A CHALLENGE TO NURSES: BARRIERS FOR
DIABETIC EDUCATORS

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by
Katrina L. Green
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DEDICATION

This thesis is dedicated to my amazing husband and best friend, Glenn, who has always been my strength and my rock. It is also dedicated to my son, Ayden, who continually inspires me to reach higher and go further. And finally to Dr. Jennifer Lillibridge who provided her expertise and guidance throughout this interesting and exciting journey.
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Diabetes education is a crucial part of understanding the basic steps to achieving success in the management of diabetes mellitus. A major responsibility of the nurse is to help patients self-manage their disease. Inpatient admissions present the opportunity to assess the patient’s level of knowledge and need for treatment adjustments. However, nurses frequently have many barriers in the busy hospital environment that can hinder effective diabetic teaching. The purpose of this study was to investigate the various barriers to teaching that nurses encounter while performing diabetic education in the hospital setting. This was a descriptive, qualitative study that used audio taped interviews and open-ended questions to collect data. The four participants were nurses working on inpatient floors in different hospitals. All interviews were performed in a semi-structured manner.
In this study the nurses had very strong opinions on what is needed to be successful when performing diabetic education. Five major barriers emerged affecting a nurse’s ability to successfully perform diabetic education: access to resources, timing, environment, communication and the educational process.

Implications from findings include: the need for printed material, continuing education for the nursing staff, the availability of a translator, adequate staffing, a noise reduction program, the availability of a diabetic educator and more time at the bedside to perform teaching. Future research would be beneficial when performed on a larger scale on different units of various hospitals to explore what best practices are occurring and the effects these practices have on nurses and their patients.
CHAPTER I

INTRODUCTION

One of the most serious public health concerns is the chronic disease diabetes mellitus. The International Diabetes Federation (2009) estimated that the global prevalence of diabetes is set to increase to 438 million by 2030, with the vast majority being type II. Nurses receive training so they can educate and assist members of their community to maintain and improve their health. Disease prevention and health promotion has been the role of the nurse for decades and there is no exception with diabetes education. One of the goals for Healthy People 2010 was to increase the proportion of people who receive diabetes education from 40% to 60% (United States Department of Health and Human Services, 2010). The goals for Healthy People 2020 include reducing disease and economic burden of diabetes mellitus and improving the quality of life for all persons who have, or at risk for the disease (United States Department of Health and Human Services, 2011).

A major responsibility of the nurse is to help patients self-manage their disease by acquiring the correct skills, knowledge, and attitudes, yet Keller (2005) stated that publications have demonstrated that diabetes is not diagnosed or treated when encountered in the hospital setting, and opportunities to educate are overlooked. Healthcare providers have an excellent opportunity to teach and discuss optimal diabetes control when the patient is hospitalized. Diabetes patients admitted to the hospital for
diabetes-related complications are confronted with the fact that the inability to adequately control blood glucose can make them sick (Munshi, 2006). Inpatient admissions present the opportunity to measure patient knowledge and the need for treatment adjustments, especially as new medications and therapies egress. Data from the Centers for Disease Control and Prevention’s Behavioral Risk Factor Surveillance System (2008) continue to denote that patients with diagnosed diabetes in the United States experience little diabetes education, if any. Reports have confirmed that previously undiagnosed and previously diagnosed patients with diabetes mellitus can be hospitalized and, at discharge, remain uneducated about diabetic medications, glycemic control, and blood sugar surveillance, even at the most basic level (Irons, Vickers, Esperat, Valdez, Dadich, Boswell & Cannon, 2007).

The role of the diabetic educator has greatly expanded in the past ten years. These nurses need to be competent, knowledgeable and proficient in the subject to properly and effectively teach the diabetes patient. Education is extremely important because the patient must make several adjustments in medication administration, physical activity level, diet, and glucose measurement to manage diabetes appropriately. Management of diabetes also involves skill and knowledge in utilizing evidence-based practice in various diabetic treatments. The desired outcome of diabetes management should include the restoration and maintenance of glucose levels to as near normal as possible by balancing diet, exercise and the use of oral hypoglycemic agents or insulin. Patients are now being encouraged to take responsibility for their own diabetes care and therefore need to gain the essential knowledge and skills to monitor glucose levels, recognize and take appropriate measures to prevent hypoglycemia/hyperglycemia and the
complications of diabetes (Peyrot, 2006). Successful diabetes management takes work and determination from both the nurse and the patient. The team of healthcare providers and patients need to be willing to seek further education, interventions, and answers when problems or complications arise. Health care providers and patients need to have the same goals in mind.

Background

Pathophysiology

The complex disease of diabetes mellitus has been defined by Lewis, Heitkemper, Dirksen, O’Brien & Bucher (2007) as “a metabolic disorder characterized by hyperglycemia resulting from a lack of insulin, lack of insulin effect, or both” (p. 1024). Type I and type II diabetes have two completely different pathophysiological entities. In the case of type I diabetes, “a triggering event, sometimes caused by a viral infection, causes autoantibodies to kill the beta cells of the pancreas” (Lewis et al., p. 1024). This ultimately results in the decline of insulin production. Insulin deficiency is defined as greater than 90% of the beta cells being destroyed which leads to hyperglycemia, enhanced lipolysis, and protein catabolism. Type II diabetes mellitus is diagnosed as a result of one or more events causing inaccurate insulin production, inadequate hepatic glucose production, or peripheral insulin receptor indifference (Lewis et al.).

Classification of Diabetes Mellitus

Type I diabetes is characterized by autoimmune B-cell destruction, which has been found to be connected to a genetic predisposition paired with one or more viral
factors and possibly chemical factors. It is not known conclusively that these are the only factors involved. Islet cell antibodies and insulin autoantibodies cause a reduction in B-cells of 80% to 90% of normal before hyperglycemia and symptoms occur (Lewis et al., 2007).

Type II diabetes is characterized by an increase in sensitivity of the pancreatic cells to insulin and a decrease in the sum of insulin produced. Type II diabetes has a strong genetic influence and prevalence increases with age. It is a combination of genetically determined defects in skeletal muscle, fat, and liver receptors for insulin and B-cell secretory exhaustion (Lewis et al., 2007).

**Diagnosis**

Lewis et al. (2007) stated the diagnostic label of diabetes mellitus carries many psychological and socioeconomic ramifications and therapeutic requirements. For the diagnosis of diabetes, two of the following criteria must be obtained more than 24 hours apart. The same test must be utilized twice or the patient must exhibit a combination of the indicators of the disease. The results of a fasting glucose test of 126 milligrams per deciliter (mg/dl) or greater on at least two occasions; “distinctive symptoms of uncontrolled diabetes and a random blood glucose test result of 200 mg/dl or more; and/or blood glucose level of 200 mg/dl or more after drinking 75 grams (g) of oral dextrose” (Lewis et al., p.1024). Indicators include diabetic retinopathy on ophthalmologic examination, urinalysis for acetone and elevated glycosylated hemoglobin (HbA1c). The diagnosis of diabetes may be made if the HbA1c is greater than 6.5% (American Diabetes Association, 2010a).
Prevalence

“Diabetes mellitus affects 23.6 million people in the United States with 246 million people diagnosed worldwide” (American Diabetes Association, 2010b). The prevalence of the disease increased 13.5% between 2005 and 2007. Approximately 24% of diabetics remain undiagnosed. This percentage has decreased from 30% in 2005 and from 50% ten years ago (American Diabetes Association, 2010b). Diabetes is the 7th leading cause of death in the United States with $174 billion associated to its cost. The average onset of type II diabetes occurs after the age of 40 and a majority of diabetics (90 to 95%) suffer from this type (Centers for Disease Control and Prevention, 2008). “Every 20 minutes 60 Americans will be diagnosed with diabetes mellitus and 9 will die every 20 minutes from related complications. It has been predicted that by the year 2030, nearly 400 million people worldwide will be diagnosed with diabetes” (American Diabetes Association, 2010b).

Diabetes also affects children and adolescents. Approximately 151,000 people in the United States below the age of 20 years have diabetes. “About 1 in every 400 to 600 children and adolescents have type I diabetes. One in every 3 children born today will develop diabetes (type I or type II) during his/her lifetime” (American Diabetes Association, 2010a). Type I diabetes is generally diagnosed during childhood. However, in the past several decades, type II has been reported among United States children and adolescents much more often. “Children and adolescents with type II diabetes are generally between 10 and 19 years old, obese, have a strong family history for type II diabetes, and have insulin resistance” (Centers for Disease Control and Prevention, 2011). Generally, adolescents and children with type II diabetes have inadequate blood
glucose control (an HbA1c test of 10%-12%). The growing problem of type II diabetes in adolescents and children is thought to be due to the epidemics of obesity and an insufficient level of activity during the day. Close monitoring and awareness by the provider is necessary to measure the magnitude of the disease (Centers for Disease Control and Prevention).

Potential Complications

Multiple complications can result from uncontrolled diabetes. According to Maldague (2005), as many as 80 percent of diabetics develop acute and long term complications. Potential complications include diabetic ketoacidosis, hyperglycemic hyperosmolar nonketosis, hypoglycemia, angiopathy, peripheral vascular disease, diabetic retinopathy, nephropathy, neuropathy, skin disorders and infection (Maldague). The prevalence of diabetes coupled with its related complications continues to be of great concern (Centers for Disease Control and Prevention, 2008).

Statement of the Problem

Registered nurses in the hospital have the chance to assist patients with diabetes by teaching them to follow their recommended treatment regimens and attain beneficial outcomes. However, nurses frequently have many barriers in the busy hospital environment that can hinder effective diabetic teaching. In addition, there are many components to providing effective diabetes teaching by nurses. The nurse must establish a trusting relationship with the patient in order to be successful with motivating and coaching. This also requires a nonjudgmental attitude on the part of the nurse, as well as effective communication skills and compassion (Nesbeth, Orskov, & Rosenthal, 2009).
Barriers exist that may affect good glycemic control. There are also multiple barriers that may alter the final outcome of diabetic teaching. These barriers include the teacher, the patient, and the teaching environment. The barriers associated directly with the teacher (nurse) include: assessing the learning needs of the patient, resources available, time, teaching skills, diabetes comprehension, culture, and language. The barriers associated directly with the learner (patient) include: emotional state, readiness to learn, mental well-being, time available, information overload, conflicting information, and possible cost. Finally, the barriers associated with the hospital environment include: comfort, noise level, privacy, accessibility, cleanliness, and ambience. In addition, in order to be successful, the educator should be an active listener, professional, friendly, provide individualized teaching, and be able to adapt to the needs of the learner (Hill & Clark, 2006).

**Relevance to Nursing**

The increase in diabetes mellitus has led to thousands of research studies from many different disciplines and on many different levels. The increase of the disease has also led to an increase in education of the patient with the primary focus on prevention of complications. When diabetic patients are hospitalized for any reason, it is an opportunity for nurses to initiate diabetic teaching. The prevention of complications is an important focus for hospital nurses and can be achieved by effective diabetic teaching. However, barriers often exist in the hospital setting that prevent this from occurring successfully.

The intent of this study was to investigate the various barriers to teaching that nurses encounter while performing diabetic education in the hospital setting. When
published, the findings from this study may increase awareness and ultimately limit or prevent the barriers to effective diabetic teaching at the bedside.

Theoretical Framework

Dorothea Orem’s Self-Care Deficit Theory of Nursing is applicable to the concept of nurse-directed diabetic education in the hospital setting. Orem presented a conceptual framework in 1959 that has continued to evolve through the works of many others, such as Fitzgerald (1980) and Hartweg (1991). Orem’s Self-Care Deficit Theory fits the parameters of this study because her theory explains when nurse directed diabetic education is needed. Providing education with the patient is something nurses do every day. Educational barriers to education such as lack of resources, time and knowledge can potentially lead to a patient self-care deficit. Orem (2001) proposed her general theory as “the condition that validates the existence of a requirement for nursing in an adult” (p.10). It is characterized as the absence of the ability to sustain or maintain a healthy life due to disease, injury or inadequate coping skills. The ability to care for diabetes successfully depends on a multitude of factors. One important factor is patient understanding of good glycemic control (Nesbeth et al., 2009). When barriers to education are present the patient’s understanding of good glycemic control can decrease. The self-management of diabetes revolves around self-care. Barriers to education during a hospital stay may create a self-care deficit in the home environment.

A person must have the ability to execute activities and focus on personal needs with the goal of sustaining health and wellness of the mind, body and spirit to achieve self-care. The framework of a person, their environment, health and nursing all
influence the ability to perform self-care activities. Patient education in the hospital leads to the ability to perform self-care adequately at home. Nurses in the hospital make observations, evaluate the patient’s abilities to manage their own care, and examine the nursing actions needed to help them. When barriers to education are present, it is difficult to provide the education that would lead to patients having adequate diabetes self-management (Siminerio, Ruppert, Emerson, Solano & Piatt, 2008).

Research Purpose

The purpose of this research was to explore the numerous barriers that are present that impede nurse-directed diabetic education. Nurses perform a multitude of roles and duties on a daily basis. The following is a list of duties one registered nurse may perform in a 12-hour shift: assist the physician with a central line placement, administer medications, establish a care plan, start an intravenous line, supervise licensed vocational nurses and nursing aides, train a new hire, perform a head to toe assessment on multiple patients, collaborate with auxiliary staff, and offer comfort and support to a family member.

Patient education in the hospital is performed primarily by the nursing staff. Being able to sit down to perform a detailed, uninterrupted educational session with a patient can be very difficult due to nursing shortages, the demand for additional skills and increased patient acuity levels. This research examined educational barriers in the hospital inpatient setting prior to the discharge of diabetic patients with type I or type II diabetes mellitus.
Research Question

The research question was: What barriers do nurses in the hospital face when trying to educate diabetic patients prior to discharge?

Definition of Terms

The definitions utilized in this study are provided to give a clearer understanding of the literature discussed in this study.

