RESEARCH UTILIZATION BARRIERS PERCEIVED BY

NURSES IN THE EMERGENCY DEPARTMENT

by

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ABSTRACT

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The purpose of this quantitative, descriptive study is to explore and describe Emergency Department nurses' perceived barriers to research utilization. The setting of this study takes place in the Emergency Department of a community hospital in North Central Texas. The BARRIERS to Research Utilization Scale (Funk, Champagne, Wiese, & Tornquist, 1991a) was the questionnaire used in this study. Sixteen completed questionnaires were obtained.

The greatest barrier identified by this sample was that nurses do not feel they have enough authority to affect change, which is the same primary barrier found by Funk, Champagne, Wiese, and Tornquist in 1991.   Implications for future research studies include a larger scale study with a larger sample size. Understanding the perceived barriers to research utilization can help decrease these barriers and promote the use of research in nursing practice.

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CHAPTER 1

INTRODUCTION

<u>1.1 Background and Significance</u>

Polit and Beck (2006) state evidence-based practice (EBP) requires the use of the best

available research evidence and practical experience to make clinical decisions. Evidence-

based practice leads to cost-efficient, quality patient care and improved patient outcomes

(Burns & Grove, 2007; Hodge, Kochie, Larsen, & Santiago, 2003; Hutchison & Johnston, 2004;

Polit & Beck, 2006; Rogers, 2004). However, an increase in the implementation of research-

based clinical practices at the bedside has not been found (Bradley, Schlesinger, Webster,

Baker, & Inouye, 2004; Macguire, 2006).

Burns and Grove (2005) state that research utilization is "the process of synthesizing,

disseminating, and using research-generated knowledge to make an impact on or a change in

the existing practices in society" (p. 750). Research utilization is the antecedent to EBP.

Glasziou and Haynes (2005) suggest that major barriers to research utilization are insufficient

time, resources, and skills needed to access the information needed to answer a specific clinical

question. These barriers may vary from facility to facility and unit to unit. Finding out the specific

barriers for a certain unit may help administrative personnel implement structures and policies

that can facilitate research use in a specified unit.

1.1.1 Significance

The National Institute of Nursing Research (NINR) published a strategic plan outlining

research findings that can greatly improve the lives of people of all ages from infancy to maturity

(2006). This strategic plan outlines the need for further nursing research. This study addresses

this strategic plan by exploring the factors that are barriers to nursing research utilization.

Because the nursing profession is accountable for the health and well being of society, it must

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continuously be critiqued and improved based on research knowledge (Burns & Grove, 2007). The way nurses synthesize and prioritize nursing interventions has an impact on every patient they encounter. Therefore, it is important that these decisions are based on validated evidence. Increasingly, nurses are expected to base their practice on best clinical evidence (Polit & Beck, 2006).

1.1.2 Background

The first nurse researcher was Florence Nightingale. Her research focused on promoting the emotional and physical well-being of her patients (Nightingale, 1946). The use of this research in clinical practice helped reduce the mortality rate during the Crimean War from 42% to 2%. Nursing research grew in the 1940s as master's and doctoral programs were developed in nursing. *Nursing Research* began to be published in 1952, and was the first journal to focus on nursing research. The nursing profession began focusing on conducting clinical research in the 1980s.

A specialized body of knowledge helps define nursing as a profession. This knowledge base has grown rapidly and now in the 21st century, the focus for research is developing scientific knowledge that facilitates nursing to implement practices based on evidence (Burns & Grove, 2007). Although this focus on research has created an abundance of nursing research, nurses find it difficult to attain relevant, valid evidence (Glasziou & Haynes, 2005). The abundance of research then results as a barrier to research utilization in practice (Glasziou & Haynes).

1.2 Problem

Research studies have been done to explore the barriers to research utilization (Horsley, Crane, & Bingle, 1978; Krueger, Nelson, & Wolanin, 1978; Rutledge & Donaldson, 1995; Fink, Thompson, & Bonnes, 2005; Funk, Champagne, Wiese, & Tornquist, 1991a; Milner, Estabrooks, & Humphrey, 2005; Olade, 2003; Parahoo, 2000; Pearcey & Draper, 1996; Pravikoff, Tanner, & Pierce, 2005; Shirey, 2006). A systematic review by Estabrooks, Floyd,

Scott-Findlay, O'Leary, and Gushta (2003) acknowledged that the study of barriers to the utilization of research is still in its infancy and requires new approaches to generate knowledge in this field (p. 517). One approach to providing new knowledge is to assess different populations from previous studies.

I work in the emergency department of a small community hospital. I noticed that although provided with research-based guidelines, my nursing colleagues were resistant to changing their practice. I found no studies that explored the barriers to research utilization perceived by ED nurses in community hospitals. The study of this population of nurses will contribute to a new understanding of research utilization.

1.3 Purpose

The purpose of this study is to describe nurses' reported barriers to research utilization within the emergency department of a community hospital in North Central Texas.

1.4 Community Hospitals

The Institute of Medicine released a report in October 2004 that nursing work environments have a direct impact on patient safety (Hall, Doran, Sidani, & Pink, 2006). The study done by Hall et al. reports that there are important differences between teaching and community hospitals that affect patient outcomes. For example, teaching hospitals report higher technological work environments and show evidence of innovative patient care techniques (Hall et al.). Little is known, however, about how work environments in community hospitals affect the health care provided. A study by Tannery, Wessel, Epstein, and Gadd (2007) showed that nurses in teaching hospitals use knowledge-based information resources more often than did nurses in community hospitals. This evidence shows that community hospitals have unique characteristics that may affect research utilization within them. It is significant to study research utilization barriers at a community hospital.

In this study's setting, a 288-bed community hospital, the library is hidden behind elevators and holds dusty, old medical books and outdated nursing journals demonstrating

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access to current information as a primary barrier. It also houses an obsolete computer that does not connect to the Internet. In one conversation with the Chief Nursing Officer, I was told that nurses have access to one research database. This was the first time that I had heard of the nurses having access to research despite spending two years at this facility. In this setting, examples of barriers to research utilization are lack of known resources and access to current resources.

