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## Increasing Knowledge of a Weekend Staffing Policy Among Nurses Working Weekends

Fatima Bah  
*Walden University*

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# Walden University

College of Nursing

This is to certify that the doctoral study by

Fatima Bah

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

## Review Committee

Dr. Robert McWhirt, Committee Chairperson, Nursing Faculty  
Dr. Marilyn Losty, Committee Member, Nursing Faculty  
Dr. Mary Martin, University Reviewer, Nursing Faculty

Chief Academic Officer and Provost  
Sue Subocz, Ph.D.

Walden University  
2021

Abstract

Increasing Knowledge of a Weekend Staffing Policy Among Nurses Working Weekends

by

Fatima Bah

MSN, Walden University, 2014

BSN, Walden University 2012

Project Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Nursing Practice

Walden University

May 2021

## Abstract

The relationship between adequate nurse staffing and patient outcomes is well documented. The local organization identified a concern with appropriate weekend staffing due to repeated callouts by nurses. The purpose of this DNP project was to determine whether an educational intervention on the relationship between adequate staffing and positive patient outcomes, coupled with a review of the organization's policy regarding weekend staffing, increases knowledge and awareness among nurses working weekends. Benner's novice to expert theory and systems theory were used to ground this project. Following an invitational email, 20 individuals participated in the educational intervention. Most participants ( $n = 19$ ) were female, and nearly half ( $n = 9$ ) were aged 30 to 39. Participants completed a pretest knowledge survey before attending the educational intervention. Participants were also asked to rate their awareness of the organization's policy on a Likert scale between 1 (*No awareness*) and 7 (*Full awareness*). The mean pretest scores for knowledge and self-awareness were 3.90 ( $SD = 1.58$ ) and 4.90 ( $SD = 1.21$ ), respectively. Following the intervention, the mean posttest scores for knowledge and self-awareness were 5.80 ( $SD = 0.80$ ) and 6.55 ( $SD = 0.68$ ), respectively. A Wilcoxon Signed Rank test showed a statistically significant difference in pretest and posttest scores ( $z = -3.572, p < 0.01$ ) and in pretest and posttest awareness scores ( $z = -3.684, p < 0.001$ ). This DNP project has implications for meaningful contribution to social change by educating nurses on the relationship between staffing and patient outcomes and the weekend staffing policy of the organization.

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## Dedication

I would like to dedicate this project to my amazing and supportive husband Dr. Umaru Bah, children, Chernor Jylah Bah, Haja Mariam Bah, my sisters, Jariatu Jalloh for being my rock that provided me the unwavering support, love and for believing in me through this DNP project. Additionally, I dedicate this project in memory of my late loving mother Haja Mariama Jalloh who instilled strength, fearlessness and resilience that helped push me through this challenging and exciting time in my life. Thank you god for continuing to give me life and good health.

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I would like to thank my committee chair and mentors Dr. Robert McWhirt and Dr. Lyn S. Losty who kept me motivated through this journey to meet my goals and objectives. Your patience and support have helped me tremendously in keeping me on track. Thank you for providing me with such an amazing experience through your mentorship and guidance as it helped strengthen my academic skills and knowledge. I admire and respect you both. This experience meant a lot to me as it increased my confidence and desire in the successful completion of this project.

Lastly, I would like to thank Dr. Dina Krenzischek my preceptor, family members and friends for the continued support, encouragement and most importantly for being my cheerleaders through this journey.

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## Section 1: Nature of the Problem

### **Introduction**

The need for policy and procedures in today's healthcare organizations has never been greater (Abdallah & Langley, 2014) as policies and procedures play a vital role as the driving force behind implementing change. Ratnapalan and Lang (2020) posited that organizational sustainability depends on the creation of innovative policies and protocols that engage organization members at all levels in setting strategic and organizational goals. One area where organizational policies are often challenged is nurse staffing. Although research on the relationship between the level of staffing by nurses in hospitals and patient outcomes has traditionally been inconclusive, Needleman et al. (2011) found an association between registered nurse (RN) staffing and six specific patient outcomes. Specifically, increased licensed nurse-hours per day is associated with a shorter length of stay among medical patients (Needleman et al., 2011). Similarly, in a seminal study, Aiken et al. (2002) found that nurse-staffing ratios are paramount in explaining variation in hospital mortality. Moreover, Trinkoff et al. (2011) showed a significant relationship between nurse staffing levels and morbidity and mortality rates.