Type I Diabetes

A severe, chronic form of diabetes caused by insufficient production of insulin and resulting in abnormal metabolism of carbohydrates, fats, and proteins. “The disease, which typically appears in childhood or adolescence, is characterized by increased sugar levels in the blood and urine, excessive thirst, frequent urination, acidosis, and body wasting” (Centers for Disease Control and Prevention, 2008).

Type II Diabetes

A mild form of diabetes that typically first appears in adulthood and is exacerbated by obesity and an inactive lifestyle. “This disease often has no symptoms and is usually diagnosed by tests that indicate glucose intolerance. It is treated with changes in diet and an exercise regimen and sometimes with oral medications or insulin” (Centers for Disease Control and Prevention, 2008).

Qualifications of the Researcher

The researcher who conducted this study is a student at California State University, Chico, enrolled in the Master’s of Science Nursing program. She graduated from California State University, Chico in 2008 with a Bachelor’s of Science in Nursing
and from Yuba Community College in 2003 with an Associate’s Degree in Nursing. She also has an Associate Degree of Science from Yuba Community College. She has nine years of nursing experience with five years in critical care and two years on a medical-surgical floor. She has completed coursework in nursing theory and research.

Transitional Statements

In summary, diabetes mellitus and the severity of the disease worldwide is of epidemic concern. On average, type II diabetes is undiagnosed for ten years in most patients before the signs and symptoms are recognized (Centers for Disease Control, 2010). Diabetes education is significant on many levels and nurses are seen as the primary teachers of health maintenance, promotion and management. Hospitalizations can be prevented or delayed when the patient receives diabetes education (Hill & Clark, 2006). In the next chapter, relevant research reflecting diabetes education and any known barriers will be discussed. The exploration of possible educational barriers that hinder the learning process for the patient during nurse-directed diabetic education is the main focus. The literature review will highlight relevant research and outline the need for further research on this subject.
CHAPTER II

LITERATURE REVIEW

Diabetes education has been a vital component to managing the disease since the 1930s (Atak, Gurkan & Kose, 2009). The management of this chronic disease is complex. Nurses must be aware of the educational barriers that are present to promote good glycemic control, optimal goal promotion, and prevention of diabetes related complications.

The literature review is composed of two sections. The first section focuses on diabetes education. Various research articles will be discussed that document the requirements for the successful management of diabetes mellitus. Thus, it is the nurse educator’s job to ensure the patient understands the requirements for the successful management of the disease. The second section focuses on educational barriers. Discussed will be various studies documenting the research already performed on the educational barriers that nurses encounter while teaching in the hospital and demonstrate a need for further research.

The California State University, Chico Meriam Library Online Research Station was utilized when looking for appropriate material for the literature review section of this research study. CINAHL plus with FULL TEXT was the search engine. The search options were Boolean/phase and the limiting items were: scholarly (peer reviewed) journal and full text with published dates from January 2005 to March 2012.

Diabetes Education

Successful diabetes management generally requires patients to make alterations, sometimes frequent alterations, in their diet, medication(s), glucose monitoring schedule, and physical activity level. A handful of powerful tactics for promoting success in the diabetic patient remain. These strategies generally include helping the patient set obtainable goals, basic education, arranging for professional or group support, giving the patient a sense of control, and providing positive feedback (Dunbar-Jacob, 2007).

One of the most important components of health care delivery is the ability to manage the chronic disease. Chronic diseases, such as diabetes, become more prevalent as the population ages. The cost of providing care to diabetic patients has increased drastically over the last several decades and is expected to keep climbing. When an emphasis is placed on patient education, the likelihood of the patient actively managing their disease rises. Proper education helps the patient avoid lifestyle options that will interfere with the successful management of their disease. The focus of diabetes education should be on ways to produce better outcomes, a good quality of life and ways to avoid exacerbation of the disease (Melchior, Carter, Helsley, Ernest & Friesner, 2010).

Becoming knowledgeable about this chronic disease is the most effective way to learn self-management. Patients should seek out reputable information to discuss with their provider and educator. Often patients are misinformed with information they have read on the Internet or they listen to what friends and family have to say about the
disease. In order to establish an effective plan for diabetes self-management, people need to learn more about themselves and their disease. Generally when a patient has a basic comprehension of what their own needs are and how diabetes effects their lifestyles, then they feel empowered to make needed positive changes (Hartley, 2009).

Health care professionals focus on meeting specific goals and targets (low-density lipoprotein, low hemoglobin A1c and normal blood pressure) to ensure that potential complications from diabetes remain low. Despite the variety of medications available many patients do not meet the targets and various goals set by their health care providers. Health care professionals need to clearly educate the patient so goals and targets can be met. “Patients provide 98% of their own diabetes care” (Centers for Disease Control and Prevention, 2011). Thus, they are responsible for their own actions and decisions. The patient needs to understand why goals are important. The following self-care behaviors need to be discussed: healthy eating, physical activity, daily self-monitoring of blood glucose, taking medication(s), problem solving skills, risk reducing behaviors (eye, foot and dental exams) and healthy coping (psychological and social distress) (Rice, Kocurek & Snead, 2010).

Managing diabetes has become increasing complex for both the patient and the nurse due to the rapid advancements in technologies. Nurses must teach patients to adhere to a meal plan, medication regimen, physical activity schedule, monitoring of blood glucose levels, and the overall psychosocial adjustment to the disease (Seley & Weinger, 2007). To complicate matters further most people with diabetes also have additional medical conditions or diseases they are dealing with that necessitate specific
management regimens. The diabetes educator must keep this all in mind while teaching each patient and/or their family.

Diabetes affects all aspects of a person’s life. Healthcare staff work in collaboration with the patient to prevent complications such as vision problems, nerve damage, stroke, kidney damage, circulation issues in the feet and legs, foot ulcers or heart attack from developing. Treatment, management and education should include weight control, exercise and maintain a healthy diet to improve quality of life (Nazarko, 2010).

One factor that influences the adherence to treatment regimens is successful communication between the patient and the nurse during an educational session. Diabetes carries psychological and social burdens, so it is essential that the nurse and patient communicate to discuss needs and the options available for the patient. The nurse needs to effectively communicate the resources available for the patient in the hospital and out in the community that can be utilized after discharge (Wellard, Rennie & King, 2008).

The objectives of educating patients with diabetes vary from patient to patient and hospital to hospital, but in general they should improve quality of life; prevent acute and chronic complications; optimize metabolic control; and produce positive changes in attitude, knowledge and behavior. (Atak et al., 2009). For diabetes mellitus care to be optimum it should include foot care, routine eye examinations, glycemic control monitoring, blood pressure and cholesterol checks, diet (specifically meal choices), strict medication regimen, self-discipline and an adequate knowledge level from the patient. Relevant knowledge, skills and a positive attitude are critical for patients to manage their disease successfully.
The complexity of diabetes makes it difficult to manage. It is time-consuming to keep glucose levels within normal limits. Nurses are in the optimal position to educate patients, coordinate with various disciplines and make needed necessary changes to current interventions already in practice. Positive strategies that influence adherence are patient-centered, collaborative and reinforce behavior changes. Promoting positive behavior change requires time and focus on assessment of the patient’s learning needs (Nagelkerk, Reick & Meengs, 2006).

A major influence guiding diabetes educators is the premise that patients with diabetes are in charge of their own care. Hence, they must obtain the essential knowledge, confidence and skill to pursue particular behaviors such as glucose testing and diet (Conlon, 2010). Patient competence and confidence can affect their self-management choices. Interactions with nurses and doctors can influence factors affecting optimal self-management decisions. Lack of knowledge by the health care professional can contribute to the patient’s inability to implement optimal diabetes care (Wellard et al., 2008).

Educational Barriers

Learning good problem solving skills is a critical tool to help patients overcome barriers to good glycemic control. Brainstorming with the patient can be a useful strategy to identify what is causing a harmful behavior and how to change or reduce that behavior (Hartley, 2009). To help patients learn to self-manage their diabetes, educators must address the barriers that prevent them from implementing the lessons they
learn. Diabetes management is for a lifetime; therefore, patients must be prepared for new challenges along the way and learn to adapt indefinitely (Kaur, 2009).

Mason (2005) found that diabetics were confused about the nature of their condition and lacked essential information pertaining to the management of their disease such as appropriate diet, glucose levels and exercise schedule. Frequently, patients have identified barriers that impede successful communication. Even if a patient has had the diagnosis of diabetes for years, they may know little about the disease therefore, an educational assessment by the nurse is necessary. An educational assessment should be performed to ascertain the patient’s level of knowledge about their disease. The diabetic patient’s adjustment to the disorder depends largely on the education provided in the hospital prior to discharge. The length of consultation, frequency of contact, technical competence and service availability were identified as educational barriers that may increase patient satisfaction and proper self-care management (Deakin & Whitam, 2009).

Simmons, Lillis, Swan and Haar (2007) performed a study on the barrier conflict present in primary care and secondary care as reported by that patient population. The investigators state that organ damage as a result of diabetes can be prevented with tight glycemic control, diet, physical activity, regular visits to their provider, self-care, and timely interventions. Simmons et al. further state that despite the appropriate measures that can be taken, complications still occur. “This is often due to the presence of systems and personal barriers to the implementation of diabetes care. Few studies of either patient or provider perceptions of barriers to care have been undertaken globally” (p. 490).
The Simmons et al. (2007) study included nurses, patients, physicians, general practitioners, patients and diabetic teams. Patients included in the study had registered or had regular eye clinic appointments in the past two years. Cardiology, primary care and renal staff participated in the study and included all providers, medical specialists, nurses and senior allied health workers in relevant areas.

Simmons et al. (2007) used an open ended, cross-sectional survey consisting of 6,802 individuals. The Dillman method was used to format the questionnaire, compose the mail survey method and follow-up with non-responders. The mail-out included an information sheet, two-sided survey form, consent forms (for patients) and stamped addressed envelope. It was estimated that the questionnaires took between 2 and 5 minutes to complete. The questionnaire included the following open-ended questions that the patient or the health care professional could answer: “What do you feel prevents you/your patients from looking after your/their diabetes?” “How would you improve your diabetes care/diabetes care in your area?” “Are you worried about your/your patients’ diabetes-if so why/why not?” “Do you have any other comments about ways which may improve service for you/others?” The questionnaire included additional demographic information such as age, sex and ethnicity. For those who did not return the first questionnaire in a timely manner, a follow-up questionnaire was mailed 3-4 weeks later and then a follow-up telephone call was made. The final number of participants who returned their questionnaire was 4,326, which is a 63% response rate.

Over 17,000 comments were received from the 4,326 participant who replied. The fewest number of barriers were reported by patients and nurses, with some reporting no barriers at all. The greatest number of barriers identified was twenty. Psychological
perceived barriers were reported most frequently among patients and general practitioners. The barrier reported most commonly by nurses and additional staff was external physical (systems). The most significant barriers to diabetes care were external barriers (service/physical access, lack of community based services, limited range of services, personal finances, inadequate staffing, unhelpful health professional in the past), followed by psychological and psychosocial barriers (both at 94.7%) with internal physical barriers (self-factors/additional health conditions), physical effects of treatment (obesity) being the least important. Patients ranked educational barriers lowest. Patients (one-quarter) ranked internal physical barriers highest while healthcare professionals ranked internal physical barriers lowest. Patients reported strictness of regiment as the most frequent barrier. Lack of motivation was reported frequently by providers, the diabetes team and nurses. Lack of knowledge about the disease was reported most frequently by providers and nurses and dieticians reported inappropriate care. Finally the most significant barrier among healthcare professionals was service capacity being overwhelmed.

In conclusion, this study demonstrates that health care professionals as well as patients feel that there are barriers to diabetes care and diabetes self-care. The study findings suggest that overcoming the barriers to diabetic care may improve outcomes. “Increasing psychological support for patients should receive a higher priority in district-based service development: How this should be best delivered requires urgent attention” (Simmons et al., 2007, p. 494). The conclusion of this study highlights the need to include the patient in planning educational sessions.
The barriers to effective teaching and learning among educators that teach diabetic patients were researched by Hill and Clark (2006). The objective was to identify the skills, practices and knowledge of those who teach. A convenience sample was used and participants self-selected. The study utilized qualitative and quantitative methods using an online survey to collect the information. There were 1,306 surveys distributed. The survey response rate was 16.2% (n=212) with 88% being diabetic educators, 61% registered nurses and 6.1% dieticians.

Findings from Hill and Clark (2006) identified the following as barriers to competent teaching: resources, time, culture/language, assessment of learning needs, diabetes knowledge and teaching skills. Identified barriers to effective learning included: hospital environment, emotional state/readiness to learn, physical and mental health of the client, language/cultural sensitivity, physical and mental health of the client, hospital environment, time available, cost to the client, conflicting information, and information overload. The following were identified as effective diabetic teaching themes: communication skills, active listener, able to adapt and be flexible, individualized teaching, knowledgeable, professional, friendly/approachable, and non-judgmental. The themes accredited to an effective diabetes education environment included: private, friendly, quiet, absence of distractions, comfortable, relaxed, safe, accessible, clean, ambience, and non-clinical.

Absence of time, inadequate resources and problems related to effective inpatient education were the main reported barriers to education (Hill & Clark, 2006). In conclusion, inpatient staff still have problems identifying what needs to be addressed to improve and eliminate the known barriers to effective teaching both in the community
and the acute care setting continue to be a problem. Individualized plans and strategies to maintain progressive knowledge and critical skills continue to challenge those who educate patients about diabetes.

Siminerio, Ruppert, Emerson, Solano and Piatt (2008) researched how diabetes education is delivered in the primary care setting. “Although diabetes self-management education (DSME) is recognized as important, the number of patients who receive diabetes education is disappointingly small” (Siminerio et al., 2008, p. 267). They go on to state that another potential problem may be that the traditional ways of educating patients in the hospital may not be effective due to the increase in complexity of the disease. The nurse educator must keep in mind that not all patients are the same and tailor the way they teach to each individual patient. This study examined three specific issues: how DSME is delivered in primary care; if DSME in primary care increases the number of patients who receive DSME; and to determine the effect of DSME on fluctuations in HbA1c and changes in low-density lipoprotein-cholesterol levels.

