EFFECT OF PATIENT-CENTERED CARE ON PATIENT SATISFACTION AT HOSPITAL DISCHARGE

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Abstract

Patient-Centered Care (PCC), also known as individualized care, focuses on the patient's right to have his/her values and beliefs respected as an individual. The purpose of this study was to examine the effect of PCC on a patient's level of satisfaction at discharge from an acute healthcare setting. The study examined the effect of PCC on patient satisfaction, the quality of patient care and the patient's perception of nursing care. Participants consisted of 116 patients scheduled to undergo gastric bypass surgery within a community hospital. Eligibility criteria included: a) age > 18 years, b) scheduled for bariatric surgery c) surgical procedure performed by one predefined surgeon; and d) expected hospital stay of ≥ 2 days. Exclusion criteria consisted of: a) prior admission to the study unit or b) bariatric surgery performed by a surgeon other than the predefined surgeon c) transfer off study unit, and d) scheduled for a LAP Band procedure. Subjects (aged 46 ± 12 years) were randomized to the experimental (n=58) or control (n=58) group. The experimental group was called 24 to 48 hours prior to the scheduled admission and cared for by nurses trained in providing PCC. The Control group received usual care. Both groups completed two questionnaires at discharge and were contacted 24 to 48 hours post discharge to complete a structured interview. There were no statistically significant differences between groups in age, gender, race or marital status, but a greater number of females were

found in the PCC group (n=50) vs. usual care group (n=41), p= 0.07; there was no difference in LOS, p=.776; postoperative infection, p=1.0; falls, p=1.0 or post-op complications. When measuring overall satisfaction no statistically significant differences were found between groups, p=.247. Findings indicate that PCC did not significantly impact patient outcomes examined in the setting utilized in this study.

PREFACE

Florence Nightingale (1859), in her book Notes on Nursing stated “what you want are facts, not opinions”. She believed the most important practical lesson that can be given to nurses is to teach them what to observe-how to observe and what symptoms indicate improvement or neglect. Over the past 5 years I have traveled a journey to achieve this knowledge, but only with the support, direction and friendship of many individuals.

- I begin first by thanking God for the strength, wisdom and courage to continue this journey. Never have I laid so many concerns in his hands.
- The combined strength and wisdom of my dissertation committee which supported me in a multitude of ways. Special acknowledgment to Dr. Leslie Hoffman for her willingness to be my Dissertation Chair, for her patience and guidance to assist me through several critical mile stones.
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- Finally to my husband, who balanced family life as a single parent, allowing me to focus on my professional and academic life.

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1.0 INTRODUCTION

The Institute of Medicine (IOM) has listed Patient-Centered Care (PCC) as one of six national quality aims for improvement (Greiner, A., Ed., & Knebel, F., Ed., 2003). The IOM's vision is that all health professionals will be educated to provide and deliver PCC as part of an interdisciplinary team (Greiner, A., Ed., & Knebel, F., Ed., Ed., 2003). The IOM report recommends a mixture of approaches to achieve their vision (Greiner, A., Ed., & Knebel, F., Ed., 2003). These approaches include an appropriate training environment, research, pubic reporting and leadership.

In 2006, the Medicare Payment Advisory Commission's (MedPAC) began trialing "Payment for Performance" where healthcare organizations and professionals will be reimbursed for services provided based on the patient's level of satisfaction upon discharge and the level of quality care they received. The goal is to link financial reimbursement to the quality of care and the level of satisfaction patients experience (Report to the Congress, 2005). Institutions and practitioners will be impacted by this method of reimbursement including hospitals, physicians, home health agencies, Medicare Advantage Plans, and dialysis facilities. Four key areas will be measured to assess the level of payment one receives – process, outcomes, structure, and patient experiences. The MedPAC is proposing to first trial and later implement this new type of healthcare reimbursement. Both the IOM and MedPAC seek to improve quality and satisfaction which will then be influenced by the level of reimbursement received.

Common threads between the IOM and the MedPAC are to improve the level of quality care a patient receives which, in turn, will positively influence the level of reimbursement a healthcare facility receives. By preparing healthcare professionals to understand and utilize PCC, these agencies hope to improve patient outcomes.

PCC, also known as individualized patient care or negotiated care, focuses on the patient's right to have his/her values and beliefs respected as an individual (Lyon, 1989). This respect is viewed as part of a commitment to build a deep understanding of the patient as a thinking and feeling individual with the ability to change and develop (McCormack, 2003). A person-centered model of care requires a nurse to work with an individual's beliefs, values, wants, needs, and desires (McCormack, 2003). This adaptation to a patient's personal needs requires the nurse to be flexible, respectful, and reciprocal when providing patient care. If the patient's expectations are not appropriate to the type of care needed to heal or if the patient refuses a specific type of treatment that is known to influence one's quality of care, the nurse must negotiate with the patient. Negotiation incorporates education, which is believed to increase the patient's level of understanding. In addition, negotiation allows the nurse and patient to define a level of treatment that is specific to the patients needs but still seen as a quality indicator.

Although it has been suggested that nurses play a critical role in providing PCC and satisfying patient's needs (McCormack, 2003), there is little evidence to support this assertion. In 1985, Swan, Sawyer, Van Matre and Mc Gee conducted marketing research to determine if one's intent to revisit the same hospital was impacted by patient perceptions of the quality of nursing care or overall level of satisfaction upon discharge. More recently, Wolf, Miller and Devine (2003) surveyed cardiac patients to determine if perceptions of nursing care directly impacted

patient's level of satisfaction. Both studies showed a moderately strong relationship between perceptions of nursing care and patient satisfaction. Findings of these studies provide preliminary support for the assertion that a patient's perception of hospital performance positively impacts expectations and intent to return to the same hospital in the future.

Historically, care of patients both medically and from a nursing perspective has been guided by pathways, or predetermined modules of care which clinicians followed when caring for patients during their acute illness/hospital stay. This research proposal supports a new way of caring for patients that is guided by each patient's individual needs. Potentially, nurses who use this approach will be able to develop a plan of care that best meets the patient's needs, while improving their level of satisfaction and the quality of their care.

1.1 SIGNIFICANCE

The forces which are shaping the healthcare delivery system of the future require that nurse administrators redirect their focus to the persons being served, in whatever setting the patients present themselves (Hagenow, 2003). The profession of nursing must be proactive to provide evidence that reflects how nurses impact a patient's level of satisfaction upon discharge, as well as the quality of care received. By providing a level of care that is individualized, personalized and negotiated, a nurse can explore the patient's perceptions and expectations during their hospital stay and establish a collaborative plan of care with the patient (Lyon, 1989).

A major determinant on whether or not a patient returns to a particular hospital is dependent on the patient's experiences and the level of satisfaction felt upon discharge. Because

most physicians have admitting privileges in more than one institution, patients can chose which of these institutions to utilize for future needs.

The "Payment for Performance" initiative is prompting healthcare organizations to view patient satisfaction as essential for their survival (Clark, 2003). The trend to place critical value on bottom line profits has the potential to cause the concept of patient satisfaction to emerge as a measure of multifaceted importance (Clark, 2003). "Payment for Performance" may become a driving force that prompts healthcare organizations and medical practices to identify ways to measure and improve the manner in which patients are cared for (Clark, 2003).

Unfortunately, nursing is not a separate cost item for which patients are charged, so the value of nursing is more difficult to quantify. Administrators generally monitor quality outcomes using indicators such as, the successful documentation of required education for patients with congestive heart failure (at discharge), or the time period between diagnosis of pneumonia and the first administered dose of an antibiotic. With these new initiatives, hospital administrators need to focus efforts on measuring how nurses directly impact a patient's level of satisfaction and the level of care one receives. In order for healthcare facilities to survive financially, it is necessary to influence patients, recently admitted to the facility, to return for future services.

Nurses need the evidence obtained from research that is focused on PCC to support the vital role they play in providing quality care to patients on an individual basis. Without this evidence, nurses lack research–based findings to support the centrality of their role in affecting the patient's level of satisfaction with care received. McCormack (2003) contends that principles of person-centeredness must be adopted in research designs that have the intention of understanding the key relationship between nursing practice and quality of patient care. This combined relationship between nurses and researchers is a proactive way of supporting PCC.

One of the IOM's six national goals is to improve human health by promoting, researching and educating clinicians on providing PCC. Nursing personnel spend a significant amount of time with patients during their hospital stay allowing the nurse the greatest opportunity to impact patient outcomes. Through intense literature searches this investigator has found no published research study that examined a patient's level of satisfaction upon discharge from an acute tertiary care facility when PCC was administered using a clinical randomized trial. This study provides data that will assist hospital administrators in determining if PCC should be implemented as a model of care.

1.2 PURPOSE & SPECIFIC AIMS

The purpose of this research study was to examine the impact PCC had on a patient's level of satisfaction on discharge from an acute healthcare setting. Patients scheduled to undergo bariatric surgical procedures were randomized into a control or experimental group. It was hypothesized that nurses could positively affect a patient's level of satisfaction upon discharge from a hospital when providing care that was centered on the individual needs of the patient and family.

1.2.1 Specific Aims

1) To examine the effect of PCC on patient satisfaction.

    H1. Patients randomized to PCC will rate their satisfaction of care higher than those who receive usual care.

2) To examine the effect of PCC on the quality of patient care.

H2. Patients randomized to PCC will experience a level of quality care (infections, length of stay, falls) that is higher than those who receive usual care.

3) To examine if PCC affects a patient's perception of nursing care impacting their level of satisfaction

H3. Patients randomized to PCC will perceive their satisfaction with nursing care higher than those who receive usual care.

1.3 OPERATIONAL DEFINITIONS

The concepts examined in this study included, PCC, patient satisfaction, perception of nursing care, and quality of care which included infection, length of stay (LOS), falls and 7 day post discharge assessment of adverse events, such as readmission, emergency room visit or other adverse events.

PCC as a model of nursing care was conceptually defined as the process of communicating and caring for patients that began prior to admission to an acute care facility. PCC was operationally defined as incorporating the following: Nurses, using specially trained communication skills, called the patient 24 to 48 hours prior to the scheduled admission, explored and identified the patient's perceptions/expectations, beliefs, values, needs and desires, and incorporated these into the plan of care which was initiated prior to admission to the facility. Once admitted, the patient and their family became active participants in their plan of care by collaborating with clinicians in planning their care on a daily basis. Patients are then called 24 to 48 hours post discharge to assess their transition home and answer any additional questions patients or family may have.

Patient Satisfaction was conceptually defined as the degree to which a patient experiences services within an acute care hospital setting and finds the experiences acceptable to his/her pre-admission expectations. Patient satisfaction was operationally defined as scores on the Baker & Taylor Measurement Scale (BTMS), a 7-item questionnaire used to measure this concept.

Perception of nursing care was conceptually defined as the patient' pre-established thoughts/ideas or beliefs regarding their care as a patient during a hospital stay. Perceptions of nursing care were operationally defined as scores on the Schmidt Perception of Nursing Care Survey (SPNCS), a 15-item questionnaire used to measure this concept.

