). Nurses' strategies for managing pain in the postoperative setting. *Pain Management Nursing, 6*(1), 18-29. http://dx.doi.org/10.1016/j.pmn.2004.12.004

Marvan, M. L., Quiros, V., Lopez-Vazquez, E., & Ehrenzweig, Y. (2012, May 23). Mexican beliefs and attitudes toward hysterectomy and gender-role ideology in marriage. *Health Care for Women International, 33*(6), 511-524. http://dx.doi.org/10.1080/07399332.2011.610540

McCaffery, M., Ferrell, B. R., & Pasero, C. (2000, September). Nurses' personal

opinions about patients' pain and their effect on record assessments and titration of opioid doses. *Pain Management Nursing, 1*(3), 79-87. http://dx.doi.org/doi: 10.1053/jpmn.2000.9295

McDonnell, J. G., O'Donnell, B., Curley, G., Heffernan, A., Power, C., & Laffey, J. G. (2007, January). The analgesic efficacy of transversus abdominis plane block after abdominal surgery: a prospective randomized controlled trial. *Anesthesia & Analgesia, 104*(1), 193-197. http://dx.doi.org/ 10.1213/01.ane.0000250223.49963.0f

McMillan, S. C., Tittle, M., Hagan, S., Laughlin, J., & Tabler, R. (2000, October 1). Knowledge and attitudes of nurses in veterans' hospitals about pain management in patients with cancer. *Oncology Nursing Forum, 27*(9), 1415-1423. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11058973

McNamara, M. C., Harmon, D. C., & Saunders, J. (2012, August). Effect of education on knowledge, skills and attitudes around pain. *British Journal of Nursing, 21*(16), 13-26. http://dx.doi.org/10.12968/bjon.2012.21.16.958

Medicare.gov. (n.d.). 30-day unplanned readmission and death measures. Retrieved from http://www.medicare.gov/hospitalcompare/Data/30-day-measures.html?AspxAutoDetectCookieSupport=1

Merkow, R. P., Ju, M. H., Chung, J. W., Hall, B. L., Cohen, M. E., Williams, M. V., ... Ko, C. Y. (2015, February). Underlying reasons associated with hospital readmission following surgery in the United States. *Journal of American Medical Association, 313*(5), 483-495. http://dx.doi.org/10.1001/jama.2014.18614.

Middleton, C. (2004, January). Barriers to the provision of effective pain management. *Nursing Times, 100*(3), 42-45. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/14963960

Miller, A. L., Jasheway, P. A., Eaton, W., & Christensen, F. (2006, June). A retrospective, descriptive study of shoulder outcomes in outpatient physical therapy. *Journal of Orthopaedic & Sports Physical Therapy, 36*(6), 404-414. Retrieved from http://www.jospt.org/

Milutinovic, D., Milavanovic, V., Pjevic, M., Cvejin, M. M., & Cigic, T. (2009, February 1). Assessment of quality of care in acute postoperative pain management. *Vojnosanitetski Pregled, 66*(2), 156-162. http://dx.doi.org/http://www.doiserbia.nb.rs/img/doi/0042-8450/2009/0042-84500902156M.pdf

National EMSC Data Analysis Resource Center website. (2010). http://www.nedarc.org/

National Institutes of Health. (n.d.). Subjective Norm. Retrieved from http://chirr.nlm.nih.gov/subjective-norm.php

National Institutes of Nursing Research. (2010). Pain Management. Retrieved from https://report.nih.gov/NIHfactsheets/Pdfs/PainManagement(NINR).pdf

Nieboer, T. E., Hendriks, J. C., Bongers, M. Y., Vierhout, M. E., & Kluivers, K. B. (2012, January). Quality of life after laparoscopic and abdominal hysterectomy. Obstetrics & Gynecology, 119(1), 85-91. Retrieved from https://colegiogineslp.files.wordpress.com/2012/01/laparoscopia-vs-laparotomia-en-calidad-de-vida.pdf

Nilsson, L., Wodlin, N. B., & Kjolhede, P. (2012). Risk factors for postoperative complications after fast-track abdominal hysterectomy. The Australian and New Zealan Journal of Obstetrics and Gynaecology, 52, 113-120. http://dx.doi.org/10.1111/j.1479-828X.2011.01395.x

Pannucci, C J, & Wilkins, E. G. (2010, August). Identifying and avoiding bias in research. *Plastic and Reconstructive Surgery, 126*(2), 619-625.http://dx.doi.org/10.1097/PRS.0b013e3181de24bc

Papadopoulos, M. S., Tolikas, A. C., & Miliaras, D. E. (2010, June). Hysterectomy-current methods and alternatives for benign indications. *Obstetrics and Gynecology International, 2010,* 1-10. http://dx.doi.org/10.1155/2010/356740

Pasero, C., & McCaffery, M. (2011). Pain assessment and pharmacologic management (1 Spi ed.). St. Louis, Missouri: Mosby.

