The Utilization of Nursing Diagnoses by Registered Nurses: An Attitudinal Study

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THE UTILIZATION OF NURSING DIAGNOSES BY REGISTERED NURSES:
AN ATTITUDINAL STUDY

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# TABLE OF CONTENTS

LIST OF TABLES ........................................................................................................... v

ABSTRACT .................................................................................................................. vi

CHAPTER ONE: INTRODUCTION ............................................................................. 1

  Statement of Problem ................................................................. 2
  Significance of Problem .............................................................. 2
  Purpose ......................................................................................... 3
  Research Question ................................................................. 3
  Operational Terms ................................................................. 3
  Conceptual Framework .......................................................... 4
  Limitations ................................................................................. 5
  Assumptions .............................................................................. 5
  Summary ................................................................................... 5

CHAPTER TWO: LITERATURE REVIEW ............................................................... 6

  History of Nursing Diagnosis .................................................. 6
  Utilization of Nursing Diagnoses ............................................ 8
  Nurse Practitioner Utilization ................................................ 10
  Significance of Nursing Diagnoses ........................................ 11
  Electronic Patient Records .................................................... 11
  International Studies ............................................................. 12
  Theory of Planned Behavior ................................................. 15
  Summary .................................................................................. 18

CHAPTER THREE: METHODOLOGY ................................................................. 20

  Design ....................................................................................... 20
  Sample ...................................................................................... 20
  Setting ....................................................................................... 21
  Instrument ............................................................................... 21
  Ethical Considerations .......................................................... 22
  Procedure ................................................................................ 22
  Summary .................................................................................. 23

CHAPTER FOUR: RESULTS ............................................................................... 24

  Characteristics of the Sample ................................................ 24
  Research Question One .......................................................... 26
  Research Question Two .......................................................... 28
  Text Response Items ............................................................... 31
  Summary ................................................................................... 34
LIST OF TABLES

Table 1. Current area of practice .................................................................25
Table 2. Current specialty area .................................................................26
Table 3. Responses to question,
   “I usually write nursing diagnoses on patient records.” ......................27
Table 4. Responses to question,
   “No one bothers to read nursing diagnoses.” .................................28
Table 5. Correlations using Spearman's Rho between
   utilization factors and demographics ..............................................29
Table 6. Mean, median, and mode for personal attitude / value items .......30
Table 7. Mean, median, and mode for subjective norm items .................31
Table 8. Correlations using Spearman's Rho between
   utilization items and personal attitude / value items .......................32
Table 9. Correlations using Spearman's Rho between
   utilization items and subjective norm items .................................33
ABSTRACT

Nursing diagnoses are a critical part of the nursing process and have been a large part of nursing education and clinical documentation for more than 30 years. Utilization of nursing diagnoses in practice is largely unknown because of lack of published research on the topic. The evolution of computerized charting has revolutionized the format and style of nursing documentation. The purpose of this study was 1) to examine the self reported utilization of nursing diagnoses by registered nurses and 2) to examine the attitudes of registered nurses towards nursing diagnoses. This study employed the use of the Internet to distribute, administer, and collect surveys and data. A random sample of 950 registered nurses who submitted their e-mail address to the Florida Department of Health (FDOH) received an e-mail invitation, and 133 (14 percent) responded to the survey.

Most of the participants (93 percent) were advanced practice nurses (APN), educated beyond the bachelor degree level. Both utilization variables in this study displayed a slight tendency by subjects against the use of nursing diagnoses in practice. Utilization of nursing diagnoses was significantly correlated with the participant’s personal attitude towards nursing diagnoses ($r_s = 0.65$, $p < 0.001$). Utilization was also significantly correlated with the views of other nurses the respondent knew ($r_s = 0.45$, $p < 0.001$). These correlations were consistent with the Theory of Planned Behavior (TPB) by Ajzen. The survey contained two text response items and an area for comments. The most prevalent themes that emerged as reasons for documenting nursing diagnoses were: (1) to improve patient care, (2) to enhance communication, (3) to develop care plans, and (4) to adhere to policy. The most common reasons for not writing nursing diagnoses were: (1) poor use of time, (2) no application to their role as an advanced practice nurse, (3) not read, and (4) different language used by advanced practice nurses.

The study’s findings, that personal attitude / value and subjective norm influence the usage of nursing diagnoses, can be employed to promote implementation of nursing diagnoses in the practice setting. Further study is needed to examine whether reinforcement of personal attitude / value and subjective norm factors in the educational and clinical settings will increase nurses’ use of nursing diagnoses.
CHAPTER 1
INTRODUCTION

The nursing diagnosis system is a theoretical framework intended to increase understanding of patient problems and support nurses in solving those problems by allowing nurses to choose and implement the best interventions. Nursing diagnoses put patient problems into words so that the problems can be properly addressed. Most students are taught to use nursing diagnoses in nursing school (Missroon, 1988). After graduation, multiple frameworks are used to organize and focus nursing care, including nursing diagnoses, care maps, concept maps, and clinical pathways. Ideally, nurses learn the same theoretical construct in school that they use in practice, but the current utilization of nursing diagnosis is undefined by the literature (Higuchi, Dulberg & Duff, 1999).

The North American Nursing Diagnosis Association International (NANDA-I), which had its first conference on nursing diagnoses in 1973, has developed into a strong multi-national organization over the last 30 years. NANDA-I nursing diagnoses have been created to provide a common nursing language to unite nurses and help describe nurses’ contributions to the health care environment (Keenan, n.d.). It currently defines nursing diagnosis as a nursing conclusion concerning a person or group about a reaction to a health problem (NANDA-I, 2005). The health problem can be actual or potential, and the reaction to the health problem must be within the scope of a nurse’s independent treatment. The nurse is accountable for treating patients according to their nursing diagnosis. These diagnoses are believed to increase critical thinking and nurses’ autonomy (Cruz & Arcuri, 1998; Lunney, 2003; Lunney, Parker, Fiore, Cavendish & Pulcini, 2004). Nursing diagnoses, along with standardized interventions and standardized outcomes, are key steps in making nursing services chargeable (Levin, Lunney & Krainovich-Miller, 2004).

This study will address the utilization and perceived value of nursing diagnoses by nurses working in a variety of settings in a southeastern state of the United States. The goal is to determine to what degree a select sample of nurses in a southeastern state in the United States utilizes nursing diagnoses and what their opinion of the diagnoses is.
Statement of the Problem

While nursing educators typically support the use of nursing diagnoses in clinical settings, the utilization of nursing diagnoses by practicing nurses is unknown. Dr. Marjory Gordon (1998), the first president of The North American Nursing Diagnosis Association International (NANDA-I), wrote, “clinical practitioners have been more involved in implementing nursing diagnosis than nursing educators have” (n. d., p. 4). Roberta Christensen, a critical care nurse, wrote, “Nursing diagnosis is simply one more demand on our time that doesn’t help–and may hinder–our efficient delivery of patient care” (Christensen & Taylor, 2000, p. 1). The topic of nursing diagnoses appears frequently and with contradiction in the literature. Some references state its high value and frequent usage while others state its low value and rare usage.

Internet nursing forum pages offer less scholarly, but uncensored, arguments concerning nursing diagnoses in practice. A discussion about the use of nursing diagnoses typically begins, “I've been studying for my CCRN and keep running into the nursing diagnosis sections. It makes me wonder...has anyone used them for any practical purpose since getting out of nursing school?” (Castens, 2001, p. 1). An informal poll on Allnurses.com asks the question, “Does your facility have a practical use for nursing diagnoses?” (Allnurses, 2006, p. 3). Seventy-two (72) percent of respondents stated that their facility did not use them while only 28 percent said they did. According to this poll, most nurses do not use nursing diagnoses as part of their practice.

The utilization of nursing diagnoses is debated through Internet and professional journals (Castens, 2001; Sieleman, 1999; Higuchi, Dulberg & Duff, 1999). Some firmly support the use and value of nursing diagnoses while others feel nursing diagnoses are a waste of time and energy (Powers, 2002; Whitley & Gulanick, 1996; Missroon, 1988).

Significance of Problem

Nursing diagnoses are intended to describe phenomena surrounding human responses to disease processes and enable nurses to give the best possible care through appropriate intervention selection. Measuring the usage and value of nursing diagnoses as a theoretical framework is important. To give the best possible care, nurses should apply evidenced-based-practice. The usage and value regarding nursing diagnoses could support evidenced-based-practice assuming nurses use and value concepts that produce good results.
The North American Nursing Diagnosis Association International (NANDA-I) and other nursing diagnosis organizations should investigate the use and value of nursing diagnoses as a guide for further development. Schools of nursing could also benefit from this analysis. As previously stated, nursing schools include nursing diagnoses as part of their curriculum. These results will help prepare graduates for the current nursing culture in a southeastern state in the United States. Knowing how frequently nursing diagnoses are used in practice could help teachers adjust their curriculum to reflect the realities of the nursing profession.

By analyzing how nursing diagnoses are used and valued across the state, individual healthcare facilities could evaluate how they can improve their techniques and implement changes. Facilitating factors and barriers may be exposed, enabling agencies to produce better policies and procedures for nursing diagnoses usage. Better systems may be developed to improve productivity of nurses.

Utilization of nursing diagnoses in practice is a largely unknown variable because of the lack of published research on the topic. This study proposes to add to the knowledge base on nursing diagnoses by further defining its use and value in practice, which may allow nursing diagnosis institutions, such as NANDA-I, to make modifications, help nursing schools design ideal curriculum, and foster efficient work environments.

Purpose

The purpose of this study is to determine if registered nurses (RN) use nursing diagnoses in their daily practice. It will also serve to determine the nurses’ value of nursing diagnoses in a southeastern state in the United States.

Research Questions

Research question 1: Does a selected sample of RNs utilize nursing diagnoses at their practice setting in a southeastern state in the United States?

Research question 2: How does that sample of RNs value nursing diagnoses in their practice?

Operational Terms

For the purpose of this study, the following terms will be used:

Registered Nurses (RN) – A healthcare professional who has completed a professional nursing program and successfully passed a National State Board of Nursing (NSBN) written RN examination and holds an active license as a registered nurse in one or more states.
Value – To find important by way of utility or merit. It is to consider with respect, worth, usefulness, or importance (Dictionary.com, 2006). This is a nursing judgment about nursing diagnosis concerning its worth, usefulness, and importance. Value will be measured using Likert scale items from the Nursing Diagnoses Research Project (NDRP) tool by Higuchi, Dulberg, and Duff (1999). Value will be measured by survey question numbers 13 through 28. For data analysis, value will be divided into personal attitude/value and subjective norm as described in the Theory of Planned Behavior (TPB).

Nursing Diagnosis – A nursing conclusion concerning a person or group about a reaction to a health problem (NANDA-I, 2005). The health problem can be actual or potential, and the reaction to the health problem must be within the scope of practice of a nurse to treat independently. The nurse is accountable for treating nursing diagnoses. NANDA-I nursing diagnoses have been created to provide a common nursing language to unite nurses and help describe nurses’ contributions to the health care environment (Keenan, n.d.). Nursing diagnosis is part of the five-step nursing process: (I) assessment, (II) nursing diagnosis, (III) planning, (IV) implementation, and (V) evaluation (Ackley & Ladwig, 2006).

Utilize – To put into service in a functional way; apply (WordNet, 2003). This is the actual use of nursing diagnoses in documentation and cognitive planning. Utilization will also be measured with Likert scale items within the survey. Question numbers 9 and 52 will measure utilization.

Conceptual Framework

Icek Ajzen (1991) developed the Theory of Planned Behavior (TPB) to describe motivators behind actions. The theory of Planned Behavior was slowly developed over Ajzen’s career, starting in the 1960’s with early models of this theory. In 1985, the TPB was officially introduced in its current form. According to this theory, behavior is influenced by behavioral intention, and behavioral intention is influenced by personal attitude towards the behavior, the subjective norm, and perceived behavioral control. Personal attitude is the perceived good or bad consequences to the behavior. The subjective norm is the perception of what others think about performing the behavior, whether good or bad. Perceived behavioral control is the judged difficulty of the behavior, which includes internal and external factors. These three factors combine to produce a final opinion about the behavior, the behavioral intention, which makes the decision whether or not to perform the behavior.
The Theory of Planned Behavior (TPB) framework enables this study to describe the motivators behind the use of nursing diagnoses, the targeted behavior. The nurses’ attitude is the study’s value variable. The subjective norm is the outside influences of other nurses, nurse managers, and administrators. The perceived behavioral control is the healthcare agency’s forms and workflow design to allow ease of use in nursing diagnoses. Questions on the survey tool measure the value variable and the subjective norm to help describe critical motivational factors for performing this behavior.

Limitations
This study is limited by multiple factors, including the following:

1. The study is limited by small sample size.
2. All nurses in the study are registered in one geographic area, which may not generalize to other areas.
3. Only a small percentage of nurses gave their e-mail address to the Board of Nursing. The sample will be limited to only nurses that provided the Board of Nursing their e-mail address.
4. E-mail delivery systems may classify the e-mail invitation as spam and automatically discard it. If this occurs, the prospective participant will never view the invitational e-mail.

Assumptions
This study assumes:

1. Nurses have been trained to use nursing diagnoses.
2. Hospitals, clinics, and other agencies are required to use nursing diagnoses.
3. E-mail addresses submitted to the Florida Department of Health (FDOH) are current and correct.
4. Nurses with e-mail addresses check their e-mail at least once every month.

Summary
The utilization and value of nursing diagnoses in diverse nursing arenas has not been recently documented in nursing literature. The intent of this study is to evaluate to what extent nurses use and value nursing diagnoses in their practice. Results could support whether there is a need for development of nursing diagnoses as a theoretical framework and as a practical tool for nurses at the bedside.
CHAPTER 2
REVIEW OF LITERATURE

This chapter examines the history of nursing diagnoses and studies relevant to their utilization. Few studies examine the utilization and value of nursing diagnoses. This chapter will analyze those studies and conclude with an in-depth look at the Theory of Planned Behavior (TPB).