Interestingly, nursing staffing is not the only factor that can influence patient outcomes. Research has found that patients admitted over the weekend tend to have higher odds of mortality compared to patients admitted on weekdays (Bell & Redelmeier, 2001; Honeyford et al., 2018). This "weekend effect" is well documented in the literature as researchers have demonstrated poorer patient outcomes for those admitted or treated over the weekend across a variety of settings, diagnoses, and procedures (Furnivall et al.,

2018; Pauls et al., 2017; Sorita et al., 2014). Part of the weekend effect is often related to poor staffing issues among nurses (Bell & Redelmeier, 2001; Freemantle et al. 2012). Thus, the need for adequate staffing on weekends is paramount to positive patient and organizational outcomes.

The literature reflects several approaches to remedy chronic weekend staffing issues (Ta'an et al. 2020). For example, organizations often provide incentives for weekend work include increasing the hourly pay rates (shift differential), granting additional holiday time, and flex-scheduling as plausible solutions to addressing weekend staffing concerns (Miller et al., 2008). However, in some cases, the implementation of these strategies tends to vary by the location, scope, and services of the healthcare facility; the scope and experience of the nurses; and the financial health of the facility. For example, nurses with higher years of experience working in large regional healthcare facilities are more likely to be given incentives to work weekends as compared to new hires who may not receive an incentive at all (Goddard & Lees, 2012). Moreover, healthcare facilities in urban settings tend to be more flexible and accommodating with financial incentives for nurses who work weekends as compared to facilities located in rural areas who tend to operate with lower financial reserves and thin profit margins (Fangli et al., 2019).

One plausible strategy that many organizations utilize as “first-line of defense” with regard to weekend staffing includes an educational intervention on the relationship of staffing to patient outcomes and a review of weekend staffing policies to address chronic weekend staffing shortages (Goddard & Lees, 2012). By educating nurses on the

importance of adequate staffing in relationship to patient outcomes and a review of the organization's weekend staffing policy, it is hoped that the nurses will be able to understand the importance of adhering to the organization's weekend staffing policy and translate the knowledge into practice (Donovan et al., 2010). A supportive, proactive environment is necessary to assist nurses in understanding the need for staffing policies and procedures and their relationship to positive patient outcomes. By providing the necessary education to the nurses, it is hoped that the results of this project will make a significant contribution to nursing, patient, and increase knowledge of the policy among the nursing staff that will result in organizational outcome

### **Problem Statement**

The literature strongly suggests a direct relationship between adequate staffing and positive patient outcomes (Aiken et al., 2002; Needleman et al., 2011; Trinkoff et al., 2011). Milstein and Schreyoegg (2020) posited that organizations with appropriate staffing as measured by nurse-to-patient ratios, tend to have more positive patient outcomes and higher nurse satisfaction rates. The community-based healthcare organization of interest currently struggles with appropriate nurse staffing during weekends due to repeated callouts by nursing personnel. This decreases nurse-to-patient ratios and may result in poor patient outcomes. In meeting with key stakeholders and reviewing current data, the organization has attempted to address this challenge with little to no improvement in staffing levels. Thus, the purpose of this DNP project was to determine whether an educational intervention geared towards the relationship between adequate staffing and positive patient outcomes, coupled with a review of the

organization's policy regarding weekend staffing, increases knowledge and awareness among nurses working weekends in a hospital setting.

### **Purpose**

The purpose of this DNP project was to determine whether an educational intervention geared towards the relationship of adequate staffing to positive patient outcomes, coupled with a review of the organization's policy regarding weekend staffing, increases knowledge and awareness among nurses working weekends in a hospital setting. It is the hope that increased knowledge of the relationship between staffing and patient care outcomes, coupled with a review of the organization's policy regarding staffing, will translated into practice and result in positive patient and organizational outcomes.

### **Nature of the Doctoral Project**

To achieve the purpose of this DNP project, I conducted a comprehensive search of the current literature. Several databases, including the Cumulative Index to Nursing and Allied Health Literature (CINAHL) plus with full text, nursing and health databases, Medline with full text and Ovid, Pub Med, Google Scholar among other databases were accessed for relevant evidence-based strategies to help identify the knowledge gap staffing and patient outcomes among the nurses. The following search terms were used to identify the evidence: *weekend staffing, patient outcomes, organizational policy and procedures, and staff education*. Combinations of these search terms were also used.