Payn, T.N., & Dauterive, F. R. (2008, May-June). A comparison of total laparoscopic hysterectomy to robotically assisted hysterectomy: surgical outcomes in a community practice. *Journal of Minimally Invasive Gynecology. 15*(3), 286-291. http://dx.doi.org/10.1016/j.jmig.2008.01.008.

Perniola, A., Fant, F., Magnuson, A., Axelsson, K., & Gupta, A. (2013). Postoperative pain after abdominal hysterectomy: a randomized, double-blind, controlled trial comparing continuous infusion vs patient-controlled intraperitoneal injection of local anaesthetic. *British Journal of Anaesthesia, 112*(2), 328-336. http://dx.doi.org/10.1093/bja/aet345

Pfuntner, A., Wier, L. M., Steiner, C. (2013). Costs for Hospital Stays in the United

States, 2011: Statistical Brief #168. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/24455786

Phellas, C. N., Bloch, A., & Seale, C. (2011). Structured methods: Interviews, questionnaires and observation. In C. Seale (ed.), *Researching Society and Culture* (3rd ed., pp. 181-205). London, United Kingdom: Sage Publishers. Retrieved from http://www.sagepub.com/sites/default/files/upm-binaries/47370_Seale_Chapter_11.pdf

Pitter, M. C., Simmonds, S., Seshadri-Kreaden, U., Hubert, H.B. (2014). The Impact of Different Surgical Modalities for Hysterectomy on Satisfaction and Patient Reported Outcomes. *Interactive Journal of Medical Research*. 3(3), e11. http://dx.doi.org/ 10.2196/ijmr.3160

Pöpping, D. M. 1., Zahn, P.K., Van Aken, H.K., Dasch, B., Boche, R., Pogatzki-Zahn, E.M. (2008). Effectiveness and safety of postoperative pain management: a survey of 18 925 consecutive patients between 1998 and 2006 (2nd revision): a database analysis of prospectively raised data. *British Journal of Anaesthesia*, *101*(6),832-840. http://dx.doi.org/10.1093/bja/aen300.

Reis, N., Engin, R., Ingec, M., & Bag, B. (2008). A qualitative study: beliefs and attitudes of women undergoing abdominal hysterectomy in Turkey. International *Journal of Gynecologic Cancer, 18*(5), 921-928. http://dx.doi.org/10.1111/j.1525-1438.2007.01153.x

Rognstad, M., Fredheim, O. M., Johannessen, T. E., Kvarstein, G., Skauge, M., Undall, E., & Rustoen, T. (2012). Attitudes, beliefs and self-reported competence about

postoperative pain among physicians and nurses working on surgical wards. *Scandinavian Journal of Caring Sciences, 26*(3), 545-552. http://dx.doi.org/10.1111/j.1471-6712.2011.00964.x

Roy, S., Patkar, A., Daskiran, M., Levine, R., Hinoul, P., & Nigam, D. (2014, June). Clinical and economic burden of surgical site infection in hysterectomy. *Surgical Infections, 15*(3), 266-273. http://dx.doi.org/10.1089/sur.2012.163

Samuels, J.G. & Fetzer, S. (2009). Pain management documentation quality as a reflection of nurses' clinical judgment. *Journal of Nursing Care Quality, 24* (3), 223-231. http://dx.doi.org/ 10.1097/NCQ.0b013e318194fcec

Samuels, J. G., & Manworren, R. C. (2014, March-April). Determining the value of postoperative pain management using timed electronic data. Nursing Economics, 32(2), 80-98. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/24834632