History of Nursing Diagnosis

Before Florence Nightingale arrived at the Crimean front in 1854, death rates from all causes except wounds were 549 per 1,000 soldiers (Lavin, Avant, Rosenberg, Herdman & Gebbie, 2004). This means that more than half of the soldiers were dying from preventable causes such as poor clothing, inadequate shelter, cold, hunger, and fatigue. After three months, Florence Nightingale’s work had so improved nursing conditions that the death rates fell to 54 per 1,000 soldiers. Through her efforts, there was a 90 percent decrease in the death rate. Nightingale’s understanding of the critical relationship between nursing conditions and patient welfare produced an amazing improvement in patient outcomes (Nosotro, 2006). She created a nursing process by evaluating conditions, diagnosing problems, implementing changes, and evaluating progress. This is the first documented use of nursing diagnoses (Lavin et al., 2004).

It took almost a century for nursing diagnoses to begin to permeate the nursing profession. In 1947, Lesnick and Anderson wrote a legal document introducing the idea in print that nurses could diagnose. They wrote, “Although diagnosis has been long regarded as the province of the physician, there is current belief, and support for that belief, that this province warrants clarification insofar as the activities of nursing care are concerned” (1947, p. 157). Then, in 1969, F. G. Abdellah said nursing diagnoses were the underpinning to nursing science (Lavin et al., 2004). New York and New Jersey were the first two states to include “nursing diagnoses” in their nurse practice acts in 1972 and 1973, respectively (Lavin et al., 1999). Amazingly, nursing diagnosis made its way into congressional documents without there being a regulating board, a standard list, or even a formal definition of nursing diagnoses. Conditions called for the formal organization and development of nursing diagnoses.
In 1973, Gebbie and Lavin were having problems classifying nursing problems in an ambulatory-care setting, which led them to organize the First National Conference on the Classification of Nursing Diagnoses in St. Louis (Gordon, 1998). This early conference defined nursing diagnoses as “that judgment or conclusion which occurs as a result of nursing assessment” (Gebbie & Lavin, 1975, p. 70) and established the Clearinghouse for Nursing Diagnoses (CND), which served as a depository for nursing diagnosis related information (NANDA, n.d.). The CND published bibliographies for each diagnostic category, sent out newsletters, and coordinated biannual conferences.

In 1977, Callista Roy headed a nurse theorist group which included Margaret Newman, Martha Rogers, Dorothea Orem, and Imogene King (NANDA-I, n.d.). For the first time, the great minds that framed “what nursing is” met together. In 1982, they presented the nine “Patterns of Unitary Man,” a theoretical framework that classified nursing diagnoses to the conference (Gordon, 1998). The nine patterns were: exchanging, communicating, relating, valuing, choosing, moving, perceiving, feeling, and knowing (Lamb, 1998). The name “Patterns of Unitary Man” was changed to "Human Response Patterns" in 1984.

The original task force created the North American Nursing Diagnosis Association (NANDA) in 1982, incorporating members from Canada and America, with Dr. Marjory Gordon as the first president (Gwenllian, 2003). Four years after its creation, NANDA instituted formal guidelines for the examination and inclusion of nursing diagnoses, involving a two-step process and expert review. While research was not used as part of inclusion criteria, this review process was a step towards evidenced-based practice. Nursing diagnoses were accepted by majority vote of the entire NANDA council without any review procedure to ensure that new additions were valid (Gordon, 1998).

In 1986, the American Nurses Association (ANA) formally started working with NANDA, and in 1987, the ANA officially endorsed the development of NANDA nursing diagnoses. Published in 1987, the Orange Book, or Taxonomy I, systematically organized diagnoses into categories and became the standard textbook for nursing schools (Goodwin, 2003). In 1990, NANDA began publishing Nursing Diagnoses, their official journal, which disseminated research and news about nursing diagnoses world wide. In 1998, NANDA celebrated its 25th anniversary in St. Louis (NANDA, n.d.). In this same year, international participation with NANDA began. In 2000, NANDA restructured its nursing diagnoses into the
current format, Taxonomy II, which contains 13 domains, 47 classes, and 172 diagnoses (Wikipedia, 2006). Taxonomy I was an alphabetical listing of nursing diagnoses, while Taxonomy II grouped diagnoses in a conceptual framework based on the nine human response patterns. The North American Nursing Diagnosis Association (NANDA) changed its name to the North American Nursing Diagnosis Association International, or NANDA-I, as a result of the worldwide participation in 2002.

While the North American Nursing Diagnosis Association International (NANDA-I) is the largest organization dealing with nursing diagnoses, other international organizations exist, including the Spanish Association of Nursing Diagnosis (AENTDE), Association Francophone Europeenne des Diagnostics Infirmiers (AFEDI), and The Association for Common European Nursing Diagnoses, Interventions, and Outcomes (ACENDIO) (Oud, 2003). Nursing diagnoses and the organizations that develop them have been growing for more than 30 years.

Utilization of Nursing Diagnoses

Hundreds of journal articles are available for review concerning the general topic of nursing diagnoses, but few studies discuss the utilization of nursing diagnoses. Because of the lack of published literature, this section includes articles that are more than 20 years old and that evaluate the use of nursing diagnoses from a variety of perspectives.

Two studies evaluate the implementation of nursing diagnoses on a statewide level (Larson, Soholt, Friestad, Abraham, Clemens, Judges, Gaspar & Ritter, 1991; Whitley & Gulanick, 1996). In these studies, a survey was sent to each of the hospitals within their respective states, and surveys were then forwarded to a nurse administrator or nurse educator. Larson et. al. received 109 returned surveys (44 percent response rate) for South Dakota with 53 percent of the hospitals implementing nursing diagnoses in some fashion, and Whitley and Gulanick received 139 returned surveys for a 58 percent response rate from agencies in Illinois with 78 percent employing nursing diagnoses. Besides demonstrating that nursing diagnoses are used by a majority of hospitals in the two states, these studies showed that NANDA nursing diagnoses were employed in nearly all (95 percent) of the Illinois hospitals that utilized nursing diagnoses (Larson et al, 1991; Whitley & Gulanick, 1996).

Two unpublished studies presented at the Sixth NANDA Conference examined the usage of nursing diagnoses by staff nurses (McLane, Lancour & Gotch, 1984; Cozad, 1991). While these studies are quite dated and leave out desired information, they are included in this
discussion because they are the only studies looking at staff nurses’ use of nursing diagnoses. McLane et. al (1984) found 64 percent of acute care nurses worked at a facility that employed nursing diagnoses, but Cozad (1991) surveyed perioperative nurses and found that most do not employ nursing diagnoses in their documentation. This suggests that nursing diagnoses may be utilized at varying degrees depending on nursing specialty.

Missroon (1988) conducted a descriptive study collecting data from educators from all Southern Regional Education Board states on nursing diagnoses. A total of 325 surveys (85 percent response rate) were returned and showed that 98 percent of the schools taught nursing diagnoses. Nursing care plans and lectures were the most common teaching strategies. The need for standardization, consistency, and a universal classification system were the most common reasons the educators stated for using NANDA nursing diagnoses. Criticisms of nursing diagnoses included lack of wellness orientation, stifling of creative thinking, and inability to describe individualized patient problems. One question from the survey asked what percentage of agencies used by the school implemented nursing diagnoses in documentation. The most frequently-selected answer was “75-99 percent” of the agencies used nursing diagnoses. Missroon’s study concluded that nursing schools overwhelmingly used nursing diagnoses in their curriculum, assuming nursing diagnoses were commonly implemented in clinical agencies.

Thomas and Newsome (1992) distributed a four-part nursing survey at a regional nursing diagnosis conference in Augusta, GA. Of the 210 participants who received the survey, 125 (55 percent) completed and returned it. This group of respondents was primarily made up of staff nurses (31 percent), supervisors (28 percent) and educators (18 percent). The survey contained a 10-question nursing diagnosis test, a self-rating of nursing diagnoses abilities, an organizational support section, and a demographical data area. The 10-question nursing diagnosis test determined nurses’ understanding and knowledge concerning nursing diagnoses. The average score on the 10-question nursing diagnosis test was 66 percent. Only 8 percent responded that NANDA nursing diagnoses were never used at their place of employment, while 37 percent stated that NANDA nursing diagnoses were always used. Test scores and utilization of NANDA nursing diagnoses at place of employment had a significant correlation ($r = 0.3322, p < 0.001$). Also, self-rating scores and utilization of NANDA nursing diagnoses at place of employment had a significant correlation. Since the survey was distributed at the regional nursing diagnosis conference, the sample was skewed towards nurses that used nursing diagnoses. Overall, the
nurses in this study performed poorly on the test. Poor overall test scores in a school setting would indicate a lack of knowledge and proficiency in that area.

Erdemir, Altun, and Geckil (2003) published a study evaluating nursing students’ opinions and self-assessments on using nursing diagnosis in the clinical setting. The sample consisted of 57 students enrolled in a children and family class at one university. The students completed a two-part self-assessment about knowledge and skill related to developing and identifying nursing diagnoses (part 1) and opinions about the use of nursing diagnoses in general practice (part 2). Eighty-five percent (85 percent) agreed or strongly agreed that they had a good comprehension of nursing diagnoses and diagnostic reasoning, and 64 percent stated they could state patient care needs in terms of nursing diagnoses. If management asked them to use nursing diagnoses in their professional career, 78 percent said they would, and 75 percent would take a course on utilization of nursing diagnoses if it were offered. This study showed students readily accepting nursing diagnoses and their comfort using them in the clinical setting. The study was limited by sample size since only a single class from one nursing school was used. This study showed that students can grasp and become comfortable using nursing diagnoses while in school, but it did not evaluate change as the student becomes an independent practitioner.

The studies reviewed in this section are dated and rare, demonstrating the need for further research in this area to establish current utilization and value of nursing diagnoses within the United States. The studies showed that most nurses and healthcare agencies were implementing nursing diagnoses.

Nurse Practitioner Utilization

Barkauskas, Schafer, Sebastian, Pohl, Benkert, Nagelkerk, Stahope, Vonderheid, and Tanner (2006) completed a nationwide descriptive study on academic nurse-managed centers. These centers are primary care offices affiliated with an academic institution used to both train nurse practitioners and to care for the healthcare needs of the community. A total of 64 centers responded to a survey designed to describe client volume, client population attributes, operating arrangements, hours of operation, use of nursing and medical taxonomies used in documentation, interventions, and outcomes. A majority (65 percent, n=39) of centers reported using the International Classification of Disease, Ninth Revision, for documenting medical diagnoses with 86 percent (55) of the centers giving examples of common medical diagnoses. Conversely, 31 percent (20) of the centers reported the use of a standardized nursing language, and 11 percent
(9) of the centers provided examples of common nursing diagnoses. Of the 20 centers that stated they used nursing diagnoses, six stated they used the NANDA system, and 14 stated they used the Omaha system. This study shows that the practical focus of nurse practitioner training is in medical diagnoses with a lesser focus in nursing diagnoses.

Significance of Nursing Diagnoses

Volpato (2003) conducted research to identify all nursing diagnoses possible for 60 female patients on a unit. A team of four nurses examined and interviewed the 60 patients and generated a total of 338 nursing diagnoses (an average of just under 6 diagnoses per patient). The most utilized diagnoses were risk for infection (58 percent of patients), pain (50 percent), constipation (42 percent), and activity intolerance (35 percent). A total of 49 different diagnoses were applied. This study showed that nursing diagnosis can be applied to patients in the hospital and that multiple diagnoses are possible for a single patient. The study is limited to a single hospital unit and to only female patients.

Chase and Leuner (1996) conducted a descriptive correlational study about accuracy in diagnostic statement selection, outcome selection, and intervention selection. A selection of 18 expert nurses, prepared at the Master’s degree level, completed a questionnaire containing two case studies. The nurses picked the most appropriate nursing diagnoses, outcomes, and interventions using a Likert-scale. While small sample size was a limitation, no significant correlation was found between correct nursing diagnoses and correct intervention selection. A significant positive correlation between correct outcome selection and intervention selection was found ($r = 0.6644, p < 0.05$). This was the only published study of its kind and showed that, for these expert nurses, intervention and nursing diagnoses selection did not correlate.

Electronic Patient Records

Charting is changing as a result of increased access to computers in nearly all healthcare settings. As more nurse charting is being done in electronic patient record systems, multiple researchers are developing methods of integrating nursing diagnoses into these software systems. Hao, Huang, Wu, Kao, Lu, Jian, Chang, and Hsu (2006) developed a system based on the five step nursing process for a urology floor. Their work specialized on three urological diseases: benign prostatic hypertrophy, inguinal hernia, and urinary tract stones. With this pilot system, they sorted through data from the nurses’ assessments and developed a nursing care plan with appropriate nursing diagnoses.
Kim, An, Park, Jung, Kim, and Chang (2007) incorporated nursing diagnoses into computer charting focusing on the computer assisted decision making. The computer searched labs, assessment data, and vital signs for certain variables and combinations of variables that would cue specific nursing diagnoses. The authors stated that this will lead to objective, evidenced based selection of nursing diagnoses.

Docherty (2006) reports on the development of 39 core cardiac nursing diagnoses with interventions and outcomes integrated into a user-friendly electronic patient record system. The software suggests possible NANDA diagnoses for patients based on admission history and nursing assessment or allows the nurse to select her own. Individual interventions can be modified based on patient needs as well as outcomes. The author stresses the difficulty of developing and integrating even a small number of nursing diagnoses into an electronic patient record system that remains user-friendly and flows with the nurses’ natural work pattern.