Finally, ***quality of care*** was conceptually defined as a patient encounter/admission that lacked the occurrence of infections, falls, and LOS > 3.0 days. Each quality indicator was operationally defined as follows: a) infection –any positive culture obtained during hospital stay that was not present prior to admission, b) falls - any documented fall that occurred during hospital stay and c) LOS – the date and time of initial registration entered into the hospitals admission/discharge /transfer (ADT) system to the date and time of actual discharged in the ADT system. In addition, quality of care was further defined as the lack of adverse events occurring within 7 days post discharge, such as readmission to hospital, visit to emergency room or other adverse events.

1.4 CONCEPTUAL FRAMEWORK

The framework for this study was supported by concepts that are rooted within psychology and behavioral sciences which may influence the outcomes for patients needing acute and tertiary

care. The framework supports the belief that PCC may influence one's perceptions resulting in positive outcomes seen as higher levels of satisfaction and quality of care. Concepts within the framework include: (a) PCC, (b) patient satisfaction, (c) patient perception, and (d) quality of care (Figure 1).

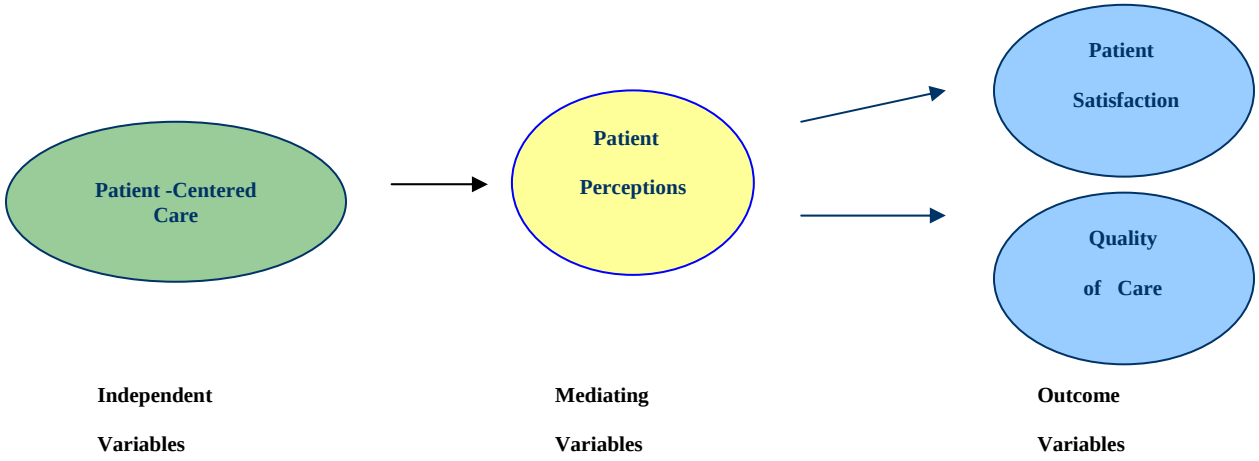

Figure 1 Wolf Schematic Model

The literature contains numerous definitions that reference PCC, with no consensus regarding the best definition. The most widely accepted description defines patient-centered care as care that is closely congruent with and responsive to patients' wants needs and preferences (Duggan., Geller, Copper, etc, 2005; and Laine, Davidoff, 1996). Using a nursing perspective,

McCormack (2003) describes PCC as a process that requires the nurse to work collaboratively with a patient and their family focusing on their individual needs, values and desires.

Likewise, patient satisfaction has no agreed upon theoretical definition (Newsome & Wright, 1999 and Staniszewska & Ahmed, 1999). The most publicly acknowledged theoretical definition was proposed by Pascoe (1983) who states that patient satisfaction is a comparative process used by an individual to evaluate services received during a health care experience against previously held subjective standards. In their review of literature describing this concept, Newsome and Wright (1999) quote the extensive work done by Pascoe (1983) and support Pascoe's definition. In addition, Newsome and Wright (1999) have identified expectation-perception as a central component of satisfaction process.

A limited literature supports linkages between patient perceptions and successful outcomes. Linder-Peltz (1982) examined the interaction between patient expectations and perceptions and suggested that knowledge of patient's expectations can tell a great deal about how they will later rate their healthcare experience. Staniszewska & Ahmed (1998) have posed that, intuitively, it is possible to assume a relationship exists between expectations and satisfaction. Finally, one article reviewed several selected studies from areas of primary care, mental health and marketing to examine how patient expectations relates to how patient satisfaction is achieved, and found that satisfied patients led to successful outcomes (Ross, Frommelt, Hazelwood, Chang, 1987).

Festinger (1957) theorized that an individual strives to maintain consistency with his/her personal beliefs. In his Theory of Cognitive Dissonance, he states that: "existence of dissonance, being psychologically uncomfortable, will motivate the person to try to reduce the dissonance and achieve consonance" (p.3). He defines dissonance as a state where two cognitive elements

are inconsistent or contradictory to each other (Festinger, 1957). Examples of cognitive dissonance include; a) a person who smokes cigarettes, knowing cigarettes cause cancer or b) a person who commits a crime knowing it is against the law. Usually a person tries to rationalize such inconsistencies. For example, a person who continues to steal money, knowing this behavior is against the law, may rationalize this behavior as follows: a) extra money is very useful, so it is worth it; b) chances of getting caught are not great; or c) money is critical to support my family. These rationalizations create a level of consistency between one's act of stealing and one's feelings toward stealing. When attempts to achieve consistency fail, then inconsistency continues, leading to psychological discomfort. It is this discomfort that leads one to try to reduce the inconsistency, causing inconsistency/dissonance to be a motivating factor.

The belief that cognitive dissonance is psychologically uncomfortable suggests that to establish internal harmony, humans will work toward consistency among their opinions, attitudes, values, and knowledge (Festinger, 1957). One could then speculate that an individual would not be able to obtain internal harmony or personal satisfaction until the level of dissonance was decreased and cognitive consonance increased.

PCC may be an influential factor for patients who are experiencing cognitive dissonance. If nurses utilizing PCC are able to communicate in a manner that facilitates patient willingness to share his or her feelings of dissonance, then together the nurse and patient can mutually work towards achieving consonance, leading to increased patient satisfaction and quality of care. This concept may be further explained by the following example. If a patient who has chosen to undergo bariatric surgery has religious beliefs that do not support this type of elective surgery, the patient may be experiencing a high level of dissonance. The patient may rationalize having the surgery because it will improve overall health by reducing or eliminating coexisting medical

conditions such as hypertension, diabetes, or dyspnea. Therefore, life expectancy may be prolonged allowing him to support his family.

2.0 BACKGROUND

2.1 PATIENT CENTERED CARE: HISTORICAL DEVELOPMENT

In 1950, the Medical Press in London believed it was necessary to propose and hold seminars on the psychological problems in general practice (Balint, 1969). At this time physicians were beginning to be seen as doing psychotherapy with some patients and general practice with others. The term Patient-Centered is first found within the literature in 1969. Enid Balint of London in his lectures and formal addresses spoke of two classes of pathological conditions, one being localized illness identified through scientific evidence such as a fractured bone. The second class or way of thinking he called "patient-centered medicine" (Balint, 1969). Balint defines patient-centered medicine as a state when physicians understand the patient as a unique human-being (Balint, 1969). He believed in order to provide patient-centered medicine one must be a psychotherapist and a practicing physician.

Fifteen years later, the Association of American Medical Colleges (1984) announced that every effort should be directed at developing a patient centered humanistic attitude within the educational programs for medical students. The goal was to encourage educators to provide opportunities to strengthen care of the patient as an individual (Association of American Medical Colleges, 1984). Over the next several years, the concept of PCC was more commonly referenced in discussions relating to medical law, education, research and quality assessment

(Laine & Davidoff, 1996). While viewed as positive by some physicians, others were offended by a shift in focus that required the individual needs of the patient to be considered in developing the plan of care. Medicine was in the midst of a professional evolution that shifted the balance of decision making to incorporate active consideration of the patient's viewpoints (Laine & Davidoff, 1996).

In 1996, Routh and Stafford described their attempts to implement a patient focused care delivery model for nurses. Although the study explained the planning, implementing and evaluation phases of the project, it neglected to assess the impact on patient outcomes. These researchers found communication among clinicians and patients was the key to decreasing obstacles experienced during the implementation process. Some of the key obstacles included a) role stereotyping, b) paradigm blinders, c) resistance to change, and d) lack of empowered staff.

2.2 PATIENT CENTERED CARE: CURRENT VIEWPOINTS

In 2005, Davis, Schoenbaum, and Audet, in their "2020 Vision for American Healthcare" proposed seven attributes of patient-centered primary care. These attributes include; a) access to care, b) patient engagement in care, c) information systems, d) care coordination, e) integrated and comprehensive team care, f) patient-centered care surveys and g) publicly available information. At this time, the Picker Institute proposed eight dimensions of PCC which differed slightly from those proposed by Davis, Schoenbaum and Audet (2005). The differences in attributes proposed by the Picker Institute relate to; a) respect for the patients' values, preferences and expressed needs, b) emotional support, and c) integration of family and friends (Davis, Schoenbaum, & Audet, 2005). Although PCC should involve all members of the

healthcare team, the authors only applied their theory to the physician. The ability to reference or incorporate a team of clinicians, including nursing was not discussed.

Until 2003, most references addressed PCC as a universal theory/concept that addressed all patients as a total population. McCormack (2003) defined a conceptual framework for person-centered practice that focused on the elderly population. This framework incorporated the relationship of the older patients and nursing personnel. Through interpersonal processes the nurse builds a negotiated relationship with the older person, addressing one's life experiences as a source of information to plan for their current needs. McCormack's model focuses on the centrality of the human person and the process of engagement in interactions.

Contrary evidence suggests that PCC and shared decision-making between health care workers and patients may not be universally desirable. Hanneke de Haes (2006) believes elements of the PCC model may be internally inconsistent or contradictory, for one's psychosocial domain may not be compatible with tailoring individual needs. Meaning individuals may prefer not to discuss psychosocial issues with their physician. Hanneke de Haes (2006) argue that certain assumptions must exist if patients are to benefit from PCC. These assumptions include; a) patients must appreciate physicians' attention to their psychological needs, b) patients must be willing to disclose concerns, c) patients must prefer to have a sense of partnership, rather than following the dictum of the physician and d) patients must want to be actively involved in decision making.

Support for PCC is provided by Swenson, Buell, White, Ruston, and Lo (2004). When studying complimentary medicine, they found the majority of patients (69%) preferred the patient centered approach, while 31% preferred a physician-centered approach. The majority of those who did not prefer PCC were older and/or had less education. These findings support the

need to provide different approaches for different populations because: a) PCC may not always be preferred, b) PCC may not necessarily be effective, c) information may not necessarily be desired, d) shared decision making may not be applicable, and e) patients may not want to have a choice (Hanneke de Haes, 2006).

In an attempt to reconcile these divergent views, Duggan, Geller, Cooper and Beach (2006) analyzed the moral nature of patient-centeredness in three schools of ethical thought; Consequentialist-moral theories, Deontological theories, and Virtue-based theories. The authors note that patient centeredness is related to the ethical principle of respect for persons; persons being patients. They concluded that patient-centeredness is a morally desirable feature of physician–patient interaction that leads to improved outcomes when viewed through all three schools of thought. The researchers did not address the nurse-patient interaction when utilizing patient-centeredness or comment on the potential that PCC may not be preferred by some individuals.