<u>1.5 Emergency Department Nurses</u>

Emergency nursing is a unique specialty of the nursing profession. Nurses in this department are often required to make rapid assessments and quick judgments on treatment, usually when seconds count, and particularly during the initial phase of acute illness and trauma. Recently, emergency departments have been over-crowded with patients using them for primary care (Eisenberg, Baglia, & Pynes, 2006). ED nurses must be prepared to care for a broad spectrum of illness and injury from a stubbed toe to a heart attack. Emergency departments are filled with high volume and high acuity patients. These attributes of the ED and ED nursing contribute to another research utilization barrier: lack of time in the work setting to delve into research (Fink, Thompson, & Bonnes, 2005; Funk, Champagne, Wiese, & Tornquist, 1991a; Parahoo, 2000).

ED nurses are starting to recognize the need to incorporate research findings into their practice, despite the intense nature of their work (Richardson, 2005). The Emergency Nurses Association (ENA), the professional organization for emergency nursing, issued a statement regarding research stating, "Ongoing research collaboration is critical to improving the quality of health care, and emergency nurses are vital members of the research team" (ENA, 2006, p. 3). Furthermore, this document stated that efforts to promote research are needed in hospitals to provide ED nurses with opportunities to become engaged in research and apply it to practice (ENA). The ENA also recognized there is an issue with research utilization and addressed it with the following statement, "The development of a culture of collaborative research that

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includes emergency nurses should be pursued and barriers to participation should be addressed" (p. 2). This study focuses on the unique characteristics of emergency nurses and their work environment to discover their perceived barriers to research utilization.

CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

This literature review describes relevant theoretical and empirical literature to research utilization. Theoretical literature discusses the two most common theoretical foundations used for research utilization studies, Havelock's Dissemination & Utilization of Knowledge (Havelock, 1969) and Rogers' Diffusion of Innovation Theory (Rogers, 2003). These theories were first used in sociology applications, and later adopted into nursing. Selected major research utilization studies, done in the past, are described in the following sections.

2.2 Relevant Theoretical Literature

2.2.1 Linkage Theory

Horsley, Crane and Bingle (1978) used Havelock's Dissemination and Utilization of Knowledge Theory to help describe a framework for nursing research utilization. This theory has been used in federally funded research utilization studies (Horsley et al. 1978; Krueger, Nelson, & Wolanin, 1978; Rutledge & Donaldson, 1995). The fundamental basis of the Linkage Theory is there is a link between user systems and resource systems. This link is the consultant (Jones, 2000). The user system represents clinical practice, the resource system is research, and the consultant is the nurse. In the Linkage Theory, the nurse is the link between research and clinical practice. This suggests that the nurse alone is responsible for synthesizing research to apply research-based principles into clinical practice. Figure 2.1 depicts Horsley et al's 1978 adaptation of the Linkage Theory.

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                        │    Nurse    │
                        │             │
                        └─────────────┘
                     ↗                    ↖
              ↙                               ↘
   ┌─────────────┐                    ┌─────────────┐
   │             │                    │             │
   │  Research   │                    │  Clinical Practice │
   │             │                    │             │
   └─────────────┘                    └─────────────┘
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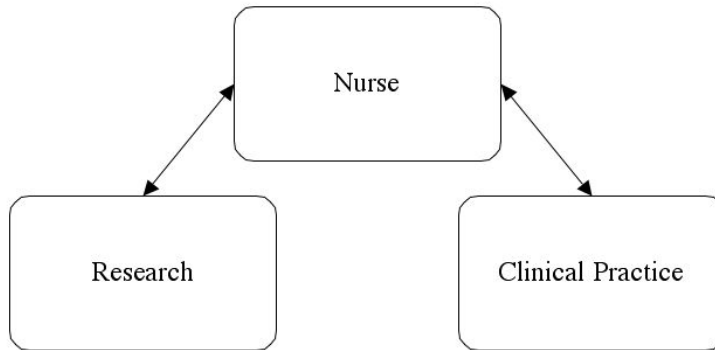
Figure 2.1 Adaptation of the Linkage Theory

Horsley, Crane, Crabtree and Wood (1983) described six phases to the research utilization process, depicted in Figure 2.2. The first phase is comprised of two elements: the identification of a nursing problem and the review of relevant research to apply into practice (Horsley et al.). In this phase, the two steps may occur in any order. Usually, a problem is identified, and then research is found to support a solution. However, research findings may be used to recognize problematic practices. The second phase is evaluation of the quality of research and its relevance to the nursing problem. After the research is deemed relevant and creditable, in the third phase, a solution is created and implemented. In the fourth phase, the implemented innovation is then evaluated for effectiveness. After evaluation, the innovation is then adopted, altered, or rejected. The decision to adopt and disseminate the innovative practice is phase six. Dissemination of the new practice can occur via policy changes, staff in-services, or other avenues of communication within an organization (Horsley, et al.).

Identification of a nursing Problem and review of research

Evaluation of research

Implement and Disseminate solution

Solution created and implemented

Adopt, alter, or reject solution

Evaluation of solution For effectiveness
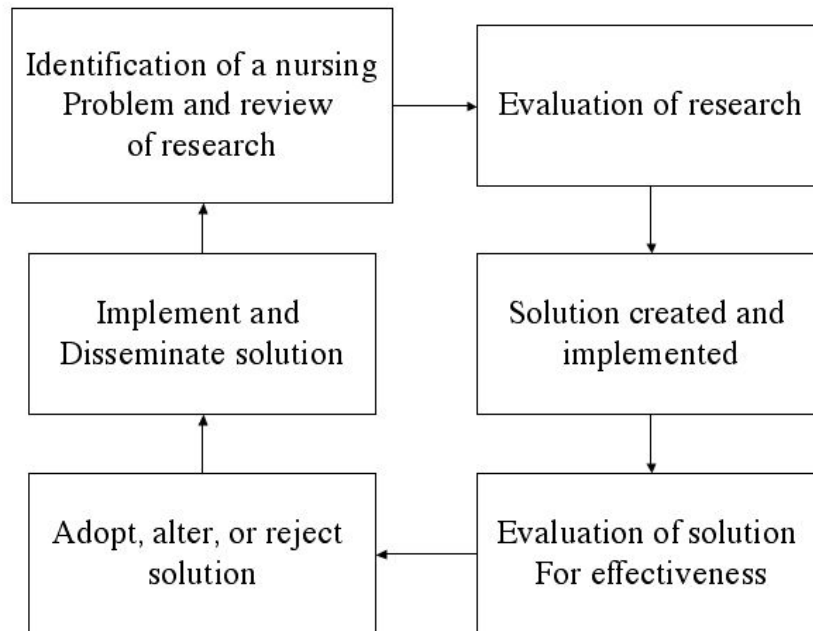
Figure 2.2 Research utilization process

This model did not explicitly offer a description for the characteristics of the organization, which has been shown to have an effect on research utilization (Bradley et al., 2004; Hutchinson & Johnston, 2004; MacGuire, 2006; Pravikoff, Tanner, & Pierce, 2005). However, it can be inferred that the organization may have or could develop characteristics that enable and promote nursing utilization of research such as allow nurses access to research databases or libraries. This inference and the implication that communication plays a key role in the dissemination of information and research utilization are focal points of this thesis.