International Studies

Bjornsdottir and Thorhallsdottir (2003) conducted a descriptive study utilizing the Internet. The primary goal of this study was to discover how to best facilitate a mandatory change to the use of NANDA-I and Nursing Intervention Classification (NIC) clinical documentation. They invited all members of the Icelandic Nurses Association to participate. 463 (18 percent of the members) nurses responded. When planning nursing care, the most valued information sources were text-based progress notes (77 percent), nursing care plans (52 percent), doctor’s orders (49 percent), verbal information (48 percent), and documented nursing diagnoses (37 percent). Fifty-eight (58 percent) of the participants worked at a facility that already implemented NANDA-I nursing diagnoses. Fifty-six percent (56 percent) stated nursing diagnoses were important in clinical work. Only 9 percent stated nursing diagnoses were not descriptive enough for patient problems, and 23 percent found phrasing a problem a problem. Bjornsdottir and Thorhallsdottir’s (2003) study showed that nursing diagnoses were being used and widely accepted in Iceland. Icelandic legislation influenced the results of the study. Since NANDA-I terminologies were becoming mandatory, healthcare agencies could have preemptively adopted NANDA-I to be in early compliance, thus artificially inflating the use of NANDA-I. The nurses valued nursing diagnoses and found them useful in practice.

Florin, Ehrenberg, and Ehnfors (2005) conducted a study in a country hospital in Sweden to analyze the effects of education and new forms on the use of nursing diagnoses among RNs.
The researchers used an experimental pretest/posttest design with a convenience sample divided into a control group and an experimental group. The experimental group consisted of 18 nurses working on a single hospital floor. The control group consisted of 38 nurses working on three (3) different hospital floors. A total of 140 randomly selected charts were reviewed over the 6-month study. Two instruments were used in chart review: CAT-CH-ING, a tool to measure quality and quantity of documentation based on nursing process and governmental regulations, and Quality of Nursing Diagnosis, a tool designed by the researchers to measure nursing diagnosis structure and relevance. The intervention for the experimental group consisted of five 3-hour (15 hours total) educational sessions that addressed nursing process, nursing diagnoses and care plan development.

New forms were developed for the experimental group to chart on, making nursing process documentation easier. The experimental unit scored significantly higher than the control units during the pretest, making the comparison less meaningful since the experimental and control groups had different initial abilities. In the experimental unit, nursing diagnoses were found in 34 percent of records before intervention and in 69 percent after intervention. For the experimental group, the CAT-CH-ING scores also doubled. The number of specific diagnostic statements doubled, and the number of simple problem statements decreased by 50 percent. The quality of diagnosis improved in all areas, but the etiology section of nursing diagnoses was poorly described even after intervention. The control group consistently scored poorer than the experimental group.

Though the findings of this study showed a dramatic increase in the experimental groups charting of nursing diagnoses, the two interventions, education and improved paperwork systems, were implemented together making it difficult to state which produced the change. The study showed how different units in the same hospital could have different levels of nursing diagnoses documentation. Results from one floor of a hospital may not generalize to another hospital floor. This study only looked at documentation, actual care, accuracy, and priority of diagnosis according to patient condition were not evaluated.

In Taiwan, Lee (2005) conducted a qualitative study about the use of nursing diagnoses in standardized care plans. The study focused on an 800-bed hospital that had recently switched from the Subjective/Objective Assessment Plan (SOAP) format for describing patient problems to preprinted standard care plans based on nursing diagnoses. Each care plan had a single
nursing diagnosis with several related factors, interventions, and expected goals that could be checked as they were applied. Lee interviewed twelve nurses about their use of nursing diagnoses. After a thorough review of the transcribed interviews, Lee found that the nurses chose convenient and familiar nursing diagnoses for patient problems rather than searching for the most accurate diagnosis. In almost every area, the standardized form proved limiting because only common features were printed on the sheets, which did not describe the needs of all patients. Often, interventions were charted as done if there was a 50 percent chance of completion. Specific evaluations of patient conditions were not documented as the form required. Lee’s qualitative study described problems that any hospital initiating standardized care plans based on nursing diagnoses may encounter.

Junttila, Salantera, and Hupli (2005) studied the use of perioperative nurses’ use and attitude towards nursing diagnoses. The authors developed a 20 question tool using a Likert-scale with positive and negative statements on opposing sides. They surveyed 146 nurses from Finland who had participated in a nursing diagnoses training program and obtained a 60 percent response rate (n=87). They found the perioperative nurses’ felt positively about nursing diagnoses in general, but felt it was not necessary or accurate for their patients’ problems. They also felt the documentation was time-consuming and frustrating. Like Cozad’s study, this study shows that not all specialty areas of nursing equally use nursing diagnoses.

Higuchi, Dulberg, and Duff (1999) published a study comparing the use of nursing diagnosis in charting with a survey of nurses’ attitudes toward nursing diagnoses. The survey had 47 Likert-scale items and 2 open-ended questions. The questions covered perceived confidence and frequency in writing nursing diagnoses, and attitude toward nursing diagnosis and value of documentation. Four experts reviewed the survey for content validity, and two pilot groups checked test-retest reliability. The study used four hospitals, two of which having formally mandated nursing diagnoses charting programs and two without such programs. A voluntary sample of 65 nurses from the four hospitals completed the survey, and 427 charts were reviewed for inclusion of nursing diagnoses. Survey results by specific nurse were compared to actual use of nursing diagnosis in charting.

The researchers found that hospitals with mandated nursing diagnosis charting had higher levels of documentation (54 percent and 91 percent) than hospitals without mandated charting (12 percent and 25 percent). Most nurses that participated in the survey documented nursing
diagnoses (57 percent), but forty-three percent (43 percent) did not. However, on the survey, the median score for the questions “Do you usually write nursing diagnoses on patient records?” and “Do you feel confident writing nursing diagnoses in patient records?” was the same, 5 on a 7-point scale, for both groups of nurses. Whether or not the nurses used nursing diagnoses in their charting did not change their self-rating. Age, expertise, type of nursing degree, prior instruction in nursing diagnosis, hospital size, and nurses’ tendencies to document nursing diagnoses were not significantly correlated. The attitude survey revealed that nurses who did not document nursing diagnoses had a significantly more positive attitude toward the value of nursing diagnoses in practice ($p = 0.006$).

Nursing diagnoses were found in 65 percent of all the charts reviewed. It is worth noting that this study was conducted in Canada, where nursing diagnosis documentation is required by law. To be included in the 65 percent of charts, only one nursing diagnosis was required in the whole chart. This was the only study that compared attitudes of nurses regarding their use of nursing diagnoses with their frequency of use of nursing diagnoses in charting. Both groups of nurses had the same median score on the survey question about using nursing diagnoses in charting. When nursing diagnoses were required by management, the authors found that nursing administration and mandated programs induced the use of nursing diagnoses more than increase the nurses’ value of nursing diagnoses.

Theory of Planned Behavior

The earliest formal studies of attitude modifying behavior are from the second half of the 1800s (Brown, 1999). In 1918, Thomas and Znaniecki published *The Polish Peasant in Europe and American*, which examined the effects of culture and attitude on behavior (Bolender, 2006). The ideas presented in this work are the predecessor to the Theory of Planned Behavior (TPB). Other events in the early 1900s that lead to the development of TPB were the development of the Likert-scale to measure attitudes, the increased recognition that attitude was multi-dimensional, and Gutterman’s development of a scalogram examination to determine beliefs (Brown, 1999). The Theory of Planned Behavior (TPB) is attributed to Icek Ajzen, a professor of psychology at the University of Massachusetts (Brown, 1999). Originally, though, Ajzen and Fishbein developed the Theory of Reasoned Action in 1967. This theory modified slowly as inadequacies were identified through research. Finally, in 1988, Ajzen introduced the Theory of Planned Behavior, which is similar to the Theory of Reasoned Action with an additional variable.
The Theory of Planned Behavior (TPB) assumes that people are usually rational and methodical users of the information accessible to them (Brown, 1999). The purpose of TPB is to predict and comprehend the influences that produce specific behaviors, understand how to modify those influences to change behaviors, and to describe human behaviors.

This theory connects the hidden variables behind a given behavior. The behavior is the conversion of the hidden variables into an action. The compilation of hidden variables is called the behavioral intention. The behavioral intention is also a measure of how aggressively a behavior will be pursued. A zero or negative behavioral intention will not produce the behavior. A low behavioral intention will produce the behavior with low intensity, and a high behavioral intention will produce the behavior with high intensity. The behavioral intention is an aggregate of attitude, subjective norm, and perceived behavioral control. The attitude is the person’s belief about whether the net affect of a behavior will be positive or negative. The subjective norm is the person’s perception about how others feel about the behavior. The subjective norm is a product of how much the person respects the opinions of others and the opinions themselves. Perceived behavioral control is the component added to the Theory of Reasoned Action to make it TPB. Because not all behaviors are under full volitional control, perceived behavioral control is the belief in internal and external factors that may expedite or impede performance of the behavior. It is the individual’s expectation of how difficult a task will be and the amount of resources it will require. The perceived behavioral control is thought to reflect the actual behavioral control (See diagram 1).

Diagram 1
The Theory of Planned Behavior (TPB) is applied in both advertising and behavior modification. In promoting products, ads that simply provide information result in poor sales increases. However, ads that target attitude, subjective norms, and perceived behavior control produce greater sales increases. The Theory of Planned Behavior (TPB) also explains modifications of health behaviors, and it has been used as the theoretical framework in a large number of studies (Gupchup, Abhyankar, Worley, Raisch, Marfatia & Namdar, 2006).

While TPB has not been used to examine nurses’ utilization of nursing diagnoses, it has been used to study determinants of nurses’ opioid administration, (Edwards, Nash, Najman, Yates, Fentiman, Dewar, Walsh, McDowell & Skerman, 2001), nurses’ intention to provide professional labor support (Sauls, 2007), and nurses’ intention to use clinical guidelines in community health (Puffer & Rashidian, 2004). Results of these studies indicate TPB is useful in differentiating personal values and social pressures.

Edwards et. al. (2001) conducted a statewide, cross-sectional survey in Australia of nurses’ beliefs and attitudes about opioid administration. Extensive surveys measuring the constructs of TPB as they pertained to the behavior of opioid administration were sent to 800 nurses and had a 56 percent response rate. Generally, nurses had a positive view about administering narcotics. Negative attitudes identified were those of using the least amount of narcotics possible and preferring non-narcotic pain relievers when available. Edwards concluded that control over administration of opioids, subjective norm, and attitude toward opioid administration all independently influenced behavioral intention. Perceived control was the strongest predictor of intention.

Sauls (2007) used TPB as a framework to study labor and delivery nurses’ intention to provide professional labor support. She conducted a two-part study. First, surveys designed to measure the constructs of TPB were mailed to 187 intrapartum nurses who worked at one of three hospitals in northern Texas. Thirty-nine responded and qualified for participation in the study. The second part of the study was a retrospective chart review evaluating length of labor for nurse-patient dyads of the 39 respondents. The survey showed that behavioral intention was independently influenced by attitude, subjective norm and perceived behavioral control. These three variables explained 70 percent of the variance in behavioral intention with attitudes being the most influential factor ($r = 0.83$, $p < 0.0001$). Sauls thought that if the nurses had a more positive behavioral intention, they would provide better professional labor support, which in turn
would decrease the length of labor. However, when behavioral intention was compared to length of delivery process, there was no correlation ($r = 0.09$).

Puffer and Rashidian (2004) evaluated compliance to clinical guidelines of British community health nurses using TBP as a framework. The researchers chose to evaluate a specific element of the guideline compliance: offering smoking cessation advice. Eighty-eight members of a professional organization were mailed a survey measuring the constructs of TBP, and 48 nurses responded. Unlike the other studies, only attitude and perceived behavioral control influenced behavioral intention. These two elements explained up to 40 percent of the variance in intention. The subjective norm did not influence behavioral intention significantly ($r = 0.063, p = 0.669$), and perceived behavioral control was the most influential construct ($r = 0.546, p < 0.001$).

The Theory of Planned Behavior (TPB) has been used to evaluate nursing behavioral intentions for nursing interventions with variations in the weight of each construct which influences behavioral intention. This variation may be explained by working environments, locations, amount of interaction with peers and type of intervention (independent or collaborative). In this study, behavioral intention corresponded to respondent reported documentation of nursing diagnoses. Actual behavior would have to be observed, but behavioral intention can be reported. The value related items on the survey were divided into attitude and subjective norm. The survey tool was not developed to measure behavioral control so that aspect will not be measured in this study.

Summary

Though nursing diagnoses existed before 1973, the birth of NANDA incited professional organization. Multiple countries have since adopted nursing diagnoses. The practice quickly gained momentum in the professional and educational nursing communities in the 1980’s and 1990’s. All the large, multi-institutional studies showed greater than 50 percent utilization. However, most of the published literature about nursing diagnoses in the United States is over 10 to 15 years old. Considering that nursing diagnoses originated only about 40 years ago, a 10-year span is a considerable length of time. The more recent studies have been performed and published in other countries, but the studies are not universally applicable because each country has a unique system for distributing and regulating healthcare. Therefore, it is necessary to perform a current study on the utilization of nursing diagnoses. The Theory of Planned Behavior
(TPB) will be a useful theoretical framework for this study because it can locate personal values and social pressures that influence nurses in their diagnosis procedures.
CHAPTER 3
METHODOLOGY

This chapter describes the research methodology used in this study. A descriptive quantitative design was used to examine the utilization of nursing diagnoses by registered nurses in various health care settings. This study used the Internet to collect data from registered nurses in Florida. A detailed method of data collection and evaluation is discussed, including how the sample was developed and the procedure for the distribution and collection of surveys.