2.3 PATIENT SATISFACTION: HISTORICAL DEVELOPMENT

In 1800s, patients rarely had a say in the treatment they received in a hospital setting. It was common for one's financial status to determine the way in which he/she was treated when ill (Harmelink, 1969). Rich families oversaw the care of sick loved ones at home, while the sick and poor were sent to hospital wards (Harmelink, 1969). Patients within these wards rarely had a say in the treatment they received. Frequently, hospitalized patients were treated as outsiders or menaces to society. Healthcare services were seen as a "privilege" granted to poor patients

(Magner, 1943), and one surely would not be so ungrateful or arrogant to voice a complaint or express dissatisfaction regarding the free healthcare services received.

In 1911, the term "satisfying" was first used to reference a unique state of existence for a living organism. Thorndike (1911) believed that behavior was predictable, and that a single stimulus would cause a unique response. If the same stimuli were repeated on the same organism, then one should expect the same response. If the response was different, then the organism had changed. Thorndike (1911) attributes the change within the organism to a variety of factors, such as fatigue, sleep loss, disease, hunger or illness. Thorndike identified this change as the law of effect, which led to his definition of "satisfying" as a state when an animal does nothing to avoid a stimulus and as a dissatisfying state when the animal avoids and/or abandons the stimuli.

Thorndike's work was ignored until Copp (1971) reinforced his belief. Copp (1971) identified six potential changes in individuals' needs that could alter their response to healthcare. These "change-needs" include: a) identity, b) communication, c) intensification, d) relationships, e) dependence vs. independence, and f) dignity, privacy and self-esteem. These change-needs develop as one's state of health changes and must be addressed in order for satisfaction to be achieved. In addition, Copp (1971) believed one's level of satisfaction with healthcare promoted healing and hastened convalescence.

In 1957, the concept of "patient satisfaction" first appeared in the nursing literature. Abdellah and Levine (1957) developed a tool to measure patient satisfaction with nursing care to investigate complaints regarding nursing care related to nursing shortages. Abdellah and Levine (1957) found that increasing the number of professional nursing care hours would decrease the

number of patient complaints, instead of increasing non-professional nursing care hours. Results of this study prompted the Cleveland Commission on Nursing to form a research team consisting of a nurse, a psychologist, and a statistician to develop a tool to measure patient satisfaction. Based on their tool, the reported number of total nursing care hours did not affect patient satisfaction, but the total number of professional nursing hours did.

During the 1970s to 1980s, satisfaction was increasingly recognized as a key indicator of how patients respond to treatment. Ware, Davies-Avaery, & Stewart (1978) were interested in the validity of patient satisfaction as a predictor of health and illness behavior. The researchers examined the results of several studies and found satisfaction was significant predictor of patient's compliance to treatment and patients improved outcomes. Their work provides support for Wundt's (1897) belief that a physiological process corresponds to one's feelings of pleasure and happiness. Other investigators also support the belief that a positive relationship exists between the way one feels psychologically and how one responds to medical treatment (Becker, Drachman, Kirscht, 1974). The ability to measure patient satisfaction has proven to be very useful in understanding the behavior of people within the healthcare arena (Ware, Davies-Avaery, Stewart, 1978).

In 1975, Risser developed the Patient Satisfaction Scale (PSS), an instrument to measure patient satisfaction with nursing staff in a primary health care setting. Information obtained from patient interviews, literature reviews and other similar scales were used to construct this 25 item scale which required individuals to note agreement to disagreement using a likert scale. The PSS was tested using two separate trials with a total sample of 138 subjects obtained from clinic offices in an outpatient setting. Unfortunately construct reliability could not be established but reliability was found acceptable with Cronbach's alpha coefficients for all subscales being >

0.60. Further refinement of the scale with additional trials was recommended. Risser (1975) believed patient satisfaction with nursing care could be conceptualized as the degree of congruency between a patient's expectations and their perceptions of what type of nursing care will be provided to the actual nursing care received.

Hinshaw and Atwood (1982) believed Risser's (1975) PSS had face validity and revised the instrument to measure patient satisfaction with hospital-based nursing. The tool was renamed the "Patient Satisfaction Instrument" (PSI). The PSI was found to have strong acceptable levels of validity among two subscales, the technical professional subscale and the trusting subscale, but weak to moderate validity on the educational subscale (Hinshaw and Atwood, 1982). In 1982, Linder-Peltz conducted a study exploring the interaction between patient expectations and perceptions, which suggested that knowledge of patients' expectations can help explain how they will later rate their healthcare experience. The author believed satisfaction as a concept needed to be better understood before one can explain how various factors can cause this.

In 1985, Swan, Sawyer, Van Matre, and Mc Gee conducted marketing research that examined customer satisfaction as it related to the fulfillment of patients' expectations. Their theoretical model affirms patients' perceptions to a hospital's performance would positively relate to the patients' expectations and to potentially returning to the same healthcare facility in the future. They concluded that overall patient satisfaction is related to a) the satisfaction one experiences with a set of services, b) the fulfillment of patient expectations, and c) the equity of one's experiences-meaning the patient's feeling that s/he was treated fairly or unfairly (Swan, Sawyer, Van Matre, & McGee, 1985).

Results of another study conducted by Staniszewska & Ahmed (1999) which focused on better understanding the methodological and theoretical difficulties in measuring expectations

and satisfaction (based in patient experiences), led them to intuitively assume a relationship exists between expectations and satisfaction. After interviewing 33 patients, the researchers were able to collaborate various expectations patients have when encountering healthcare services as defined within the literature. Four main expectations were identified; expectations of the nurse, the doctor, the patient's own participation in care and expectation of the outcomes of the healthcare episode.

Ross, Frommelt, Hazelwood, and Chang, (1987) when reviewing research findings from 21 studies that focused on the role of expectations in patient satisfaction, found agreement among 17 of the 21 studies that support an expectation-satisfaction relationship exists. In addition, the authors found several studies that had higher levels of expectations, to be related to higher level of clinical improvements/outcomes. The authors explored four key areas, the theoretical basis of the studies, the studies definition and measurement of expectations, the definition of satisfaction and the evidence supporting the relationship between expectations and satisfaction. These findings were the result of prospective surveys, retrospective surveys, randomized interventions, and case studies.

2.4 PATIENT SATISFACTION: CURRENT VIEWPOINTS

In 2004, Schmidt developed and used the "Schmidt Perception of Nursing Care Survey" (SPNCS) tool to measure the contributions of nursing staff to patients' overall experience during their hospital stay. Schmidt examined from the patient's perspective, the relationship between nurse staffing and patient outcomes. Schmidt found a significant relationship ($p < 0.05$) existed between a patient's perception of nursing care and the patient's level of satisfaction as it related

to seeing the individual patient, responding to the patient, and watching over the patient during their hospital experience. The researcher did not find an overall significant relationship in the total score of the SPNCS ($p = 0.08$). Wolf, Miller and Devine (2003) also found perceptions of nursing care significantly impacted the patient's level of satisfaction ($p = 0.01$) when conducting research utilizing cardiac patients. These studies strongly suggest a relationship exists between perception of nursing care and patient satisfaction.

Today, the Press Ganey patient satisfaction indicator is the most widely accepted and used tool to measure patient satisfaction within healthcare organizations. Press Ganey Associates, Inc. has created databases that provide comparative patient satisfaction data that assists clients to benchmark their individual organization's results, with the results of other healthcare institutions (Press Ganey, 2004). Patient satisfaction surveys provide a valuable relationship between patient satisfaction and financial performance of healthcare organizations. In addition, the survey measures satisfaction with the patient's experience with all departments within the healthcare setting, such as dietary service, cleanliness of room, registration process-personal and ancillary departments. Unfortunately, patients are randomly selected through an automated system to complete the post discharge survey. Consequently, this system could not be used for this research study as all patients would not receive the survey and returned surveys could not be differentiated by group.

Patient satisfaction is a driving force that guides healthcare organizations and medical practices to measure and improve the way patient care is provided (Clark, 2003). Hospitals now compete against other healthcare organizations to improve patient satisfaction and ultimately increasing one's business. In response to this high level of competition, hospitals and medical practices have modernized their organizations to include: a) call ahead registration, b) express

lab draws, and c) 24-hour telephone advice. While helpful, nurses have the greatest opportunity to influence patient satisfaction due to their greater time spent at the bedside. The profession of nursing could be the driving force that leads healthcare organizations in meeting the IOM's national goal of improving patient outcomes and increasing a patient's level of satisfaction through the use of PCC.

2.5 QUALITY OF CARE

Historically, Florence Nightingale (1859), in her book "Notes on Nursing" was the first nurse to publicly state the need for quality improvement in caring for the sick. She emphasized the need for care givers to examine patient outcomes and make changes based on findings. Florence's mathematical ability provided evidence that demonstrated how nurses can impact outcomes through various changes and actions within the healthcare setting.

Today, the American Nurses Association (ANA) has established nursing sensitive quality indicators, known as the National Database for Nursing Quality Indicators (NDNQI) which provides nurse administrators the data needed to benchmark outcomes or to develop comparison outcomes with other similar healthcare facilities. In 1994, the ANA originally identified 71 nursing quality indicators for an acute care setting, but later reduced this to a final list of 10. Examples of these quality indicators include, staff mix, nursing care hours per patient day, maintenance of skin integrity, nosocomial infections, patient falls, patient satisfaction and pain management. Gallagher and Rowell (2003), in an attempt to further educate nurse administrators of ANA's quality indicators, summarized that healthcare workers must collaborate when

evaluating “outcomes of patient care”, rather than evaluating “care provided”, suggesting quality should be measured and defined by outcomes.

The ANA, in recognizing the value of such information, decided to formulate an advisory board in 1998, to begin identifying a second list of quality indicators for the non-acute/outpatient setting. This committee identified several major indicators such as symptom severity, patient satisfaction, therapeutic alliance, and protective factors (Gallagher and Rowell, 2003).

The ANA’s success in identifying quality indicators for both acute and non-acute settings was well received. In 1996, the California Nursing Outcomes Coalition (CalNOC) was launched by a group of nurse leaders who were concerned with current trends in hospital care and quality outcomes as related to nursing care delivery (Bolton and Goodenough, 2003). The CalNOC adopted the quality indicators identified by the ANA, but with minor additions. The CalNOC conducted a pilot study to further explore patient outcomes and how nursing impacts these outcomes. The results of their study were presented at a statewide conference focusing on quality. The CalNOC approved a final list of quality indicators as a result of the study and conference which included two additional quality indicators the ANA did not originally include; restraint usage and measure of patients’ perception of satisfaction (Bolton and Goodenough, 2003). The coalition’s goal was to standardized data gathering statewide, through use of specific indicators in an attempt to improve quality performance related to nursing care/patient outcomes.