2.2.2 Diffusion of Innovations

Although it is not a nursing theory, Roger's (2003) Diffusion of Innovations Theory has been used extensively in research utilization studies (Fink et al, 2005; Funk et al, 1991a; Milner et al, 2005; Micevski, Sarkissian, Byrne, & Smirnis, 2004; Olade, 2003; Parahoo, 2000; Pearcey & Draper, 1996; Shirey, 2006). This theory describes a five-stage innovation-decision process that occurs within large organizations via communication channels. This process is discussed

further in Chapter 3. Its application to nursing offers a framework to illustrate clinical practice changes. By identifying each stage, potential obstacles can be identified and addressed (Pearcey & Draper, 1996).

As depicted in Figure 2.3, the components of the Diffusion of Innovation theory are: innovation, communication, time, and social systems (Rogers, 2003). The innovation-decision process incorporates these concepts and is the process by which an individual learns about and assesses an innovation for use in practice.

Communication

Time

Innovation
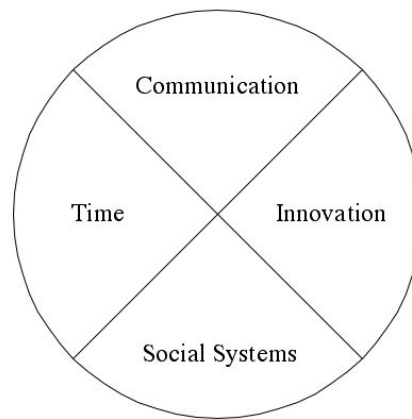
Social Systems

Figure 2.3 Components of the Diffusion of Innovation Theory

Rogers (2003) defines diffusion as "the process in which an innovation is communicated through certain channels over time among the members of a social system" (p. 5). Elements of diffusion are: an innovation, communication, time, and social systems. Innovation is an object, practice, or idea that is deemed as new by an individual or group of people. Diffusion requires the communicated item to be novel; therefore people tend to regard innovations with uncertainty. Diffusion can be predicted or spontaneous. It can also lead to social change. Rogers proposes with the spread of new information or ideas, the acceptance or rejection of ideas leads to consequences that change the culture. The elements of diffusion are

of interest in this study. If examined, these elements of diffusion can give insight into the reasons an innovation is implemented into practice.

2.3 Relevant Research

Research utilization studies date back to the mid-70s with the Western Interstate Commission for Higher Education (WICHE) project (Krueger et al., 1978). The WICHE study focused on analyzing the quality of research and integrating research findings into practice to improve clinical outcomes (Krueger et al.). Other elements of research utilization were studied. In the Conduct and Utilization of Research in Nursing (CURN) project, research utilization was compared among different sized hospitals, from 99 to 400 or more inpatient beds (Horsley et al., 1983). Protocols for clinical practice were developed from research findings and initiations of these protocols were disseminated among test units of 17 different hospitals (Horsley et al.). Several hospitals still had these protocols in place four years after the study ended. The investigators of the CURN project propose that the use of research-based protocols is an effective way to integrate research into practice and improve patient outcomes (Horsley et al.). Other studies focused on specific nursing specialties. For example the Nursing Child Assessment Satellite Training project targeted research utilization and the use of developed protocols among pediatric nurses (Horsley et al.).

2.4 Summary

The review of literature relevant to this study showed selected studies, using different theoretical models to explore nursing research utilization, which provided a foundation for this thesis. Past efforts to understand research utilization barriers have focused mostly on the general nursing populations (Krueger et al., 1978). Some studies, however, did focus on certain nursing specialties and had data analyzed by role and/or specialty (Horsley et al., 1983).

CHAPTER 3

FRAME OF REFERENCE

3.1 Introduction

This chapter illustrates the framework used for this study, Diffusion of Innovations

Theory (Rogers, 2003). The propositions and concepts derived for the study are described. A

conceptual framework map is provided and the study's variables are explained.

3.2 Theoretical Framework

The theoretical foundation of this thesis is based on the Diffusion of Innovations Theory

(Rogers, 2003), which provides a framework for studying research utilization in nursing, as

explained by Fink et al. (2005) and Funk et al. (1991a). Rogers developed the Diffusion of

Innovations Theory in 1962 and has published four updated editions since (2003). As a rural

sociologist, Rogers first studied the diffusion of agricultural innovations and the work in this field

led to other diffusion studies and provided the basis for the theory. Figure 3.1 depicts Rogers'

diffusion of innovation process.
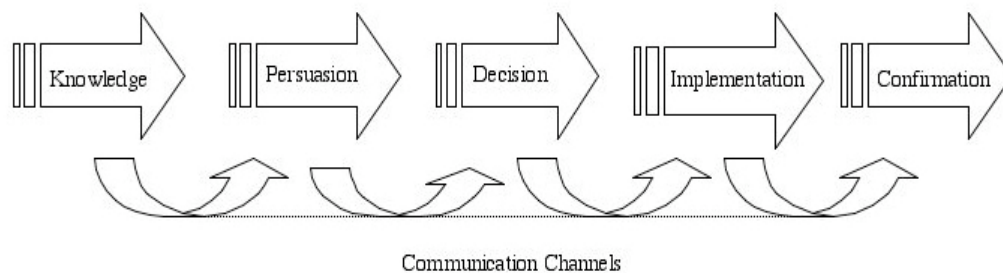
Figure 3.1 Innovation-decision process derived from Rogers' theory

The first stage knowledge occurs when the individual becomes aware of an innovation

and begins to understand how it functions. Persuasion happens when the individual forms either

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an unfavorable or favorable attitude toward the innovation. Decision takes place when the individual chooses to either accept or reject the innovation. Implementation occurs when an individual changes their behavior to adopt the accepted innovation into practice. Finally, confirmation occurs when an adopter seeks support of an innovation-decision made, and may change this decision if new knowledge conflicting with the innovation is received. The concept of interest for this thesis is the fourth stage: implementation. Rogers describes implementation to occur "when an individual puts a new idea into use" (2003, p. 169). In nursing, the equivalent would be to use research findings to implement new practices.