Four primary care practices in Pittsburg participated in this study. The study took place from January 2003 through December 2006. Participants were identified using International Classification of Disease, Version 9 (ICD-9) codes 250xx. A total of 2,432 individuals with diabetes were identified from the urban practice and the two suburban practices had a total of 2,912 participants with diabetes. To be eligible for participation in the study, patients had to have at least one HbA1c and/or low-density lipoprotein-cholesterol value recorded before receiving diabetic education. The University of Pittsburg Medical Center approved this project.
Of the 5,344 participants, 784 diabetic patients received point-of-service diabetes education (POSE). From January 2003 through December 2006, 17.2% of patients with diabetes received POSE in the four practices. Significant decreases were noticed over time when the effects of POSE on HbA1c and LDL-C levels were examined. “A marked decline in HbA1c in patients who received POSE (n=784) was noted. A decline in HbA1c values in patients not receiving POSE (n=3,776) also occurred at the same time” (Siminerio et al., 2008, p. 269). No significant differences were noted in HbA1c values between groups. There was also a significant decrease in LDL-C levels in patients who received and did not receive POSE. The decreased levels of LDL-C in the group who received POSE resulted in a constant increase in the number of individuals meeting the American Diabetic Association LDL-C goal level of <100 milligrams/deciliter (mg/dL) over time, from 39% in 2003 to 57.7% in 2006 (p<0.0001). “This exact illustration was seen in the non-POSE group as well (41% in 2003 to 53.3% in 2006) although this increase was not substantial” (Siminerio et al., 2008, p. 270).

In conclusion, the research demonstrated that providing DSME in primary care is warranted, but continued research is needed. Siminerio et al. stated that the integration of a nurse certified diabetes educator into primary care practices is an effective way to improve clinical outcomes for the diabetic population. Diabetic educators increase “the opportunities to reach patients in need of DSME services while improving clinical outcomes, especially in patients who are unable to meet HbA1c and LDL-C goals” (Siminerio et al., 2008, p. 270).

In June 2010, Jansik, Braspenninck, van der Weijden, Elwyn and Grol conducted a study examining the barriers nurses encounter when counseling type II
diabetics. They stated that providing preventative care generally falls in the hands of the nurse. They acknowledged that nurses may not have the skills and time to encourage healthy changes in lifestyle, so they tailored their study to acquire data on the barriers that nurse’s encounter while counseling patients on appropriate diabetic lifestyle changes. Three levels were studied: nurse, practice and patient.

Jansik et al. (2010) utilized a qualitative, semi-structured study involving twelve nurses during in-depth interviews. By conducting in-depth interviews the researchers were able to understand what barriers are present in general practice and then design a teaching agenda based around these specific barriers.

The interview questions were pre-structured and open-ended. The interview questions focused on smoking cessation, diet, and physical activity. The questions focused on three levels (patient, practice and nurse). At the patient level, the categories included attitude, compliance, knowledge, and skills. At the practice level, the categories included organizational processes, structures, resources, staff, and capacities. At the nurse level, the categories included motivation to change, subject knowledge, awareness of the issues, and cognizance of behavioral routines. Examples of the interview questions included: “What barriers do you encounter in diet counseling? What barriers do you encounter in physical exercise counseling? What barriers occur at the patient level when you give diet counseling? What barriers do you encounter with skills for cessation counseling? What barriers do you encounter in smoking cessation counseling?” (Jansik et al., 2010).
The interviews were transcribed verbatim with data analysis per a framework approach. The transcripts were independently reviewed by two researchers who classified the remarks according to a predetermined framework.

The research revealed many barriers on the patient level. The first important finding was that nurses have high expectations for their patients regarding lifestyle changes. This type of expectation generally results in resistance from the patient. The second important finding was nurses tend to give advice about simple lifestyle choices when the patient has had limited knowledge on lifestyle decisions. In addition, lack of time and poor counseling skills were also reported as barriers (Jansik et al., 2010).

In conclusion, the traditional health education approach (one-on-one educational session) is still paramount in primary care with patients who have been diagnosed with type II diabetes. The results of this study have prompted the development of an implementation strategy by the researchers, built on motivational interviewing. Their plan after the research study had concluded was to teach the nurses about agenda setting and motivational interviewing (Jansik et al., 2010).

According to Williams (2007), patient adherence to a treatment regimen is influenced by the consistency and content of information received. Nurses require current information on diabetes management and the proper skills to educate and treat patients with diabetes mellitus. Lack of current resources and a quality diabetic curriculum have been identified as educational barriers in the hospital. Diabetes self-management education and training must be established through a concentrated effort to increase the number of healthcare professionals who are trained and knowledgeable (Irons, Vickers, Esperat, Valdez, Dadich, Boswell, & Cannon, 2007).
According to Kowalski (2007) the length of hospital stay, increased learning needs for the diabetic patient and insufficient staffing “often pushes patient teaching to the back burner” (p. 18). Kowalski goes on to state that frequently patients are being taught how to check their blood sugar and administer insulin as they are being discharged. Teaching important subjects such as insulin administration and monitoring glucose levels should not be performed at the time of discharge due to the patient’s mental state; they are distracted. They are thinking about going home. Their mind is not on expanding their knowledge about diabetes.

According to Nagelkerk et al. (2006) it is vital to identify barriers to self-management programs thus decreasing any future adverse effects for the patient. It is also important to identify barriers such as knowledge deficits, time restrictions, limited coping skills, insufficient resources, poor patient-nurse relationships and lack of social support.

Nesbeth, Orskov and Rosenthall (2009) stated that an important role is played by nurses in treating diabetes mellitus. They state that numerous barriers to adequate glycemic control exist. These stated barriers include poor patient comprehension of the meaning of HbA1c, non-compliance with medication, diet and insufficient communication between the patient and nurse. Their research looked at the guidelines and recommendations for target HbA1c levels across the globe. “Although target HbA1c levels do differ somewhat, the general recommended level is between 6.5% and 7.5% worldwide” (Nesbeth et al., 2009). Nesbeth et al. concluded that there remains a significant gap between guideline recommendations and actual practice. Doctors stated they felt a lack of consultation time with the patient to explain test results. Consequently, patients lack an understanding of HbA1c. Nurses can overtake these known barriers by
providing the appropriate education, support and advice to their patients. In conclusion, the impact that nurses have on appropriate glycemic control and disease management has been shown to be positive for diabetic patients. An increase in time at the bedside with the patient, additional support and advice can improve adherence to treatment.

Over the past several years, healthcare professionals’ and patients’ responsibilities on health maintenance have gradually changed to what it is today: the patient-centered model that aims at empowering the patient. This model gives the patient the responsibility of managing their disease and the ability to be able to make important choices that impact his/her health on a daily basis without the healthcare provider. Knowing this information, Jallinoja, Absetz, Kuronen, Nissinen, Talja, Uutela and Patja (2007) performed a research study to explore the views of physicians and nurses in their role as educators of lifestyle-related diseases. The main outcome was to measure multiple perceptions of barriers to treatment. They focused on patients’ perceptions of their responsibilities in self-care, the feelings when being interviewed about smoking and obesity, perceptions of hurried schedules, and healthcare professionals’ roles/competence in lifestyle counseling. An analysis of patient-centered motivational interviewing demonstrated that it is preferred over the traditional ways nurses give advice. Regardless, many healthcare staff does not possess adequate communication skills, leading to ineffective educational sessions.

Jallinoja et al. (2007) piloted a study questionnaire among professionals attending a type II diabetes training program. The questionnaire was mailed to 220 participants and focused on obesity, type II diabetes mellitus, smoking, high blood pressure and dyslipidemia. The total response rate was 59%. Chief nurses and lead
physicians provided a list of employees eligible for the study to research staff. The attitudes towards clinical guidelines and lifestyle counseling were included in the questionnaire. Crucial barriers were measured with two statements, both evaluating obesity, dyslipidemia, hypertension, type II diabetes and smoking: “A key barrier to treatment is patients’ insufficient knowledge of the risks of [name of the condition],” and “A key barrier to treatment is patients’ unwillingness to change their lifestyle” (p. 245).

The subjects of dyslipidemia, type II diabetes, and high blood pressure in relationship to the patient’s role were assessed with the statements, “Patients must be assigned responsibility for self-care,” and “Lifestyle change is a central part of treatment” (Jallinoja et al., 2007, p. 245). Patients views on their need for support were evaluated in respect of obesity and smoking with the statements, “A dieter/a quitter needs support from a healthcare professional” (p. 245). In all measures, the scale was: always, nearly always, seldom and never. In respect professionals’ roles and responsibilities in lifestyle counseling, in general, the scale was: totally agree, partially agree, in between, partially disagree, and totally disagree. The following items were asked, “My task is to give information on lifestyle-related risks;” “My task is to motivate and support the patient in his/her lifestyle change;” “My task is to make the patient follow the given lifestyle instructions;” “I have sufficient skills for lifestyle counseling;” “I feel uneasy intervening in an obese patients’ overweight;” “I feel uneasy intervening in smokers’ smoking;” “I have been able to help many of my patients change their lifestyle to a healthier one;” and “Our current working schedule is too hectic to allow us to tackle the patient’s life situation” (p. 245).
Study results concluded that most of the participants stated that a major barrier to treatment is that patients do not want to change their lifestyle or pattern of poor habits. “A majority of physicians (88%) and nurses (95%) agreed that patients have to assume the obligation for lifestyle-related decisions” (Jallinoja et al., 2007, p. 245). The patient’s unwillingness to change was “always” or “nearly always” a key barrier. A majority of nurses and providers stated a barrier to self-care is the patient’s failure to assume responsibility for their type II diabetes, hypertension and elevated cholesterol levels. The majority also felt that information planning, motivation and support of the patient’s lifestyle change are part of their responsibility. In addition, a little over half of participants stated they have adequate lifestyle counseling skills. Approximately 66% of the providers and 50% of the nurses stated their busy schedule does not allow them to talk to the patients in detail about their lifestyles. A greater number of nurse’s verses physicians reported they felt uncomfortable asking patients about their weight or smoking habits. “A significant finding was that nurses with fewer years of professional experience stated they had adequate skills for lifestyle counseling (70% verses 43%, $p=0.001$)” (Jallinoja et al., 2007, p.246).

Campbell and Martin (2009) discussed the idea that the healthcare system faces many severe issues related to diabetes mellitus: (1) the general population continues to become more sedentary and obese leading to the prevalence of type II diabetes rising; (2) diabetes mellitus is an expensive disease to treat and utilizes a large portion of healthcare dollars; and (3) diabetics are not adequately treated or diagnosed in our current system. The article provides information about the impact of diabetes mellitus, the
consequences that constant hyperglycemia has on the human body and the barriers to treating the disease.

Campbell and Martin (2009) stated the expense to treat a patient with diabetes is approximately five times more costly than it is to treat a patient without the disease. “Costs for diabetics include inpatient hospital care (50%), supplies and medication (12%), retail prescriptions to treat complications (11%) and office visits (9%)” (Campbell & Martin, 2009, p. 249). They stated that less than 1% of all money is spent on prevention and education, “Most patients with diabetes are not educated about how to manage their diabetes and for those instructed, it occurs during the time following their diagnosis when it is least effective” (p. 249). They concluded that for a diabetic to manage their disease successfully they need to receive adequate education, yet education is seldom encouraged. In addition, patients themselves create barriers to success because of social embarrassment, fear of hypoglycemia, and fear of failure.

In conclusion, diabetes would not be so costly to treat if more effort and money was assigned to education and prevention. “Patients with diabetes who manage their condition can usually reduce complications and have a better quality of life and not suffer from kidney, nerve, eye, and other expensive-to-treat conditions, as well” (Campbell & Martin, 2009, p. 254). The recognition of impeding barriers is imperative to help improve the care of diabetes patients is the managed care setting (Campbell & Martin).
Transitional Statements

In summary, the comprehensive literature review clearly shows that diabetic educational barriers indeed exist. Determining the best way to promote self-care management of diabetic patients requires nurses to recognize the tremendous job they have as diabetic educators. People with diabetes are at risk for various, severe complications due to their disease and these risks can affect how they care for themselves. The bedside nurse needs to ensure effective diabetes education by eliminating as many barriers as possible with awareness of the issue. Encouragement of ways to manage and handle the barriers that impede an effective teaching process in the diabetic population needs to be addressed. The goal of this study was to document the barriers that are present during bedside nurse-directed diabetic education. In the next chapter, the design of the study will be presented and include ethical considerations, research methodology, population sample and size, as well as specific methods for data collection.
CHAPTER III

RESEARCH METHODOLOGY

Diabetes education is a crucial part of understanding the basic steps to achieving success in the management of diabetes mellitus. The purpose of this research was to investigate the barriers that nurses experience during diabetic teaching in the hospital setting. This was a descriptive, qualitative study. Descriptive research is non-intrusive and deals with naturally occurring phenomena. Qualitative data is extremely varied in nature and aims to gather an in-depth understanding of human behavior. Hence, smaller samples are more often needed. This study sought to gain the perspective of those who work to educate diabetic patients on a daily basis and break down the components of what is and is not effective teaching.

Theoretical Support

Descriptive research allows data collection procedures where the research is very explicit. It also allows data collection without any manipulation of the research content. A variety of data collection methods are available with this research method such as questionnaires, interviews, observation and telephone calls. This method allows the researcher to choose the participants, which is purposive sampling (LoBiondo-Wood & Haber, 2010).
Qualitative research is based on a world view or a holistic view. The reasoning process involves putting the pieces together to make whole (Burns & Grove, 2009). The reasoning process can be understood by exploring the formation of gestalts. Gestalt means “an instance or example of such a unified whole” (Merriam-Webster’s Dictionary, 2008, p. 525). The concept of gestalt can be linked to the holistic approach and the process of qualitative research that explains a meaning or a given situation or content. Qualitative research involves organizing ideas and concepts into clusters or themes (Burns & Grove, 2009).