The Cedars-Sinai Medical Center (CSMC), a Magnet designated facility utilized the key quality indicators established by the CalNOC to implement various quality improvement processes two of which centered on a) restraint usage – resulting in a decrease from 4.5% to 2.5%, b) medication allergy identification – resulting in 98% agreement between medication administration record and Kardex and c) fall rates – resulting in a decrease of patient falls to

two per 1,000 days which met their predefined target (Bolton and Goodenough, 2003). From this quality initiative, CSMC identified the crucial rule nurses play in improving performance in healthcare, especially when the activities address patient processes and quality outcomes. The CSMC believed the RN was the center of the interdisciplinary team spending most of the time at the bedside acknowledging the needs of the patient (Bolton and Goodenough, 2003). This study supports the role of nurses as active members in research studies that examine quality outcomes of patients within acute care settings.

Quality of care continues to lack a standard definition, because consumers and healthcare providers define it differently (Darr, Tasso, Behar-Horenstein, Grimaudo, Guin, Gamble etc, 2002). Quality care has become a critical factor for most healthcares administrators. Drain (2001) when testing a tool to measure patients' experiences with their primary care providers and to further support quality improvement efforts, concluded the key to patient satisfaction is the providers ability to view the processes of care from the patients' perspective and focus on what the patients consider to be important.

Finally, a literature review conducted by Spilsbury and Meyer (2001) found nurses have significant influence over patient outcomes. Outcomes identified from the review were not specifically quoted as quality outcomes but were defined as pinpointed areas that reference quality, such as improvements in patient hygiene, patient nutrition and hydration, pressure sores/skin integrity, pain control, and improvements in areas such as depression and self esteem.

2.6 SUMMARY

PCC, satisfaction, and quality of care continue to lack an agreed upon definition by the healthcare professionals. Each concept is viewed within the context of one's profession differently as outlined in the literature. Although each concept relates to consumers experiences within a healthcare setting, the manner in which each healthcare professional approaches the patient as a unique individual with the goal of improving quality outcomes varies. Florence Nightingale one of nursing most historical entrepreneurs in examining outcomes, was the first to direct our attention to the need for this common goal, emphasizing the need for collaborative cohesiveness in treating the sick.

As noted in the background and significance section (see section 2.1 to 2.6) several studies have strongly suggested that one's expectations/perceptions impact the level of satisfaction one experiences. In addition, the literature also suggests through various studies, nurses have a direct impact on patient outcomes. Little literature was found that examined how nurses using PCC can impact outcomes.

Today, we continue to separate into our own areas of specialty (ex. physician, nurse, administrators, and national healthcare organizations) in seeing the patient as an individual while identifying ways of improving outcomes. Current literature reviews provide research findings focused on how physicians utilize PCC to impact outcomes, but little is found on how nurses impact the patient when utilizing a model of care known as PCC. Most importantly what is missing is how physicians and nurses utilizing a collaborative approach can address outcomes using PCC. As administrators, nurses, physicians and national healthcare organizations, we need to pull together as a collective group and establish laws, processes and initiatives that examine

the individual needs and outcomes one can expect or experience when entering a healthcare facility.

In Summary: Research examining PCC is currently being conducted in isolation, mainly focusing on how physicians impact patient outcomes using PCC. What is needed is research that examines how nurses impact patient outcomes utilizing PCC and then how nurse–physician interactions utilizing PCC can impact outcomes. Ultimately, a collaborative approach utilizing known research findings is desirable. This collaboration should explore how clinicians working as a team can meet the individual needs of the patient and impact outcomes. Within this context the ultimate goals established by the IOM and the MedPAC will be fulfilled.

3.0 PRELIMINARY STUDY

A pilot study was conducted to test the potential of a nurse-driven intervention to impact patient satisfaction, quality of care, and overall satisfaction as a result of patient's perception of nursing care. Findings were presented at the American Organization of Nurse Executives Annual National convention in April 2007 and a manuscript was accepted for publication within the Journal of Nursing Care Quality in September of 2007. The following section presents a summary of findings from this pilot work.

Purpose: The purpose of this randomized clinical trial was to examine the effect of Patient-Centered Care (PCC) on patient satisfaction, perception of nursing care and quality of care upon discharge from an acute healthcare setting. Findings from the study were used to refine the intervention (PCC) and estimate sample size for a larger future study.

Specific Aims: Specific aims included**;** 1) To examine the effect of PCC on patient satisfaction, 2) To examine the effect of PCC on quality of patient care, and 3) To examine the effect of patient's perception of nursing care on patient satisfaction.

Methods: Potential participants scheduled to undergo gastric bypass surgery were introduced to the interventional pilot study at a routine office visit and asked to provide informed consent. Eligibility criteria were: a) age >18 years, b) scheduled for bariatric bypass surgery and c) expected hospital stay of ≥ 2 days. Subjects were excluded in they had previously been

admitted to the study unit. The study received IRB approval and all subjects provided informed consent. A convenience sample of 36 patients presenting for gastric bypass surgery was randomized to an intervention (PCC) or control group. Both groups completed the Schmidt Perception of Nursing Care Survey (SPNCS) and the Baker & Taylor Measurement Scale (BTMS) prior to hospital discharge and were contacted 24-48 hours post discharge to complete a structured interview. The PCC group was called 24 to 48 hours prior to admission and cared for by nurses trained in providing PCC. Control group participants received usual care. Length of stay (LOS), falls, postoperative infections and adverse events occurring within 7 days post discharge, such as readmission to hospital, emergency room visit, or other adverse events were measured to assess quality of care. The medical record was used to obtain demographic and quality of care data. Descriptive statistics and T-tests were used to assess differences between groups.

Results: Subjects were 45.89 ± 14.52 years of age, predominately female, white and married. No statistical differences were noted between groups in age, gender, race or marital status. Subjects in the experimental group had a slightly higher incidence of diabetes 6 (33.3%) compared to controls 4 (22.2%). Significant differences were seen for two of the three BTMS subscales. Patients in the experimental group rated their satisfaction ($p = 0.042$) and quality of services ($p = 0.026$) more positively than control subjects. Alpha for BTMS and SPNCS was > 0.90.

Conclusion: PCC, as a model of nursing care, appears to have an impact on patient's perception of the level of satisfaction and quality of care received upon discharge, but a larger sample size is needed to test the hypothesis.

4.0 METHODS

4.1 DESIGN

This randomized clinical trial used a posttest design to determine the impact of PCC on patient satisfaction, perceptions of nursing care, and quality of care. Subjects were randomized to group using sealed, opaque sequentially numbered envelopes prepared by an individual not associated with the study. Group assignment was determined using a blocked procedure which assured equal entry into both groups over time. Both groups completed the Schmidt Perception of Nursing Care Survey (SPNCS) and the Baker & Taylor Measurement Scale (BTMS) prior to hospital discharge. In addition, medical record data was obtained to determine three measures of quality of care: a) absence of infection (positive culture obtained during hospital stay not present prior to admission); b) absence of falls (any documented fall during hospital stay); and c) hospital length of stay (LOS) < 3 days (average LOS is 2.8 days). The physician's office medical record was examined to assess for adverse events occurring within 7 days post discharge for each subject. The study was approved by the University of Pittsburgh Institutional Review Board and all participants provided informed consent.

Table 1 Intervention for Control vs. Experimental Group

	Pre-Admission Call	PCC Intervention	Usual Care	SPNCS at Discharge	BTMS at Discharge	Post-Discharge call
Experimental Group	X	X		X	X	X
Control Group			X	X	X	X

4.2 SAMPLE

Each month, approximately 26 subjects scheduled for bariatric surgery are admitted to a 255 bed community hospital which is designated as a Bariatric Center of Excellence. The study was introduced to patients in person or by a communication letter (see Appendix A) by the admitting surgeon or healthcare staff known to the patient from June, 2006 to September, 2007. Only patients having a Roux-en-y procedure were approached, for typical LOS is 2.8 days versus lap band procedures which require 1 to 2 day LOS. If the patient was interested in learning more about the study and agreed to allow her/his name and contact information to be given to the research team, a note was made in the patient's medical record documenting their interest and permission for contact. At this meeting, a research team member explained the study in detail and obtained informed consent. During this discussion, it was explained that participating in the study would not affect the care of the individual in any way. A power analysis indicated that a sample of 150 per group would be required to achieve a power of .80 with a p value of .05, using PASS program. Due to feasibility issues, e.g., impact on staffing and patient admission/discharge process, a smaller sample was recruited. The sample size was deemed feasible to meet study

goals based on the average number of patients who received gastric bypass surgery and the impact on process within the surgical unit. The study goal was to recruit and randomize 116 subjects to the experimental (n=58) and control group (n=58).

4.2.1 Bariatric Population

Bariatrics refers to a branch of medicine that addresses the cause, prevention and treatment of obesity in humans. Obesity is defined as having a body mass index (BMI) ≥ 30 and severely obese as having a BMI ≥ 40 (NASSO, Obesity Society, 2007). Another widely used measurement to predict risk factors related to obesity is a waist circumference >35 inches for women or > 40 inches for men (NASSO, Obesity Society, 2007). Obesity is a complex multi-factorial chronic disease that involves genetic, psychological, metabolic, behavioral and psychological components. Chronic conditions or health risks associated with obesity include; diabetes, heart disease, stroke, hypertension, sleep apnea and osteoarthritis (NASSO, Obesity Society, 2007). Psychological characteristics found in severely obese patients consist of depression, negative body image, eating disorders and low quality of life (Greenberg, Perna, Kaplan, Sullivan, 2005). The Department of Health and Human Services, Center for Disease Control and Prevention, found an increase in obesity among adults aged 20 -74 from 1980 to 2004 greater than 17% (Department of Health and Human Service, 2007).

Designation as a certified Bariatric Center of Excellence requires application to the Surgical Review Corporation and certification that the physician and institution to meet 10 predefined standards within a 2 year period (Surgical Review Corporation, 2007). Several standards relate to nursing care administered postoperatively. Staff nurses are provided additional education designed to increase their understanding of the surgical intervention and

needs of the obese patient who elects to undergo bariatric surgery. Patients approved to have bariatric surgery must complete a 6-month intense preparation program prior to the bariatric procedure. This preparation entails structured educational activities, diagnostic testing, physical and physiological assessment and dietary consultation. The study unit was certified as a Bariatric Center of Excellence in 2003. Over the past two years the nursing care had been tailored to meet the needs of the population using guidelines set fourth by the Surgical Review Corporation.

This sample population was selected based on the following needs: a) subjects had a preestablished date of surgery (allowing contact prior to admission); b) surgery completed by the same surgeon, ensuring the implementation of the same surgical technique and postoperative protocol; and c) nursing care received from staff functioning within the same unit culture under same managerial over site.

4.2.2 Inclusion/Exclusion Criteria

Inclusion criteria required that subjects be: a) >18 years of age, b) scheduled for bariatric bypass surgery by one admitting surgeon; and c) have an expected length of stay of $\geq$ 2days. Exclusion criteria were: a) any prior admission to the study unit, b) bariatric surgery performed by another surgeon c) transfer off the study unit and d) scheduled for a LAP Band procedure as this procedure has a length of stay < 2 days. The racial, gender and ethnic characteristics of the proposed subject population reflected the demographics of Pittsburgh and the surrounding area and/or the patient population of the University of Pittsburgh Medical Center. The study

attempted to recruit participants in respective proportion to these demographics. No exclusion criteria were based on race, ethnicity, gender or HIV status.