Characteristics of the adopter, organization, innovation, and communication channels are some of many factors that affect the rate of adoption of innovations (Rogers, 2003). This study focuses on nurses' perceived barriers when attempting to use research in their practice. Funk et al. (1991a) adopted four components of research utilization from Rogers's theory. These are: nurse (adopter), setting (organization), research (innovation), and communication. The tool Funk et al. developed from their study is called BARRIERS: The Barriers to Research Utilization Scale. The scale consists of four subscales that correspond to the four components of Rogers's theory as shown in Figure 3.2.

Rogers

Adopter	Organization	Innovation	Communication
↕	↕	↕	↕
Nurse	Setting	Research	Communication
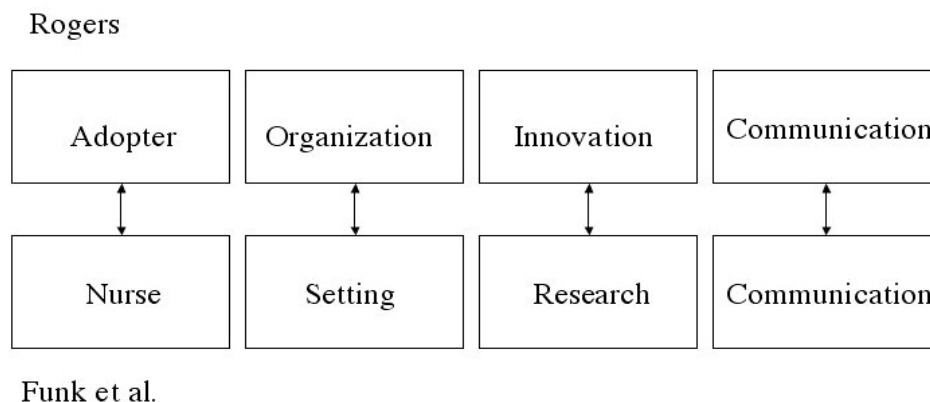
Funk et al.

Figure 3.2 Corresponding elements of Rogers's Theory to Funk et al's study

3.3 Conceptual Map

The conceptual map (Figure 3.3) shows the relationships among the concepts. The concepts depicted on the map are derived from Rogers's (2003) theory of diffusion innovation. Rogers proposed that each of the components is related and affects whether an innovation is adopted or not. This is depicted through two-way, inter-connected arrows from each concept, with research utilization being the central concept.
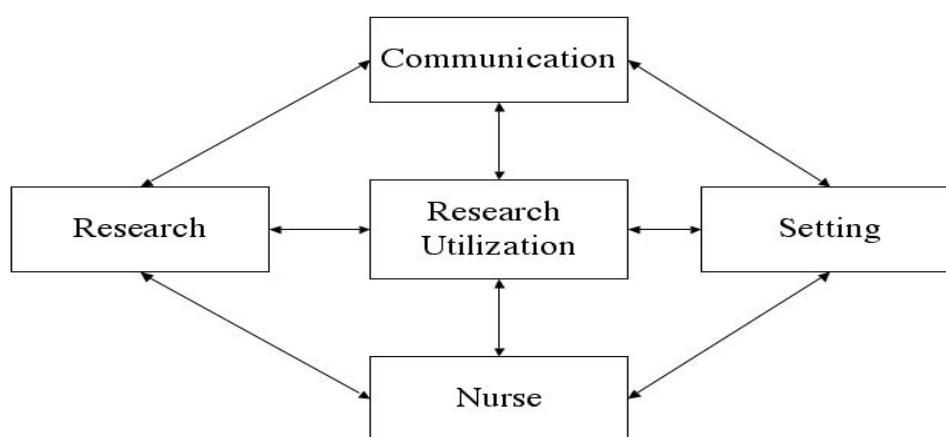
Figure 3.3 Conceptual map of factors influencing research utilization

Within the innovation-diffusion process, if any of these concepts have unfavorable characteristics, this may decrease the adoption of an innovation. For example, Rogers (2003) described how the use of lime to prevent scurvy on British ships was not adopted by the British Navy until 264 years after a conclusive study showed that consuming lime could prevent scurvy. In this instance, there were disturbances in the communication of study findings as well as the social system where the diffusion of this innovation occurred (p. 7-8).

<u>3.4 Framework Concepts</u>

3.4.1 Nurse

The nurse concept in this framework represents not only individual nurses, but also sub-specialties of nursing, and nursing organizations. These bodies of nursing represent the 'adopter' of Rogers's theory. The adopter is the entity that progresses along the innovation-decision process (Rogers, 2003).

3.4.2 Setting

Setting in this framework represents all places where nursing activities occur, a specific social system. Rogers defines social systems as "a set of interrelated units that are engaged in joint problem solving to accomplish a common goal" (2003, p. 23). Setting embodies the processes, relationships, and structures that are contained within an organization. In this study, the setting is in an ED, which is a department with its own set of work flows (processes) and employee dynamics (relationships) within the hospital (organization).

3.4.3 Research

Research signifies innovation. According to Burns and Grove (1999), research is the "diligent, systematic study to validate and refine existing knowledge and develop new knowledge" (p. 3). The concept of research in this study encompasses characteristics such as the context in which research is used, the user of the research, the quality of the research itself, and the presentation of the research. These characteristics are discussed further in the next chapter. These qualities have been previously identified in this thesis as the qualities about research that may impede nurses from understanding and using research.

3.4.4 Communication

"Communication is the process by which participants create and share information with one another in order to reach a mutual understanding" (Rogers, 2003, p. 18). It can occur among people, groups, and organizations in a variety of ways. Mass media and the Internet are

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the more rapid and efficient ways to communicate. However, human communication between

like individuals, i.e., nurses, is more likely to end in adoption of an innovation (Rogers, 2003).

3.4.5 Research Utilization

      "Research utilization is the process of synthesizing, disseminating, and using research-

generated knowledge to make an impact on or a change in the existing practices in society"

(Burns & Grove, 2005, p. 634). Research utilization precedes evidence-based practice, which

integrates research with clinical expertise to deliver cost-effective and quality healthcare.