Design

The goal of this study was to describe the utilization and value of nursing diagnosis in a general population of nurses. A descriptive, non-experimental study was used. Once data were collected, correlations and related variables were investigated. The study utilized the Internet and the Florida Department of Health (FDOH) database of RNs’ e-mail addresses. Also, the study used a tool developed by Higuchi, Dulberg, and Duff (1999) to describe nursing diagnosis usage. See Appendix A for the Nursing Diagnosis Research Project tool in its original format and Appendix B for the tool in its electronic format. Appendix C contains a letter from Dr. Higuchi giving permission to use the tool.

Sample

In February 2007, the entire list of RNs with active licenses was received from the FDOH. As of February 2007, the FDOH database consisted of 218,015 RNs with active licenses (FDOH, 2007). When renewing licensure or applying for the initial license, the RN candidate has the option to submit an e-mail address along with the required information. The e-mail addresses are public domain and were purchased from the FDOH for a processing fee of less than $30. The list contained 7,853 RN e-mail addresses. The percentage of nurses that provide the FDOH with their e-mail addresses was calculated to be 3.6 percent (number of e-mail addresses/number of active nurses in Florida). A random number generator was used to develop a sample of 950 nurses. E-mails sent to an invalid e-mail address or returned as invalid were replaced with new e-mail addresses randomly selected from the list so that a total of 950 nurses
received an e-mail invitation to participate in the survey. A total of 351 (37 percent) e-mail addresses were invalid and were replaced by valid e-mail addresses.

The study took place over the Internet, gathering data from nurses who work in a variety of healthcare settings, including hospitals, home health, physicians’ offices and outpatient services. QuestionPro is an online survey distribution company which handles much of the work of survey administration. The QuestionPro service sent out the e-mail invitations, administered the information, and recorded the survey results. The goal was to obtain a comprehensive sample of nurses from a diversity of agencies. Inclusion criteria for this study included: an active registered nurse license and submission of a correct e-mail address to the database.

Setting

The entire survey process took place via the Internet. Numerous health and nursing studies have utilized online surveys. Beaudoin and Tao (2007) evaluated the effectiveness of cancer support groups through the use of online surveys, and Kotzer and Milton (2007) used an online survey to evaluate an educational intervention. Kongsved, Basnov, Holm-Christensen, and Hjollund (2007) compared Internet-based surveys with traditional paper surveys for women and found that 98 percent of online surveys were fully completed and 63 percent of paper surveys were fully completed. Paper surveys had a 12 percent better response rate then online surveys (76.5 percent paper, 64.2 percent online). Gunn (2002) states the validity of web surveys is greater than that of telephone surveys. By using the Internet, the current study collected the data in an electronic format, which was easily transferred to other programs for statistical analysis. This method reduced the amount of time needed to fill out the survey, as it could be completed in a single 5-10 minute sitting. This setting eliminated some possible participants from participating because Internet access was required to obtain and use an e-mail address. This current study assumed that most possible participants with e-mail addresses also have access to the Internet. Many e-mail accounts use spam blockers, which may have blocked the e-mail containing the survey by putting it in a separate bulk or spam folder.

Instrument

Higuchi, Dulberg, and Duff (1999) created the Nursing Diagnosis Research Project (NDRP) tool, which was adapted for online use in this current study. The primary investigator, Dr. Higuchi, provided permission to use this tool (see Appendix C). Dr. Higuchi described the development of the survey in the following quote, “An attitude survey was developed to measure
nurses’ attitude toward nursing diagnosis, in terms of perceived confidence and frequency in writing nursing diagnoses, general attitude toward nursing diagnosis in practice, and perceived value of documenting nursing diagnoses in patient records” (Higuchi et. al., 1999, p139-40). The attitude survey contained a demographic section, 47 Likert-scale items and 2 questions requiring a written response. Part of Higuchi’s tool development process was to have 4 experts review the survey for content validity, resulting in minor changes. Higuchi demonstrated the reliability of the attitude survey by using the test/re-test method. Only items that had greater than 50 percent agreement were kept as part of the tool.

Ethical Considerations

Before implementing data collection, the current study was approved by the Institutional Review Board (IRB) at the Florida State University (FSU). See Appendix D for a copy of IRB approval. Participant names were not identified on the survey. The survey contained an invitational e-mail describing the study and its purposes. Once participants completed the survey, data were initially stored in QuestionPro’s database, which required the proper user name and password to access. After the data collection portion of the survey was complete, data were stored in an encrypted format requiring a password for access.

Procedure

The survey tool was converted to an electronic format using QuestionPro online software. QuestionPro is a software package that handles many aspects of online surveys, including sending out e-mail invitations, administering surveys and storing the data in a downloadable format. IRB approval was obtained, and the e-mail database from the FDOH was acquired. Nurses’ e-mail addresses were uploaded to QuestionPro. Then, QuestionPro sent out invitations to complete an online survey. See Appendix C for a copy of the online survey.

The participants opened the e-mail, read its contents, and chose whether or not to complete the survey. If they decided to complete the survey, they clicked on a link provided in the middle of the invitational e-mail, which took them to the survey on the QuestionPro website. The initial screen of the survey was the informed consent page. The participants agreed to the conditions of the study before QuestionPro allowed them to complete the survey. Once the participants clicked “Agree”, they completed the survey and submitted it. This survey did not require all questions to be completed before it could be submitted. The data were stored in the QuestionPro database. Participants had 21 days to complete and submit their surveys in order for
their data to be included in analysis. The database from QuestionPro was downloaded in an Excel spreadsheet and converted to an SPSS (Windows Version 14.0) format for statistical analysis.

Summary

This was a non-experimental, descriptive study of nurses’ utilization and value of nursing diagnoses. A random sample of 950 nurses from a southeastern state in the United States was obtained and e-mailed an invitation to participate in the survey. A commercial online survey company was utilized for ease of survey development and survey administration. Completed surveys were returned by 133 participants. Data were evaluated using SPSS statistical analysis software package.
CHAPTER 4
RESULTS

This chapter summarizes the results of the research and addresses statistical outcomes that provide answers to research questions. Characteristics and sociodemographics of the sample are discussed first. Results as they pertain to each research question are discussed in their individual section.

Characteristics of the Sample

A random replacement sample of 950 registered nurses was selected from a pool of 7,854 registered nurses that registered their e-mail addresses with the Florida Department of Health (FDOH). Of the original 950 e-mail addresses, 351 (37 percent) addresses were invalid. These addresses were replaced with 351 valid e-mail addresses to keep the number of nurses receiving the invitation at 950. A total of 185 nurses opened the e-mail invitation and went to the first survey page. Thirty (30) nurses closed the survey window at that point and did not participate in the survey. Four nurses declined the terms of the study at the informed consent page and ended the survey at that point. A total of 151 nurses started the survey, but only 133 completed a sufficient number of questions to be valuable for statistical analysis. Participants were required to answer the first nine questions to be included in analysis. The response rate was 14.0 percent and was calculated by dividing the number of acceptable surveys (133) by the number of nurses that received the e-mail invitation (950).

The demographics of the participants are as follows. The average age of the sample was 49.5 (SD=9.3) years old. The oldest participant was 70, and the youngest was 26 years old. The average length of full time work was 20.8 (SD=9.3) years, and the average part time work was 7.1 (SD=7.4) years. The participants came from a variety of educational backgrounds. The majority were highly educated with 111 (83.5 percent) at the Master’s level and seven (5.3 percent) had their doctorate. Two (1.5 percent) were diploma graduates, two (1.5 percent) were at the Associate of Science in nursing level, and five (3.8 percent) were at the Bachelor of Science in nursing level. Four (4, 3 percent) nurses had a post-bachelors certification, and two (1.5 percent) had a post-masters certification.
The responses to “What is your current area of practice?” were modified as many participants chose the “Other” response and inputted a text description of their area of practice. The new categories were education, out-patient clinics, and home care. Table 1 indicates the top four areas of practice were hospital (30.6 percent), office (25.4 percent), education (14.2 percent), and out-patient clinics (13.4 percent). The responses to “What is your current specialty area?” were also recoded, adding the categories leadership/administration, educator/college, and anesthesia/surgery. As table 2 indicates, the top areas were medical-surgical (50 percent), women’s health/pediatrics (19.4 percent), and anesthesia/surgery (13.4 percent).

Table 1

<table>
<thead>
<tr>
<th>Area of Practice</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>41</td>
<td>30.6</td>
</tr>
<tr>
<td>Office</td>
<td>34</td>
<td>25.4</td>
</tr>
<tr>
<td>Education</td>
<td>19</td>
<td>14.2</td>
</tr>
<tr>
<td>Out-Patient Clinic</td>
<td>18</td>
<td>13.4</td>
</tr>
<tr>
<td>State / Government</td>
<td>8</td>
<td>6.0</td>
</tr>
<tr>
<td>Public Health</td>
<td>6</td>
<td>4.5</td>
</tr>
<tr>
<td>Home Care</td>
<td>5</td>
<td>3.7</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>133</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Most (92.5 percent) participants stated they had received instruction in writing nursing diagnoses, and 7.5 percent responded that they never received instruction. For the question “Where did you receive instruction in writing nursing diagnoses?” they were to check all options that applied, making the total greater than the number of subjects. Nursing school (n=114) was the most frequently chosen response, with continuing education (17), hospital orientation (16), workshops (10), and other (10) in lesser degrees.
Table 2

Current specialty area.

<table>
<thead>
<tr>
<th>Specialty Area</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical / Surgical</td>
<td>67</td>
<td>50.0</td>
</tr>
<tr>
<td>Women’s Health / Pediatrics</td>
<td>26</td>
<td>19.4</td>
</tr>
<tr>
<td>Anesthesia / Surgery</td>
<td>18</td>
<td>13.4</td>
</tr>
<tr>
<td>Psychiatric</td>
<td>8</td>
<td>6.0</td>
</tr>
<tr>
<td>College / Education</td>
<td>5</td>
<td>3.7</td>
</tr>
<tr>
<td>Public / Community Health</td>
<td>4</td>
<td>3.0</td>
</tr>
<tr>
<td>Administration / Leadership</td>
<td>1</td>
<td>.7</td>
</tr>
<tr>
<td>Oncology</td>
<td>1</td>
<td>.7</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>133</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Research Question One

This research question asked RNs if they utilize nursing diagnoses in their practice setting. Two quantitative survey questions addressed this question from different angles. Both of these questions were on a seven-point Likert-scale (1-7), with 1 representing ‘Extremely Agree’, 7 representing ‘Extremely Disagree’, and 4 representing ‘Neither.’

The first item in the survey stated, "I usually write nursing diagnoses on patient records." The item asked the behavioral intention for the writing of nursing diagnoses in the TPB framework. This item was not a measure of actual behavior since the actual behavior was not observed. The mean, median, and mode for this question were 5.0, 6, and 7, respectively. These three statistical functions fall towards the ‘Disagree’ end of the scale, showing that nurses usually do not intend to write nursing diagnoses. The median (6) is the most meaningful statistical function for this type of tool since rank data were gathered rather than measurement data. Extremely disagree (7) was chosen 51 times, more than twice any other choice, and over half of participants chose either ‘Quite Disagree’ or ‘Extremely Disagree’. These results show a negatively skewed curve leaning towards not writing nursing diagnoses.
Table 3

Responses to item, “I usually write nursing diagnoses on patient records.”

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely Agree</td>
<td>= 1</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.3</td>
</tr>
<tr>
<td>Quite Agree</td>
<td>= 2</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8.3</td>
</tr>
<tr>
<td>Slightly Agree</td>
<td>= 3</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9.0</td>
</tr>
<tr>
<td>Neither</td>
<td>= 4</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18.8</td>
</tr>
<tr>
<td>Slightly Disagree</td>
<td>= 5</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.0</td>
</tr>
<tr>
<td>Quite Disagree</td>
<td>= 6</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14.3</td>
</tr>
<tr>
<td>Extremely Disagree</td>
<td>= 7</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td></td>
<td>38.3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>133</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean 5.0
Median 6
Mode 7

The second item about utilization states, “No one bothers to read nursing diagnoses.”
This item evaluates the nurses’ perception of whether a written diagnosis will ever be read. The
mean, median, and mode of this variable were 2.8, 2, and 1, respectively. Over half of
respondents chose either ‘Extremely Agree’ or ‘Quite Agree’, and 68.3 percent of participants
stated they agreed with this statement at some level. These results show a positively skewed
curve. These values demonstrate the participants’ belief in the statement that others do not read
nursing diagnoses. The two utilization questions showed significant inverse correlation ($\rho=-0.24$,
p=0.01), which demonstrates the tendency of participants who intend to write nursing
diagnoses to believe that they will be read.

Parametric and nonparametric correlational tests were run, comparing both of these
variables with demographic data. No significant correlation was found between nurses’ age,
years of practice, specialty area, practice area, educational level, or type of formal training in
nursing diagnoses. Table 5 at the end of the chapter contains a correlation table comparing
demographic variables with the two utilization variables using Spearman’s rho.
Table 4  
Responses to item, “No one bothers to read nursing diagnoses.”

<table>
<thead>
<tr>
<th><em>Response Level</em></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely Agree</td>
<td>32</td>
<td>26.0</td>
</tr>
<tr>
<td>Quite Agree</td>
<td>31</td>
<td>25.2</td>
</tr>
<tr>
<td>Slightly Agree</td>
<td>21</td>
<td>17.1</td>
</tr>
<tr>
<td>Neither</td>
<td>18</td>
<td>14.6</td>
</tr>
<tr>
<td>Slightly Disagree</td>
<td>10</td>
<td>8.1</td>
</tr>
<tr>
<td>Quite Disagree</td>
<td>8</td>
<td>6.5</td>
</tr>
<tr>
<td>Extremely Disagree</td>
<td>3</td>
<td>2.4</td>
</tr>
<tr>
<td><em>Total</em></td>
<td>123</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Mean 2.8  
Median 2  
Mode 1

Research Question Two

The second research question asks the participants how they value nursing diagnoses in their practice. In the TPB framework, value equates to attitude towards the behavior, which is only one of three factors that influence the behavioral intention. Items 13 through 20 were used to measure personal attitude / value. Items 21 through 28 shifts the perspective of the participant by measuring value from the perspective of “most nurses I know”. This change in viewpoint is the subjective norm, the second factor that influences the behavioral intention.