Sample

Qualitative research utilizes a small sample of participants chosen by the researcher. A smaller sample size allows more detail and is used to gain insight into participants attitudes, conduct, morals, motivations, concerns, ambitions and lifestyles. In-depth data such as open-ended questions portray participants’ responses in a more accurate and honest light. This study utilized purposeful sampling (Melnyk & Fineout-Overholt, 2005).

The study was directed toward a specific population. The participants included nurses working on the inpatient floors in four different hospitals. The qualifying participants in the study were employed at least one year and familiar with the policies and procedures of the facility. They were also employed full-time, part-time or per diem on the floor where they performed the teaching. The sample size of the study consisted of four nurses. The demographic data collected for this study included: age, date of graduation from a nursing program, type of nursing degree, current department they work in, length of employment in that department and employment status (full-time, part-time
or per diem) (Appendix A). The study participants were all between the ages of 28 and 40. They ranged in years of nursing from 2 to 15. Three participants were employed part-time and one full-time. They all had at least one year of experience in their current department.

Ethical Considerations

According to Burns and Grove (2009) the protection of human subjects during the research process involves many areas of concern. “The right to self-determination, privacy, anonymity, confidentiality, fair treatment and protection from discomfort or harm is required during nursing research” (Burns & Grove, 2009, p. 83). During this particular study, the ethical principle of beneficence held true. There were no negative effects, temporary discomfort or risks of permanent or temporary damage to the volunteer. This study did not involve minors or anyone with diminished autonomy. All rights to privacy were protected under the Health Insurance Portability and Accountability Act (HIPPA), which was enacted by Congress in 2003 (United States Department of Health and Human Services Office for Civil Rights, 2008). This study fell under the exempt categories for California State University, Chico’s Human Subjects in Research Committee (HSRC). As per the guidelines accessed in the fall of 2010:

Exempt categories include: Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as research on regular or special educational instructional strategies, comparison among instructional techniques, curricula, or classroom management methods. (California State University, Chico, 2010, p.1) (Appendix B)

Each participant was asked to sign a consent form. According to Haber (2010) consent is generally obtained through personal discussion with potential participants thus
allowing an immediate question and answer session. The consent form included four statements. Each participant gave their consent to all listed statements (Appendix C).

Methods of Data Collection

A flyer was posted in the hospital asking for participation of bedside nurses (Appendix D). The flyer described the study and welcomed participation. Contact information for the researcher was included on the flyer for any possible participant questions or concerns. Once four participants volunteered and were selected for study participation, they were mailed demographics and consent forms.

The participants were instructed to return the demographics and consent forms via mail within two weeks of being chosen for the study. Once consent and demographic forms were received, an identification number was assigned to the participant, and a file was started. Each file was labeled with the identification number and kept in a locked cabinet. Participant demographics were entered into a computer file labeled only by identification number. The files were password protected and accessible only by the researcher. Each participant was contacted within seven days and an interview date and time was set up. The interview took place in a convenient location agreed upon by both the researcher and participant. The researcher advised the participants that the interview would be audio taped and would take approximately thirty to sixty minutes to complete.

The study was conducted with audio taped interviews, using open ended questions. The purpose in using open ended questions, such as “What do you feel are the greatest challenges you encounter while performing diabetic education with a patient?” was to encourage a full, meaningful answer in the participant’s own words. According to
Fulton and Krainovich-Miller (2010) an open ended item is used when the participant is required to respond in their own words. All interviews were structured in that the same questions were asked of all participants (Appendix E). The participants were informed that all data may be kept by the researcher for up to seven years post data collection in case the researcher would like to publish the findings.

Data Analysis

All interviews began with the recognition of the assigned identification number and contained no other identifying information. Identification numbers were also attached to all documents and computer data. Microsoft Excel spreadsheets were used for organizing the demographic data (See Appendix F). The recorded interviews were transcribed into computer files and stored by identification number. The transcripts were compared to the taped interviews to assure completeness. All files were backed and securely stored.

Qualitative research is appropriate when studying the human experience and capturing the closeness of the nursing experience. Thus data analysis requires the researcher to synthesize all participants’ interview statements thoroughly. According to Sullivan-Bolyai and Bova (2010) the following steps should be taken when performing data analysis:

1. “Thorough reading and sensitive presence with the entire transcription of the participant’s description” (p. 6).

2. “Identification of shifts in participant thought resulting in division of the transcription into thought segments” (p. 6).
3. “Specification of the significant phrases in each thought segment, using the words of the participant” (p. 6).

4. “Distillation of each significant phrase to express the central meaning of the segment in the words of the researcher” (p. 6).

5. “Grouping together of segments that contain similar central meanings for each participant” (p. 6).

6. “Preliminary synthesis of grouped segments for each participant with a focus on the essence of the phenomenon being studied” (p. 6).

7. “Final synthesis of the essences that have surfaced in all participants descriptions, resulting in an exhaustive description of the lived experience” (p. 6).

Each transcript was read six times while listening to the audio tape of the participant’s interview to gain complete comprehension of the content. Significant statements were highlighted in each transcript. A chart was developed to separate each of the significant statements into similar areas. The statements were numbered to identify which interview contained the statement. To determine if the interpretive process was clear and auditable, the original transcripts, significant statements and formulated meanings were reviewed by the thesis advisor, who is an expert in qualitative data analysis. This confirmed the agreement of the formulated meanings with minimal changes.

The next step was to organize the formulated meanings into clusters of themes. The same chart layout was used as when developing the formulated meanings. The formulated meanings were then sorted into groups that represented themes. These
data were given to the thesis advisor for review to ensure that the interpretive process was clear and accurate.

**Process to Establish Rigor**

According to Barroso (2010) the measurement of nursing phenomena is a major concern of nursing researchers. A specific perspective developed by Lincoln and Guba (1985) shows how “qualitative research can be made rigorous without sacrificing its relevance” (p.27). Lincoln and Guba identified four criteria for adequacy or rigor in scientific research. Credibility, fittingness, auditability and confirmability are all required to establish rigor in a study. Credibility presents a faithful description or interpretation of the human experience that the people having the experience would immediately recognize it… (p.30). It also occurs when others can recognize the experience by reading about it. To help establish credibility of findings, the statements and themes from the interviews were validated with the participants to see if they were true to their experiences. This is referred to as “member checking” (Lincoln & Guba).

Fittingness is when findings “fit” into contexts outside the study situation (Lincoln & Guba, 1985). The audience determines that the findings are meaningful and can be applied in terms of their own experiences. The complete set of data analysis documents will be on file and available upon request to provide a “paper trail” for other researchers to make their own judgments. Auditability occurs when another researcher can clearly follow the “decision trail” used by the investigator. If the decision trail was followed another researcher could arrive at the same or comparable conclusions given the
researcher’s data, perspective, and situation. Confirmability occurs when auditability, fittingness and credibility are established (Lincoln & Guba).

Qualitative research values subjectivity rather than objectivity in two ways: the subjective involvement of investigators with their participants and the importance on subjective reality or the meanings participants give to and gather from their life experiences (Sandelowski, 1986). Interlocking with rather than detachment from the things known is sought in the pursuit of truth. Qualitative research acknowledges the complex nature and involvement with participants. The objective was to transcribe as precisely as possible the thoughts and feelings of the participants of the study. The participants received a follow up phone call to allow their examination of the researcher’s analysis of their experiences to maintain study rigor. To attend to dependability and confirmability, this study was evaluated by Dr. Jennifer Lillibridge (thesis chair), who is skilled in qualitative data analysis to evaluate the completeness of the study and the study findings.

This study was completed utilizing a descriptive, qualitative approach. Qualitative research relies on the human experience. It investigates the “how” and “why” of decision making and reasons that govern human behavior. This study evaluated the educational process utilized by bedside nurses with their diabetic patients to investigate barriers present.

Transitional Statements

In summary, Chapter III described the research design and presented an in-depth approach to the study. It outlined all the processes including the methodology,
sample, ethical considerations, methods in which the data were collected, analysis of the
data collected and finally the process to establish rigor. In the next chapter, the findings
of the study will be presented.
CHAPTER IV

STUDY FINDINGS

The purpose of this study was to explore/examine the barriers nurses encountered in the hospital setting in relation to successful diabetic teaching. The main objective of the study was to determine if and what barriers to teaching are present in the hospital.

The experiences of the nurses varied depending on their work environment. Their experiences were also affected by support staff and available resources. The five major barriers that emerged affecting a nurse’s ability to successfully perform diabetic education were: access to resources, timing, environment, communication, and the educational process.

Access to Resources

All nurses reflected on the availability of resources in each of their perspective hospitals. Discussion about resources fell into different categories: availability of educational material for the patient (Internet, videos, handouts, education channel, educational diabetic packet), availability of a diabetic educator or support staff to assist with diabetic education, availability of follow-up care for the patient, educational classes/diabetic training offered to the nurses, and diabetic classes offered to the patient (inpatient or outpatient basis).
The nurses stated that printed, educational material is available for their patients:

I can get stuff off of Form Fast, so I can print it up and its diabetic education material. And I go over these with the patient and I will discuss that with the family and the patient and give them printed material at the sixth grade level for them to go home with. (Participant 1)

“There’s always a resource that we can go to called Krames. That we go to on the Internet website and print out diabetes education” (Participant 4).

One nurse stated there is a diabetic package and education package that is available for the patients:

“The only thing we have in the unit I work in [ICU] is a diabetes package and education package” (Participant 3).

Another participant stated that material is unavailable at times:

“…. the handout is supposed to be here, but you go to grab it and it’s empty. So you are doing your teaching without it” (Participant 2).

In addition, a few made comments about their hospital’s education channel and the availability of an educational DVD. One participant stated:

“I don’t always get to the DVD because you don’t have time for that” (Participant 1).

Another nurse stated that she did not know if there were videos available for the patients to watch:

“I don’t know if there are [videos] in our unit. I think we only have the study packet and I’m not sure if there’s a video that comes with the packet” (Participant 3).

One nurse stated that there are no videos or education channel for the patients:
“No, there are no videos at all and I can’t believe that….No education channel. That’s weird because I am used to always having an education channel everywhere I have been and there is not one” (Participant 2).

Half of the participants stated they do have a diabetic educator in their hospital that they can rely on for additional diabetic teaching with their patients:

So at [my hospital] there are diabetic educators that will come around before people are discharged if they are newly diagnosed and still in the hospital. It’s not just diabetic educators, but educators in general that will come do the teaching. And the nurses will do it too (Participant 2).

Another nurse stated:

“We need a diabetic educator at the hospital. We can utilize nutrition to come in and a nutritionist will speak to the patient” (Participant 3).

During the discussion of the availability of diabetic educators it was mentioned by Participant 2 that the diabetic educators are only available during business hours:

“The educators are only dayshift people. So during the day. And then the nurses do the left over.”

Nurses overwhelmingly felt that the hospitals did not have diabetic teaching resources as a high priority for services. The availability of classes offered to the nurses by the hospital was completely absent. Three nurses interviewed stated that the hospital they worked for did not provide diabetic education or classes for the staff and the last nurse stated she was unsure:

None at all. I’ve never been taught how to do it or how to teach someone ever, but I’m expected to do that teaching. There’s no training what-so-ever on what you are supposed to tell anybody or how you get information across or how you should
reword things so that you’re not using words that people don’t understand ‘cause
you’re used to medical words and they’re not. (Participant 2)

One of the facilities I work at does offer strategies in teaching. But it is very…it’s
offered once a year. But I don’t get diabetes (classes). I get lung, I get heart. I would
take a class if one is offered to me. I mean the class we did get—it’s like a two-hour
class and you know, you discuss ways to teach, but it’s not specific to diabetic
teaching. (Participant 1)

The comments by the nurses reflected the accessibility to resources within
their work environments. Availability of particular resources, such as a diabetic educator
and printed material for the patient to review were important factors that the nurses felt
were potential barriers to good teaching outcomes. The next theme related to barriers to
diabetic education is timing.

Timing

A challenge for many nurses is lack of time during their shift to perform
necessary diabetic teaching. The nurses commented on the time of day in which they
performed their diabetic teaching with their patients and/or the patient’s family
member(s). Two nurses commented that their teaching is done during discharge. This can
be very overwhelming for the patient as well as the nurse:

“I really don’t have a specific time [to perform diabetic teaching] because people
are discharged at all different times” (Participant 1).

“With your discharges—that’s when you are going to do the most teaching”
(Participant 2).

Another nurse commented that she does not have a specific time in mind to
perform her diabetic teaching. She stated it is done when time allows:
We, I, generally do it whenever I can. We’re extremely busy. Whenever we get a minute to do a thorough teaching that’s when I would do it and that could be any time. It could be with the morning medication, with the morning glucose checks or right before lunch or whenever. (Participant 3)

A nurse stated that if a patient is discharged at night, the discharge teaching waits until the morning [the patient does not go home until the morning]:

“Nights [night shift] wouldn’t really have to do that [the diabetic teaching] because no one goes home after 11 o’clock at night” (Participant 2).

The nurses expressed their thoughts about the lack of time they have for diabetic teaching at the bedside. The lack of time they have for teaching poses a great challenge for these nurses:

“I don’t feel like I have enough time…..Yeah, I think time, time poses-the lack of time on the floor poses a big challenge for anybody trying to do any kind of teaching” (Participant 4).

I think the biggest challenge is really trying to find the time to really do a thorough teaching session with the patient. I think it is important to have at least 15-20 minutes to do the actual teaching session and then, you know, several minutes after that we will be able to answer all of their questions thoroughly. That time is just not there. (Participant 3)

Participant 3 also discusses the feeling of being rushed and sending the patient home without doing a full teaching session:

…..I’m in an environment where it’s hurried and rushed and sometimes it’s kind of like okay, well let’s just get down to basics and really just let them know what they need to do and make sure they are safe and understand, give them the resources so they can further research themselves and that’s it.