Following Walden Institutional Review Board (IRB) approval, I worked with my preceptor to identify three to five specific stakeholders and work with them to gain

support and further insight into my organization has identified problem. With stakeholder input and the current literature, I created an educational intervention to specifically address the project question. Along with the educational program, a pretest and posttest were created to reflect the educational intervention. The stakeholders then reviewed each of the documents and established the Individual-Content Validity Index (I-CVI) and Scale-Content Validity Index (S-CVI) using a method developed by Polit and Beck (2006). Once content validity was established, the organization invited nurses working weekends to attend an educational intervention. Before the educational intervention, the nurses completed a pretest. Following the educational intervention, the posttest was given. I then compared the pretest scores with the posttest scores to determine whether there was an increase in knowledge and awareness among those nurses attending the intervention.

### **Significance**

The relationship between adequate staffing and patient outcomes is well documented in the literature (Aiken et al., 2002; Needleman et al., 2011; Trinkoff et al., 2011). By educating nurses on this important relationship, along with the organization's staffing policy, it was the hope of the organization that the newly found knowledge would translate into practice and result in improved compliance with weekend staffing over time. The stakeholders involved in the project included the chief nursing officer, unit managers, nurse educators, nurse practitioners, nurse directors, and staff nurses. These stakeholders were involved in guiding the project as the project addresses an organizational issue that has the potential to effectively achieve systemic organizational

change. Additionally, stakeholders for this project included the nurses working weekends. It is hoped that providing nurses with the needed education will result in reduced callouts and appropriate staffing levels.

Patients and families were also stakeholders in this project. Nurses play an important role in building rapport and relationships with patients and families that then translate into positive patient outcomes (Carlisle et al., 2020). For example, Ganz (2019) demonstrated that the more time a nurse spent at a patient's bedside, the better the nurse was able to identify patient and familial concerns and readily address those concerns. Further, nurses with busier schedules and higher patient loads because of poor staffing may not have the time to identify and address patient concerns. Thus, inadequate staffing could lead to poor patient outcomes such as patient satisfaction, nurse burnout, and even patient mortality (Lee et al., 2017). In this light, it is hoped that this project will result in positive patient and organizational outcomes, which aligns with Walden University's goals for developing social change agents and promoting positive social change by "helping improve the lives of the workers and increase nurse retention, thus improving the lives of patients through enhanced quality of care" (Walden University, 2019).

### **Summary**

Inadequacy of weekend nurse staffing appears to be a chronic national problem (Honeyford et al., 2018). The impact of the problem is often negative and includes low staff morale, patient care decline, and revenue decline for healthcare facilities (Fritz, 2005). The literature reflects several approaches to remedy chronic weekend staffing. This general DNP project proposed that a staff education approach would increase



compliance with weekend staffing guidelines at a national healthcare facility located in the Northeastern United States.

## Section 2: Background and Context

The purpose of this DNP project was to determine whether an educational intervention geared towards the relationship of adequate staffing to positive patient outcomes and a review of the organization's policy regarding weekend staffing increased knowledge and awareness among nurses working weekends in a hospital setting. The practice-focused question that guides the project is: Does an educational intervention geared towards the relationship of adequate staffing and positive patient outcomes and a review of the organization's policy regarding weekend staffing increase knowledge and awareness among nurses working weekends in a hospital setting? The question represents a recognition of the importance of nurse staffing education relating to staffing guidelines and policy implementations central to its success. This section will address the theories related to this project, the local background and context to the problem, and the roles of the DNP and DNP stakeholder teams.

### **Concepts, Models, and Theories**

Two theoretical frameworks have been identified to develop and support this DNP project: Benner's novice to expert theory and systems theory. Both theories provide a foundation for developing the educational intervention geared towards nurses working weekends at a local organization. Benner's theory presents a systematic way in which nurses learn through a linear process of novice to expert. Educating nurses on a specific topic should move the nurse up the process to become an expert, and the education can then translate into practice and result in positive outcomes. Systems theory is based on the assumption that each individual contributes to the larger "greater good." Thus,

educating nurses on the importance of staffing and positive patient outcomes allows them to understand their role in promoting positive patient and organizational outcomes. The application of both theories is critical to the success of this project.