Santoso, J. T., Ulm, M. A., Jennings, P. W., & Wan, J. Y. (2014, October). Multimodal pain control is associated with reduced hospital stay following open abdominal hysterectomy. Euro*pean Journal of Obstetrics and Gynecology and Reproductive Biology, 183*(2014), 48-51. http://dx.doi.org/10.1016/j.ejogrb.2014.10.007

Sellers, M. M., Merkow, R. P., Halverson, A., Hinami, K., Kelz, R. R., Bentrem, D. J., & Bilimoria, K. Y. (2012, October). Validation of new readmission data in the American college of surgeons' national surgical quality improvement program. *Journal of the American College of Surgeons, 216*(3), 420-427. http://dx.doi.org/10.1016/j.jamcollsurg.2012.11.013

Shatkar, V., Alade, M., & Amalesh, T. (2014, November). Surgical readmissions: Causes

and cost implications. *Internet Journal of Surgery, 31*(1). Retrieved from https://ispub.com/IJS/31/1/14759

Sinha, R., Sanjay, M., Rupa, B., & Kumari, S. (2015, January/March). Robotic surgery in gynecology. *Journal of Minimal Access Surgery, 11*(1), 50-59. http://dx.doi.org/10.4103/0972-9941.147690

Sloman, R., Rosen, G., Rom, M., & Shir, Y. (2005, October). Nurses' assessment of pain surgical patients. *Journal of Advanced Nursing, 52*(2), 125-132. http://dx.doi.org/10.1111/j.1365-2648.2005.03573.x

Song, J. W., & Chung, K. C. (2010, December). Observational Studies: Cohort and case-control studies. Plastic Reconstrutive Surgery Journal, 126(6), 2234-2242. http://dx.doi.org/10.1097/PRS.0b013e3181f44abc

Sparic, R., Hudelist, G., Berisavac, M., Gudovic, A., & Buzadzic, S. (2011). Hysterectomy throughout history. *Acta Chirurgica Iugoslavica, 58*(4), 9-14. http://dx.doi.org/10.2298/ACI1104009S

Stovall, T. G., & Mann, W. J. (2013). Patient information: Abdominal hysterectomy (beyond the basics). Retrieved from http://www.uptodate.com/contents/abdominal-hysterectomy-beyond-the-basics

Sugai, D. Y., Deptula, P. L., Parsa, A. A., & Parsa, F. D. (2013, June). The importance of communication in the management of postoperative pain. *Hawaii Journal of Medicine & Public Health: A Journal of Asia Pacific Medicine & Public Health, 72*(6), 180-184. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3689499/

Sutton, C. (1997, March). Hysterectomy: A historical perspective. Bail*liere's Clinical Obstetrics and Gynecology, 11*(1), 1-22. Retrieved from http://www.sciencedirect.com/science/journal/09503552

Tanner, J. (2006, August). Total versus subtotal hysterectomy. *Journal of Perioperative Practice, 16*(8), 355. Retrieved from http://www.highbeam.com/doc/1P3-1112413431.html

Thaker, R., Ayers, S., Clarkson, P., Stanton, S., & Manyonda, I. (2002, October). Outcomes after total versus subtotal abdominal hysterectomy. *New England Journal of Medicine, 347*(17), 1318-1325. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12397189

The American Academy of Pain Medicine. (n.d.). The voice of pain medicine. Retrieved from http://www.painmed.org/patientcenter/facts_on_pain.aspx#overview

The American Congress of Obstetricians and Gynecologists (2015). Hysterectomy: Resource Overview. Retrieved from https://www.acog.org/Womens-Health/Hysterectomy

Tofthagen, C. (2012, May/June). Threats to validity in retrospective studies. *Journal of the Advanced Practitioner in Oncology, 3*(3), 181-183. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4093311/

Topolovec-Vranic, J., Canzian, S., Innis, J., Pollmann-Mudryj, M. A., McFarlan, A. W., & Baker, A. J. (2010, July). Patient satisfaction and documentation of pain assessments and management after implementing the adult nonverbal pain scale. *American Journal of Critical Care, 19*(4), 345-354. http://dx.doi.org/

10.4037/ajcc2010247

Ward, C. (2014, March/April). Procedure specific postoperative pain management. *Medsurg Nursing, 23*(2), 107-110. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/24933788

Wasson, M. N., & Hoffman, M. K. (2015, February). Impact of a robotic surgical system on hysterectomy trends. *Delaware Medical Journal, 87*(2), 45-50. Retrieved from http://www.medsocdel.org/Communications/DelawareMedicalJournal.aspx

Watson, J. (1979). *Nursing: The philosophy and science of caring.* Boston: Little, Brown.