The comments by the nurses reflected on the lack of time available for diabetic teaching with their patients. Their comments revealed they felt the best time to perform the teaching with their patients was either during discharge or randomly
throughout their shift. The feeling of being rushed and hurried through a teaching lesson was mentioned as well as the inability to perform a thorough teaching session. The next theme related to barriers to diabetic education focuses on the hospital environment.

Environment

The bedside environment emerged as a factor in nurses’ perceptions about the success of teaching/learning. Two significant areas were identified as teaching barriers: interruptions/distractions and noise level. The nurses felt that interruptions and distractions during diabetic teaching were a significant barrier to teaching because they were constantly repeating themselves. Each time they were interrupted by a staff member or a call light, they had to stop mid-sentence, handle that situation, and then come back to their teaching. They felt the number of interruptions made the environment inadequate for learning. Each nurse described how interruptions/distractions posed a barrier to successful teaching:

“….there can be a million interruptions…that’s like the worst part of teaching—that it’s not an adequate environment for learning to take place at all” (Participant 2).

“It is a very hectic, chaotic environment. There is a lot of distraction. There are several interruptions. It’s rare to have one-on-one teaching without any interruptions” (Participant 3).

“There’s a lot of distractions and it’s not in my opinion, not the best teaching and/or learning environment…there are above average interruptions during the teaching from staff and patients” (Participant 4).
“….just distractions from housekeeping or lab and like I said there’s people coming in and out of the room…I wouldn’t be able to learn” (Participant 2).

The second environmental teaching barrier identified was noise level at the bedside in the hospital. Three out of the four nurses commented on noise level in the hospital environment and how a loud, busy and hectic environment makes it difficult to teach a patient diabetic material:

“….I wouldn’t say [the teaching environment] is quiet….I’ll try to get them in a quiet environment” (Participant 1).

“The environment is usually hectic, busy, loud, rushed” (Participant 4). “…it’s not quiet” (Participant 2).

In conclusion, these nurses felt that the teaching environment available in the hospital is not adequate for patient learning. Frequent interruptions during a teaching session make it difficult to learn the material. A noisy room also makes it difficult to convey information. Distractions from other staff tend to make it hard to effectively and efficiently educate. The next theme related to barriers to diabetic education at the bedside is communication.

Communication

The participants talked about their ability to communicate with their patients during diabetic teaching. Subjects such as cultural sensitivity, translation, availability of translator, effective communication skills (nurse), and active listening (nurse) were all mentioned. Of these subjects mentioned and discussed, two major communication
barriers emerged: culture and language barriers. The nurses described cultural and/or language barriers they’ve encountered:

“The Punjabi or the Sikh, they are very stoic. I try to really take that into consideration and be sensitive with it….It’s challenging for me because I only speak English” (Participant 1).

Another nurse reflected on her community and the patients treated at the hospital where she works:

In our community, here, we have a lot of East Indians, we have lots of Hispanics, Hmong. For myself, I speak Punjabi, so I don’t feel any kind of trouble translating in that language, but definitely Spanish and Hmong, those languages. Yes, there are language barriers and it’s difficult to find somebody to translate. (Participant 3)

Another nurse talks about food being part of culture and how difficult is it sometimes to get people to change their diet:

Culturally, I think there can be some cultural differences if—because food is reflected in culture a lot. And so, the patient, a particular population of patients have been eating high salt, high carb foods and that’s what they grew up on, that was their culture. And it creates a challenge because there’s a lot of resistance there and they just really don’t know how to cope with that. (Participant 4)

In conclusion, the nurses reflect on how culture and language can pose barriers to effective diabetic communication within the hospital setting. Their comments reflect the challenges they face with their non-English speaking patients such as the inability to find someone to translate, being sensitive to cultural issues and staying open-minded when a patient is resistant to diet changes. The next theme related to barriers to diabetic education at the bedside is the educational process.
Educational Process

In the following section, the theme educational process will be explored. The nurses reflected on readiness to learn (patient), learning needs of the patient and information overload. These areas can potentially represent barriers to the cognitive process of the patient and affect how much information the patient will remember. Two major barriers surfaced from the data: readiness to learn (patient) and information overload while in the hospital. The findings on readiness to learn will be discussed first.

One nurse stated that even when she is prepared to perform a full teaching session, the patient may not be ready:

In the ICU setting, the patient has usually gotten so many different medications, they’re in shock, they are just ready to get out of the ICU. There are so many things going on, so many other factors that I don’t feel that the patient is ready even when you are doing a full teaching session with them. The patient isn’t really interested or taking the time to really learn this. They are just really focused on getting out of there. (Participant 3)

Another nurse made a similar comment:

“In general, it depends like if the patient is really sick and they’ve got a lot going on…-they’re not as receptive. They are not ready to learn about their diabetes” (Participant 4).

One nurse stated that some patients are not interested in the education provided by the nurses:

I think the patients, they don’t have enough teaching, that’s really what I’m thinking. They are not getting enough information because we don’t have the appropriate resources for them and then when we try they are just not interested. (Participant 3)
The following comments are from participants on information overload in the hospital setting. One nurse stated that due to limited amounts of time, she cannot teach everything she would like to:

I think it’s easy to get-to give information overload, but in the setting I’m at, it doesn’t really happen. I don’t think it happens that often because there’s so little time to do the teaching that there’s very limited amount of information. You kinda have to pick and choose what’s most pertinent that you want to get across…So there’s not really an opportunity for information overload. Because it’s so limited in time. (Participant 4)

Another nurse commented:

“People give you this blank stare” (Participant 1).

A nurse stated:

“It [information overload] definitely happens a lot. It definitely happens a lot, especially because things aren’t done as much as they should be over the length of their stay” (Participant 2).

In conclusion, the nurses state that the teaching they perform is affected by factors such as information overload and a patient’s readiness to learn. The nurses comment that these are factors that must be considered when performing diabetic teaching. Three out of the four nurses state that they feel the patients are not ready to learn due to various circumstances and/or situations surrounding their hospital stay. Some participants feel that information overload is a viable threat when performing bedside teaching while others feel there is no danger with that happening given the limited amount of time they have to educate the patient.
Transitional Statement

The interviews were able to provide rich, descriptive details from the experiences of the nurses that perform diabetic teaching at the bedside. Nurses perceived multiple barriers to diabetic education in the hospital setting. Data collection revealed that access to resources, timing, environment, communication, and educational process were all important themes. The next chapter will focus on a discussion of all findings.
CHAPTER V

DISCUSSION

The discussion of this study covers how the study results relate to current literature. The main topics that emerged during the interview process were: inadequate resources, timing, environment, communication and educational process. The discussion will cover the following barriers: inadequate resources, lack of time, environmental limitations, culture/translation and educational process. The implications of this study are discussed in detail. Limitations of the study will also be presented.

The personal experiences these nurses describe are similar to other nurses’ experiences and findings discussed in the literature. In 2003, researchers provided a rich description of registered nurse work patterns. The researchers were able to identify multiple agents that make nursing challenging. The following is a list of factors that make nursing very challenging: missing equipment and supplies, insufficient time to complete shift tasks, constant interruptions, communication errors, and waiting for needed resources (Ebright, Patterson, Chalko & Render, 2003). Additional studies (Kalisch, 2006; Krichbaum, et al., 2007; Potter et al., 2005; Tucker & Spear, 2006) have reported similar challenges while delivering care. It was noted that nurses deal with many interruptions and miss many activities, including patient education (Kalisch, 2006). Rarely are nurses able to perform one part of their assignment without distraction and/or interruption from what they need to do next. Research demonstrates that each situation.

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can be influenced by insufficient access to needed resources, time restrictions, and lack of control (Ebright, 2010). A variety of studies show that nurses perceive patient teaching as a high priority, yet perceive barriers to inpatient teaching such as inadequate time and staff, insufficient knowledge of the subject matter, poor communication between disciplines, ineffective patient receptivity and inadequate teaching materials (Caligtan, Carroll, Hurley, Gersh-Zaremski & Dykes, 2012).

Inadequate Resources

Overall, access to resources is extremely limited for the nurses in this study. These nurses lack adequate resources such as a diabetic educator, printed teaching materials for the patient and continuing education for the staff. All of these barriers are shown in current literature to decrease effective teaching at the bedside and will be discussed in the next three sections.

Diabetic Educator

The utilization of a diabetic educator at the bedside is a debate that has been ongoing for the last 20 years (Nettles, 2007). One position is that a diabetic educator in the hospital is inappropriate because they are not always available, inpatient education is not cost-effective and outpatient programs provide abundant resources. Nettles states that diabetes education is an extended, complicated and voluntary process and staff nurses are educated inadequately. On the other side of the debate, hospitalization presents an exceptional opportunity to diagnose the underdiagnosed and initiate care. The inclusion of complications from diabetes and comorbidities is now being incorporated into diabetes education. Many diabetic educators consider it imperative for patients to understand how
these new issues affect the basic “survival level” for self-care management (Nettles). The study findings conclude that a diabetic educator is essential in the hospital setting and according to Nettles there has always been a respectable inpatient population with diabetes.

**Educational Material**

Printed diabetic educational material to distribute to the patient and/or family members present at the bedside is a vital component of teaching (Barber-Parker, 2008). Printed material gives the patient something to refer back to once they are home. The patient’s ability to recall everything the nurse said throughout the hospital stay is almost impossible. Most patients require a list of instructions and printed educational material so they are able to self-manage their disease once they are at home (Barber-Parker, 2008). Lack of teaching materials was identified as a major obstacle to patient teaching in a study that observed the integration of patient teaching into bedside care (Barber-Parker, 2008), which is consistent with this study’s findings. In hospitals that set the highest standards and have a budget that allows for a patient education department, the availability of patient educational material is not an issue (Nettles, 2007). This study’s findings conclude that educational material is not always readily available, but in most hospitals, the nursing standard includes the provision of education to patients and families. This includes the literature related to their illness and all this is incorporated into nursing care (Doran & Sidani, 2007).

**Continuing Education**

According to Penz and Bassendowski (2006) nurses require ongoing and in-depth education to stay informed and abreast with current practice. Nurses in this study
also identified and highlighted this issue. According to Barber-Parker, (2008) nurses may lack sufficient patient teaching knowledge. Registered nurses in clinical practice need a sound education general education (Penz & Bassendowski). Nurses’ comprehension of research evidence will assist the guidance of effective clinical decision making and improve the quality of care that patients receive. Good evidence suggests that timely access to research evidence, especially if embedded into clinical practice, improves clinical practice (Doran & Sidani, 2007). Nurses in this study also reported that this process of knowledge acquisition is critical for effective diabetes education.

**Lack of time**

Adequate time for teaching is a significant barrier to diabetic education. Time of day, time constraints and teaching at discharge are huge obstacles for nurses. Teaching at the time of discharge is standard practice in most hospitals. The patient receives instructions on everything pertinent to the hospital stay including medication, diet, activity, wound care (if applicable) and anything additional, such as a new disease diagnosis like diabetes mellitus (Duncan, Ahmed, Li, Stetson, Ruggiero, Burton, Rosenthal, & Fitzner, 2011).

Penz and Basendowski (2006) reported that nurses feel they are too busy to effectively educate. The current study found that nurses feel there is too little time to educate, which is consistent with current literature. A nurse will consider all of the possible options while utilizing the need for “trade-off” decisions when faced with several critical and non-critical situations (Ebright, 2010). The findings of this study are consistent with this statement in that nurses are constantly prioritizing and re-prioritizing based on their schedule for the day and the fact it is always changing. The management
of competing priorities in the traditional structure of a healthcare setting can cause tasks that are deemed “less important” such as diabetic teaching, to fall to the bottom of the “to do” list. The amount of time expended determining “trade-off” decisions between several situations that are equally remarkable can affect the quality of nursing care given (Ebright, 2010).

**Teaching at Discharge**

Today’s complex diabetic patient is rapidly discharged from the hospital and is often expected to continue complicated treatments at home. Hospital nurses may not always provide the adequate teaching these patients need that will allow them to continue complex treatments at home (Nettles, 2007). This study supports these findings in that nurses feel sometimes they are only able to provide the basics of discharge instructions. The Joint Commission on Accreditation of Healthcare Organizations mandated good discharge planning which means that inpatient education is essential (Joint Commission on Accreditation of Healthcare Organizations, 2012).

It is clear that time restrictions play an enormous part in diabetic teaching at the bedside. It is critical for a nurse and a patient to have adequate time for education, questions, answers, return demonstration and effective communication. It is obvious from the participant’s numerous comments that they feel rushed, hurried and are not in a satisfactory environment for successful teaching and learning to take place.

**Environmental Limitations**

The environment that a patient is exposed to while in the hospital can potentially pose multiple teaching barriers. The two major environmental barriers that the nurses reported were: interruptions/distractions and noise level. Safe patient-centered
care should be provided to all, but for many reasons this goal is easier stated than achieved in acute-care hospitals.

The hospital environment is dynamic, fast-paced and complex. Nurses typically multi-task and must manage interruptions that can lead to clinical errors (Caligtan et al., 2012). This finding is consistent with study findings in that nurses manage multiple interruptions and distractions throughout their shift. Ebright (2010) reports that observations of nursing staff in the hospital showed almost constant movement by the nurse from one patient to the next, or from the supply room, to the next patient. This constant movement is often a result of requests, interruptions or situations from patients as well as other staff. Nursing work has traditionally included a system of “filling the gaps.” Filling the system gaps involves maintaining the work environment by tracking down absent equipment, gathering supplies, performing secretarial duties and housekeeping activities (Ebright). Study findings are consistent with current literature in that the nurses state that constant interruptions and “filling the gaps” makes diabetic education difficult to complete.