These value items were ranked on a seven-point Likert scale with paired value-orientated antonyms. In the ranking system, a one (1) was the extreme for most valuable and seven (7) was the extreme for least valuable. “Neither” was the neutral choice, which was represented by a four (4) on the seven-point scale. The same paired, value-orientated antonyms were used for items 13-20 (personal attitude / value) and 21-28 (subjective norm). The seven value-orientated antonyms are: valuable vs. worthless, desirable vs. undesirable, meaningful vs. trivial, easy vs. difficult, essential vs. needless, time-saving vs. time-consuming, convenient vs. inconvenient, and positive vs. negative.
The means, medians, and modes for items concerning personal attitude/value are displayed in Table 6. The mean and median results for these items had a range between 3.0 and 4.7 which makes evident the central tendency for these items. The distribution shows that most participants neither strongly value nor disvalue the use of nursing diagnoses with about equal number of participants highly valuing or disvaluing nursing diagnoses. The item averages show a Gaussian distribution around four (4), except for the item ‘easy vs. difficult,’ which had a mean of 3.04 and median of 3, showing that participants thought nursing diagnoses were easy.

Table 5

Correlations using Spearman’s rho between utilization factors and demographics.

<table>
<thead>
<tr>
<th></th>
<th>Writing Nursing Diagnoses</th>
<th>Reading Nursing Diagnoses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest Educational Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation Coefficient</td>
<td>.120</td>
<td>-.089</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.168</td>
<td>.327</td>
</tr>
<tr>
<td>N</td>
<td>133</td>
<td>123</td>
</tr>
<tr>
<td>Full-time Years Worked</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation Coefficient</td>
<td>-.137</td>
<td>.126</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.118</td>
<td>.167</td>
</tr>
<tr>
<td>N</td>
<td>132</td>
<td>122</td>
</tr>
<tr>
<td>Part-time Years Worked</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation Coefficient</td>
<td>-.096</td>
<td>-.031</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.526</td>
<td>.848</td>
</tr>
<tr>
<td>N</td>
<td>46</td>
<td>41</td>
</tr>
<tr>
<td>Combine Years Worked</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation Coefficient</td>
<td>-.128</td>
<td>.139</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.142</td>
<td>.125</td>
</tr>
<tr>
<td>N</td>
<td>133</td>
<td>123</td>
</tr>
<tr>
<td>Age (in years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation Coefficient</td>
<td>.118</td>
<td>-.062</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.176</td>
<td>.497</td>
</tr>
<tr>
<td>N</td>
<td>133</td>
<td>123</td>
</tr>
<tr>
<td>Practice Area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation Coefficient</td>
<td>-.118</td>
<td>-.065</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.178</td>
<td>.480</td>
</tr>
<tr>
<td>N</td>
<td>132</td>
<td>122</td>
</tr>
<tr>
<td>Specialty Area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation Coefficient</td>
<td>.089</td>
<td>-.071</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.311</td>
<td>.438</td>
</tr>
<tr>
<td>N</td>
<td>132</td>
<td>122</td>
</tr>
<tr>
<td>Nursing Diagnoses Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation Coefficient</td>
<td>-.051</td>
<td>.031</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.564</td>
<td>.737</td>
</tr>
<tr>
<td>N</td>
<td>133</td>
<td>123</td>
</tr>
</tbody>
</table>
Table 6
Mean, median, and mode for personal attitude / value items.

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuable vs. Worthless</td>
<td>4.41</td>
<td>4</td>
<td>7</td>
<td>133</td>
</tr>
<tr>
<td>Desirable vs. Undesirable</td>
<td>4.41</td>
<td>4</td>
<td>4</td>
<td>118</td>
</tr>
<tr>
<td>Meaningful vs. Trivial</td>
<td>4.25</td>
<td>4</td>
<td>4</td>
<td>117</td>
</tr>
<tr>
<td>Easy vs. Difficult</td>
<td>3.04</td>
<td>3</td>
<td>4</td>
<td>117</td>
</tr>
<tr>
<td>Essential vs. Needless</td>
<td>4.43</td>
<td>4</td>
<td>7</td>
<td>116</td>
</tr>
<tr>
<td>Time-saving vs. Time-consuming</td>
<td>4.56</td>
<td>4</td>
<td>4</td>
<td>117</td>
</tr>
<tr>
<td>Convenient vs. Inconvenient</td>
<td>4.66</td>
<td>4</td>
<td>4</td>
<td>118</td>
</tr>
<tr>
<td>Positive vs. Negative</td>
<td>4.06</td>
<td>4</td>
<td>4</td>
<td>118</td>
</tr>
</tbody>
</table>

Table 7 shows the mean, median, and modes for items related to subjective norm. The subjective norm averages are similar to the attitude/value averages. Four, “Neither,” was often the most frequently chosen answer for the personal attitude/value section and the subjective norm section, which pulled all averages closer to the center. A 'Not Applicable'/'NA' option was not supplied during this survey. Many participants may have chosen “Neither” when a not-applicable selection may have been more appropriate.

Table 8 shows significant correlation in all areas between both utilization items and personal attitude/value items using Spearman’s rho. Both utilization items were correlated with the following personal attitude/value items: valuable vs. worthless, desirable vs. undesirable, meaningful vs. trivial, easy vs. difficult, essential vs. needless, time-saving vs. time-consuming, convenient vs. inconvenient, and positive vs. negative.

Table 9 shows significant correlation between all areas except one between utilization items and subjective norm items using Spearman’s rho. Again, both utilization items were correlated with the following subjective norm items: valuable vs. worthless, desirable vs.
undesirable, meaningful vs. trivial, essential vs. needless, time-saving vs. time-consuming, convenient vs. inconvenient, and positive vs. negative.

Table 7

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuable vs. Worthless</td>
<td>4.71</td>
<td>5</td>
<td>6</td>
<td>129</td>
</tr>
<tr>
<td>Desirable vs. Undesirable</td>
<td>4.66</td>
<td>5</td>
<td>4</td>
<td>119</td>
</tr>
<tr>
<td>Meaningful vs. Trivial</td>
<td>4.53</td>
<td>4</td>
<td>4</td>
<td>119</td>
</tr>
<tr>
<td>Easy vs. Difficult</td>
<td>4.08</td>
<td>4</td>
<td>4</td>
<td>117</td>
</tr>
<tr>
<td>Essential vs. Needless</td>
<td>4.66</td>
<td>5</td>
<td>6</td>
<td>119</td>
</tr>
<tr>
<td>Time-saving vs. Time-consuming</td>
<td>4.99</td>
<td>5</td>
<td>6</td>
<td>120</td>
</tr>
<tr>
<td>Convenient vs. Inconvenient</td>
<td>4.89</td>
<td>5</td>
<td>6</td>
<td>119</td>
</tr>
<tr>
<td>Positive vs. Negative</td>
<td>4.33</td>
<td>4</td>
<td>4</td>
<td>120</td>
</tr>
</tbody>
</table>

The exception to significance was between the subjective norm item ‘easy vs. difficult’ and the utilization item ‘no one bothers to read nursing diagnoses.’ ‘Easy vs. difficult’ may describe difficulty level more than value level. Excluding the ‘easy vs. difficult’ items, the mean correlation coefficient for personal attitude/value items and utilization items was 0.457, and the mean correlation coefficient for subjective norm and utilization was 0.394. Personal attitude/value items and subjective norm items do not correlate with any of the demographic variables with both parametric and nonparametric tests.

Text Response Items

The end of the survey contained two text response items and an area for comments. The first item requested that the participant, “Please list three reasons why you would write a nursing diagnosis in a patient’s chart”, and the second requested, “Please list three reasons why you would NOT write a nursing diagnosis in a patient’s chart.” The items do not ask the participants
to rank the reasons they supplied, so all responses were given the same weight for evaluation purposes. Not every participant supplied an answer for these items. These items and the final open-ended comments area were evaluated using the method outlined by Norwood (2000) where the data are first prepared and familiarized. Then, the themes are defined and the individual comments grouped under appropriate theme.

Table 8

Correlations using Spearman’s rho between utilization items and personal attitude / value items.

<table>
<thead>
<tr>
<th></th>
<th>Writing Nursing Diagnoses</th>
<th>Reading Nursing Diagnoses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuable vs. Worthless</td>
<td>Correlation Coefficient 0.75</td>
<td>-0.24</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) 0.00*</td>
<td>0.01*</td>
</tr>
<tr>
<td>Desirable vs. Undesirable</td>
<td>Correlation Coefficient 0.62</td>
<td>-0.31</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) 0.00*</td>
<td>0.00*</td>
</tr>
<tr>
<td>Meaningful vs. Trivial</td>
<td>Correlation Coefficient 0.56</td>
<td>-0.27</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) 0.00*</td>
<td>0.00*</td>
</tr>
<tr>
<td>Easy vs. Difficult</td>
<td>Correlation Coefficient 0.31</td>
<td>-0.06</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) 0.00*</td>
<td>0.51</td>
</tr>
<tr>
<td>Essential vs. Needless</td>
<td>Correlation Coefficient 0.67</td>
<td>-0.35</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) 0.00*</td>
<td>0.00*</td>
</tr>
<tr>
<td>Time-saving vs. Time-consuming</td>
<td>Correlation Coefficient 0.51</td>
<td>-0.37</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) 0.00*</td>
<td>0.00*</td>
</tr>
<tr>
<td>Convenient vs. Inconvenient</td>
<td>Correlation Coefficient 0.49</td>
<td>-0.41</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) 0.00*</td>
<td>0.00*</td>
</tr>
<tr>
<td>Positive vs. Negative</td>
<td>Correlation Coefficient 0.55</td>
<td>-0.31</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) 0.00*</td>
<td>0.00*</td>
</tr>
<tr>
<td>Aggregate of Attitude / Value Items</td>
<td>Correlation Coefficient 0.65</td>
<td>-0.31</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) 0.00*</td>
<td>0.00*</td>
</tr>
<tr>
<td></td>
<td>N 133</td>
<td>123</td>
</tr>
</tbody>
</table>

Note. Asterisk (*) is placed after values that show significant correlation.
Table 9
Correlations using Spearman’s rho between utilization items and subjective norm items.

<table>
<thead>
<tr>
<th>Correlation Coefficient</th>
<th>Writing Nursing Diagnoses</th>
<th>Reading Nursing Diagnoses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuable vs. Worthless</td>
<td>Correlation Coefficient</td>
<td>0.41</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.00*</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>128</td>
</tr>
<tr>
<td>Desirable vs. Undesirable</td>
<td>Correlation Coefficient</td>
<td>0.54</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.00*</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>118</td>
</tr>
<tr>
<td>Meaningful vs. Trivial</td>
<td>Correlation Coefficient</td>
<td>0.41</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.00*</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>118</td>
</tr>
<tr>
<td>Easy vs. Difficult</td>
<td>Correlation Coefficient</td>
<td>0.23</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.01*</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>116</td>
</tr>
<tr>
<td>Essential vs. Needless</td>
<td>Correlation Coefficient</td>
<td>0.46</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.00*</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>118</td>
</tr>
<tr>
<td>Time-saving vs. Time-consuming</td>
<td>Correlation Coefficient</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.00*</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>119</td>
</tr>
<tr>
<td>Convenient vs. Inconvenient</td>
<td>Correlation Coefficient</td>
<td>0.42</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.00*</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>118</td>
</tr>
<tr>
<td>Positive vs. Negative</td>
<td>Correlation Coefficient</td>
<td>0.40</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.00*</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>119</td>
</tr>
<tr>
<td>Aggregate of Subjective Norm Items</td>
<td>Correlation Coefficient</td>
<td>0.45</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.00*</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>133</td>
</tr>
</tbody>
</table>

Note.
Asterisk (*) is placed after values that show significant correlation at 0.05 level.

The most prevalent themes that emerged as reasons for documenting nursing diagnoses were: (1) to improve patient care, (2) to enhance communication, (3) to develop care plans, and (4) to adhere to policy. A total of 215 entries were evaluated and the prevalent themes mentioned above account for 68 percent of all entries. The item asking reasons they would not document nursing diagnoses had a total of 201 entries. The most common reasons for not writing nursing diagnoses were: (1) writing nursing diagnoses was a poor use of time, (2) writing diagnoses did not apply to their advanced practice nurse (APN) role, (3) diagnoses are not read,
and (4) all healthcare professionals should use the same language. These reasons for not writing nursing diagnoses account for 48 percent of all responses. A total of 86 free response comments were made, and 27 of them stated that the participants were functioning in an advanced registered nurse practitioner (ARNP) role and therefore used medical diagnoses rather than nursing diagnoses.

The electronic format for this study allowed for an unexpected method for nurses to respond to this survey. The primary investigator’s (PI) e-mail address was required to be included in the invitational e-mail, and a total of 25 NPs sent an e-mail to the PI stating that they do not use nursing diagnoses in their current practice. A major theme that ran through their e-mails was that they felt the survey was irrelevant to them as NPs because they were using medical diagnoses rather than nursing diagnoses. While not formally filling out the survey tool, these NPs answered the question about their utilization of nursing diagnoses.

Summary

This chapter has reviewed relevant data and statistical analysis as they relate to the research questions. Multiple tables were used to present the data. The sample, on average, reported poor utilization of nursing diagnoses through two items. Items related to personal attitude/value and subjective norm showed neither overall value nor disvalue, but correlated significantly to utilization items as predicted by TPB.
CHAPTER 5
DISCUSSION

This study investigated the reported use of nursing diagnoses by registered nurses in Florida and their attitude towards the use of them. This chapter will discuss the results and findings of this study as they relate to the current body of knowledge. Implications for nursing education and practice, the limitations, and the assumptions of the study will also be discussed. This chapter will apply the theoretical to the study’s findings, and will conclude with recommendations for future research.