Whiteman, M. K., Hillis, S. D., Jamieson, D. J., Morrow, B., Podgornik, M. N., Brett, K. M., & Marchbanks, P. A. (2008, January). Inpatient hysterectomy surveillance in the United States, 2000-2004. *American Journal of Obstetrics & Gynecology, 198*(1), 34.e1-34.e7. http://dx.doi.org/10.1016/j.ajog.2007.05.039

Williams, C. E., Povey, R. C., & White, D. G. (2008, August). Predicting women's intentions to use pain relief medication during childbirth using the Theory of Planned Behavior and Self-Efficacy Theory. *Journal of Reproductive and Infant Psychology, 26*(3), 168-179. http://dx.doi.org/10.1080/02646830701691350

Woods, S. (2010, November). Postoperative pain 1: Understanding the factors affecting patients' experiences of pain. *Nursing Times, 106*(45), 10-3. Retrieved from http://www.nursingtimes.net/

Wood, S. (2010, November). Postoperative pain 2: Patient education, assessment and management. *Nursing Times, 106*(45), 10-3. Retrieved from

http://www.nursingtimes.net/

White, P. F., & Kehlet, H. (2010, January). Improving postoperative pain management: What are the unresolved issues? Anesthesiology, 112(1), 220-225. Retrieved from http://www.uthsc.edu/Internal/syllabus-consult/PainControlPostop2010.pdf

Wright, J. D., Herzog, T. J., Ananth, C. V., Lewin, S. N., Lu, Y., Neugut, A. I., & Hershman, D. L. (2013, August). Nationwide trends in the performance of inpatient hysterectomy in the United States. *Obstetrics & Gynecology, 122*(2 0 1), 233-241. http://dx.doi.org/10.1097/AOG.0b013e318299a6cf

Yava, A., Çicek, A., Tosun, N., Özcan, C., Yildiz, D., Dizer, B. (2013, September/December). Knowledge and Attitudes of Nurses about Pain Management in Turkey. *International Journal of Caring Sciences, 6*,3. Retrieved from www.internationaljournalofcaringsciences.org

Yong, H., Gibson, S. J., de L. Horne, D. J., & Helme, R. D. (2001, October 25). Development of a pain attitudes questionnaire to assess stoicism and cautiousness for possible age difference. *Journal of Gerontology: Psychological Sciences, 56B* (5), P279-P284. Retrieved from http://psychsocgerontology.oxfordjournals.org/content/56/5/P279.full.pdf

Young, L. J., Horton, F. M., Davidhizar, R. (2006), Nursing attitudes and beliefs in pain assessment and management. *Journal of Advanced Nursing*, (53) 412–421. http://dx.doi.org/10.1111/j.1365-2648.2006. 03735.x

Appendix A: Dekalb Medical IRB Exemption

DeKalb Medical

2701 North Decatur Road
Decatur, GA 30033
Phone: 404.501.1000
www.dekalbmedical.com

8/24/2015

Blessing Agu, MHA, BSN

DM Protocol #082015

Nurses and Patients Attitudes towards Abdominal Hysterectomy: The Impact on Post-Surgical Pain Management, Hospital Length of Stay and Readmission

DM IRB Document # 1661

Dear Blessing:

Thank you for submitting your application for exemption to the DeKalb Medical Institutional Review Board (DeKalb IRB). Your proposal was evaluated in light of the federal regulations that govern the protection of human subjects. Specifically, 45CFR 46.101(b)(2) identifies studies that are exempt from IRB review including:

Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

The IRB has determined that your proposed project employs research that pose no more than minimal risk to the participants. Research data will be obtained in such a way that medical information will not be linked to one's identity or identifying information. Therefore, the DeKalb IRB has determined that your proposed study is exempt from further IRB review.

Even though your project is exempt from IRB review, the research must be conducted according to the proposal submitted to the DeKalb Medical IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For ***any*** proposed changes in your research protocol, please submit in writing a request for IRB review of a protocol modification. Please be aware that changes to the research protocol may prevent the research from qualifying for exempt review and require submission of a new IRB application or other materials to DeKalb IRB.