**Noise Levels**

It has been well documented that there are numerous negative effects that occur as a result of excessive noise levels in the hospital environment. Despite the numerous studies that have been conducted on the negative effects of noise on patients and staff the problem continues in hospitals across the nation. Studies have suggested that hospital sound levels have risen in recent decades from 52 decibels (dB) to 72dB (Taylor-Ford, Catlin, LaPlante & Weinke, 2008). Psychological and physiological stressors are seen as a result of excessive noise levels in the hospital (Choiniere, 2010). Study findings
are consistent with current literature in that noise levels in the hospital environment have a large impact on the diabetic teaching sessions, making it difficult for the patient and the nurse to concentrate and communicate. This finding is also supported by research that demonstrates that excessive hospital noise levels have the potential to increase complications in patients and has great impact on the education provided by the nurse (Choiniere, 2010).

Culture/Language

The two major communication topics that emerged when speaking with participants were: cultural and language barriers. Nurses in this study have difficulty finding someone to translate when needed.

In 2009, the Joint Commission on Accreditation of Healthcare Organizations added effective communication among caregivers as a National Patient Safety Goal (Joint Commission on Accreditation of Healthcare Organizations, 2009). The study findings conclude and are consistent with current literature in that effective communication is vital, especially when related to teaching. There is growing interest worldwide in the issue of language barriers in healthcare, especially barriers that arise when care is delivered in language-discordant situations (i.e., when patients and healthcare providers speak different first languages) (Segalowitz & Kehayia, 2011).

The primary language for the study participants is English. Recent Census Bureau statistics estimates that approximately 24.2 million individuals speak English less than “very well,” representing 8.7 percent of the nation’s total population (United States Census Bureau, 2008). Professional implications, ethical issues, and legal complications can occur for nursing staff caring for patients who do not speak English. During the
interview process, participants stated that it is very difficult to find a translator for diabetic teaching. They state that finding a translator takes time, something they are short on to begin with. The patient who does not speak English is extremely vulnerable. This finding is supported by literature that nurses have an obligation to provide appropriate translation for all patients regardless of nationality and culture (Whitman & Davis, 2009).

Study findings suggest that nurses are aware of the cultural influences that affect their patients and the nurse’s ability to successfully provide diabetic education. This finding is supported by literature in that beliefs, values and traditions influence health behaviors and approaches to medical care. Culturally proficient care is an important part of providing high-quality medical care, including preventative services such as teaching. Cultural proficiency involves the ability to know about and stay informed of health-related beliefs, values and communication patterns of diverse patients and their families (Ceballos, 2012). Culturally competent care is vital as the patient population continues to grow and change.

Educational Process

Two major barriers were revealed when interviewing the participants on the educational process when performing diabetic education at the bedside: patient readiness to learn and information overload.

Recent findings show that nurses perceive a responsibility to teach, but think patients are overwhelmed (Barber-Parker, 2008). Shorter hospital stays related to cost containment with managed care add to the patient feeling overwhelmed and decreases their readiness to learn (Ebright, 2010). This is consistent with study findings- in that nurses perceive that often patients were not ready to learn. It is vital that nurses identify
information/teaching requirements at the bedside from the moment the patient is brought to the unit in order to help promote self-care management once the patient is discharged (Caligtan et al., 2012). Discharge planning and assessment of homecare capabilities and knowledge deficits can begin with the patient’s admission to the hospital. Discharge teaching needs to begin when the nurse and patient first meet and continues until after he/she has been discharged to prevent information overload and promote readiness to learn (Ebright, 2010). However, the nurses in this study found that discharge time was often rushed and patients were not ready to learn new material.

In conclusion, this chapter discusses the research findings that nurses encounter while providing diabetic education at the bedside as well as the current literature that correlates with the study findings. The next section will discuss the implications from this study as applied to the nursing practice, future research and the fundamentals of diabetic education.

**Implications for Practice, Research and Education**

The impact of continuing changes in healthcare are being felt by the individuals involved in training and education in a healthcare setting (Duncan et al., 2011). Nurses are required to make informed decisions about acceptable teaching sessions for their patients, pulling from various areas such acquiring assistance from the diabetic educator, classes for the nurse and/or patient when needed, obtaining educational material, avoiding interruptions while teaching the patient, delivering a thorough teaching session throughout the patient’s hospital stay to avoid information overload, keeping the
noise level at a minimum and utilizing a professional translator to communicate effectively and efficiently with the patient during diabetic teaching.

The results of this qualitative study on the barriers to diabetic teaching at the bedside add to the body of knowledge already present. Even though current literature shows that barriers in diabetic education continue to exist, attempts need to be made in the hospital to eliminate these barriers. Nurses require more support, more resources and more time to eliminate these barriers. They require support staff as well as additional staff on the floor. They require more resources such as diabetic educators and translators.

Implications for Practice

Feedback is usually involved when a change in practice is implemented. Feedback is defined as the receipt of information about services provided or a product (Doran & Sidani, 2007). Feedback can be presented at various levels including the provider, area and/or patient level (Doran & Sidani). Content of feedback involves information obtained. The implications from findings for practice were developed from the feedback provided by the bedside nurses. Feedback about what actually goes on during diabetic teaching can be utilized to produce the best patient outcomes in the future.

The next step after feedback is facilitation. Facilitation is the technique by which one person or group of people explain to others the “why” and “what” of the desired outcome (Doran & Sidani, 2007). Information from this study can help facilitate change that ultimately improves bedside teaching and eliminates the barriers these nurses describe. The obvious goal is to improve the quality of teaching the patients receive on
every level possible. An understanding of the complexity involved in patient care is required to achieve adequate and effective diabetic teaching at the bedside.

The nurses had very strong opinions on what is needed to be successful when performing diabetic education. The availability of printed educational materials for the nurses to hand out to their patients during diabetic teaching is one important piece. This will serve as a reference for the patient to refer back to once he/she is home and managing their own care. In addition, a diabetic educator should be on staff to teach the patients and serve as a resource for nursing staff. The hospital could provide continuing education for those nurses teaching the diabetic patients, so they stay current on the ever-changing world of diabetes and so they feel comfortable teaching the various topics associated with diabetes mellitus.

It is also important to provide more time for bedside nurses to teach. Lack of time for teaching and environmental limitations such as interruptions/distractions and noise level were identified as a significant barriers. Adequate staffing would allow an appropriate amount of time for nurses to more successfully teach their diabetic patients. Adequate staffing levels can also help reduce/eliminate the interruptions and distractions nurses encounter while performing diabetic teaching. Additional staff on the floor such as nurses (registered and licensed vocational) and certified nursing assistants can assist with other patients’ needs while the primary nurse is performing teaching.

A noise reduction program can be instituted to help reduce noise levels. Studies have shown that the implementation of a noise reduction program truly works and ultimately enhances the hospital environment for patients as well as staff (Taylor-Ford et al., 2008). The nurse can also move the patient to a quieter setting such as a small
conference room where the noise of the general hospital environment is minimized and the teaching/learning process will be enhanced.

Language barriers within the hospital environment should not exist, but unfortunately they do. To help reduce and/or eliminate language barriers a translator could be available at all times to be utilized by the nursing staff.

The amount of overload a patient feels with the educational process can be reduced by starting education as soon as the patient is admitted. The diabetic educational process should be continuous throughout the hospital stay (Nettles, 2007). This is not accomplished for many reasons. Time restrictions play a major role as does the disease process and whether a patient is capable of taking in information throughout their hospital stay. The result of this produces hurried discharge teaching that leaves patients with information overload.

Implications for Education

A diabetic educator is an excellent addition to the hospital’s education department. The diabetic educator can spend extra time with patients and serve as a resource to the staff nurse (Duncan et al., 2011). When the diabetic educator is unavailable or does not exist in the hospital, the staff nurse should be able to thoroughly educate patients about their disease. It is imperative that hospitals provide continuing education for the bedside nurses in order to stay current on new therapies, treatments, medications and plans of care. The barriers to diabetic education discussed in this study can help guide changes necessary to improve the diabetic teaching programs in hospitals across the country. Adjustments to the teaching programs will take time and finances, but the up-front investment for education may ultimately save the hospital money by
preventing a potential future long hospitalization from complications of diabetes due to ineffective diabetes home management.

Implications for Research

Further research needs to be done on a larger scale on different units of various hospitals to explore what best practices and protocols are occurring and the effects these practices have on nurses and their patients. Intervention research can also be performed to explore if learning outcomes improve when the nurse is provided with an adequate amount of time and space with minimal distractions and noise for diabetic teaching at the bedside. Additional studies to explore outcomes when adequate resources are available for the nurse would be beneficial. And finally, investigation needs to occur from the patient’s perspective on how the addition of resources and time for teaching impacts a successful outcome for the patient.

Study Limitations

The limitations of this study are that only a small group of nurses (n=4) who perform diabetic education at the bedside were interviewed. The results of this study in combination with current literature are enough to suggest changes and identify areas for further study. While the study was limited to four different hospitals and four different nurses it was supported by the literature review that similar situations are experienced by nurses across the country.

Conclusion

This study was able to provide insight into the lived experiences of four nurses who perform diabetic teaching at the bedside and the barriers they encounter. It
echoed the critical need for diabetic educators in the hospital environment, unrestricted access to educational material, diabetic training for the bedside nurses, more time allotted to perform teaching, less interruptions/distractions during diabetic teaching and a decrease in noise level of the teaching environment. It also echoed the critical need for the availability and access to translators as well as cultural sensitivity. Finally, it supported the need for education to occur throughout the hospital stay instead of an all-at-once (usually at discharge) approach leading to information overload and a decrease in readiness to learn by the patient.

The quality of diabetic teaching and patient care will increase once the intense work of registered nurses in the hospital setting is understood and the appropriate changes are made to allow them to successfully complete the important undertaking of diabetic teaching at the bedside.
REFERENCES


www.healthypeople.gov


Demographics

Age:_____________________________________________________________

Date of graduation from nursing program:_______________________________

Type of nursing degree, i.e., ADN, BSN, MSN:___________________________

Current department employed in (Medical-Surgical, Medical, Surgical, Dialysis, Step-Down, ICU):_____________________________________________________

Length of time worked in current department:_____________________________

Full-time or part-time employment:______________________________________
APPENDIX B
HUMAN SUBJECTS IN REVIEW COMMITTEE
Post Data Collection Questionnaire

Under Federal law relating to the protection of Human Subjects, this report is to be completed by
each Principal investigator at the end of data collection.
Please return to:  Martha Osborne, HSRC Assistant
Office of Graduate Studies
Student Services Center (SSC), Room 160
CSU, Chico
Chico, CA 95929-0875
Or fax to: Martha Osborne, 530-898-3342

Name:  Katrina Green  Chico State Portal ID:  K43573988
Phone(s)  530-898-7879  Email:  knicebaby76@yahoo.com
Faculty Advisor name (if student):  S. Lillibridge, PhD  Phone:  530-899-6958
College/Department:  Nursing Dept
Title of Project:  A Challenge to Nurses: Barriers for
Diabetic Education

Date application was approved (mo/yr):  4/2011  Date collection complete (mo/yr):  5/2011
How many subjects were recruited?  4  How many subjects actually completed the project?  4

*HARM - Did subjects have severe reactions or extreme emotional response?  NO

If yes, please attach a detailed explanation:

Your signature:  Katrina Green  Date:  3/23/2012

*Final clearance will not be granted without a complete answer to this question.

Approved by:  John Mahoney, Chair

*****************************************************************************

VERY IMPORTANT: If you will or have used this research in your project or thesis you are
required to provide a copy of this form (with John Mahoney’s signature in place) to your graduate
committee.

Do you want a photo copy of this form mailed to you?  YES
If yes, provide address:  22835 Hammer Ridge Ln #4
Torrance, CA 90025

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Informed Consent

Research Invitation

Invitation to Participate in a Research Study

Study Title: Perspectives of nurses that perform bedside diabetic teaching with their patients prior to discharge in a hospital setting.

My name is Katrina Green, RN, BSN. I am a graduate student in the School of Nursing at California State University, Chico. I am conducting a research study as part of my thesis for the requirements of my Master of Science degree in Nursing Education, and I am inviting you to participate.

I am studying the perspectives of nurses that perform diabetic teaching at the bedside with their patients. I would like to get your thoughts and opinions as you reflect on your past experiences. If you decide to participate, you will be asked to meet with me for an interview, and you will be asked about your experience while performing diabetic teaching. Appreciating that you have a busy schedule, the interview will take place at a date, time and location that is convenient for you. The interview will last between 30-60 minutes. The interview will be audio taped so that I can accurately reflect what is discussed. The tapes will only be reviewed by members of the research team who will transcribe and analyze them. They will then be destroyed.

You are being asked to participate in this study because you are a nurse that works in an area where diabetic teaching is performed at the bedside on a regular basis. It is up to you to decide whether or not to take part in the study. If you do decide to take part, you are still free to withdraw at any time without giving a reason. There are no risks to you for being involved in this study and you are free to decline to answer any questions you do not wish to answer.

All information that is collected during the course of the research will be kept strictly confidential. Your name and contact information will be kept in a protected location separate from the interview transcript. The researcher will use a coding system to identify participants when writing up the findings in order to hide the identity of the participants. Any direct quotes will be de-identified.

The benefit to you for your participation in this study will be an appreciation gift of a ten dollar Starbuck’s gift card. It is anticipated that the information gained from this study will eventually help to improve the way that bedside diabetic teaching is delivered to the patient.
I will be happy to answer any questions you have about the study. You may contact me at 530-632-7879 or at katiebaby76@yahoo.com if you have study related questions or problems.

If you would like to participate, please contact me so a demographics and consent form can be mailed to you. The demographics and consent form need to be completed and returned within two weeks of the date marked on the research flyer. Upon receipt of the completed demographics and consent form, I will contact you within five days to determine a convenient interview time.

Thank you for your time and consideration for participating in this study,
Katrina Green, RN, BSN
(530)632-7879
Katiebaby76@yahoo.com

This study has been approved by the California State University, Chico’s Human Subjects in Research Committee.
Consent Form

By signing the consent form you are indicating:

1. You have read the consent to participation in the research study.
2. You freely and voluntarily agree to take part in this study.
3. You may withdraw your agreement at any time.
4. You will receive a copy of this form at your interview.