### **Benner's Theory of Novice to Expert**

In the theory of novice to expert, Benner described nurses as individuals who should be experts in their field of work (Graf et al., 2020). The principles of this theory were modelled after Dreyfus and Dreyfus (1980), who developed a skill acquisition model from research involving chess players and pilots. Benner used and extended Dreyfus' model in order to understand how nurses developed expert understanding and capabilities within a clinical unit by describing that there is a systematic method in which nurses experientially learn and progress to the next stage (Benner, 2004). The theory describes a nurse's movement from novice (no clinical experience) to advanced beginner (following rules and developing initial understanding), competent (mastering time management and skilled in clinical practice), proficient (developing a broader perspective and higher skill acquisition), and expert (extensive background of knowledge and clinical experience; Benner, 2004).

Benner's theory grounds this project as the project is geared towards educating nurses to allow them to move through the phases from novice toward expert regarding the relationship of adequate staffing and positive patient outcomes. It is the hope of this project that once the nurses are exposed to the educational intervention, they will be able to understand the information and become competent in the information and as a result,

translate the information into practice in order to promote positive patient and organizational outcomes.

### **Systems Theory**

System theory in healthcare describes how a caregiver should adjust to changes in the environment to best fit in the healthcare system (Montgomery, 2011). For instance, in nursing, the system theory suggests that all nurses should work for the greater good. For a nurse to understand any part of the system, they have to understand the general system because it cannot be subdivided, as all of the components in the system are interrelated (Ratnaplan & Lang, 2019). As a result, nurses are challenged to understand the roles of each component in the system, as well as their own, and the contribution that each component makes to the organization. The systems theory acts as an interdisciplinary study of systems to discover patterns that can be used in all healthcare systems.

Systems theory relates to this project as it emphasizes the importance of education in the translation of the evidence as part of the DNP's role in addressing the concerns of clinical work (Montgomery, 2011). For example, nurses will have the opportunity to understand the importance of adequate staffing and its relationship to patient outcomes. As a result, it is hoped that the education will then be translated into practice and generate an improvement in the current system. Through the application of systems theory, the nurses who attend the educational intervention will understand the rationale for the staffing policy and in turn, actively engage in changing nursing practice to follow this important staffing policy (Montgomery, 2011).

### **Relevance to Nursing Practice**

Of the eight essentials detailed in the *Essentials of Doctoral Education for Advanced Nursing Practice* (American Association of Colleges of Nursing, 2006), Essential II aligns most significantly with this project. Termed “Organizational and Systems Leadership for Quality Improvement and Systems Thinking,” Essential II states that “organizational and systems leadership are critical for DNP graduates to improve patient and healthcare outcomes. Doctoral level knowledge and skills in these areas are consistent with nursing and health care goals to eliminate health disparities and to promote patient safety and excellence in practice” (p. 10).

This project is, at its core, oriented towards addressing an organizational problem in order to effectively achieve systemic change. This would require leadership skills that would dictate thinking outside the box while using evidence-based approaches towards solving chronic problems that are nonresponsive to traditional solutions or interventions. This is clearly the case in this specific healthcare setting. As is evident in explanations across various sections of this project, the problem of staff compliance with weekend staffing guidelines remains unsolved despite conducting training and workshops on the guidelines and creating incentives such as increased hourly pay and disincentives such as compelled makeup. This would suggest leadership that sees value in a holistic approach in identifying the problem, and an employee-empowerment collaborative approach to designing, implementing, and sustaining an effective solution.

## **Search Strategy**

I conducted a comprehensive literature review by exploring academic, full-text articles available online between 2010 and 2020. The databases utilized were CINAHL, MEDLINE, and EMBASE, to identify the articles. Keywords included *staffing*, *weekend staffing*, *patient outcomes*, *nurse education*, and *weekend staffing*. Articles depicting nurse education on weekend staffing were selected for inclusion. Articles excluded were those discussing general health practices, management crisis, and management–patient relations. Approximately 180 articles were identified, and after duplicates were eliminated, 20 articles were believed to be relevant. After reviewing the articles, I identified the following themes across the articles: staffing and patient outcomes, weekend staffing concerns, and strategies to ensure adequate staffing. The following sections will review each of these themes.