<div align="center">3.5 Propositions</div>

1. Communication affects research utilization.

2. Nurse affects research utilization.

3. Research affects research utilization.

4. Setting affects research utilization.

5. Communication affects nurse.

6. Communication affects research.

7. Communication affects setting.

8. Nurse affects communication.

9. Nurse affects research.

10. Nurse affects setting.

11. Research affects communication.

12. Research affects nurse.

13. Research affects setting.

14. Research utilization affects communication.

15. Research utilization affects nurse.

16. Research utilization affects research.

<u>3.6 Study Variables</u>

The only variable explored in this study is the emergency department nurses' reported perceived barriers to research utilization.

3.6.1 Conceptual definition

The nurses' reported barriers are their perceived barriers to research utilization within the structure of an organization.

3.6.2 Operational definition

The nurses' reported barriers are measured by a pencil and paper instrument, containing 29 items, developed by Funk et al. (1991a) called the *BARRIERS to Research Utilization Scale*.

CHAPTER 4

METHODS AND PROCEDURES

4.1 Introduction

This chapter introduces the quantitative, descriptive research design, setting, sample, and data collection methods. Ethical considerations are discussed. Methodological limitations are explained.

4.2 Research Design

This study used a quantitative, descriptive design. Descriptive designs seek to describe a phenomenon of interest (Burns & Grove, 2005). The phenomena of interest in this study are the barriers to research utilization by ED nurses. The descriptive design is necessary to provide an accurate account of the barriers reported by ED nurses when attempting to use research. Also, there is little research about ED nurses' perceptions of research utilization barriers, so a descriptive design helps to identify relationships and concepts to build a foundation for future studies. The quantitative research method is an objective and controlled way to study the variable. The variable was measured using the BARRIERS to Research Utilization tool. Descriptive statistical procedures were done on the data collected. The description of the variable led to an interpretation of meaning from the results that will lead to a development of hypotheses.

4.3 Setting and Sample

A purposive, convenience sample of registered nurses (RNs) practicing in the emergency department of a community hospital were asked to participate in the study. At the time of the study, the ED employed approximately 50 RNs. A power analysis was done to determine the number of participants needed to ensure statistically significant data (Burns & Grove, 2005). Using an alpha level of 0.05, anticipated effect size of 0.35, and desired statistical power level of 0.8; the power analysis yielded a minimum required sample size of 39 people.

4.4 Measurement Methods

The instrument chosen for this study is the BARRIERS to Research Utilization Scale. It is a 29-item Likert-type questionnaire that also includes three open-ended questions. Participants were asked to rank from one through five how they consider each item as a barrier to nurses using research. The rank labels are: 1) to no extent; 2) to a little extent; 3) to a moderate extent; 4) to a great extent and 5) no opinion. The data are scored by each of the four factors individually. For each participant, the average of each factor is calculated, eliminating the items that were answered "no opinion" or left blank.

The open-ended questions include an item that asks for participants' own barriers to research utilization. It also asks to rank these items. Item #34 asks the participant to rank these items as, "Greatest Barrier," "Second Greatest Barrier," and "Third Greatest Barrier." Item #35 asks participants for input on things that help facilitate research utilization.

There are two versions of this scale. The first version of the scale asks for general perceptions to research utilization barriers. The second version asks for responses based on the participant's own work setting (Funk et al., 1991a; Funk, Champagne, Weise, & Tournquist, 1991b). For this study, the second version was used because participants were asked for responses based on their own practice settings.

The instrument measures four factors: a) characteristics of the potential adopter (Nurse), b) characteristics of the organization in which the research will be used (Setting), c) characteristics of the innovation or research (Research), and d) characteristics of the communication of the research (Presentation). Table 4.1 shows the survey items grouped by factor characteristic. Characteristics of the adopter include the nurse's values, skills and awareness of research. Characteristics of the organization include the setting and barriers or limitations. Characteristics of the innovation describe the qualities of the research. Characteristics of the communication involve the presentation and accessibility of the research.

Table 4.1 Questionnaire Items Sorted by Factor Characteristic

FC	Key: FC – Factor Characteristic N – Nurse, P – Presentation, R – Research, S – Setting
N	The nurse is unaware of the research.
N	The nurse does not feel capable of evaluating the quality of the research.
N	There is not a documented need to change practice.
N	The nurse is isolated from knowledgeable colleagues with whom to discuss the research.
N	The nurse is unwilling to change/try new ideas.
N	The nurse feels the benefits of changing practice will be minimal.
N	The nurse sees little benefit for self.
N	The nurse does not see the value of research for practice.
P	Statistical analyses are not understandable.
P	The relevant literature is not compiled in one place.
P	Implications for practice are not made clear.
P	The research is not reported clearly and readably.
P	Research reports/articles are not readily available.
P	The research is not relevant to the nurse's practice.
R	The amount of research information is overwhelming.
R	The literature reports conflicting results.
R	The conclusions drawn from the research are not justified.
R	The research has not been replicated.
R	The research has methodological inadequacies.
R	Research reports/articles are not published fast enough.
R	The nurse is uncertain whether to believe the results of the research.
S	The nurse does not feel she/he has enough authority.
S	There is insufficient time on the job to implement new ideas.
S	Administration will not allow implementation.
S	The nurse does not have time to read research.
S	The nurse feels results are not generalizable to own setting.
S	The facilities are inadequate for implementation.
S	Physicians will not cooperate with implementation.
S	Other staff are not supportive of implementation.

Demographic data such as age, level of education, years of emergency nursing experience and job title enable further description of findings based on these categories. Job title data was analyzed using frequency, percent, and mode (Burns & Grove, 2005). Age and level of education were analyzed using frequency, percent, mode, median and range to describe the data. For the research variable, the interval/ratio data were described with frequency, percent, mode, median, range, mean, and standard deviation.

4.4.1 Characteristics of Tool

Burns and Grove (2005) stated reliable tools are consistent in what they measure. Funk et al. (1991a) have done several test-retest studies to determine that the reliability for the four factors of the scale is adequate. In one study, the tool was administered to 17 graduate students on two occasions one week apart. The Pearson correlations between the two sets of data ranged from .68 to .83, signifying adequate stability of the scales over time (Funk et al., 1991a), establishing reliability. Table 4.2 depicts the Cronbach's alpha score of each factor characteristic.