4.3 PCC INTERVENTION

During a preadmission call, PCC nurses obtained information from the patient that identified their expectations, goals, concerns, and fears regarding their hospitalization. This information was used to initiate the patient's plan of care prior to hospital arrival. This collaborative effort provided staff within both the surgical and study unit the opportunity to better understand the patient as an individual with individual needs prior to their first formal meeting. For example, knowing the patient has a fear of needles or intravenous catheters (shared during precall interview), the nurse and/or anesthesiologist's approach prior to inserting catheters could be individualized. The clinicians could proceed with caution by being discrete with visualization of equipment prior to insertion, educating on process to be used, and using a topical solution to numb skin. During the preadmission call, the patient was asked if there was a care partner they would like to include in planning their care during their hospital stay. This care partner could be a family member, friend or significant other.

During their hospital stay, participants in PCC group were actively involved in planning their daily activities, establishing daily goals, receiving education that supports their needs and planning their transition home. An example of planning one's care involved the decision of when and how often a patient would ambulate. This decision would be openly discussed between the patient, nurse and care provider, with reinforcement by the nurse on the importance and benefit of increasing one's activity postoperatively as outlined by the physician and literature.

The control group received usual care, i.e. traditional hospital policy/protocols and had no contact prior to unit admission.

To insure integrity of the intervention, PCC and control subjects were placed in rooms that were geographically separated. PCC patients were cared for by nurses educated to provide PCC 24 hours a day and these nurses had no interaction with control patients. PCC nurses were selected based on their willingness to volunteer to pilot a new model of care and the Unit Directors input on balancing each group of nurses based on age, education, and years experience. (Table 1). The average age of nurses who provided PCC was 37.18 ± 8.59 and the age of nurses who provided usual care was 41.6 ± 12.57; p=0.52. Average years experience for nurses providing PCC is 8 ± 7.60 and for nurses providing usual care was 9.07 ± 10.03; p=0.164. Three nurses in each group were BSN graduates and the remainder diploma or associate degree graduates.

The nurse/patient ratio for both groups averaged 5:1 during the daylight, 7:1 to 8:1 on evenings, and 8:1 to 10:1 on nights. The total number of study subjects cared for by a nurse at one time in either group was 1 to 2 patients per shift on daylight and evenings, and 2 to 4 patients per shift on nights. Nursing assistants caring for patients in both groups were not knowledgeable PCC intervention, of subject randomization, or identification of PCC nurse versus usual care nurse. Patients distinguish nurses from assistants by the color of their uniform, for assistants wore green uniforms and nurses white uniforms.

4.3.1 PCC Training

The training for PCC involved 10 hours of education that focused on enhancing the nurse's communication, negotiation and patient education skills (Appendix B). The objectives were: a)

to introduce the concept of PCC, b) educate nurses on research methodology and process for this study, c) to improve nurses understanding and usage of key communication skills, and d) to introduce goals of the nursing department as they reflected the purpose and specific aims of the research study. The content was presented in two sessions. Four key communication concepts were addressed: a) communicating to facilitate behavior change, b) establishing mutual understanding, c) understanding others frustration and anger, and d) understanding others anxiety and guilt. In addition, the training session included role playing to further develop skills and strengthen confidence.

4.3.2 Risk/Benefit

Risks associated with this study were minimal. The primary risk was an inadvertent or accidental breach of confidentiality. In addition, participants may have felt uncomfortable in answering questions related to 1) their perception of the level of care to be provided, 2) their expectations of the quality of care to be received, and/or 3) their level of comfort, being actively involved in planning their care during their hospital stay. There were no direct benefits to participants. There may be future benefits to patients from study findings.

4.3.3 Monitoring

Weekly to biweekly meetings were held by the research team to monitor all processes. A structured checklist which included all key steps and processes was completed and reviewed at this time. Researchers met with PCC nurses to validate patients' involvement in planning daily

care and identified any problems that may have been encountered. Care plans for experimental group were assessed by member of research team for documentation of daily goals.

4.4 MEASURES-TOOLS

Instruments used for this study include the a) Baker & Taylor Measurement Scale (BTMS), b) Schmidt Perception of Nursing Care Survey (SPNCS), c) an investigator developed tool to collect pre-admission demographic data and post discharge data, d) a structured checklist to ensure all processes were completed, and e) an investigator developed structured interview guides for pre-admission and post discharge calls. The demographic form gathered information concerning sociodemographic information, known co-morbidities, post-op complications, length of stay (LOS), falls and 7 day post discharge adverse events. The structured checklist was used to verify/confirm that participants followed the steps of the research process and maintained integrity of the interventions, e.g., phone call, unit placement, care consistent with research design. The checklist was monitored weekly to biweekly by the research team to ensure completeness of actions. Structured interview guides were used to guide preadmission and post discharge interviews. The guide insures consistency during the interview process and wording of interview questions.

This researcher was unable to find instruments designed to measure the impact of PCC in a healthcare setting. Common measurement instruments used within the bariatric population focus on patient's general quality of life. Examples include Lewin-Technology Assessment Group (TAG), Obesity-Related Well-being Scale, and the Obesity Adjustment Survey-short

Form. No tools were found that assessed the bariatric patient's satisfaction or perception of care following bariatric surgical procedure.

4.4.1 Baker & Taylor Measurement Scale

The Baker & Taylor Measurement Scale (BTMS) was selected to measure patient satisfaction and quality of care as perceived by the patient during their hospital stay. The BTMS was originally developed by Cronin and Taylor to assess the relationship between service quality, purchase intention and customer satisfaction in a residential community dwelling sample. The original instrument contained 99 items which was reduced to 7 in development. In 1997, Baker and Taylor used the BTMS in its current format in a hospital outpatient setting. The BTMS consists of three subscales: a) purchase intentions - measuring one's intent to utilize a facility for future needs, had a demonstrated reliability coefficient of 0.91; b) quality of services - comparing services received with a level of excellence, had a demonstrated reliability coefficient of 0.72; and c) satisfaction with services – defined as ones' degree of congruency between expectations and type of care received, had a known coefficient of 0.71. The total scale coefficient is 0.80 (Baker & Taylor, 1997). The score for each question ranges from 1 (strongly disagree or poor) to 7 (strongly agree or excellent) and the total maximum possible score is 49. Using coefficient alpha scores Baker & Taylor (1997) were able to confirm reliability of the items and confirmed validity through content validity. Completion of tool took < 10 minutes.

4.4.2 Schmidt Perception of Nursing Care Survey

The Schmidt Perception of Nursing Care Survey (SPNCS) was selected to measure the patient's level of satisfaction as it relates to their perception of nursing care received during the hospital stay. The SPNCS is an empirically derived tool based in a grounded theory study of patients' experiences with receiving nursing care during their hospitalization (Schmidt, 2003). The SPNCS is a 15 item questionnaire which includes four subscales: a) seeing the individual patient - patients perceived nurses as recognizing them as a unique person with individual needs (proven Cronbach's alpha of 0.92), b) explaining actions – nurses providing information to assist patient's understanding of various tasks (known Cronbach's alpha 0.84), c) responding to needs – action of nursing staff as a result of patient request (Cronbach's alpha 0.92) and d) watching over patient – patients knowledge that nursing staff were in close proximity providing a level of surveillance (Cronbach's alpha 0.92). The total scale had a Cronbach's alpha reliability of 0.96 (Schmidt, 2004). Scores range from 1 (strongly disagree) to 5 (strongly agree) and the total possible score is 75. Completion of tool took < 10 minutes.

4.4.3 Pre-Admission Structured Interview Guide

This tool provided direction and consistency when calling the patients prior to hospital admission to explore their expectations, educational needs, significant other who would be involved in their care, and/or concerns they may have toward their hospital stay. A total of six questions were developed to assist the nurse to initiate the patient's care plan prior to arrival (see Appendix C).

4.4.4 Post-Discharge Structured Interview Guide

This tool provided direction and consistency when calling the patients post discharge from the hospital setting. The tool consists of eight questions that inquired about the patient's transition home, their satisfaction with the healthcare team, and future intent of returning to XXXX Hospital if medial services were needed (see Appendix D).

4.5 PROCESS

Once informed consent was obtained, the research coordinator assigned a study identification number to randomize the patient into a group (control or experimental). The participant assigned to the experimental group was contacted by a member of the research team 24 – 48 hours prior to the scheduled hospital admission, using a predefined script (see Appendix E), and pre-admission structured interview guide (see Appendix C), received the intervention (PCC) daily , and completed the BTMS and SPNC at time of discharge. In addition, each subject was called 24 to 48 hours after discharge using a predefined call back script (see Appendix F) and post discharge interview guide (see Appendix D). If the participant was assigned to the control group, no preadmission call was made. Control participants received usual care, completed BTMS and SPNCS at hospital discharge, and received a call 24 – 48 hours post discharge using the same call back script and interview guide (Table 1). Both groups were given a copy of the BTMS and the SPNCS coded with their study ID on the day of hospital discharge. They were asked to place the completed questionnaires in an unmarked sealed enveloped and deposit them in a box

marked “completed survey” when leaving the study unit. Demographic and medical record data was obtained from the medical record.

4.6 DATA ANALYIS

Descriptive statistics (means, medians, ranges, standard deviations, percentages, and frequencies) were used to analyze demographic data for both control and experimental groups. Data were screened by group for accuracy, missing data points, and detection of outliers. Next data were screened to confirm assumptions of planned analysis were met, such as normality and homoscedasticity. A one-way multivariate analysis of variance (MANOVA) was conducted to assess joint distributions of each variable. Groups were not found to be significantly different on outset (meaning there were no differences in means), p-values were assessed. The individual dependent variables were examined by group using t-tests and Chi square to assess the difference in means separately for each dependent variable. Assessment of the parameters was noted and identification of effect size for each dependent variable was made. Wilks’ Lambda was used to test significance of the main effects computing multivariate statistics such as MANOVA. The statistical software SPSS v. 15 was used to analyze the data. SPSS uses a general linear model (GLM) as an alternative form of MANOVA which analyzed the BTMS and the SPNCS data to asses if there was significant difference in means between subscales and total scores within each group.

Qualitative data obtained during the pre and post calls were analyzed via content analysis by quantifying the number of times similar responses occur per question. If a response occurs more than one time, then themes were identified and prioritized from most frequently occurring

to least occurring per question. Four members of the research team reviewed responses to each question independently and developed a set of prioritized themes. As a group, the research team compared their findings and agreed on a list of prioritized themes for each question. The list was then compared to the findings of two qualitative research experts (working independently of each other) using the same analysis process to obtain the finalized list of themes to be reported.

4.6.1 Specific aim 1

Examine the effect of Patient-Centered Care on patient satisfaction. Percentages, means, standard deviations and descriptive statistics between groups were obtained and presented in a table outlining findings from the following tools and variables; a) BTMS – subscales for quality of service, purchase intent and satisfaction with care.