## **Staffing and Patient Outcomes**

High quality of care is the ultimate goal in most healthcare systems. As the largest healthcare workforce, nurses play a significant role in ensuring the safety and quality of care in most hospitals (Aiken, 2009). The literature is replete with studies demonstrating the relationship between nurse staffing and patient and nurse outcomes. In her sentinel study, Aiken et al (2002) demonstrated that nurses working in hospitals with higher patient-to-staff ratios were more likely to exhibit higher burnout scores and tended to be dissatisfied with their jobs. Moreover, there was a significant effect of nurse staffing on patient mortality, where increasing the number of RNs per patient significantly reduced patient morbidity and mortality (Aiken et al., 2002).

Similarly, in a 2017 study, Lee et al. found that patients were 95 percent more likely to survive when nurses followed hospital-mandated patient-to-nurse ratios. The Agency for Healthcare Research and Quality (AHRQ) posited that the “nurses’ vigilance at the bedside is essential to their ability to ensure patient safety;” thus, assigning increasing numbers of patients to nurses will eventually compromise a nurse’s ability to provide safe care (Malliaris et al., 2021). As a result, it is critical to patient, organizational outcomes that nurse staffing be at an optimal level, and that nurses be aware of the relationship between nurse staffing and patient outcomes. Thus, by educating nurses on the relationship of nurse staffing to patient outcomes, positive patient outcomes may be produced.

### **Weekend Staffing Concerns**

The concept of the weekend effect in hospitals has been well described in the literature. Honeyford et al. (2018) described the weekend effect as patients admitted or treated on the weekend tend “to have poorer outcomes across a variety of medical settings, diagnoses, procedures, and countries” (p. 2). Research has demonstrated that weekends tend to be less staffed as compared to weekdays and as a result, patients admitted on the weekends had a significantly higher overall mortality as compared to patients admitted during the week (Pauls et al., 2017). Specifically, the researchers found a significantly higher mortality for weekend patients associated with decreased staffing levels and no significant difference in mortality for weekend patients when staffing was similar to the weekday staffing (Pauls et al., 2017).

Similarly, Hoshijima et al. (2017) posited a 12% increase in odds for mortality among patients admitted on the weekends related to staffing, and Zhou et al. (2016) found the weekend effect among specific disease groups and related the effect to staffing and the need for urgent diagnosis and treatment. As presented earlier, the organization has identified the lack of adequate staffing on the weekends because of callouts; thus, the organization may be at risk for the weekend effect. It is hoped that by educating weekend nurses on the relationship between staffing and patient outcomes, the knowledge obtained by the nurses will translate into practice and result in decreased callouts and an increase in positive patient outcomes.

### **Strategies to Ensure Adequate Staffing**

It is important to note that research has demonstrated that patient outcomes are influenced by the systems and organizations in which nurses work and the climate and culture created by the leadership in that setting (Clarke et al., 2008). Thus, effective staffing strategies to ensure adequate nursing staffing are essential. Aiken et al. (2012) posited that hospitals with good work environments and better professional nurse staffing have more satisfied patients and improving hospital work environments could be part of an organizational strategy to improve patient outcomes and retain quality nurses. For example, Aiken et al. has demonstrated that better nurse-to-patient ratios are associated with improved patient outcomes such as mortality and patient satisfaction. In light of this, organizations that identify strategies that enhance or improve nursing staffing may see improved patient outcomes. Educating nurses on the importance of staffing and its relationship to patient outcomes, as well as the nursing staff policy with regard to



callouts, may be a creative and effective strategy to maintain adequate patient ratios, which could, in turn, promote positive patient outcomes.

### **Local Background and Context**

The community-based healthcare service facility is located in the northeast portion of the United States. It opened in 1870 with 178 beds. The hospital provides general services to the community and specialize in complex diseases that require emergency attention in the Emergency Department (ED). The hospital specializes in testing and treating minor illnesses, maternity services, and minor surgeries. Recently, hospital leadership identified a concern with appropriate nurse staffing during weekends due to repeated callouts by nursing personnel. To address this concern, key stakeholders met and determined that an educational intervention geared towards the relationship of adequate staffing to positive patient outcomes and a review of the organization's policy regarding weekend staffing to increase knowledge and awareness among nurses working weekends in a hospital setting may assist the organization in addressing this concern. The data were collected by the organization for the project and provided the results to the DNP student for analysis and recommendations.