Discussion of Results

Demographics.

More than a third (37 percent) of the e-mail addresses from the Florida Department of Health were invalid and rejected. These invalid e-mail addresses were replaced to ensure that 950 e-mail invitations went to an active e-mail account. Of the 950 e-mail invitations to participate in the study, only 133 (14 percent) completed the study. Most e-mail accounts detect spam and mass mailings and put those e-mails in a separate location. The e-mail invitation for this study qualified as spam for most e-mail accounts. Spam e-mails are opened between 20-40 percent of the time (Patterson, 2007), and using these figures for estimation, 190-380 nurses would have opened the invitation e-mail.

In the realm of nursing, few published studies use e-mail surveys. One study by DeLesky and Fetzer (2007) used similar methodology to this study. They e-mailed all (n = 4,285) members of the American Society of Perianesthesia Nurses that submitted their e-mail address to the society and achieved a response rate of 16.5 percent. Siomin, Angelov, Li, and Vogelbaum (2005) sent e-mail surveys to members of the American Association of Neurological Surgeons. The 18 question survey obtained a response rate of 15.5 percent. Both these studies had slightly higher response rates by having a targeting an audience interested in the survey topic and by having a smaller number of questions (Gleneicki, 2007).

Most of the participants (124; 93 percent) in the current study were advanced practice nurses (APN) which are nurses educated beyond the Batcher of Science level. Only nine (7
percent) participants were at the diploma, Associate Degree or, Bachelor of Science level. According to the U.S. Bureau of Health Professionals, 12.9 percent of nurses have schooling beyond a Bachelor of Science degree (Bureau, 2004). In DeLeskey and Fetzer’s (2007) e-mail survey of nurses, 13 percent of participants had a master's or doctorate degree, a range similar to the national average. Some factors not investigated by this study may have led to more educated nurses responding to this study’s e-mail questionnaire. These factors include a higher percentage of APNs supplying their e-mail addresses to the Florida Department of Health, the APNs sympathy for others going through masters programs, their understanding of the value of further research, a higher percentage opening junk / spam mail, and more free time to complete studies. One of the goals of this current study was to evaluate the perceived use and value of nursing diagnoses among nurses of all educational levels, but this study can only present results relating to higher educated nurses with specialized roles.

The average age of nurses in Florida is 47.3, and the national average is 43.3 years old (Hiers, 2006). The average age in the current study is slightly older (49.5) possibly because of the sample’s higher educational level. Also, the age range for this study is 26-70 which leaves younger nurses unrepresented. DeLeskey and Fetzer (2007) had similar results with only 10 percent of their participants younger than 41 years old.

**Utilization.**

In the study by Higuchi et. al. (1999), the average response was “Slightly Agree” (3 on a 7-point Likert scale) for the item, “I usually write nursing diagnoses on patient records.” The average answer to the same question on this study was “Slightly Disagree” (4.96 on the same scale). This shows a slight decrease in nursing diagnoses usage in the current study’s sample, but relating these two studies is problematic. In the original study, Higuchi et. al. compared actual documentation in patient records with this survey item and found no correlation between the two factors. The nurses answered the survey question on average the same no matter whether they physically wrote nursing diagnoses in patients charts or not. Behavioral intention, as measured by their survey, did not relate to actual behavior. Secondly, the two samples are different in size, education, age, country of residence, and nursing culture. Utilization of nursing diagnoses can be drastically different between floors in the same hospital at the same time (Florin, Ehrenberg & Ehnfors, 2005). These studies took place in different countries during different decades. In Higuchi et. al.’s study, certain Canadian hospitals were chosen to
participate based on their implementation of nursing diagnosis documentation protocol. This circumstance would increase actual and perceived documentation of nursing diagnoses; a circumstance not present in this study. Unfortunately, Higuchi et. al. (1999) did not provide specific values related results in their article so specific comparisons cannot be done.

The Florida Nurse Practice Act states that the “Practice of professional nursing” means the performance of…observation, assessment, nursing diagnosis, planning, intervention, and evaluation” (Florida Nurse Practice Act, 2005). The Joint Commission on Accreditation of Healthcare Organizations (JACHO) also requires the documentation of nursing diagnoses in the medical record (Holloway, 2003). In addition, the use of nursing diagnoses is mandated by Florida Statutes and JACHO, so all nurses in Florida should be using nursing diagnoses to be compliant. The current study shows that most participants disagree with the statement, “I usually write nursing diagnoses on patient records.” While participants feel they are not writing nursing diagnoses, but healthcare agencies require documented nursing diagnoses to keep accreditation.

For the item, “No one bothers to read nursing diagnoses,” the mean and median were “slightly agree” (2.8) and “quite agree” (2.0), respectively. This shows that, on average, the participants felt the statement was true. Higuchi et. al. (1999) did not report the results for this question when they employed this item. A review of literature on FirstSearch: Medline did not uncover any studies evaluating the actual or perceived reading of documented nursing diagnoses. Nursing documentation, in general, is read by other nurses, third-party insurance companies, lawyers, and other healthcare professionals (Wetter, 2007). General nursing documentation is understood by these professionals, but nursing diagnoses documentation would not be understood by other healthcare professionals because they are not trained in reading them. Reimbursement by insurance companies is based upon Diagnostic Related Group (DRG) assessments, not by nursing diagnosis written by RNs. Nurses and healthcare institutions do not gain any more financial reimbursement for having nursing diagnoses present in their charting, and health insurance companies have therefore no incentive to search for them within patient records. Therefore, the professionals that regularly read nursing diagnoses are nurses and lawyers with their nurse consultants. Further investigation is needed to see if these professionals, nurses and lawyers, actually read nursing diagnoses and find them useful. Other avenues of study could explore if any hospital or nurse was ever sanctioned for not using nursing diagnoses.
In the comments section at the end of the survey, 27 NPs stated they did not use nursing diagnoses and 25 NPs sent e-mails stating that the survey does not apply to them in their current practice. This makes a total of 52 NPs of the 158 who responded (25 e-mails + 133 questionnaires) who feel nursing diagnoses are not relevant in their current practice. Multiple authors argue that NPs should use nursing diagnoses to provide more a complete healthcare encounter, establish their nursing identity, and to provide more patient centered care (Carpenito-Moyet, 2006; Carlson-Catalano, 1998).

Many studies about utilization of nursing diagnoses found they were accepted and used (Bjornsrdottir & Thorhallsdottir, 2003; Higuchi, Dulberg & Duff, 1999; Missroon, 1988). Cozad (1991) and Junntita, Salantera, and Hupli (2005) found poor utilization in perioperative nurses showing some pockets of nursing specialties may not all use nursing diagnoses equally. This study identified a second pocket in nursing that may not fully utilize nursing diagnoses. Specifically, NPs identified themselves as a role that may not utilize nursing diagnoses as entirely as other roles. Further investigation is required to understand what differentiates nursing diagnoses usage between APN roles.

*Personal attitude / value.*

Eight personal attitude / value items were presented using a seven-point Likert scale in which the participant chose the response that they felt best represented their beliefs. Most personal attitude / value items significantly correlated with utilization items to the p = 0.01 level, but the relationship between ‘Easy vs. Difficult’ and ‘No one bothers to read nursing diagnoses’ did not significantly correlate (p = 0.51). The believed difficulty level of writing nursing diagnoses does not influence whether people think it will be read. In general, the difficulty level in creating information does not inspire others to obtain that information. Only the motivation and need for a piece of information pushes the information seeker to obtain the needed information. Taking vital signs with an automated machine is not considered a difficult task, but those results are read by multiple healthcare disciplines to provide adequate healthcare.

When evaluating personal attitude / value items with the utilization item about writing nursing diagnoses, the ‘Valuable vs. Worthless’ has the highest correlation coefficient (ρ = 0.75), using Spearman’s Rho. These results demonstrate that participants who value nursing diagnoses write them, and the perceived value of nursing diagnoses is a motivating factor in writing nursing diagnoses. The items ‘Essential vs. Needless’ and ‘Desirable vs. Undesirable’ had the next two
highest correlation coefficients ($\rho = 0.67$ & $0.63$, respectively). Items with the lowest correlation coefficients were ‘Easy vs. Difficult’, ‘Convenient vs. Inconvenient’, and ‘Time-saving vs. Time-consuming’ ($\rho = 0.31$, $0.49$ & $0.51$, respectively). Items that could be described as worth orientated were more strongly correlated than difficulty related items. While not intending to research the third factor in the TPB model, the difficulty level correlates with aspects of perceived behavioral control. From the TPB model, the nurses’ attitude toward nursing diagnoses would be a stronger motivational factor than perceived behavioral control.

In comparing personal attitude / value items with the utilization item about reading nursing diagnoses, the correlation coefficients are lower and the relationships are inverse. Participants that value nursing diagnoses disagree with the statement, ‘No one bothers to read nursing diagnoses.’ This correlation is logical since nurses that write nursing diagnoses must assume that they will be read. Time is too valuable for a nurse to develop and write nursing diagnoses they assume will not be read. The two strongest correlations between personal attitude / value items and reading nursing diagnoses are ‘Convenient vs. Inconvenient’ and ‘Time-saving vs. Time-consuming’ ($\rho = -0.41$ & $-0.37$, respectively). ‘Value vs. Worthless’ and ‘Meaningful vs. Trivial’ had the weakest correlations ($\rho = -0.24$ & $-0.27$, respectively). Strangely, the difficulty variables have the stronger correlation when compared to the worth variables. The TPB does not apply here because ‘No one bothers to read nursing diagnoses’ does not correspond to behavioral intention.

Junttila, Salantera and Hupli (2005) found that perioperative nurses positively valued nursing diagnoses in documentation, but felt nursing diagnoses were not appropriate for their clinical area. Higuchi et. al. (1999) read patients charts for the presence or absence of nursing diagnoses and compared the results with a measure of that attitude. Higuchi et. al. (1999) found nurses that did not document nursing diagnoses had a more positive attitude towards them. In both studies, the use of nursing diagnoses and the attitude toward them have an inverse relationship. The current study did not study this factor since it does not investigate actual documentation. It measures behavioral intention which is the factor between attitude and actual behavior.

**Subjective norm.**

Subjective norm items appeared to be very similar to personal attitude / value items. Both sections had the same prompts and responses except the participants were asked to answer
from the perspective of most nurses they know. The distribution of results was also similar with the central tendencies.

All subjective norm items were significantly correlated to both utilization items to the $p = 0.01$ level. The ‘Desirable vs. Undesirable’ item had the highest correlation coefficient when compared to both utilization variables ($\rho = 0.54$ & $-0.43$). If the participant believed that nursing diagnoses documentation was desirable, the participant was more likely to state that they wrote nursing diagnoses and that they were read. The ‘Easy vs. Difficult’ item had the lowest correlation coefficient when compared to both utilization items ($\rho = 0.23$ & $-0.27$). This item under the personal attitude / value section showed no correlation with one utilization variable and the weakest correlation coefficient for the other utilization variable. Difficulty level does not appear to affect utilization as much as worth based variables.

Theoretical Framework

The Theory of Planned Behavior (TPB) is a theory for evaluating and predicting behavior by describing the relationship of motivation variables. This study collected data on three of the variables: behavioral intention, attitude, and subjective norm. The actual behavior and perceived behavioral control were not measured in this study. The behavioral intention item and aggregate attitude items had a significantly correlation ($\rho = 0.65$, $p = 0.000$). The correlation between behavioral intention item and aggregate subjective norm items were also significant ($\rho = 0.45$, $p = 0.000$). The TPB predicted these correlations, so the findings of this study support the TPB.

The Higuchi et. al. (1999) study had the benefit of measuring actual behavior and found a significant inverse relationship between written nursing diagnoses and personal value of nursing diagnoses ($t_{63} = -2.85$, $p = 0.006$). The nurses that wrote nursing diagnoses valued them less. The perioperative nurses in Junttila et. al.’s study (2005) saw greater value in nursing diagnoses even though they did not use them. In contrast, the current study shows a direct correlation between perceived utilization and personal attitude / value.

Sauls (2007) applied TPB to nurses applying professional labor support and found a significant correlation between behavioral intent and attitude ($\beta = 0.68$, $p = 0.000$) and behavioral intent and subjective norm ($\beta = 0.40$, $p = 0.000$). In research using TPB to evaluate nurses’ intention to administer opioids, behavioral intention and attitude ($\beta = 0.35$, $p < 0.05$) and behavioral intention and subjective norm ($\beta = 0.29$, $p = 0.000$) were significantly correlated but the coefficients were lower (Edwards, Nash, Najman, Yates, Fentiman, Dewar, Walsh,
Writing nursing diagnoses and professional labor support are both independent nursing actions and have similar high correlation coefficients. Opioid administration is a collaborative nursing intervention and has lower correlation coefficients. Behavioral control, the perceived factors that expedite or impede the behaviors performance, is the variable that possibly describes these differences. Writing nursing diagnoses and professional labor support are both independent nursing actions while opioid administration is a dependent nursing action. A variation in behavioral control influences the behavior to a much higher degree in dependent nursing actions. For example, without a doctor’s order, a narcotic cannot be legally administered no matter the nurse’s attitude towards the action.