DeKalb IRB strives to prevent negative occurrences during any research study. However, despite our best intent, unforeseen circumstances or events may arise during research. If an unexpected situation or adverse event happens during your investigation, please notify DeKalb Medical IRB as soon as possible. If notified, we will ask for a complete explanation of the event and your response. Other actions also may be required depending on the nature of the event.

Please refer to the DMC protocol number denoted above in all communication or correspondence related to your application. Should you have additional questions or require clarification of the contents of the letter, please feel free to contact the IRB office. The IRB performing this review is duly constituted and operates in accordance and compliance with Title 21 of the Code of Federal Regulations (CFR), local and ICH guidelines.

Sincerely,

[redacted], M.D., Ph.D. Chairman, DeKalb Medical IRB

Appendix B: NIH Research Certificate

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Blessing Agu** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 03/19/2013

Certification Number: 1142075

Appendix C: Permission to Use Instruments

On Tue, Sep 29, 2015 at 6:06 PM, [redacted] ewa.idvall@mah.se wrote:

Dear Blessing Agu!

You have the permission to use the instruments. If you want me to send them you have to wait some weeks because I am on holiday. OK?

Best wishes Ewa

[redacted]

On Sat, Oct 3, 2015 at 2:09 PM, [redacted] mlmarvan@gmail.com> wrote:

Dar Blessing,

Thanks for your interest in the BATH. I have it only in Spanish, is it ok for you? I have three versions of the questionnaire:

- Directed to women with hysterectomy

- Directed to women without hysterectomy

- Directed to men whose wives do not have hysterectomy.

According to your mail, I suppose that you need to view the first one. I am attaching it, and let me know if you want other version too.

Please review the questionnaire that I am sending, and let me know if you are going to use it in order to send you the instructions to rate it.

Best, [redacted]

On Mon, Oct 5, 2015 at 2:45 PM, [redacted] smcmilla@health.usf.edu> wrote:

I am so sorry. I do recall getting an earlier e-mail from you. Yes, you may have all of the pain instruments. I have KEYED them with the most positive answer so you need to remove the keying from the version that you use in your study. Best wishes for your study. The third instrument is a knowledge test.

[redacted]

Distinguished University Health Professor

Thompson Professor of Oncology Nursing

University of South Florida

College of Nursing, MDC 22

12901 Bruce B. Downs Blvd

Tampa, FL 33612

Appendix D: Survey Questionnaire

Beliefs and Attitudes toward Hysterectomy Questionnaire (BATH)

Age_____ Birthplace _____ Place of residence_____

Education (highest grade completed) _____ Number of children_____

Number of years Married_____ Occupation _____ Cause of hysterectomy_____ Age when you had hysterectomy (or year of hysterectomy) _____ When you had your hysterectomy, did you live with a partner? Yes ____No _____Was the hysterectomy performed before or after menopause? Before_____ After_____ Type of Hysterectomy: ( ) The cervix was not removed ( ) the cervix was removed ( ) the ovaries were not removed ( ) the ovaries were removed.

If the ovaries were removed do you use hormone replacement therapy? Yes____ No _____ how long did you receive hormone replacement therapy? _____ or are you still using hormone replacement therapy?

Instructions: Below are a list of statements to which we ask you to respond by placing an "x" consider the options that is closest to what you think. The options are: "Strongly disagree" (absolute disagreement) "disagree", " neither agree nor disagree," "agree" and "strongly agree" (absolute agreement).

		Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
1	My partner supported me when I had the hysterectomy					
2	I feel worthless since my uterus was removed					
3	I enjoy sex more since my uterus was removed					
4	I do not feel like a good wife since my uterus was removed					
5	My relationship with my partner has gotten worse since my uterus was removed					

6	I feel like my partner rejects me since my uterus was removed					
7	I feel like my relationship with my partner is the same since my uterus was removed					
8	I feel neglected since my uterus was removed					
9	I feel content since my uterus was removed					
10	My partner was upset when he found out that my uterus was going to be removed					
11	My partner was with me when my uterus was removed					
12	I feel less feminine since my uterus was removed					
13	I have no physical consequences since my uterus was removed					
14	I feel hollow inside since my uterus was removed					
15	I feel like any other woman since my uterus was					
16	I feel empty since my uterus was removed					
17	I no longer feel like a woman since my uterus was removed					
18	I feel ashamed because my uterus as removed					
19	I am healthier since my uterus was removed					
20	I am not the same person since my uterus was removed					
21	I have trouble enjoying sex since my uterus was removed					
22	I have gained weight since my uterus was removed					
23	My health has gotten worse since my uterus was removed					
24	I missed something important since my uterus was removed					