Table 4.2 Factor Characteristics Measured by the BARRIERS Scale

Factor Characteristic	Aspects of what is measured	# of items in scale	Cronbach's alpha
Nurse (Adopter)	The nurse's research values, skills and awareness	8	.80
Setting (Organization)	The barriers and limitations of the setting	8	.80
Research (Innovation)	The quality of the research	6	.72
Presentation (Communication)	The presentation and accessibility of the research	6	.65

(Funk, et al., 1991a, Funk, et al., 1995)

Validity is also an important characteristic to evaluate in a tool. Validity is the degree to how well an instrument measures the concept being observed (Burns & Grove, 2007). There are three types of validity: content, predicted, and construct validity. Funk et al. (1991a) state the content validity of this tool has been established based on a panel of judges and factor analyses performed. The authors concluded that these analyses indicated the BARRIERS tool had a consistent structure. This provides support for the tool's validity to measure barriers reported by nurses.

4.5 Procedure

Before using the BARRIERs to Research Utilization Scale, an agreement was signed to obtain permission to use the scale from the authors. As part of the agreement, raw data collected from this study will be submitted to the authors for their reliability and validity bank.

I met with the ED director to explain the research study, the purpose of the study, and the proposed procedure of the study. The director authorized the study to occur within the department. The director was given the study protocol and agreed to permit the staff to participate, once the study received approval through the Institutional Review Board (IRB). Written notification of the Chief Nursing Officer and other documents were submitted to the IRB and approval was granted from the IRB to proceed with the study.

I attended four different unit staff meetings during one month. I was given ten minutes to explain the research study, the purpose of the study, and the instructions for filling out the survey which included the tool and demographic information. I prepared a script to ensure all pertinent information was explained to the RNs. Forty-three RNs were given the demographic sheet and tool. They were asked to complete the surveys on their own time and submit them to the locked box provided. RNs were encouraged to ask questions regarding the survey and questions were addressed.

4.6 Ethical Considerations

The study proposal was presented to the institutional review board of the hospital system to be examined for adherence to ethical concerns and standards. Written approval was obtained from the institutional review board and the director of the nursing department to conduct the study in this agency. In addition, participants were given information about the purpose of the study.

The researcher maintained protection of human rights during this study. In respect to right to self-determination, participants were included in the study only after they were informed about the study. Because participants did not have to disclose any personal, identifiable information, their rights to privacy were protected. No identifying elements, as defined by the U.S. Department of Health and Human Services (2005), were obtained from the subjects. The specific uses of information and the identification of the researcher using the information were explained to participants before they were given the tool. Implied informed consent was utilized.

A statement on the tool indicated that completion and submission of the survey served as informed consent.

An assessment of the study's potential benefits was done based on previous studies. The main potential benefit from this study is to add to the body of knowledge for the profession of nursing by contributing to the BARRIERS Research Utilization Barriers research database (Funk et al., 1991a). Participants in this study also have the opportunity to enhance their understanding of the research process and become more aware of their own thoughts on barriers to research utilization.

4.7 Methodological Limitations

The sample used was a convenience sample and limited to only those who chose to participate in the study. The nurses who chose not to participate may have had meaningful input for the study. The missing data may skew the study findings and limit the understanding of the research variable. Although the limited sample size does not allow for generalization to a specific nurse population, findings may have some clinical significance and warrant further studies in this area.

In the future, the response rate may be improved by different methods. Initially, more surveys should be distributed to increase the actual number of potential responses. Perhaps attending more unit meetings or distributing surveys on the unit would increase the number of surveys distributed. Also, the respondents may have needed more time to complete and return surveys. In this study, respondents were given one month to submit a survey. Perhaps two months would give participants more ample time. Another tactic to receive more replies would be to post reminders around the unit. A simple flier reminding staff of the deadline to return surveys may help encourage participants to return their surveys.

CHAPTER 5

RESULTS

5.1 Introduction

This chapter describes the characteristics of the study sample and the responses to the questionnaire tool.

5.2 Sample Characteristics

The sample size did not meet the study's requirements to yield statistically significant results. Of the 43 surveys distributed, 19 were returned. This yields a response rate of 44%. Three surveys were incomplete and were not considered in the analysis of the survey data. Sixteen survey responses were analyzed for demographic characteristics and survey responses.

Sixty-three percent of respondents were full-time staff nurses that had baccalaureate degrees in nursing (n = 10) and 6% were certified in their specialty (n = 1) (See Table 5.1). The age of respondents ranged from 22 years to 42 years. The mean age of respondents was 33.9 years (SD 6.12). This is younger than the national average age of 46.8 years (American Association of Critical Care Nurses, 2007). The average years of experience in nursing was 7.5 years (SD 5.6). Years of nursing experience ranged from one year to 17 years.

Table 5.1 Demographic Characteristics

Characteristic		n	Percentage
Job Title	Staff RN	10	63%
	Team Leader	5	31%
	Administrative	1	6%
Status	Full-time	13	81%
	Part-time	1	6%
	PRN	2	13%
Education	Associate	3	19%
	Baccalaureate	13	81%
	Masters	0	0%
Certification	Yes	1	6%
	No	15	94%

5.3 Research Questions

The research question of this study was to describe the barriers faced by ED nurses when attempting to utilize research in their practice. Sixteen respondents completed the BARRIERS tool in its entirety. Statistical analyses were completed on these survey responses. Means of the responses were calculated. Items rated 5-No opinion were given a value of zero and not included in the calculation of the item mean. The items with greater value means were interpreted as barriers to a greater extent. The questionnaire used in this study may be found in Appendix A.

The study results indicated that the greatest barrier to research utilization is "The nurse does not feel she/he has enough authority" (mean = 3.31). This barrier pertains to the setting factor characteristic. The next greatest barrier was from the presentation factor characteristic, "Statistical analyses are not understandable" (mean = 3.13). The third greatest barrier was "The amount of research is overwhelming" (mean = 3.13) from the research factor characteristic. The next two barriers yielded a tie result. These two were "The relevant literature is not compiled in one place" (mean = 3.00) and "There is insufficient time on the job to implement new ideas" (mean = 3.00). They are from the factor characteristic of presentation and setting, respectively.

Forty percent of the top five responses pertained to the setting factor characteristic. Another 40% pertained to the presentation factor characteristic. Twenty percent pertained to the research itself. Of the top five barriers, none were related to the nurse factor characteristic.

The ten greatest barriers reported have similar factor characteristic properties. Half of the top ten barriers are attributed to the setting characteristic. Forty percent of the top ten barriers pertain to the presentation factor characteristic. Ten percent are attributed to research and nurse. Table 5.2 depicts all items with rank order, factor characteristic and means.