Implications for Nursing

One of the principles of Knowles’ andragogy is that adults are motivated to learn when they perceive the knowledge will help them in future tasks (Atherton, 2005). Adult learners need to know why they need to know something before they will undertake the learning process. This study suggests that a population of APNs do not use nursing diagnoses in their practice, and a large part of that population identified themselves as advanced registered nurse practitioners (ARNP). This is surprising since they are required by the Florida Nurse Practice Act to make both nursing and medical diagnoses (F.S. 464, 2005). According to Barkauskas, Schafer, Sebastian, Pohl, Benkert, Nagelkerk, Stanhope, Vonderheid, and Tanner’s (2006) study only 31 percent of academic nurse-managed centers use standardized language during ARNP clinical time. Potential employers’ expectations of competent medical diagnoses and lack of insurance reimbursement for nursing diagnoses may be factors pressing nursing diagnoses out of ARNP training. These same factors may thrust nursing diagnoses out of ARNP practice.

The Theory of Planned Behavior is a model for understanding motivations behind behavior and is often employed to modify behavior. The current study finds that two factors, personal attitude / value and subjective norm, influence the usage of nursing diagnoses. These factors can be employed to increase nursing diagnoses implementation. Nursing schools can continue to bolster student personal attitude / value of nursing diagnoses by reinforcing it in the affective domain which requires behavior and attitude modeling. Healthcare agencies can influence the subjective norm by creating an environment where the use of nursing diagnoses is appreciated. Adjusting these factors should influence nursing diagnoses utilization in a variety of educational settings and levels and in various work environments. Reinforcing personal
attitude / value and subjective norm factors will lead to increased behavioral intention, which will lead to increased actual behavior.

Traditionally, nurses charted on paper and wrote their nursing diagnoses down in a narrative format. Later, nurses used preprinted nursing diagnoses worksheets where nurses would check appropriate boxes to save time (Wetter, 2007). With computers, many new possibilities for nursing diagnoses charting have appeared. Computer charting allows narrative nursing diagnoses charting in certain areas of the program and it allows for the best of nursing diagnoses worksheets. This option has been reported on by multiple researchers with varying levels of success. Hao, Huang, Wu, Kao, Lu, Jian, Chang, and Hsu (2006) developed an electronic nursing record that integrated nursing diagnoses. Docherty (2006) integrated 39 core cardiac nursing diagnoses into an electronic charting framework which greatly eased the workload of documenting care plans. Computers are great for going through large volumes of data and sorting it into categories. This ability was used by Kim, An, Park, Jung, Kim, and Chang (2007) to create a computer program that can reliably make evidenced-based nursing diagnoses based on electronic patient records. The program searches through all available data, sorts it into categories, and makes appropriate nursing diagnoses specific to the patient. If this system is refined, the nurse could be presented with a list of suggested nursing diagnoses. The nurse could suggest ones most accurately describing the patient’s condition, and then the computer could present possible intervention and evaluation criteria.

As electronic charting and records continue to grow in popularity and usage from healthcare provider’s offices to acute care hospitals to long term care facilities and home health, now is an ideal time to implement nursing diagnoses into electronic charting. Unlike paper charting where sections or topics can simply be left blank without immediate repercussion, electronic charting can be programmed to insist upon certain entries before allowing the user to continue to the next screen. Whether the program is complex and suggests possible nursing diagnoses or more simplistic, having the nurse develop her own, electronic nursing diagnoses charting would greatly increase the utilization of nursing diagnoses.

Suggestions for Further Research

The current study evokes several possibilities for further research. The tool contained a total of 57 items, most of which were on a seven (7) point Likert scale. If this study is to be repeated using its online format, the survey tool could be modified so that it takes less time to
complete for the participants by presenting only items related to research questions and constructing the layout as web friendly as possible. After testing for reliability and validity, these modifications could increase response rates (Gunn, 2002).

Most of the participants of this survey were advanced practice nurses (APN) but the demographics section of the survey was designed to capture the roles and specialties of diploma, associate degree, and bachelor degree RNs. The demographics section could not capture specific roles and specialties of the APNs. A number of NPs (27) volunteered their role in the comments section when they stated they do not use nursing diagnoses in their current role, but this does not accurately describe the total number of NPs in the study. This study lacked a pilot to identify this problem. By modifying the demographics section to include an APN and a non-APN tract, information could be obtained to describe various APN roles so that comparisons could be made among APN roles and specialties.

According to TPB, the influence of three independent variables produces the behavioral intention which in turn produces the actual behavior. The current study only measured the attitude and subjective norm variables and left out perceived behavioral control. Further studies could be done to examine all three variables together. Perceived behavioral control factors are internal or external factors that expedite or impede performance of the behavior. Whether the charting of nursing diagnoses is in a narrative note, on a preprinted form, or filed electronically may influence utilization of nursing diagnoses documentation and is an example of a perceived behavioral control factor. Other perceived behavioral control factors that could be studied are the number of patients, the acuity of patients, time restraining factors, pervious training in nursing diagnoses, and a variety of other internal stressors.

A major goal of this study was to determine the utilization and value of nursing diagnoses by RNs at all levels of education and all work environments, but only nine (9) of 133 participants were functioning below an APN level. This number is statistically too small to make any conclusions about diploma verses associate verses bachelor level nurses, but a different e-mail sample should produce different demographics of participants. The FDOH’s e-mail list produced mostly APN participants. A standard mailing using the nurses’ home addresses may produce different demographics. Individual healthcare institution e-mail lists could produce demographics representative of that healthcare team. Choosing an e-mail or mail list where
desired demographic information is known and used to produce a stratified random sample may promote a more heterogeneous sample.

Assumptions and Limitations

As stated previously, this study assumed that nurses receive some training in nursing diagnoses, that the FDOH e-mail list was accurate, that healthcare agencies required the documentation of nursing diagnoses, that nurses check their e-mail at least once a month, and that a percentage of nurses that check their e-mail would respond to the survey. The results of the survey proved all these assumptions are correct except for hospitals required nurses to use nursing diagnoses.

This study assumed participants’ demographics would be similar to the general population of nurses and this is true except for educational level (Bureau, 2004). The respondents were mostly APNs. This is a severe limitation of the study. The study was further limited by sample size, sample demographic location, low response rate, and survey delivery methodology. Response rates of future studies may be increased by decreasing the number of questions, targeting an audience already interested in the survey topic, and sending potential participants a pre-invitation, preparing them for the survey which will be sent a few days later (Gleneicki, 2007).

Conclusion

In conclusion, the utilization of nursing diagnoses by nurses in a variety of settings is important as it can monitor the rapid changes in the healthcare. The shift to electronic charting will influence the use of nursing diagnoses. The integration of nursing diagnoses into computer charting is critical for continued documentation of nursing diagnoses. Depending upon the development and structure of the electronic patient record software, nursing diagnoses charting will be expedited or greatly impeded.

The current study supports the TPB as both attitude and subjective norm influenced the behavioral intention. According to this theory, the manipulation of these variables will cause the greatest change in actual behaviors. Nurses in any setting can and do influence these variables. Attitude is something that can be adjusted and is also infused during nursing education. Subjective norm is impacted every time something is said or not said about nursing diagnoses.

Nursing education will continue to be challenged to produce competent graduate level nurses that can meet the challenges of the present healthcare environment. The amount of
healthcare information available is growing by on a daily bases making the struggle to classify information that is need to know verses information that is nice to know essential. The use of nursing diagnoses by nurses is just one example of many changing factors that nursing educators for all levels and environments must be aware of and positioned to change curriculum as the situation demands.
References


http://proquest.umi.com.proxy.lib.fsu.edu/pqdweb?did=747802111&sid=1&Fmt=2&clientId=20174&RQT=309&VName=PQD


NURSING DIAGNOSES RESEARCH PROJECT

DEMOGRAPHIC INFORMATION

1. Please indicate your highest level of education:
   _____ R.N.      _____ B.Sc.N.      _____ Other (indicate) ___________

2. Please indicate your approximate years of nursing experience:
   _____ full-time    _____ part-time

3. What is your year of birth?      19____

4. Have you ever had instruction in writing nursing diagnoses?
   _____ yes        _____ no

   If yes, please check all places where you received your instruction:
   _____ basic nursing program
   _____ hospital orientation
   _____ continuing education
   _____ courses at college or university
   _____ workshops
   _____ other (please specify) ____________________________
GENERAL INSTRUCTIONS FOR QUESTIONNAIRE

In this questionnaire, we ask questions that use a rating scale with seven places. You are asked to make an X on the place that best describes your opinion.

Please place your mark in the middle of the lines, not between the lines.

Never put more than one mark on a single scale.

Try to answer all the questions.

Sample question:

The weather in Ottawa in January is cold.

agree extremely quite slightly neither slightly quite extremely disagree

We are interested in YOUR opinion of nursing diagnoses and how nursing diagnoses affect your nursing and nursing in general.

1. I usually write nursing diagnoses on patient records.

agree extremely quite slightly neither slightly quite extremely disagree

2. I feel confident formulating nursing diagnoses.

agree extremely quite slightly neither slightly quite extremely disagree

3. I feel confident writing nursing diagnoses in patient records.

agree extremely quite slightly neither slightly quite extremely disagree

4. I need more education in writing nursing diagnoses.

agree extremely quite slightly neither slightly quite extremely disagree
5. **For me, writing nursing diagnoses on patient records is:**

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<th>Quality</th>
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6. **Most nurses I know think that writing nursing diagnoses on patient records is:**

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7. This section asks your opinion about whether others think you should write nursing diagnoses.

Other nurses I work with think I should write nursing diagnoses.
agree extremely quite slightly neither slightly quite extremely disagree

The charge/head nurse on my unit thinks I should write nursing diagnoses.
agree extremely quite slightly neither slightly quite extremely disagree

The nurse educator for my unit thinks I should write nursing diagnoses.
agree extremely quite slightly neither slightly quite extremely disagree

Other nursing managers in my hospital think I should write nursing diagnoses.
agree extremely quite slightly neither slightly quite extremely disagree

8. In this section, indicate, generally speaking, how much YOU CARE what OTHERS THINK about whether you write nursing diagnoses on patient records.

Other nurses I work with.
very much extremely quite slightly neither slightly quite extremely not at all

The charge/head nurse on my unit.
very much extremely quite slightly neither slightly quite extremely not at all

The nurse educator for my unit.
very much extremely quite slightly neither slightly quite extremely not at all

Other nurse managers in my hospital.
very much extremely quite slightly neither slightly quite extremely not at all
9. What do you believe about the following statements?

In general, writing nursing diagnoses enhances communications between nurses.
agree extremely quite slightly neither slightly quite extremely disagree

My writing nursing diagnoses enhances communication among nurses in my hospital.
agree extremely quite slightly neither slightly quite extremely disagree

In general, nursing diagnoses furthers the nursing profession.
agree extremely quite slightly neither slightly quite extremely disagree

My writing nursing diagnoses furthers the nursing profession.
agree extremely quite slightly neither slightly quite extremely disagree

10. In this section, there are several statements about nursing diagnoses which nurses have made. Please indicate the degree to which you agree or disagree with each statement.

The purpose of nursing diagnoses is clear.
agree extremely quite slightly neither slightly quite extremely disagree

Nursing diagnoses improve patient care.
agree extremely quite slightly neither slightly quite extremely disagree

There is enough time to write nursing diagnoses.
agree extremely quite slightly neither slightly quite extremely disagree

Nursing diagnoses help in the assessment of patients.
agree extremely quite slightly neither slightly quite extremely disagree

Nursing diagnoses are useful for patients with multiple problems.
agree extremely quite slightly neither slightly quite extremely disagree
Nursing diagnosis language is easy to understand.
agree extremely quite slightly neither slightly quite extremely disagree

Writing nursing diagnoses is an exercise in words or semantics.
agree extremely quite slightly neither slightly quite extremely disagree

Nursing diagnoses are a maze of unfamiliar terms.
agree extremely quite slightly neither slightly quite extremely disagree

Nursing diagnoses are practical.
agree extremely quite slightly neither slightly quite extremely disagree

Writing nursing diagnoses is a priority in nursing care.
agree extremely quite slightly neither slightly quite extremely disagree

I would chart nursing diagnoses if I did not have to sign them.
agree extremely quite slightly neither slightly quite extremely disagree

Writing nursing diagnoses may cause legal complications for nurses.
agree extremely quite slightly neither slightly quite extremely disagree

No one bothers to read nursing diagnoses.
agree extremely quite slightly neither slightly quite extremely disagree

Nursing diagnoses do not change patient care.
agree extremely quite slightly neither slightly quite extremely disagree

Other nurses may not agree with my nursing diagnoses.
agree extremely quite slightly neither slightly quite extremely disagree
11. Please list three reasons why you would write a nursing diagnoses in a patient’s chart.

1. ____________________________________________________________

2. ____________________________________________________________

3. ____________________________________________________________

Please list three reasons why you would NOT write a nursing diagnosis in a patient’s chart.

1. ____________________________________________________________

2. ____________________________________________________________

3. ____________________________________________________________

If you have any further comments you wish to make, please write them in the space below:

THANK YOU FOR YOUR HELP!
1. Informed Consent

Hello:

You are invited to participate in a survey looking at "The Use of Nursing Diagnoses in Practice." It will take approximately 15 minutes to complete the questionnaire.

Your participation in this study is completely voluntary. There are no foreseeable risks associated with this project. However, if you feel uncomfortable answering any questions, you can withdraw from the survey at any point. It is very important for us to learn your opinions regarding nursing diagnoses.

Your survey responses will be strictly confidential and data from this research will be reported only in the aggregate to the extent allowed by law. Your information will remain confidential by removing your contact information from survey responses. If you have questions at any time about the survey or the procedures, you may contact Brent Rudolph, RN, at 727-483-4277 or by email at the email address below:

brr04@fssu.edu

Major Professor Contact Info:
Dr. Venita Barth
vbarth@nursing.fsu.edu
850-644-8047

FSU Office of Research
Human Subjects Committee
2010 Levy Ave Bldg B Suite 278
Tallahassee, FL 32310
850-644-9375

Thank you so much for your participation.