4.6.2 Specific aim 2

Examine the effect of Patient-Centered Care on quality of patient care. Percentages, means, standard deviations and descriptive statistics between groups were obtained and presented in a table outlining findings from the following tool and variables; a) BTMS – subscales for quality of service, b) LOS, c) falls, d) infection and e) 7 day post discharge assessment of adverse events, such as readmission, emergency visit or other adverse event.

4.6.3 Specific aim 3

Examine the effect of PCC on patient satisfaction as a result of patient's perception of nursing care. Percentages, means, standard deviations and descriptive statistics between groups were obtained and presented in a table outlining findings from the following tool and variables; a) SPNCS – subscales for watching over, responding, caring, and seeing patient as an individual.

5.0 RESULTS - MANUSCRIPT

The results of this study will be presented in the format of a manuscript drafted for submission to Sigma Theta Tau, Journal of Nursing Scholarship.

5.1 TITLE PAGE

A Randomized Clinical Trial to Evaluate the Impact of Patient-Centered Care in a Bariatric Center of Excellence

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Precis: A randomized study revealed clinically, but not statistically, significant findings regarding the impact of Patient-Centered Care in a Bariatric Surgery Center of Excellence

5.2 ABSTRACT

Purpose: The purpose of this study was to determine if nurses, utilizing patient-centered-care (PCC), impacted patient satisfaction, perception of nursing care, and quality of care in patients undergoing bariatric surgery.

Design: A randomized controlled trial enrolling 116 subjects (46 ± 12 years; 78% women) scheduled to undergo gastric bypass surgery within a hospital known for its Bariatric Center of Excellence. The study extended from 6/2006 to 9/2007.

Methods: Subjects were randomized into an intervention (PCC) or control (Usual Care) group. The PCC-group was called 24-48 hours prior to admission and cared for by nurses trained in PCC. The control-group received usual care. Both groups completed two questionnaires at hospital discharge and were called 24-48 hours post-discharge. LOS, falls, infections and

adverse events were measured to assess quality of care. Statistical analysis was conducted using *t*-tests, Chi-Square, and multivariate analysis of variance.

Findings: No statistically significant differences were found between groups for hospital LOS, infection, falls, post-op complications, quality of care, overall level of satisfaction or perception of nursing care.

Conclusions: PCC did not impact patient's level of satisfaction or quality of care in this setting. Nevertheless, the study produced clinically relevant findings regarding staff response to this care approach.

Key Words: Patient-Centered Care, patient satisfaction, quality of care, nursing outcomes, model of care; Bariatric Center of Excellence

5.3 MANUSCRIPT CONTENT

A Randomized Clinical Trial to Evaluate the Impact of Patient-Centered Care in a Bariatric Center of Excellence

The concept of patient-centered care (PCC) has become widely visible in healthcare. PCC has been included as a component of the strategic plans of healthcare organizations, the specific aims of governing bodies, discussed in journal articles and books and presented as a key focus of private nonprofit organizations, e.g., The Planetree Organization and The Institute for Family-Centered Care. Depending on one's belief, the definition of PCC can vary. Individual needs, satisfaction, collaboration, and quality are common themes used to define PCC. However, there continues to be no clear consensus on the accepted definition.

The Institute of Medicine (IOM) defines patient-centeredness as health care that establishes a partnership among practitioners, patients, and their families to ensure that decisions respect patients' wants, needs and preferences and that patients have the education and support they need to make decisions and participate in their own care (Institute of Medicine, 2001). The IOM is an influential organization that has incorporated PCC into its strategic goals. When identifying six national quality aims, the IOM proposed that healthcare should be patient-centered, effective, timely, efficient, equitable and safe (Institute of Medicine, 2001). In 2005, the Center for Medicare & Medicaid Services (CMS) incorporated the IOM's six aims into their roadmap for quality improvements highlighting the integration of PCC as one of its 12 detailed actions (The Centers for Medicare, 2005).

The Medicare Payment Advisory Commission's (MedPAC) exemplifies another organization that is concerned with the quality and level of satisfaction that patients experience. In 2006, MedPAC launched a new reimbursement system, titled "Payment for Performance." The goal of this system is to link financial reimbursement to the quality of care patients receive and the level of satisfaction with services rendered (Report to the Congress, 2005). A large number of institutions and practitioners will be impacted by this method of reimbursement. The IOM, CMS, and MedPAC are examples of organizations that seek to improve patient's individual level of quality and satisfaction which, in turn, may influence the level of reimbursement organizations receive.

Nurses have the greatest opportunity to influence patients' outcomes. Using an approach that is patient centered has the potential to influence patient experiences and, thereby, increase satisfaction, quality of care and possibly increase in the desire to return for future services with a consequent increase in hospital revenue. When determining payment for care, nursing is not a

separate cost item, making the value of nursing difficult to quantify. Administrators typically examine designated quality outcome indicators such as the number and type of infections or the time period in which antibiotics are administered to patients after the initial diagnosis of pneumonia. As a consequence of the IOM, CMS and MedPAC initiatives, hospital administrators need to expand this focus to include indicators of nursing impact on patient satisfaction and the quality of care received. In order for healthcare facilities to survive financially, it is necessary to meet new benchmarks and attract new clients. A major determinant of whether or not a patient returns to a particular hospital may be their perception of the experience and satisfaction felt upon discharge.

Nurses need evidence to support the vital role they play in providing quality care to patients. Without this evidence, nurses lack the ability to support the importance of their role in influencing patient satisfaction. McCormack (2003) contends that principles of person-centeredness must be adopted in research designs that have the intention of understanding the key relationship between nursing practice and quality of patient care.

The purpose of this randomized clinical trial was to extend findings of a pilot study which examined the impact of PCC on patient satisfaction on discharge from an acute healthcare setting (Wolf, et al. 2007). The methodology and design used in the pilot study were maintained, while increasing the sample size. The aims were to: (a) examine the relationship between PCC and patients' satisfaction; (b) examine the relationship between PCC and patients' quality of care; (c) examine the effect of patients' perception of nursing care on patient satisfaction (Wolf, et al. 2007).

5.3.1 Methods

5.3.1.1 Design and Sample

This randomized study used a posttest design. Patients scheduled to undergo gastric bypass surgery within a community hospital from June 2006 to September 2007 were introduced to the study at a routine office visit and asked to provide informed consent. Entry criteria required that subjects be: a) > 18 years of age, b) scheduled for bariatric bypass surgery and c) have an expected hospital length of stay (LOS) of ≥ 2 days. Exclusion criteria were: a) any prior admission to the study unit; b) bariatric surgery performed by a surgeon other than the pre-selected surgeon (to minimize differences due to post surgical management) ; c) transfer off the study unit, and d) scheduled to have a LAP Band procedure, as this procedure has a length of stay < 2 days.

Subjects were randomized to the PCC or control (usual care) group using sealed, opaque sequentially numbered envelopes. A blocked procedure was used to assure equal entry into both groups over time. Study participants were not informed of their treatment assignment. Only the PCC nurses and the investigators were aware of group assignment.

Both groups completed the Schmidt Perception of Nursing Care Survey (SPNCS) and the Baker & Taylor Measurement Scale (BTMS) prior to hospital discharge and were called within 24 to 48 hours to assess their transition home, their hospital experience, answer any additional questions, and identify ways the organization could improve. Medical record data were obtained to determine three measures of quality of care: a) absence of infection (positive culture obtained during hospital stay not present prior to admission); b) absence of falls (any documented fall during hospital stay); and c) hospital length of stay (average LOS is 2.8 days). In addition, the medical record was examined to assess adverse events within 7 days post discharge. The study

was approved by the University Institutional Review Board and all patients gave informed consent.

PCC Training. Using an educational model heavily based in communication skills, negotiation skills, and role playing which centered on individualness; nurses providing care to the intervention group were introduced to PCC. Nurses attended two educational sessions, each approximately five hours long. The educational objectives were to: 1) introduce the concept of PCC; 2) strengthen understanding and usage of key communication skills; and 3) educate about the purpose and specific aims of the research study and content of the intervention. The presentation included lectures, role playing, and discussion supported with audio/visuals.

PCC Intervention. Patients in the PCC group were called 24 to 48 hours prior to admission and asked a predetermined list of questions which explored the patient's goals, concerns, expectations and fears regarding their scheduled hospitalization. This information was utilized by the nurse to incorporate the patient's individualized needs into the plan of care. For example, knowing the patient feared needles or intravenous catheters (shared during pre call interview), the nurse would individualize the approach by being discrete with visualization of equipment prior to insertion, educating on the process to be used, and using a topical solution to numb the skin. In addition during the preadmission call, the patient was asked if there was a care partner he/she would like to include in planning care during their hospital stay. This care partner could be a family member, friend or significant other.

Throughout the hospital stay, patients in the intervention group were cared for by nurses trained in providing PCC. The nurse collaborated with the patient and their care partner on a daily basis to address their combined needs, incorporating the patient or the care partner in making decisions on the care needed. For example, the decision of when and how often to

ambulate was openly discussed between the patient, nurse and care provider, with reinforcement by the nurse on the importance and benefit of increasing one's activity postoperatively.

To insure integrity of the intervention, patients in the PCC and usual care group were assigned to separate hallways and assignments were structured so care was only received from group-matched nurses on all shifts and days of the week. PCC patients were only cared for by nurses educated to provide PCC and these nurses had no interaction with control patients. The control group received usual care, i.e. traditional hospital policy/protocols and had no contact prior to unit admission.

PCC nurses were selected based on their willingness to volunteer to pilot a new model of care and the goal of balancing the groups on age, education and experience. Nurses who provided PCC and usual care compared closely in regard to age (37.18 ± 8.59 versus 41.6 ± 12.57, respectively; $p = 0.33$). Mean years of experience also compared closely for PCC and usual care nurses (8.0 ± 7.6 versus 9.07 ± 10.03; $p= 0.77$). The nurse/patient ratio for both groups averaged 5:1 during the daylight, 7:1 to 8:1 on evenings, and 8:1 to 10:1 on nights. The total number of study subjects cared for by a nurse at one time in either group was 1 to 2 patients per shift on daylight and evenings, and 2 to 4 patients per shift on nights. PCC nurses conducted all pre and post discharge calls.

5.3.1.2 Instruments

The *Baker & Taylor Measurement Scale (BTMS)* was selected to measure patient satisfaction and quality of care as perceived by the patient during their hospital stay. The BTMS was originally developed by Cronin and Taylor (1992) to assess the relationship between service quality, purchase intention and customer satisfaction using a randomized sample within a med-sized city in the southeastern Unites States. In 1977, Baker and Taylor utilized the instrument in

a hospital outpatient setting when exploring if satisfaction impacts one's future purchase intentions. The BTMS consists of three subscales: a) purchase intentions which have a demonstrated reliability coefficient of 0.91, b) quality of services with a demonstrated reliability coefficient of 0.72 and c) satisfaction with services having a known coefficient of 0.71. The total scale coefficient is 0.80 (Baker & Taylor, 1997). The score for each question ranges from 1 (strongly disagree or poor) to 7 (strongly agree or excellent) and the total maximum possible score is 49. Using coefficient alpha scores, Baker & Taylor (1997) were able to confirm reliability of the items and confirmed validity through content validity. Completion time took < 10 minutes.