25	I feel older since my uterus was removed					
26	It affected me as a woman because my uterus was removed					
27	I am sad because my uterus was removed					

Do you think that your life has changed because you no longer have a uterus? Yes_____ No_____ If yes, how has it changed?
If you did not have your uterus removed, would you have more children? Yes_____ No _____If your answer is yes. To what degree has the fact that you can no longer have children because your uterus was removed affected you? Please rate response between 0-10, 0 being none, and 10 being a lot_____
NURSES PAIN MANAGEMENT ATTITUDE SURVEY
KEY

Directions: Circle the response that best describes your attitude toward the following statements. We are interested in <u>your</u> current beliefs.

CODES:SD = Strongly Disagree D = Disagree
A = Agree SA = Strongly Agree

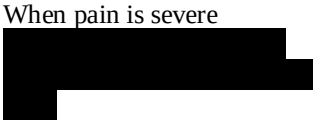
1.	Giving opioids on a regular schedule is preferred over a prn schedule for continuous pain.	SD	D	A	<u>SA</u>
2.	A patient should experience discomfort prior to getting the next dose of pain medication.	<u>SD</u>	D	A	SA
3.	Continuous assessment of pain and medication effectiveness is necessary for good pain management.	SD	D	A	<u>SA</u>
4.	Patients (and/or family members) have a right to expect total pain relief as a goal of treatment.	SD	D	A	<u>SA</u>
5.	Patients (and/or family members) may be hesitant to ask for pain medications due to their fears about the use of opioids.	SD	D	A	<u>SA</u>
6.	Patients receiving opioids on a prn basis are more likely to develop clock-watching behaviors.	SD	D	A	<u>SA</u>
7.	Estimation of pain by a MD or RN is a more valid measure of pain than patient self-report.	<u>SD</u>	D	A	SA
8.	Patients in pain can tolerate high doses of opioids without sedation or respiratory depression.	SD	D	A	<u>SA</u>
9.	Patients can be maintained in a pain free state.	SD	D	A	<u>SA</u>
10.	If a patient (and/or family member) reports pain relief and euphoria, the patient should be given a lower dose of the analgesic.	<u>SD</u>	D	A	SA

11.	Patients with chronic pain should receive pain meds at regular intervals with or without the presence of discomfort.	SD	D	A	SA
12.	Patients receiving around the clock opioids are at risk for sedation and respiratory depression.	SD	D	A	SA
13.	Patients having severe chronic pain need higher dosages of pain meds compared to acute pain.	SD	D	A	SA
14.	Patients should be maintained in a pain-free state.	SD	D	A	SA
15.	Lack of pain expression does not necessarily mean lack of pain.	SD	D	A	SA
16.	Cancer pain can be relieved with appropriate treatment with anti-cancer drugs, radiation therapy and/or pain relieving drugs.	SD	D	A	SA
17.	If a patient continues to have pain after receiving pain relieving medication(s), the nurse should contact the physician.	SD	D	A	SA
18.	Patients receiving opioids around the clock for cancer pain are likely to become addicted.	SD	D	A	SA
19.	Distraction and diversion of patient's attention (use of music, relaxation) can decrease the perception of pain.	SD	D	A	SA
20.	A constant level of analgesic should be maintained in the blood to control pain effectively.	SD	D	A	SA
21.	Increasing analgesic requirements and physical symptoms are signs that the patient is becoming addicted to the narcotic.	SD	D	A	SA
22.	The cancer patient and family should have more control over the schedule for analgesics than the health professional.	SD	D	A	SA
23.	The nurse can make a more accurate assessment of the patient's pain than the patient/family can.	SD	D	A	SA
24.	Cutaneous stimulation (e.g. heat, massage, ice) are only effective for mild pain.	SD	D	A	SA

Circle the response that you most agree with.

When a patient in pain due to cancer is receiving analgesic medication on a PRN basis, at what level of discomfort would it first be appropriate for the patient to request additional pain medication?

Before pain returns
When pain is mild
When pain is moderate
When pain is severe



Revised 8/92

[redacted]