If you agree to the terms of the survey please click on the Agree button below. If you would not like to take the survey please click on Decline button below.

☐ Agree
☐ Decline

2. Please indicate your highest level of nursing education:

☐ ADN
☐ BSN
☐ Masters
☐ Doctorate
☐ Other: [ ]
3. Please indicate your approximate years of nursing experience?

- Full-Time Years
  - 
- Part-Time Years
  - 

4. What year were you born?

- YYYYY
  - 

5. What is your current area of practice?

- Hospital
- Public Health
- Office
- State / Gov. Agency
- Other
  - 

6. What is your current specialty area?

- Women's Health / Pediatrics
- Med-Surg
- Psychiatric
- Oncology
- Public / Community Health
- Other
  - 

7. Have you ever had instruction in writing nursing diagnoses? *

- Yes
- No

8. Where did you receive that instruction? Check all that apply.

- [ ] Nursing School
- [ ] Hospital Orientation
- [ ] Continuing Education
- [ ] Workshops
- [ ] Other
  - 

64
9. We are interested in YOUR opinion of nursing diagnoses and how nursing diagnoses affect your nursing and nursing in general.

I usually write nursing diagnoses on patient records.

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<tr>
<th>Extremely Agree</th>
<th>Quite Agree</th>
<th>Slightly Agree</th>
<th>Neither</th>
<th>Slightly Disagree</th>
<th>Quite Disagree</th>
<th>Extremely Disagree</th>
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10. I feel confident formulating nursing diagnoses.

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<th>Extremely Agree</th>
<th>Quite Agree</th>
<th>Slightly Agree</th>
<th>Neither</th>
<th>Slightly Disagree</th>
<th>Quite Disagree</th>
<th>Extremely Disagree</th>
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11. I feel confident writing nursing diagnoses in patient records.

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<th>Extremely Agree</th>
<th>Quite Agree</th>
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<th>Neither</th>
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12. I need more education in writing nursing diagnoses.

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<th>Extremely Agree</th>
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<th>Slightly Agree</th>
<th>Neither</th>
<th>Slightly Disagree</th>
<th>Quite Disagree</th>
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13. The following prompt is for questions 12-19.

For me, writing nursing diagnoses on patient records is:

<table>
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<tr>
<th>Extremely Valuable</th>
<th>Quite Valuable</th>
<th>Slightly Valuable</th>
<th>Neither</th>
<th>Slightly Worthless</th>
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<th>Quite Trivial</th>
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<th>Quite Difficult</th>
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<tr>
<th>Extremely Time-Saving</th>
<th>Quite Time-Saving</th>
<th>Slightly Time-Saving</th>
<th>Neither</th>
<th>Slightly Time-Consuming</th>
<th>Quite Time-Consuming</th>
<th>Extremely Time-Consuming</th>
</tr>
</thead>
</table>
21. The following prompt is for questions.

**Most nurses I know think that writing nursing diagnoses on patient records is:**

<table>
<thead>
<tr>
<th>Extremely Valuable</th>
<th>Quite Valuable</th>
<th>Slightly Valuable</th>
<th>Neither</th>
<th>Slightly Worthless</th>
<th>Quite Worthless</th>
<th>Extremely Worthless</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Extremely Desirable</th>
<th>Quite Desirable</th>
<th>Slightly Desirable</th>
<th>Neither</th>
<th>Slightly Undesirable</th>
<th>Quite Undesirable</th>
<th>Extremely Undesirable</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Extremely Meaningful</th>
<th>Quite Meaningful</th>
<th>Slightly Meaningful</th>
<th>Neither</th>
<th>Slightly Trivial</th>
<th>Quite Trivial</th>
<th>Extremely Trivial</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Extremely Easy</th>
<th>Quite Easy</th>
<th>Slightly Easy</th>
<th>Neither</th>
<th>Slightly Difficult</th>
<th>Quite Difficult</th>
<th>Extremely Difficult</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Extremely Essential</th>
<th>Quite Essential</th>
<th>Slightly Essential</th>
<th>Neither</th>
<th>Slightly Needless</th>
<th>Quite Needless</th>
<th>Extremely Needless</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Extremely Time-Saving</th>
<th>Quite Time-Saving</th>
<th>Slightly Time-Saving</th>
<th>Neither</th>
<th>Slightly Time-Consuming</th>
<th>Quite Time-Consuming</th>
<th>Extremely Time-Consuming</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Extremely Convenient</th>
<th>Quite Convenient</th>
<th>Slightly Convenient</th>
<th>Neither</th>
<th>Slightly Inconvenient</th>
<th>Quite Inconvenient</th>
<th>Extremely Inconvenient</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Extremely Positive</th>
<th>Quite Positive</th>
<th>Slightly Positive</th>
<th>Neither</th>
<th>Slightly Negative</th>
<th>Quite Negative</th>
<th>Extremely Negative</th>
</tr>
</thead>
</table>
29. This section asks your opinion about whether others think you should write nursing diagnoses. 
Other nurses I work with think I should write nursing diagnoses. 
Extremely Agree  Quite Agree  Slightly Agree  Neither  Slightly Disagree  Quite Disagree  Extremely Disagree

30. 
The charge/lead nurse on my unit thinks I should write nursing diagnoses. 
Extremely Agree  Quite Agree  Slightly Agree  Neither  Slightly Disagree  Quite Disagree  Extremely Disagree

31. 
The nurse educator for my unit thinks I should write nursing diagnoses. 
Extremely Agree  Quite Agree  Slightly Agree  Neither  Slightly Disagree  Quite Disagree  Extremely Disagree

32. 
Other nursing managers in my hospital think I should write nursing diagnoses. 
Extremely Agree  Quite Agree  Slightly Agree  Neither  Slightly Disagree  Quite Disagree  Extremely Disagree

33. In this section, indicate, generally speaking, how much YOU CARE what OTHERS THINK about whether you write nursing diagnoses on patient records. 
Other nurses I work with. 
Extremely  Very much  Quite  Neither  Slightly  A Tiny Bit  Not At All

34. 
The charge/lead nurse on my unit. 
Extremely  Very much  Quite  Neither  Slightly  A Tiny Bit  Not At All

35. 
The nurse educator for my unit. 
Extremely  Very much  Quite  Neither  Slightly  A Tiny Bit  Not At All

36. 
Other nurse managers in my hospital 
Extremely  Very much  Quite  Neither  Slightly  A Tiny Bit  Not At All

37. What do you believe about the following statements? 
In general, writing nursing diagnoses enhances communication between nurses. 
Extremely Agree  Quite Agree  Slightly Agree  Neither  Slightly Disagree  Quite Disagree  Extremely Disagree

38. 
My writing nursing diagnoses enhances communication among nurses in my hospital. 
Extremely Agree  Quite Agree  Slightly Agree  Neither  Slightly Disagree  Quite Disagree  Extremely Disagree
39. **In general, nursing diagnoses furthers the nursing profession.**

<table>
<thead>
<tr>
<th>Extremely Agree</th>
<th>Quite Agree</th>
<th>Slightly Agree</th>
<th>Neither</th>
<th>Slightly Disagree</th>
<th>Quite Disagree</th>
<th>Extremely Disagree</th>
</tr>
</thead>
</table>

40. **My writing nursing diagnoses furthers the nursing profession.**

<table>
<thead>
<tr>
<th>Extremely Agree</th>
<th>Quite Agree</th>
<th>Slightly Agree</th>
<th>Neither</th>
<th>Slightly Disagree</th>
<th>Quite Disagree</th>
<th>Extremely Disagree</th>
</tr>
</thead>
</table>

41. **In this section, there are several statements about nursing diagnoses which nurses have made. Please indicate the degree to which you agree or disagree with each statement.**

**The purpose of nursing diagnoses is clear.**

<table>
<thead>
<tr>
<th>Extremely Agree</th>
<th>Quite Agree</th>
<th>Slightly Agree</th>
<th>Neither</th>
<th>Slightly Disagree</th>
<th>Quite Disagree</th>
<th>Extremely Disagree</th>
</tr>
</thead>
</table>

42. **Nursing diagnoses improve patient care.**

<table>
<thead>
<tr>
<th>Extremely Agree</th>
<th>Quite Agree</th>
<th>Slightly Agree</th>
<th>Neither</th>
<th>Slightly Disagree</th>
<th>Quite Disagree</th>
<th>Extremely Disagree</th>
</tr>
</thead>
</table>

43. **There is enough time to write nursing diagnoses.**

<table>
<thead>
<tr>
<th>Extremely Agree</th>
<th>Quite Agree</th>
<th>Slightly Agree</th>
<th>Neither</th>
<th>Slightly Disagree</th>
<th>Quite Disagree</th>
<th>Extremely Disagree</th>
</tr>
</thead>
</table>

44. **Nursing diagnoses help in the assessment of patients.**

<table>
<thead>
<tr>
<th>Extremely Agree</th>
<th>Quite Agree</th>
<th>Slightly Agree</th>
<th>Neither</th>
<th>Slightly Disagree</th>
<th>Quite Disagree</th>
<th>Extremely Disagree</th>
</tr>
</thead>
</table>

45. **Nursing diagnoses are useful for patients with multiple problems.**

<table>
<thead>
<tr>
<th>Extremely Agree</th>
<th>Quite Agree</th>
<th>Slightly Agree</th>
<th>Neither</th>
<th>Slightly Disagree</th>
<th>Quite Disagree</th>
<th>Extremely Disagree</th>
</tr>
</thead>
</table>

46. **Nursing diagnosis language is easy to understand.**

<table>
<thead>
<tr>
<th>Extremely Agree</th>
<th>Quite Agree</th>
<th>Slightly Agree</th>
<th>Neither</th>
<th>Slightly Disagree</th>
<th>Quite Disagree</th>
<th>Extremely Disagree</th>
</tr>
</thead>
</table>

47. **Writing nursing diagnoses is an exercise in words or semantics.**

<table>
<thead>
<tr>
<th>Extremely Agree</th>
<th>Quite Agree</th>
<th>Slightly Agree</th>
<th>Neither</th>
<th>Slightly Disagree</th>
<th>Quite Disagree</th>
<th>Extremely Disagree</th>
</tr>
</thead>
</table>

48. **Nursing diagnoses are practical.**

<table>
<thead>
<tr>
<th>Extremely Agree</th>
<th>Quite Agree</th>
<th>Slightly Agree</th>
<th>Neither</th>
<th>Slightly Disagree</th>
<th>Quite Disagree</th>
<th>Extremely Disagree</th>
</tr>
</thead>
</table>
49. Writing nursing diagnoses is a priority in nursing care.
   Extremely Agree  Quite Agree  Slightly Agree  Neither  Slightly Disagree  Quite Disagree  Extremely Disagree

50. I would chart nursing diagnoses if I did not have to sign them.
   Extremely Agree  Quite Agree  Slightly Agree  Neither  Slightly Disagree  Quite Disagree  Extremely Disagree

51. Writing nursing diagnoses may cause legal complications for nurses.
   Extremely Agree  Quite Agree  Slightly Agree  Neither  Slightly Disagree  Quite Disagree  Extremely Disagree

52. No one bothers to read nursing diagnoses.
   Extremely Agree  Quite Agree  Slightly Agree  Neither  Slightly Disagree  Quite Disagree  Extremely Disagree

53. Nursing diagnoses do not change patient care.
   Extremely Agree  Quite Agree  Slightly Agree  Neither  Slightly Disagree  Quite Disagree  Extremely Disagree

54. Other nurses may not agree with my nursing diagnoses.
   Extremely Agree  Quite Agree  Slightly Agree  Neither  Slightly Disagree  Quite Disagree  Extremely Disagree

55. Please list three reasons why you would write a nursing diagnoses in a patient's chart.
1. 
2. 
3. 

56. Please list three reasons why you would NOT write a nursing diagnoses in a patient's chart.
1. 
2. 
3. 

57. If you have any further comments please write them in the space provided below. Thank You.
July 13, 2006

Brent Rudolph RN
Graduate Student
Florida State University
Vivian M. Duxbury Hall, Mail Code 4310
Tallahassee, FL, USA
32306-4310

Dear Brent,

Thank you very much for your interest in the Nursing Diagnosis Study and the tool that was developed as part of this project. I have attached a copy of the tool and give you permission to use the tool in a modified or unmodified format (with acknowledgement).

I would be most interested in hearing the results of your research project. Best wishes in your graduate studies. Please don’t hesitate to contact me if I can be of further assistance.

Sincerely,

Kathryn Higuchi

Kathryn A. Smith Higuchi PhD, RN
Assistant Professor
Appendix D
From: Human Subjects (humansubjects@magnet.fsu.edu)
To: bbr04@fsu.edu
Date: Monday, April 16, 2007 9:21:34 AM
Cc: vbarth@nursing.fsu.edu
Subject: Use of Human Subjects in Research - Approval Memorandum

Office of the Vice President For Research
Human Subjects Committee
Tallahassee, Florida 32306-2742
(850) 644-8673, FAX (850) 644-4392

APPROVAL MEMORANDUM

Date: 4/16/2007

To: Brent Rudolph

Address: 440 10th Ave. N., St. Petersburg, FL 33701
Dept.: NURSING

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research
The Utilization of Nursing Diagnosis by Registered Nurses; An Attitudinal Study

The application that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(7) and has been approved by an expedited review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 4/4/2008 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: Vickie Barth, Chair
HSC No. 2007.354
BIOGRAPHICAL SKETCH

Brent Rudolph graduated from Florida State University with a Bachelor of Science in Nursing in 2000. He worked in rehabilitation, cardiac, step down, and psychiatric nursing. He began his teaching career at Tallahassee Community College as an Adjunct Professor in 2004. In 2006, he took his current position as a nursing simulation lab manager at St. Petersburg College. Brent presently lives in St. Petersburg, FL with his beautiful wife of 5 years, Molly.