Table 5.2 Barriers to Research Utilization, Rank Ordered

Rank	FC	Barrier	Mean
1	S	The nurse does not feel she/he has enough authority.	3.31
2	P	Statistical analyses are not understandable.	3.13
3	R	The amount of research information is overwhelming.	3.13
4	P	The relevant literature is not compiled in one place.	3.00
5	S	There is insufficient time on the job to implement new ideas.	3.00
6	S	Administration will not allow implementation.	2.83
7	P	Implications for practice are not made clear.	2.75
8	S	The nurse does not have time to read research.	2.75
9	P	The research is not reported clearly and readably.	2.75
10	N	The nurse is unaware of the research.	2.69
11	S	The nurse feels results are not generalizable to own setting.	2.69
12	S	The facilities are inadequate for implementation.	2.67
13	S	Physicians will not cooperate with implementation.	2.67
14	P	Research reports/articles are not readily available.	2.63
15	N	The nurse does not feel capable of evaluating the quality of the research.	2.56
16	S	Other staff are not supportive of implementation.	2.47
17	N	There is not a documented need to change practice.	2.44
18	N	The nurse is isolated from knowledgeable colleagues with whom to discuss the research.	2.38
19	R	The literature reports conflicting results.	2.27
20	R	The conclusions drawn from the research are not justified.	2.23
21	R	The research has not been replicated.	2.20
22	R	The research has methodological inadequacies.	2.15
23	R	Research reports/articles are not published fast enough.	2.15
24	P	The research is not relevant to the nurse's practice.	2.06
25	N	The nurse is unwilling to change/try new ideas.	2.06
26	N	The nurse feels the benefits of changing practice will be minimal.	2.00
27	N	The nurse sees little benefit for self.	1.94
28	R	The nurse is uncertain whether to believe the results of the research.	1.93
29	N	The nurse does not see the value of research for practice.	1.75
Key	FC – Factor Characteristic, S – Setting, P – Presentation, N – Nurse, R - Research		

In addition to the 29 items, study participants were also asked in items #30-33, "Are there other things you think are barriers to research utilization? If so please list and rate each on the scale." There were four blanks for these responses. Nine of sixteen respondents (56%) supplied an answer for the first blank. Seven of sixteen respondents (44%) provided answers for the second blank, and two respondents (13%) supplied answers for the third blank. No respondents supplied a fourth answer for this question. Table 5.3 lists these participant-provided research utilization barriers grouped by factor characteristic.

Table 5.3 Research Utilization Barriers Provided by Participants

Factor Characteristic	Example of Barriers Provided by Participants
Nurse (Adopter)	The nurse does not understand the purpose of research. Nurse burn out of profession Placing more value on money rather than research
Setting (Organization)	Absence of research nurse in hospital No time to read articles Unable to implement change related to many factors such as insufficient staffing Research not available on unit No administrative support No educator in department Not time efficient especially in the ED Resources not readily available No full-time educator in ED
Research (Innovation)	The quality of the research Biased research
Presentation (Communication)	Jargon complicated Difficult to find article applicable to specific job

In item #34, participants were asked, "Which of the above items do you feel are the three greatest barriers to nurses' use of research?" Ten out of sixteen (62%) participants offered responses to this item. Five of the ten respondents (50%) chose items from #1-29. The other five (50%) chose from their own list of responses. The top five items that were perceived as greatest barriers, with a total of two votes each, were items: #3. Statistical analyses are not understandable, #5. The nurse is unaware of the research, #13. The nurse does not feel she/he has enough authority to change patient care procedures, #19. Administration will not allow

implementation, and #27. The amount of research information is overwhelming. Participants

were asked for input on what are things that facilitate research utilization in item #35. Ten

respondents (62%) offered answers on this item. The responses are listed in Table 5.4 grouped

by factor characteristic.

Table 5.4 Research Utilization Facilitators Provided by Participants

Factor Characteristic	Example of Facilitators Provided by Participants
Nurse (Adopter)	None
Setting (Organization)	In-services Facilities having up-to-date research articles readily available i.e. at the nurses station for nurses to read A willing administration that listens to staff Administration encouragement of research utilization More staff so you can dedicate time to research study Encouragement by administration to actually implement new research into practice More "push" or encouragement from research staff Someone on unit specific for research to do all the time consuming paperwork involved for RN Nurse try to minimize workload because he have so many other things to do
Research (Innovation)	Making research easy to implement in the work place Simplicity- if it does not take more time to accomplish To see results that it actually improves care
Presentation (Communication)	Articles that are relevant to the particular setting Easy to understand data and conclusion Summarizing the research findings into applicable actions that can be implemented

CHAPTER 6

DISCUSSION

6.1 Introduction

This chapter discusses the major findings of the study, nursing implications, and recommendations for further research studies.

6.2 Major Findings

6.2.1 Demographic Data

Because no research utilization studies were found that were specific to ED nurses, it is difficult to compare the demographics specific to ED nurses. However, when compared to nurses as a whole, the mean age was less than the national average. This makes it difficult to generalize the findings to a specific group of nurses.

6.2.2 The BARRIERS Scale

Interestingly, the data derived from this study closely mirrors results from previous research utilization studies. The greatest barrier, "The nurse does not feel she/he has enough authority" was also found in Funk et al's study (1991b). This barrier has not changed in the 17 years since Funk et al reported it in 1991. However, four out of the top five barriers in Funk et al's (1991b) study pertained to the setting factor characteristic. Only two of the top five in this study relates to the setting. This is encouraging, and may reveal that agencies are changing in order to encourage research utilization.

6.3 Conclusions

When compared to previous studies, there are not many differences between the results of this study and previous studies done 17 years ago. Despite the move towards evidence-based practice, nurses continue to perceive that they do not have the authority to implement change within their practice. Also, the complexity of understanding statistical analyses is still hindering nurses from comprehending and using research. Not only is the

research difficult for nurses to comprehend; there is also an overwhelming amount research information. Nurses either do not have time to process through all of this information, or it is simply too difficult. Likewise, nurses feel that there is an insufficient amount of time on the job to implement new ideas. In this time of nursing shortage, this may be a very prevalent problem.