### **Role of the DNP Student**

DNP-prepared nurse graduates are known to be change agents and innovators who create sustainable care and practice models to meet organizational needs for equitable, affordable, and quality health care across the wellness to illness continuum (American Association of Colleges of Nursing, 2006). The role of the DNP focuses on clinical practice, application, and integration (Trautman et al., 2018). Given this, as part

of this project, I worked closely with the DNP stakeholder team to complete this project with the hope of addressing this complex issue that currently faces the organization. Given that DNP-prepared nurses possess the skill and knowledge to translate the current evidence into practice, I used the evidence to create an educational intervention that has the potential to change current practice based on the data provided by the organization.

### **Role of the DNP Team**

The DNP team was essential in this project and required a multidisciplinary approach. The primary responsibility of the team was to assist and guide me as I identified suitable solutions for the problem of weekend staffing. The DNP team had numerous skills and knowledge on clinical practice, advocacy, leadership in health facilities, and implementation of significant strategies, and thus were able to provide a perspective on the educational intervention. I contacted the team members via email and asked to establish the content validity of the educational program, the pretest, and the posttest (Polit & Beck, 2006). This team approach maintained open communication, share ideas, and contribute from the development of the program to implementation and evaluation.

### **Summary**

Two theoretical frameworks were identified to help develop and support this DNP project. Roles of the DNP student and team were presented in order to provide a foundation for developing the educational intervention geared towards nurses working weekends at this local organization. Section 3 will focus on the implementation of the project and the analysis of the data.

## Section 3: Collection and Analysis of Evidence

### **Introduction**

The purpose of this DNP project was to determine whether an educational intervention geared towards the relationship between adequate staffing and positive patient outcomes and a review of the organization's policy regarding weekend staffing increases knowledge and awareness among nurses working weekends in a hospital setting. The project will be conducted at a community hospital located in the Northeast United States.

### **Practice-Focused Question**

The practice-focused question guiding this study was to determine if an educational intervention geared towards the relationship between adequate staffing and positive patient outcomes and a review of the organization's policy regarding weekend staffing increases knowledge and awareness among nurses working weekends in a hospital setting.

### **Sources of Evidence**

To address weekend nurse staffing at the hospital, I conducted an electronic search on studies relevant to the topic. Databases containing information on relevant studies were utilized, including CINAHL, MEDLINE, and EMBASE, to identify the articles. The review of articles from these databases was done to compare the current weekend staffing status with past studied occurrences. Reviewing the literature provided comprehensive information on ideas used in the past to enhance weekend staffing and causes of failed weekend staffing. A broad literature review was steered by exploring

academic, full-text articles available online between 2010 and 2020. Keywords included *staffing, weekend staffing, patient outcomes, nurse education, and weekend staffing*.

In addition to the literature review, the other source used to address the practice-focused question posed by the DNP project included a team of stakeholders chosen by the DNP student and the project team. These stakeholders assisted in guiding the project as well as reviewing the educational intervention, pretest, and posttest to establish the content validity using the I-CVI and S-CVI (Polit & Beck, 2006).

### **Participants**

Following IRB approval and approval from the stakeholder group, a convenience sample of RNs working weekends at the local organization were invited to participate in the educational intervention supported by the organization. Flyers were posted in convenient locations (e.g., the staff break room) with the times and dates of the intervention. The educational intervention was offered multiple times to enhance attendance. Participation in the intervention was voluntary and the participants did not receive any type of compensation to attend. A participant had the opportunity to leave the intervention at any time if they were not comfortable attending the intervention.

### **Procedures**

Following an extensive literature review, I developed an educational intervention geared towards the relationship of adequate staffing and positive patient outcomes and a review of the organization's staffing policy. A pre- and posttest was developed that reflected the content of the educational intervention and was provided to the organization for their review and implementation. Once these materials were developed, the DNP

stakeholders reviewed and established the I-CVI and S-CVI (Polit & Beck, 2006). If content validity was not achieved, comments from the stakeholders would be collected and the materials edited until content validity was achieved.

Once content validity was established, RNs working weekends in the organization were invited to participate in the educational intervention. The educational intervention was offered both Saturday and Sunday at different times in order to maximize attendance. It was estimated that there are 20 nurses working weekends and at least 60% of the nurses would be interested in attending. Participation in the intervention was voluntary, and the participants were not compensated for attending the intervention.