___________________________________                  ______________________
Participant’s Signature     Date
California State University, Chico

PARTICIPANTS NEEDED FOR RESEARCH IN DIABETES EDUCATION

I am a student in a graduate nursing program and am looking for nurses to take part in a study of bedside nursing diabetes education.

As a participant in this study, you would be asked to: answer open-ended questions in a structured interview setting.

Your participation would involve: one interview session, lasting approximately 30-60 minutes.

In appreciation for your time, you will receive a Starbucks gift card.

For more information about this study, or to volunteer for this study, please contact:
Katrina Green, RN, BSN
at
530-632-7879
Email: katiebaby76@yahoo.com

This study has been reviewed by, and received ethics clearance through, the Office of Research Ethics, California State University, Chico
APPENDIX E
Welcome,

Please sit down and make yourself comfortable. During this interview I hope to gain and capture your perspective on the experiences you have while teaching your diabetic patients what they need to know about their disease and how to manage it before they are discharged.

As you know, this is a semi-structured interview. I have a series of questions to help guide the interview along, but feel free to add in as much content as you like. The interview will be recorded for accuracy.

The interview will take approximately 30-60 minutes. Please try to be as open and descriptive as possible. Let’s begin with a couple of questions:

1. What resources are available at your hospital to assist you with diabetes education?
2. What time of the day do you generally do diabetic teaching? (such as: morning/afternoon/evening? just before discharge?)

I would like to talk further about diabetes education and your individual perspectives. Areas that I want to cover are resources, timing, communication practices, patient readiness to learn, etc. Please tell me about your experiences while performing diabetic education and highlight these particular areas if possible.

That concludes our interview. Do you have anything else you would like to add?

Thank you.
APPENDIX F
<table>
<thead>
<tr>
<th>Significant statement</th>
<th>Formulated Meanings</th>
<th>Cluster of themes</th>
</tr>
</thead>
</table>
| 1 I can get stuff off of Form Fast, so I can print it up and its diabetic education material. And I go over those with the patient and I will discuss that with the family and the patient and give them printed material at the sixth grade level for them to go home with. 1 As I see them and give them information along but you know the final teaching is with discharge 'cause they're gonna get all their handouts. 1 ...you know a paper to look at to refer back to. | Administers printed material to patients  
Gives handouts and final teaching with discharge  
Printed material for patient to refer back to | Access to resources                      |
| 2 ...handout is supposed to be here, but you go to grab it and its empty. So you are doing your teaching without it. | Limited availability of resources  
Printed material for the patient unavailable  
Barrier to care | Access to resources                      |
| 3 The only thing we have in the unit I work in (ICU) is a diabetes package and education packet | Limited availability of resources  
Barrier to care | Access to resources                      |
| 4 There's always a resource that we can go to called Krames. That we go to on the internet website and print out diabetes education. | Availability of resources  
Technology/internet | Access to resources                      |
| 1 I don't always get to the DVD because I don't have time for that 1 ...there is a video too, we can, you know, a DVD, we can pop that in. | Availability of resources  
Visual material/Technology | Access to resources                      |
| 2 No, there are no videos at all and I can't believe that.... 2 No, there is no education channel and that's weird because I am used to always having an educational channel everywhere I have been and there is not one. | Limited availability of resources  
Lack of technology | Access to resources                      |
| 3 I don't know if there are (videos) in our unit. I think we only have the study packet and I'm not sure if there's a video that comes with the packet. | Limited availability of resources  
Lack of knowledge from the nurse  
Barrier to care | Access to resources                      |
1. Now at either of my hospitals (interviewee #2 works at two different hospitals), we don’t have a diabetic educator.
   1. Usually the patients just choose to have me teach them about it.
   1. Our dietician lady will do a lot of that teaching.
   1. A home health nurse, we can set them up to follow them.
   1. Well dietary helps and in one of my hospitals they’ll come over and talk about food and they like doing that when they have time.
   1. I mean, I think a diabetic educator would be great. But as you know a lot of hospitals aren’t paying for this kind of training itself.

<table>
<thead>
<tr>
<th>Limited availability of resources</th>
<th>Access to resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial limitations</td>
<td></td>
</tr>
<tr>
<td>Diabetic educator available for the staff and/or patient</td>
<td></td>
</tr>
<tr>
<td>Dietary teaching patients the nutrition side of diabetes</td>
<td></td>
</tr>
</tbody>
</table>

2. So at Kaiser there are diabetes educators that will come around before people are discharged if they are newly diagnosed and still in the hospital.
   1. ...It’s not just the diabetic educators, but educators in general will come do the teaching.
   1. And the nurses will do it (education) too.
   1. The educators are only dayshift people.
   1. So only during the night. And then the nurses do the left over.

<table>
<thead>
<tr>
<th>Limited resources at night.</th>
<th>Access to resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>General educators perform diabetic education</td>
<td></td>
</tr>
<tr>
<td>Diabetic educators available for staff and/or Nurses perform diabetic education</td>
<td></td>
</tr>
</tbody>
</table>

3. We need a diabetic educator at the hospital.
   1. We can utilize nutrition to come in and a nutritionist will speak with the patient.
   1. And not having a lot of resources, not having a diabetic teaching instructor at the hospital.

<table>
<thead>
<tr>
<th>Limited resources</th>
<th>Access to resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutritionist will educate the diabetic patients</td>
<td></td>
</tr>
<tr>
<td>Diabetic educator not available for staff patient and/or</td>
<td></td>
</tr>
</tbody>
</table>

4. There is a diabetic educator

<table>
<thead>
<tr>
<th>Availability of resources</th>
<th>Access to resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetic educator available for staff and/or patient</td>
<td></td>
</tr>
</tbody>
</table>

5. One of the facilities I work at does offer strategies in teaching. But it is very, it is very-its offered once a year.
   1. But I don’t get diabetes (classes). I get lung, I get heart.
   1. I would take a class if one is offered to me.
   1. I mean the class we did get-it’s like a two-hour class and you know, you discuss how the way to teach, but it’s not specific to diabetic teaching.

<table>
<thead>
<tr>
<th>Limited education for nurses on teaching strategies</th>
<th>Access to resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>No education specific to diabetes Classes are not frequent enough</td>
<td></td>
</tr>
</tbody>
</table>

6. None at all.
   1. I’ve never been taught how to do it or how to teach someone ever, but I’m expected to do that teaching.
   1. There’s no training whatsoever in what you are supposed to tell anybody or how you should get information across or how you should reward things so that you’re not using words that people don’t understand cause you’re used to medical words and they’re not.

<table>
<thead>
<tr>
<th>No education offered to nurses on teaching strategies</th>
<th>Access to resources</th>
</tr>
</thead>
</table>

7. No.
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>4 I don't think so, I'm not sure unfortunately.</td>
<td>Nurse unsure on availability of classes offered on teaching strategies</td>
<td>Access to resources</td>
</tr>
<tr>
<td>2...there is diabetic classes for people to go to and that's going to be like outpatient people who have diabetes who will go to the classes that are offered. 2 They can go to the classes that will be, I think, four to eight hours long.</td>
<td>Classes for patients offered on outpatient basis</td>
<td>Access to resources</td>
</tr>
<tr>
<td>4...diabetes classes are held on a weekly basis at the hospital I work at where patients can come to these classes on an outpatient basis or while they're inpatient.</td>
<td>Classes for patient offered on outpatient basis  Classes for patient offered on inpatient basis</td>
<td>Access to resources</td>
</tr>
<tr>
<td>I really don't have a specific time because people are discharged at all different times. 1 But I do like to start early. 1...It's good to start early with your teaching and you know its about repetition really.</td>
<td>No specific time for teaching  Nurse is linking discharge to performing the required teaching  Likes to start teaching early in the day</td>
<td>Time of day for teaching  Timing related to hospital stay</td>
</tr>
<tr>
<td>2 With your discharges—that's when you are going to do the most teaching. 2 Nights (night shift) wouldn't really have to do that because no one goes home after 11 o'clock at night.</td>
<td>Likes to perform diabetic teaching during discharge  Night shift does not discharge after 11pm.</td>
<td>Time of day for teaching  Timing related to hospital stay  Set time for teaching</td>
</tr>
<tr>
<td>3 We, I, generally do it whenever I can. We're extremely busy, whenever we get a minute to do a thorough teaching that's when I would do it and that could be any time. It could be with the morning medication, with the morning glucose checks or right before lunch or whenever.</td>
<td>Teaches at various times during the shift.  Teaches whenever she can due to the busy workload</td>
<td>Time fo day for teaching  Timing related to hospital stay</td>
</tr>
<tr>
<td>4 I'm always doing diabetic teaching with my patients... when especially—any chance I have, I try to do it with them but especially when I'm getting ready to check their blood sugar</td>
<td>Nurse states she's always teaching integrated teaching</td>
<td>Time of day for teaching  Timing related to hospital stay</td>
</tr>
<tr>
<td>1 Well at the bedside, but I wouldn't say quiet and relaxed 1 Then I'll try to get them in a quiet environment 1 I try to have minimal interruptions 1 I try and get them off (in a quiet environment) and make sure they understand there is interruptions. I mean there's lot of things that are challenging with teaching because time constraints with nursing is a big one 1 It really depends on the unit, what's going on, yes, there can be a lot of interruptions 1 Yes (Lighting is good) I can make it good.</td>
<td>Attempts to perform teaching in a quiet environment with minimal interruptions  Time constraints a barrier to teaching  Lighting is adequate</td>
<td>Environment</td>
</tr>
<tr>
<td>2 If I am doing the teaching, the environment I'm in is the patient's room.</td>
<td>Environment is not adequate for teaching</td>
<td>Environment</td>
</tr>
<tr>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>2 There are a million interruptions</td>
<td>No education channel to enhance patient learning</td>
<td></td>
</tr>
<tr>
<td>2 ...that's like the worst part of teaching - that it's not an adequate environment for learning to take place at all.</td>
<td>Interruptions act as a barrier to teaching</td>
<td></td>
</tr>
<tr>
<td>2 There is no education channel.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3 It is a very hectic, chaotic environment. There is a lot of distraction.</th>
<th>Environment is not adequate for teaching</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Families are usually present and it is very chaotic.</td>
<td>Hectic, chaotic environment act as barrier to teaching/learning</td>
<td></td>
</tr>
<tr>
<td>3 The lighting is pretty good, no problem with that.</td>
<td>Distractions, interruptions are barriers to care</td>
<td></td>
</tr>
<tr>
<td>3 Each ICU room is private.</td>
<td>Families present during teaching</td>
<td></td>
</tr>
<tr>
<td>3 There are several interruptions ...its rare to have one-on-one teaching without any interruptions.</td>
<td>Each patient room is private</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4 The environment is usually hectic, busy, loud, rushed.</th>
<th>Hectic, busy, loud environment is a barrier to care and teaching/learning</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 The lighting is usually the same - its pretty fair.</td>
<td>Lighting is fair</td>
<td></td>
</tr>
<tr>
<td>4 Theres a lot of distractions and its not, in my opinion, not the best teaching and/or learning environment.</td>
<td>Distractions in the environment, including those from staff are barriers to care and teaching and learning</td>
<td></td>
</tr>
<tr>
<td>4 There are above average interruptions during the teaching from staff and patients.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1 I do (ask additional staff) help with translation.</th>
<th>Asks staff to translate</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Utilize people I can trust.</td>
<td>Only speaks English</td>
<td>Culture/translation</td>
</tr>
<tr>
<td>1 The Punjabi or the Sikh, they are very stoic and they are very, you know, they don't really want, you know, a lot, especially when they are ready to go home</td>
<td>Cultural sensitivity</td>
<td></td>
</tr>
<tr>
<td>I try to really take that into consideration and be sensitive with it. Different cultures like you know, you have your different, even Spanish, and stuff so that can be pretty stoic and kind of give off that, like they understand when they don't.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Its challenging for me because I only speak English.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2 Personally I didn't experience a lot of that, the population that goes there is mostly English speaking.</th>
<th>Did not experience the need for a translator with her patients at the hospital she works</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 If I would've done Med-Surg at South Sac I probably would have encountered that a lot. There are a lot more Spanish patients and English is not their language or English is their second language or they don't speak English at all. That happens way more there.</td>
<td>Most of her patients were English speaking</td>
<td>Culture/translation</td>
</tr>
<tr>
<td>3 In our community, here, we have a lot of East Indians, we have lots of Hispanics, Hmong.</td>
<td>Nurse speaks English and Punjabi</td>
<td></td>
</tr>
<tr>
<td>For myself, I speak Punjabi, so I don't feel like any kind of trouble translating in that language but definitely Spanish and Hmong, those language. Yes, there are language barriers and its difficult to find somebody to translate or call AT&amp;T and go through them and then do the teaching.</td>
<td>Patient population consists of East Indians, Hispanics and Hmong.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Difficult to find someone to translate for the nurse when needed.</td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>4</th>
<th>I don't really deal with any language barriers per se with my teaching.</th>
<th>Does not deal with language barriers</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Culturally, I think there can be some cultural differences if—because food is reflected in culture a lot, reflects culture. And so, the patient—a particular population of patients have been eating high salt, high carb foods and that's what they grew up on, that was their culture. And it creates a challenge because there's a lot of resistance there and they just really don't know how to cope with that.</td>
<td>Cultural differences reflected in food creates a challenge</td>
<td>Culture/translation</td>
</tr>
<tr>
<td>4</td>
<td>As far as other nurses go, other nurses who have whose language—first language is not English, I can definitely see barriers with that because I think half the time the patients have no idea what they're saying.</td>
<td>States she see language barriers with her co-workers whose first language is not English</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>In the past, I've worked in a hospital where there was a lot of different languages and we had interpreter phones.</td>
<td>Hospital she worked for in the past utilized interpreter phones</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>We try to make sure they are going to see their primary care within a week.</th>
<th>Nurse sets up a follow up appointment with the patient's primary care doctor one week following discharge to ensure that discharge instructions are being followed/questions answered</th>
<th>Follow-up care</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I personally never get to follow up with them unless they happen to call in.</td>
<td></td>
<td>Post discharge education</td>
</tr>
<tr>
<td>1</td>
<td>But I make sure they have a primary care follow up or our social worker, or discharge planner will make sure they have some help.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>They can also e-mail the dietician.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>I think all the nurse practitioners do that.</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>2</th>
<th>When we're discharging patients from the hospital, they always have follow-up appointments with different people that they leave with. But the appointments, follow-up appointments are scheduled and once in a while I've seen a home health referral.</th>
<th>Nurse sets up a follow up appointment with the patient's primary care doctor one week following discharge to ensure that discharge instructions are being followed/questions answered</th>
<th>Follow-up care</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>...and sign them up for continuing education, diabetes education, as an outpatient.</td>
<td>Nurse sets up continuing education with the outpatient education department</td>
<td>Post-discharge education</td>
</tr>
</tbody>
</table>

| 1 | I assess how they learn best definitely, I'll say do you like me to tell you and talk to you about or would you like to see a little video, would you or do you want to just read a handout. I think it's a combination of everything. And usually they'll say a combination | Learning needs of the patient | Communication |