The *Schmidt Perception of Nursing Care Survey (SPNCS)* was selected to measure the patient's level of satisfaction as it relates to their perception of nursing care received during the hospital stay. The SPNCS is an empirically derived tool based in a grounded theory study of patients' experiences with receiving nursing care during their hospitalization (Schmidt, 2003). The SPNCS is a 15 item questionnaire which includes four subscales: a) seeing the individual patient (Cronbach's alpha of 0.92), b) explaining actions (Cronbach's alpha 0.84), c) responding to needs (Cronbach's alpha 0.92) and d) watching over patient (Cronbach's alpha 0.92). The total scale had a Cronbach's alpha reliability of 0.96 (Schmidt, 2004). Scores range from 1 (strongly disagree) to 5 (strongly agree) and the total possible score is 75. Time to completion was < 10 minutes.

Structured interview guides were used to insure consistency during the interview process and wording of interview questions. A structured checklist was used to confirm that participants maintained integrity of the intervention, e.g., phone call, unit placement, care consistent with PCC. The checklist was monitored weekly to biweekly by research team.

5.3.1.3 Data Analysis

Descriptive statistics were used to describe sample demographics, medical co-morbidities, and complications. Data were screened by group for accuracy, missing data points, and detection of outliers and to confirm assumptions of planned analysis were met, such as normality. *t*-tests, Chi square and multivariate analysis of variance (MANOVA) were used to compare differences between control and experimental group responses to the BTMS and SPNCS and quality of care measures. SPSS v. 15 was used to analyze the data. A p value of 0.05 was considered to be statistically significant.

Qualitative data obtained during the pre and post calls were analyzed via content analysis by quantifying the number of times similar responses occurred per question. If a response occurred more than one time, themes were identified and prioritized from the most frequently occurring to the least occurring. Four members of the research team reviewed responses to each question independently and developed a set of prioritized themes. As a group, the research team compared their findings and agreed on a list of prioritized themes for each question. The list was then compared to the findings of two qualitative research experts (working independently of each other) to obtain the finalized list of themes to be reported.

5.3.2 Results

A total of 138 subjects were approached, 129 consented to be in the study and 9 declined for personal reasons. Thirteen subjects were lost to attrition; 6 due to surgery cancellations, 6 due to a transfer to ICU and one due to an inability to comprehend questions or complete questionnaires. A total of 116 subjects completed the study, 58 in the PCC group and 58 in the control group. The subjects were 46.0 ± 11.9 years of age (range 22 to 70 years), predominately

female, white and married (Table 1). There were no statistically significant between group differences in age (p=.23), gender (p=.07), race (p=.76) or marital status (p=.43); however, there tended to be more females in the PCC group (n=50) vs. usual care group (n=41). There were no statistically significant differences between groups for hospital LOS (p=.776), incidence of postoperative infection (p=1.0), falls (p=1.0) or complications such as renal failure, gastric bleed, atrial fibrillation, and post-op adhesions (see Table 2). No statistically significant differences were found between groups when measuring overall satisfaction (BTMS, p=.247) or overall level of satisfaction with nursing care (SPNCS, p=.225).

5.3.2.1 Interview content analysis

The majority of patients (>80%) in the PCC group had no concerns preoperatively. Those who expressed concerns revealed three common themes: a) general anxiety regarding surgery, e.g., nervousness, concerns about effects of anesthesia, and concerns about the use of intravenous lines, continuous positive airway pressure machines and foley catheters; b) pain management, e.g., adequate control of pain, being pain free and being comfortable; and c) management of existing co-morbidities, e.g., diabetes, a previous stroke.

There were five common themes prior to admission. From highest to lowest priority they centered on: a) expectations of staff, e.g., taking care of me, being kind, nice or pleasant; b) successful surgical outcomes, e.g., procedure was successful; c) pain control, e.g., experiencing little pain or having pain in control; d) anticipatory guidance, e. g, staff will offer explanations or instructions and help patient understand what to expect; and e) environmental cleanliness, e. g., clean rooms and bed. The majority (96%) requested a care partner to be included in planning. From highest to lowest request, this person was identified as a significant other 57% (spouse or

significant partner); mother 13%; family member 13%, or friend 13%. Only 4% of subjects declined, most stating they lived alone.

Post discharge qualitative data (> 80%) revealed very positive themes for both groups. Direct comments regarding nursing care and hospital experience included; very satisfied, great care, went well, nice, fine, good, smooth and excellent care. Negative themes were found equally within both groups. They included disappointment due to: a) delays, e.g., answering call bells, at discharge; b) medical management issues, e.g., communication break down between nurses and physicians, discharge instructions needing clarification; c) need for individualized information/educational needs, e.g., diet, insulin coverage, dressings; and d) concerns with hospital environment, e.g., less noise, better nurse call system, and recliner chairs in room. The researchers noted one distinguishable difference. Patients in the PCC group were more open to communicating feelings, more talkative and comfortable expressing negative experiences. The control group was more cautionary, requiring the researchers to repeat questions to obtain a response. For example when asked what could have been done differently, the control group provided short-quick responses using one or two word sentences such as "nothing, more staff, not a thing". The PCC group responded in greater detail using multiple word sentences such as "better understanding and offering of dietary selections"; "more coordination in nurses station as far as responding to call lights"; "did not feel room was clean (floor, walls, bathroom)", and " I experienced this in the past with other family members". Six subjects could not be reached in the preset time period, 4 in the usual care group and 2 in the PCC group.

5.3.3 Limitations

Diffusion of the intervention could have occurred because all patients (control and experimental) were admitted to the same unit, despite steps taken to minimize this potential. Conversely, the decision to use one unit insured that both groups received nursing care from staff with the same unit culture and experienced the same post surgical routine. The instruments selected to measure outcomes may not have been sufficiently sensitive to detect between group differences. However, given the absence of trends in between group differences, this appears unlikely. Finally, it is possible that there were unrecognized differences in the nurses providing care to the intervention and control groups that impacted care beyond that required by PCC.

5.3.4 Discussion

The purpose of this randomized study was to extend pilot findings by examining the effect of a PCC intervention on a patient's level of satisfaction at discharge from an acute healthcare setting to a larger sample of patients. Study findings indicated no statistically significant differences in any variable examined. This finding contrasted with pilot study results, conducted in the same clinical unit, when the PCC group rated their satisfaction of services higher ($p=.04$) and quality of services higher ($p=.03$) than usual care subjects (Wolf, et al. 2007).

Over the past few years, several institutions have attempted to incorporate the concept of PCC into current practice. Durston (2006) described an attempt to incorporate PCC into an adult acute care medical center using the Partners in Caring philosophy and change model theory (Durtson, 2006). Within a four year period, the institution reported success in achieving this goal exemplified by a 263% increase in the number of patients who had chosen a care partner (an

individual, friend or family, who would assist in providing care to the patient); 23% increase in nursing scores within the Press Ganey satisfaction survey and a decrease in overall patient complaints from greater than 400 in 1997 to less than 300 in 2000 (Durtson, 2006). The authors, however, provided limited information about the content of their intervention and there was no control group.

In 2007 The Advisory Board Company for healthcare organizations presented an overview of PCC models and how institutions utilized consultants to successfully integrate these models into their institution (Chen, 2007). The three profiles provided highlighted three critical points; a) executive involvement is essential, b) PCC shortens LOS, and c) a strong social support network improves patient satisfaction. No data were presented to support the reported success of their intervention. The discussion only referenced these reports to illustrate the advantages of PCC in promoting patient and employee satisfaction, shortened LOS, and increased quality of care.

Several additional studies reported positive results following the implementation of PCC (Little, Everitt, Williamson, et al. 2001 and Swenson, Buell, White, Ruston, et al. 2004) but did not test success of the intervention using a control group. Other studies have provided guidelines to facilitate integration of PCC in healthcare settings (Duggan, Geller, Cooper, Beach, 2006; Irwin & Richardson, 2006; Landers & McCarthy, 2007; McCormack, 2003). Only one study was identified that tested ability of PCC to improve outcomes using an experimental design. Rader, Barrick, Hoeffer, et al. (2006) conducted a randomized trial to determine if nursing assistants utilizing the concept of PCC could alter the level of aggressive behavior in elderly population within a long term care facility. They reported a significant decrease in behavioral symptoms in the groups receiving the intervention. With this exception, no studies were

identified that explored nurses' impact on patient satisfaction when PCC was tested using a randomized design.

The current study was conducted in unit designated as a Bariatric Center of Excellence. This designation requires application to the Surgical Review Corporation and certification that the physician and institution meet 10 predefined standards within a 2 year period (Surgical Review Corporation, 2007). Patients complete a 6-month intense preparation prior to the bariatric procedure that entails structured educational activities (supporting pre and post surgical processes), diagnostic testing, physical and physiological assessment and in depth dietary consultation. The decision to select this unit was motivated by the belief that patients admitted to this unit might optimally benefit from PCC due to their underlying health concerns. In retrospect, the process used to provide this certification may have prompted the staff to provide individualized care and, therefore, precluded the ability to detect a difference between groups. We recommend that future studies utilize a setting that is not a center of excellence, since goals of such centers and PCC are in many ways similar.

We were unable to identify any instruments specifically designed to measure the impact of PCC or satisfaction of a bariatric population undergoing surgical procedures. It is possible that the BTMS and the SPNCS were not sufficiently sensitive to detect change resulting from the intervention. A power analysis conducted post hoc indicated that to achieve a power of .80 with a p-value of 0.05, would require an estimated sample size of 1500 per group, supporting that the groups were essentially identical in their response. More likely, the choice of unit precluded the ability to detect a difference. One must consider the potential impact of the 'ceiling effect' for 46% of purchase intentions, 45% of quality scores were at maximum, and 54% of satisfaction

subscale scores were either 13 or 14 out of a maximum score of 14 on BTMS. This may suggest a substantial number of subjects' level of satisfaction was too high to be measured.

Despite the lack of statistical significance, qualitative findings indicate that PCC nurses in were able to positively impact the manner in which patients were prepared prior to surgery, increase family involvement, increase nurse satisfaction as verbalized by staff nurses during the study, increase communication between nurse, patient and family and support the current level of care without negatively impacting outcomes. Further, PCC nurses verbalized a high level of satisfaction. After the study concluded, PCC continued to be utilized by incorporating patients in planning their daily care.

The integration of PCC within a Bariatric Center of Excellence identified new ways to improve patient care. Through post discharge calls, it was identified that many patients were unable to fill discharge prescriptions for the liquid analgesic at their local pharmacy and had to make calls to other pharmacies, delaying the administration of the analgesic. This finding led to a change in preadmission education alerting patients to identify an appropriate pharmacy or use one within a close distance to the hospital known to have this prescription. A second example involved gaining insights into unexpected concerns. For example, one patient's primary concern was providing care for her children post discharge, rather than her own care, as she had no family support. In a second example, a patient did not understand that pain medications were only administered on request. The patient assumed pain medications were ordered routinely.