6.4 Implications

This study design may be used as a pilot study for larger scale studies done on ED nurses. A larger sample size and demographics that are comparable to the ED nurse population are needed in future studies to make the findings generalizable to ED nurses. However, these findings indicate significant problems in the nursing profession that may be addressed by the administration and upper level management within these organizations. Administration must utilize strategies that promote EBP and make research utilization more accessible for nurses. EBP is becoming the standard of care in healthcare and these changes must be made now in order for hospitals to continue to provide excellent care to their patients.

An implication for future research studies includes suggestions for a larger scale study, with a larger sample size. This will help the study derive more statistically significant results. Also, more studies need to be done for ED nurses specifically. Furthermore, demographic data should be collected on the national population of ED nurses and survey demographics should be compared to the national data to see if the findings can be generalizable to this population.

6.5 Summary

This study allows us to better understand the general views of the perceived research utilization barriers ED nurses face. In this fast-paced, high-acuity environment, ED nurses can no longer afford to make poor decisions in patient care based on outdated practices. The standard now is to implement evidence-based practices that yield improved patient outcomes and decreases the cost of healthcare. With the support of administrative policies, EBP can be achieved at the unit level and even hospital-wide.

APPENDIX A

BARRIERS TO RESEARCH UTILIZATION TOOL

QUESTIONNAIRE: Barriers and Facilitators to Using Research in Practice

Articles in nursing journals indicate that nurses in practice do not use the results of research to help guide their practice. There are a number of reasons why this might be. We would like to know the extent to which *you* think each of the following situations is a barrier to nurses' use of research to alter/enhance their practice.

For each item, circle the number of the response that best represents your view. By completing this survey, you are consenting to participate in this research study. Thank you for sharing your views with us.

THIS IS A BARRIER

	To no extent	To a little extent	To a moderate extent	To a great extent	No opinion
1. Research reports/articles are not readily available	1	2	3	4	5
2. Implications for practice are not made clear	1	2	3	4	5
3. Statistical analyses are not understandable	1	2	3	4	5
4. The research is not relevant to the nurse's practice	1	2	3	4	5
5. The nurse is unaware of the research	1	2	3	4	5
6. The facilities are inadequate for implementation	1	2	3	4	5
7. The nurse does not have time to read research	1	2	3	4	5
8. The research has not been replicated	1	2	3	4	5
9. The nurse feels the benefits of changing practice will be minimal	1	2	3	4	5
10. The nurse is uncertain whether to believe the results of the research	1	2	3	4	5
11. The research has methodological inadequacies	1	2	3	4	5
12. The relevant literature is not compiled in one place	1	2	3	4	5
13. The nurse does not feel she/he has enough authority to change patient care procedures	1	2	3	4	5
14. The nurse feels results are not generalizable to own setting	1	2	3	4	5
15. The nurse is isolated from knowledgeable colleagues with whom to discuss the research	1	2	3	4	5
16. The nurse sees little benefit for self	1	2	3	4	5
17. Research reports/articles are not published fast enough	1	2	3	4	5
18. Physicians will not cooperate with implementation	1	2	3	4	5
19. Administration will not allow implementation	1	2	3	4	5
20. The nurse does not see the value of research for practice	1	2	3	4	5
21. There is not a documented need to change practice	1	2	3	4	5
22. The conclusions drawn from the research are not justified	1	2	3	4	5
23. The literature reports conflicting results	1	2	3	4	5
24. The research is not reported clearly and readably	1	2	3	4	5
25. Other staff are not supportive of implementation	1	2	3	4	5
26. The nurse is unwilling to change/try new ideas	1	2	3	4	5
27. The amount of research information is overwhelming	1	2	3	4	5
28. The nurse does not feel capable of evaluating the quality of the research	1	2	3	4	5
29. There is insufficient time on the job to implement new ideas	1	2	3	4	5

Are there other things you think are barriers to research utilization?
If so, please list and rate each on the scale:

30. _____   1   2   3   4   5

31. _____   1   2   3   4   5

32. _____   1   2   3   4   5

33. _____   1   2   3   4   5

34. Which of the above items do you feel are the *three greatest barriers* to nurses' use of research?

Greatest Barrier ....Item #: _____
Second Greatest Barrier ....Item #: _____
Third Greatest Barrier ....Item #: _____

35. What are the things you think *facilitate* research utilization?

_____

_____

_____

_____

This questionnaire was adapted from:

Crane, J., Pelz, D., and Horsley, J.A. *CURN Project Research Utilization Questionnaire*. Ann Arbor, Michigan: Conduct and Utilization of Research in Nursing Project, School of Nursing. The University of Michigan, 1977.

c. 1987, Funk, Champagne, Tornquist & Wiese

Please take a few moments to answer the following questions about yourself.

1. Job title: a) Staff RN

                        b) Team leader

                        c) Supervisor or other administrative role

2. Status: a) Full-time/TDA

                        b) Part-time

                        c) PRN

3. Education level: a) Associate

                        b) Baccalaureate

                        c) Master's and above

3. Certified CEN/CCRN: a) Yes

                            b) No

                            c) Other - Please specify _____

4. Age: _____

5. Years of Nursing Experience   _____

Thank you for contributing to this study! ☺

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BIOGRAPHICAL INFORMATION

Yen Hai Nguyen was born to Vietnamese refugees, Chi Van Nguyen and Amy Tran, on a small fishing boat over the Gulf of Thailand on October 24, 1981. After being sponsored to America in 1983, the Nguyen family stayed in North Central Texas.   Nguyen graduated in the top ten percent of her class from Naaman Forest High School in Garland, TX in May 2000. In October 2000, Nguyen became a Naturalized Citizen of the United States. She graduated from the University of Texas at Arlington in May of 2004 with a Bachelor of Science in Nursing. After completing a residency and two years at Parkland Health & Hospital System Emergency Services Department, the author decided to return to school full-time to complete her Master of Science in Nursing Administration. During this time, she remained at the bedside at Baylor Medical Center of Irving Emergency Department. Nguyen has earned national certifications in Emergency Nursing as well as Critical Care Nursing. She is an active member of Sigma Theta Tau International Honor Society of Nursing, Delta Theta Chapter serving as Webmaster and Chair of the Advisory Council. She is also a member of Emergency Nurses Association, and serves as the Webmaster for the Dallas Chapter. The author is also a member of Texas Nurses Association and has appeared in their promotional materials.

The author has an interest in advancing the profession of nursing by promoting evidence-based practice, scholarship, and research. She attributes her passion for nursing and compassion for humanity to the Holy Spirit.