<p>| 2 | Everybody who is admitted to the hospital, they're doing a learning assessment and then initially in the admission process, so they're telling the nurse whether they learn better visually or by listening or with the handout or something they wanted to read on their own or whatever. | Learning needs of the patient | Communication |
| 2 | I do ask would they rather read things themselves or would they rather me read it to them or hand it to them ahead of time and then come back to answer questions. | | |
| 2 | But I don't consciously make an effort to say, &quot;Oh how does this person learn best?&quot; and go from there. | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1 Time definitely, I always feeling a little bit rushed.</td>
<td>Time is biggest challenge when attempting her diabetic teaching</td>
<td>Educational process Not enough time for teaching/learning</td>
</tr>
<tr>
<td>2 The environment, that's the most annoying thing about trying to do your teaching. They are not ready to listen because they have all these other things going on. If you are doing the diabetic teaching that's not usually why they are on the Med-Surg floor. So they've got all these other issues they are dealing with. So they are not ready to really even hear you talk about something totally different or just distractions from housekeeping and lab and like I said there's people coming in and out of the room, it's not quiet. I wouldn't be able to learn. If I knew nothing about diabetes, I wouldn't be able to concentrate at all if I was the patient. 2 I don't think (time) is adequate at all. 2 Well, the other frustrating thing which probably won't change no matter who you complain to, but when people come to the hospital we have the cheapest lancets that really hurt bad. And the patient who is going to be going home, we are not using the same equipment that people are going home with. So that's kind of confusing.</td>
<td>Environment is biggest challenge when attempting diabetic teaching Patients are not ready to listen/learn Patient readiness barriers to learning present Not enough time to perform your teaching Room is not quiet Equipment the patient is taught with is not the same equipment they go home with Distractions present</td>
<td>Educational process Inadequate learning environment Readiness to learn (patient)</td>
</tr>
<tr>
<td>3 I think the biggest challenge is really trying to find the time to really do a thorough teaching session with the patient.</td>
<td>Time is biggest challenge</td>
<td>Educational process</td>
</tr>
<tr>
<td>3 I think it is important to have at least 15-20 minutes to do the actual teaching session and then, you know, several minutes after that we will be able to answer all of their questions thoroughly. That time is just not there.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 My greatest challenge I believe is that people don't take diabetes seriously.</td>
<td>Patients do not believe that diabetes is a serious disease is the biggest concern</td>
<td>Educational process</td>
</tr>
<tr>
<td>4 I don't feel like I have enough time.</td>
<td>Time is also a problem</td>
<td></td>
</tr>
<tr>
<td>4 Yeah, I think time, time poses the lack of time on the floor poses a big challenge for anybody trying to do any kind of teaching. On the floor its really hard to find the time.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 A nice, well lit, quiet room, pleasant smelling preferably. Family member or significant other the patient calm, and relatively comfortable as comfortable as they can be and going over it in a language they can understand and a level they can understand and being able to really take the time and discuss with them and making sure they get it, not be too confrontational.</td>
<td>Well lit, quiet room, pleasant smelling</td>
<td>Creating the ideal educational setting</td>
</tr>
<tr>
<td>Family member or significant other present</td>
<td>Patient calm and comfortable</td>
<td></td>
</tr>
<tr>
<td>Patient calm and comfortable</td>
<td>Patient's educational level in their first language with adequate time for discussion and questions</td>
<td></td>
</tr>
<tr>
<td>2 I would have no interruptions. The patient and maybe their significant other who is going to be helping them do all the stuff they are going to do. Handouts that we are supposed to have because a lot of time you run out of and you know, oh this handout is supposed to be here but you go to grab it and it's empty.</td>
<td>No interruptions</td>
<td>Creating the ideal educational setting</td>
</tr>
<tr>
<td>2 Significant other who will be helping the patient at home present for the teaching as well</td>
<td>Handouts available</td>
<td></td>
</tr>
<tr>
<td>3 All teaching tools available for the teaching session</td>
<td>All teaching tools available for the teaching session</td>
<td>Creating the ideal educational setting</td>
</tr>
<tr>
<td>3 It would consist of me being able to assess the patient to see how they learn best, gathering all of those tools and having everything available to me. If they required an interpreter, having one available that would thoroughly be able to explain everything from everything on diabetes to the patient and then reinforcing that afterwards with an actual diabetic teaching instructor available especially for the hospital. That would be perfect, that would be ideal.</td>
<td>Interpreter available, if needed. Interpreter knowledgeable in the subject of diabetes</td>
<td></td>
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</tr>
<tr>
<td>4</td>
<td>If I could control the environment better so if I could make sure that there aren’t any distractions, if I could make sure that I had the patient’s full and undivided attention, if I could turn the TV off, that would help a lot. That would make it better. If I had unlimited time, of course, that’s in a perfect world.</td>
<td>No distractions</td>
</tr>
<tr>
<td>4</td>
<td>To have unlimited time and how much can you tell a patient when you have to think about people attention span is what like 20 minutes or something.</td>
<td>Patient’s undivided attention</td>
</tr>
<tr>
<td>4</td>
<td>If I could provide the patient with materials for them to take home like as far as journaling, Maybe a video, a video of other diabetic talking about...real life stories.</td>
<td>TV off</td>
</tr>
<tr>
<td>4</td>
<td>If I had access to computers, I would refer them to websites, you know American Diabetes Association website and stuff like that.</td>
<td>Unlimited time</td>
</tr>
<tr>
<td>4</td>
<td>But if I could do that without any interruptions, that would be fabulous.</td>
<td></td>
</tr>
</tbody>
</table>

<p>| 1 | I really try, I really try, it’s something I need to work on as a person too because I feel like sometimes you’re just spread too thin and you are thinking, “Okay that antibiotic is due, I gotta scan that.” I mean it is hard so yes, I have to work on that definitely I could be better as a listener. | Needs to work on active listening, but also states she is spread too thin and doesn’t have the time | Active listening (nurse) Self-reflection |
| 2 | I think I’m a good listener. That’s one of my strongest traits probably. | Feels she’s a good listener States it’s one of her strongest traits | Active listener (nurse) Self-reflection |
| 3 | I think that if I wasn’t working in such a chaotic environment that I do, I would probably be able to pay attention a little bit more. To be truthfully honest and listen to the patient in more detail because I’m in an environment where it’s hurried and rushed sometimes its kind of like okay, well let’s just get down to basics and really just let them know what they need to do and make sure they are safe and they understand, give them the resources so they can further research themselves and that’s it. | The chaotic environment hinders her ability to actively listen effectively | Active listening (nurse) Self-reflection |
| 4 | I feel that I’m a good active listener but it really makes it difficult to be a good active—as good and active listener as I’d like to be when I’m at the bedside with so many distractions and environmental challenges. I do my best to be an active listener but its really hard at the bedside. | The distractions and environment make it difficult to be a good, active listener | Active listening (nurse) Self-reflection |
| 1 | Yeah, I really try, I have patients tell me that they fell | Trys to communicate effectively | Communication Self-reflection |
| 1 | I’m very caring, I get a lot of compliments that way. But sometimes it takes me sacrificing my charting and I’ll like do a crappy job of charting that day and whatever. | Sacrifices her charting so she can communicate with her patients more |   |</p>
<table>
<thead>
<tr>
<th>I think I do fairly well with that and not as confident as I am listening because I can listen when there is all the distraction but trying to do the teaching is harder with distractions going on, so I don't know. I think I don't stop unless I feel confident that I have been clear, you know, so I might say something ten times.</th>
<th>Does fairly well at communicating but it is difficult with all the distractions States she will repeat herself ten times if needed</th>
<th>Communication Self-reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel I have adequate communication skills to communicate with the patient appropriately to see what assess what their needs are and do what I need to do to give them the appropriate resources.</td>
<td>Communicates adequately</td>
<td>Communication Self-reflection</td>
</tr>
<tr>
<td>I think I have good communication skills. I really try hard to relate the information to the patient in a way that they can understand, so if I can assess and gauge the patient's education level then I am not going to use big fancy words or explain, you know, complex processes.</td>
<td>Possess good communication skills Assesses the patient's education level prior to teaching</td>
<td>Communication Self-reflection</td>
</tr>
<tr>
<td>Oh, absolutely they get. I mean that's a lot to tell anyone. I mean and we obviously have nursing backgrounds. Because it is information overload. People give you this blank stare.</td>
<td>Patients experience information overload Patients give a blank stare</td>
<td>Nurse observation Ability to educate the patient</td>
</tr>
<tr>
<td>It definitely happens a lot. It definitely happens a lot, especially because things aren't done as much as they should be over the length of their stay.</td>
<td>Information overload definitely happens a lot because education should be spread out over the length of the stay and it's not</td>
<td>Nurse observation Ability to educate the patient</td>
</tr>
<tr>
<td>I think the patients, they don't have enough teaching that's really what I'm thinking. They are not getting enough information because we don't have the appropriate resources for them and then when we try they are just not interested.</td>
<td>Patients do not receive enough teaching Patients do not get information overload because the appropriate resources are not available</td>
<td>Nurse observation Ability to educate the patient Lack of availability of adequate resources</td>
</tr>
<tr>
<td>It's easy to get--to give information overload, but in the setting where I'm at, it doesn't really happen. I don't think it happens that often because there's so little time to do the teaching that there's very limited amount of information. You kinda have to pick and choose what's most pertinent that you want to get across. So there's not really an opportunity for information overload. Because it's so limited in time.</td>
<td>Information overload does not really happen because there's so little time for teaching and a limited amount of information is given to the patients.</td>
<td>Nurse observation Ability to educate the patient Lack of time for teaching</td>
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<td>It would be great to have someone that you—even if they were in charge of another department, like, you know, let’s say, health nurse where the nurses and then also you know, staff, I guess, health nurse and then also if they had a background in diabetes education. That would be great if you had a different person resource there all the time. Website is pretty easy from the nursing standpoint, but maybe something else, a little bit more, its still pretty medical. Maybe something more along the patient’s level.</td>
<td>Diabetic educator available for patients and nurses Patient-friendly website</td>
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<td>2</td>
<td>There is so much room for improvement in terms of teaching.</td>
<td>Need for multiple areas in the teaching department to change</td>
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<td>3</td>
<td>Absolutely, I have many concerns. I think we need more resources. We need a diabetic educator at the hospital. We need to have more diabetic teaching done and assessed to see how well it’s being done. Yeah, absolutely I feel that more needs to happen.</td>
<td>Diabetic educator available for patients and nurses Need for more resources Need for feedback on the diabetic teaching</td>
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<td>4</td>
<td>Yeah, I think time, time poses-the lack of time on the floor poses a big challenge for anybody trying to do any kind of teaching.</td>
<td>Need for more time to teach</td>
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<td>Not really, no. Even when I was oriented like I have never seen someone do the diabetic teaching. It’s just something you’re expected to know all about and kind of do and you have a printout that the doctor writes, so you have to hit all the key points that doctor wants you to go over.</td>
<td>Education practice(s) of other staff</td>
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<td>3</td>
<td>No, I have not. I’ve been too busy with my patients. I haven’t seen anyone else do any teaching.</td>
<td>Education practice(s) of other staff</td>
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<td>4</td>
<td>And the dieticians would come and I’d hear but they’d be very- I have yet to see a dietician who would address the patient and talk to the patient as if they really cared. They would be just like they have their little clipboard and they would be check, check, check, check, check, spend as little time with the patient as possible and move on. They would, “Okay you know you are supposed to be counting your carbs, yeah okay, you know you are not supposed to eat this, yeah okay, you know about this, right?” and they would almost lead the patients to the right answer. I haven’t specifically, like intentionally, set out to watch any of the nurses but for the most part, in the department, the specific department that I work in right now, there isn’t a lot of teaching that’s being done. That’s the last thing that nurses seem to want to do or choose to do.</td>
<td>Education practice(s) of other staff</td>
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<td>Usually it starts, if they are going to be there a little while, it starts from when they're admitted. So she has time to get there throughout their hospital stay. But sometimes it comes down to the end and I will give her a call and she, for the most part they are pretty good.</td>
<td>Resource person/patient educator is easy to contact. She will visit the patient during their hospital stay</td>
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<td>2</td>
<td>You have to put a consult in the computer to have them come to the patient's room.</td>
<td>Resource person/patient educator will come to the patient's room once a consult is placed in the computer</td>
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<td>4</td>
<td>I've never done it personally but I would think that that would be a good idea if you felt like your patient could benefit from a diabetes class. The first person I would ask would be the doctor and to see if the doctor was the one to order that or contact the case manager and find out if the case manager would be the one to set that up as well.</td>
<td>Never set this up for a patient Not sure who to contact to set this up Knowledge of the nurse</td>
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