The process of integrating PCC into current practice was well received by hospital administrators, physicians, nurses and patients. Staff willingly volunteered to learn the PCC concept and intervention and verbalized the change as rewarding. The strategy used to implement PCC did not significantly impact current processes within the healthcare setting. The

major impact was 10 hours of required education per staff member, which increased total number of indirect hours (time not associated with direct patient care). There was an additional increase in time to call patients pre and post operatively at home of approximately 5 to 10 minutes per patient. Consequently, we believe that PCC can be easily integrated into existing systems of nursing care.

5.3.5 Conclusion

PCC is advocated by many groups as a preferred approach to improving healthcare outcomes. Our findings did not demonstrate a statistically significant difference on patient outcomes when PCC was tested within a bariatric center of excellence. No statistically significant differences were found between groups for hospital LOS, infection, falls, post-op complications, quality of care, overall level of satisfaction or perception of nursing care. Nevertheless, the study produced clinically relevant findings regarding staff response to this care approach. Integrating the concept of PCC was not difficult with careful planning. PCC was integrated with minimal cost using mini workshops to strengthen communication skills. Further research is needed to explore how nurses in other types of acute care settings impact patient outcomes using a model of care that is patient centered.

5.3.6 Reference

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5.3.7 Table 1 Sample Demographics and Co-Morbidities

Variable	**PCC Group** (n = 58)	**Usual Care Group** (n = 58)	**P-Value**
Demographics			
Age, yrs (mean ± SD)	44.71 ± 12.9	47.20 ± 10.6	0.23
Female, n (%)	50 (86.2%)	41 (70.7%)	0.07
Caucasian, n (%)	51 (87.9%)	53 (91.4%)	0.76
Married, n (%)	36 (62.1%)	41 (70.7%)	0.43
Co-Morbidity			
Diabetes mellitus, n (%)	22 (37.9%)	21 (36.2%)	1.00
Hypertension, n (%)	37 (63.8%)	34 (58.6%)	0.70
GERD, n (%)	32 (55.2%)	34 (58.6%)	0.85
OSA, n (%)	29 (50.0%)	34 (58.6%)	0.46
Cardiomyopathy, n (%)	0	3 (5.2%)	0.24

5.3.8 Table 2 Statistical Comparison of Groups by BTMS and SPNCS

Variable	Usual Care Mean± SD	PCC Mean±SD	Diff in Mean	F	Univariate p-value (2tail)	Multivariate p-value
BTMS Overall Score						0.247
BTMS Subscales						
Purchase Intent	12.24± 2.60	12.00 ± 2.14	0.24	0.298	0.59	
Quality of services	18.66 ± 3.31	18.64 ± 2.85	0.02	0.001	0.98	
Satisfaction	12.17 ± 2.26	12.38 ± 1.87	0.11	0.298	0.59	
SPNCS Overall Score						0.255
SPNCS Subscales						
Seeing patient	21.60 ± 3.43	21.45±3 .57	0.15	0.057	0.81	
Responding	13.34 ± 1.74	13.16± 2.35	0.18	0.244	0.62	
Watching over	17.24 ± 2.81	17.26 ± 3.06	0.02	0.001	0.98	
Explaining	13.55 ± 2.25	13.98 ± 1.63	0.44	1.398	0.24	

5.3.9 Table 3 Statistical Comparison of Quality Indicators and Complications

Variable	Usual Care	PCC	Univariate p-value (2 tail)
Quality Indicators	**n (%)**	**n (%)**	
*[1] Infection	1 (1.7 %)	2 (3.4 %)	1.00
*[1] Falls	0	0	
*[1] LOS ≥3days	8 (13.8%)	6 (10.3%)	1.0
Complications	**n (%)**	**n (%)**	
Total Complications	4 (6.9%)	5 (8.6%)	1.00
Renal Failure	1 (1.7 %)	1 (1.7 %)	
*[1]Atrial Fibulation	0	1 (1.7 %)	1.00
Gastric Bleed	1 (1.7 %)	1 (1.7%)	
*[1]Adhesions	1 (1.7%	2 (3.4%)	1.00
* Pain consult	1 (1.7%)	0	1.00

6.0 SUMMARY

The purpose of this study was to examine the effect PCC had on a patient's level of satisfaction and quality of care received at discharge from an acute healthcare setting with the belief that findings may assist in determining if PCC should be instituted hospital wide. The findings although not statistically significant were believed to be clinically significant. The researchers believe the empirical study; a) provided data that positively impacted the manner in which patients are prepared prior to surgery, b) increased family involvement during the patients stay, c) impacted the level of nurse satisfaction as verbalized by staff nurses during the study, d) increased the level of communication between nurse, patient and family and e) further supported the current level of care without negatively impacting outcomes. The integration of PCC within a Bariatric Center of Excellence has not negatively impacted patient outcomes, but further enhanced the pre-existing level of care received.

PCC is currently viewed by many as one approach to improving healthcare outcomes. Preparing clinicians and healthcare organizations to integrate the concept of PCC requires change that needs to be accepted and sustained over time. Nurses' current knowledge level and past experiences may hold the fundamental key needed to embrace change within an organization. The concept of PCC could be integrated into any healthcare environment for little cost using mini workshops to strengthen communication skills in a more open accepting manner.

Additional research is still needed to further explore the impact PCC has on patient outcomes (especially if conducted on a general med/surg unit) and to identify which method of

implementation will support the change (incorporating PCC into current practice), sustaining the change over time. Instruments specifically designed to measure PCC will be critical in evaluating its impact. Currently the community hospital (in which the study was conducted) and the 19 hospital health system of which it is a member, is strategically planning to change the current model of care to one that is patient centered, known as Relationship Based Care.

APPENDIX A

COMMUNICATION LETTER

February 27, 2007

To Bariatric Bypass Surgical Patients under the care for Dr. XX,

You are being invited to participate in a nursing research study that explores how nursing care impacts bariatric surgery patient's hospital stay. The purpose of this study is to determine whether a different way of providing nursing care vs. the traditional way will improve your overall hospital experience.

You may be called at your home 24 to 48 hours prior to the surgical date to obtain information that identifies your individual needs during your hospital stay and provide information to you about preparation for your surgery. Upon discharge, you will be asked to complete two surveys evaluating your experience. Lastly, a follow-up call will be made to you at your home 24 to 48 hours after discharge. If you would like to learn more about this study, with your permission, we will provide your name and contact information to the researchers.

Through this research study, researchers will explore how nurses can impact patient care. Dr. XX, and the staff at XXX Hospital are committed to finding ways to improve patient care.

Sincerely,

Dr. XX

APPENDIX B

PCC EDUCATIONAL TOPIC OUTLINE

Patient-Centered Care

Educational Topic Outline

General Notes:

1. Educational session is 10 hours in length, over two day period
2. Only Registered Nurses employed on study unit will attend
3. Educational tools include Power Points, Lecture, and Lecture/Conference video Series
4. Setting – is small conference room within the hospital

Educational Objectives:

Introduce concept of Patient-Centered Care
Educate nurses on research study methodology and process
Improve nurses understanding and usage of key communication skills
Introduce Goals of the Nursing Department in relation to purpose and specific aims of research study.

Lecture Session (4 hours):

Session one - Introduction to Patient-Centered Care
Session two – Introduction to research study process and methodology

Lecture/Conference video Series (6hours): lead by facilitator

Session one – Communicating to facilitate behavior change
(Includes communicating through motivational interviewing)
– Establishing mutual understanding
(Includes Expectation management)
Session two- Understanding others frustration and anger
(Includes Nurse-Patient Conflict)
- Understanding others anxiety and guilt
(Includes understanding ones values)

Goals of the Nursing Department:

1. To identify patients' individualized goals during their hospital stay by negotiating care between the patient and the caregivers
2. To increase the overall level of patient satisfaction during their hospital stay
3. To increase the patient's level of satisfaction in planning their care during their hospital stay
4. To strengthen the nurse- patient relationship by clarifying and better understanding the expectations, fears and perceptions of the patient and their family.

APPENDIX C

PRE-ADMISSION STRUCTURED INTERVIEW GUIDE

Structured Interview Guide
Pre-Admission Call 24-48 hours

Who provided information _____Call attempts _____

(CODE #_____ GROUP#_____)

---

1. Tell me about your expectations for this hospital stay (write statements in language of the patient).

2. What concerns do you have about your hospital stay? (Attempt to prioritize if more than one given).

3. Who would you like to include in planning your care? Family Member, friends or others? If no one, can you talk about that?

Yes No If not, why?

4. Please share with me any immediate educational needs we can provide you or your significant other with?

5. Is there any information we can provide you today?

6. Do you have any questions about your hospitalization or your surgery/procedure?

APPENDIX D

POST DISCHARGE STRUCTURED INTERVIEW GUIDE

Structured Interview Guide
Post Discharge Call 24-48 hours

Who provided information _____ Call back attempts _____

(CODE #_____ GROUP#_____)

---

1. Tell me about your transition home.

2. Tell me about your preparation for discharge.

3. Tell me about your care at XXX (how satisfied were you)

4. Tell me how you felt, regarding your participation, in planning your care. How did this impact your recovery?

5. Tell me about the nursing care at XXX.

6. Tell me about the overall care you received from the healthcare team.

7. Tell me what we could have done differently to improve your satisfaction.

8. Would you choose XXX for your next admission?

APPENDIX E

PRE-ADMISSION CALL SCRIPT

Script for 24 to 48 hour Pre-Admission
Phone Interview

Introduction to the Patient:

Good Evening/morning. This is a call from XXX Hospital.

My name is _____. I am a registered nurse from XXX Hospital. I am calling to speak to (patient's name)_____.

The nurses at XXX Hospital want to provide thorough and complete nursing care by identifying your specific goals and teaching needs during your hospital stay. We will be preparing you for your upcoming surgical experience by gathering important information, instructing you on what to do before surgery, reviewing your past medical history and current medications. If you have any questions, which I can not answer at this time, I will make a follow up call with this information. Please feel free to stop our conversation at any time if you have nay concerns during our discussion.

First, please give me your name and birth date so I may verify this information with what is currently on the computer record. Can you also spell for me your last name to verify the correct spelling in our computer record?

This interview will take approximately twenty minutes of your time. Is this a good time to continue with this interview or should I call back at a alter time?

(Call back time and date)_____ (phone number)_____

Thank you for your time. Now let us continue with the interview.

APPENDIX F

POST DISCHARGE CALL SCRIPT

Script for 24 to 48 hour Post Discharge

Phone Interview

Good afternoon,

This is a follow-up call from XXX Hospital. May I speak with __(Patient's Name)_____.

Hello, my name is (Nurse's Name), I am a registered nurse on the the nursing unit where you were a patient.

How are you today?

When you were discharged we discussed a follow-up phone interview that we would be conducting shortly after your return home. As a reminder, the purpose of this interview is to inquire about your experiences at XXX and your readiness to go home. It should take no more than 5 minutes.

Can we proceed with the interview? (If the patient answered no), When would be a good time for us to call you back to do the interview?
(Date & Time _____)

(After interview) We hope that your hospitalization and discharge to home went smoothly and was a pleasant experience.

Thank you for participating in this research study. Our staff is continually trying to improve the care for the patients in our community.

This concludes your participation within this nursing research study. We greatly appreciate your willingness to participate.

Best wishes to you and a speedy recovery!

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