Prior to the start of the intervention, each participant was asked to create a unique identifier for his or her pretest and posttest that was only known to that person and administered by the organization. Prior the intervention, each participant was asked to complete a pretest, which included five demographic questions (i.e., age, gender, education, years in nursing, and years in current position) to describe the sample; 10 true/false questions focused on the relationship of adequate staffing and positive patient outcomes; one Likert-style item asking the participant to rate their awareness of the hospital's weekend staffing policy on a scale of 1 (*No awareness at all of the staffing policy*) to 7 (*Full awareness of the staffing policy*). Following the completion of the pretest, the educational intervention was presented.

At the completion of the educational intervention, the participants were asked to complete the posttest. The participants were asked to identify their posttest using their unique identifier. The posttest contained the same 10 true/false questions as the pretest, as

well as the one Likert-style question regarding the participant's awareness. The unique identifier was used to match the participant's pretest with their posttest to determine whether there was a difference in scores (total number correct), which would serve as a proxy for increased knowledge. No identifying information was collected, and all data were reported taken together.

### **Protections**

This project was of a minimal risk to the participants, and the human subjects involved were protected. The Walden IRB approval number for this study (11-18-21-0153149) was obtained for a general DNP project using data provided by the organization. Participation was voluntary, no identifying information was asked or collected, and all data were reported taken together. All questionnaires (pretest and posttest) were identified by a unique identifier known only to the participant and after completion, were kept in a locked draw in a locked office and secured by the organization.

### **Analysis and Synthesis**

Each pretest was matched to its posttest using the participant's unique identifier. I reviewed each pretest and posttest and used the total number of questions answered correctly to create a pretest score and a posttest score. Demographic data along with the pretest and posttest scores were entered into an Excel spreadsheet and uploaded into SPSS for analysis. Descriptive statistics were used to describe the sample and inferential statistics were used to determine whether there was a difference in pretest and posttest

scores regarding knowledge and awareness. No identifying data were collected and all data were reported in the aggregate.

### **Summary**

Using the existing literature, an educational intervention was created to answer the project question: Does an educational intervention geared towards the relationship of adequate staffing and positive patient outcomes and a review of the organization's policy regarding weekend staffing increases knowledge and awareness among nurses working weekends in a hospital setting? In Section 3, the data collection plan and analysis plan were presented. In Section 4, I will present the findings and implications of this project.

#### Section 4: Findings and Implications

Many researchers have demonstrated a direct relationship between adequate nurse staffing and positive patient outcomes (Aiken et al., 2002; Needleman et al., 2011; Trinkoff et al., 2011). Moreover, additional studies have demonstrated that patients admitted over the weekend tend to have higher odds of mortality as compared to patients admitted on weekdays (Bell & Redelmeir, 2001; Honeyford et al., 2018). As a result, an organization that struggles with weekend staffing among nurses may be at risk for poorer patient outcomes as compared to an organization that does not (Sorita et al., 2014). Despite the implementation of many approaches to address the weekend staffing issue, the local organization of interest found that there was little to no improvement in nurse staffing levels on the weekends. Thus, the purpose of this DNP project was to determine whether an educational intervention focusing on the relationship between adequate staffing and positive patient outcomes, coupled with a review of the organization's policy regarding weekend staffing, increased knowledge and awareness among nurses working weekends in the hospital setting.

Given the purpose of the DNP project, I conducted a comprehensive review of the current scholarly literature through the Walden University online database by exploring academic, full-text peer-reviewed articles and dissertations published within the last 5 years. This review included a thorough search of the CINAHL, EBSCO, and Thoreau databases for articles that were specific to the practice-focused question. This evidence provided insight into the significance of the need for nurses to understand the importance of staff education empowerment management approach to increase the nurses'



knowledge regarding the relationship between adequate staffing and positive patient outcomes and the organization's weekend staffing policy. The content validity of the educational intervention, pretest, and posttest was established by the DNP team.

Descriptive statistics were used to describe the sample, and inferential statistics were used to determine whether there was a difference in pretest and posttest scores regarding knowledge and awareness.

### **Findings**

Following an exhaustive literature review and creation of an educational intervention focused on the relationship between adequate nurse staffing and positive patient outcomes, as well as the weekend staffing policy, the DNP project stakeholder team reviewed the educational intervention, pretest, and posttest to establish the I-CVI and S-CVI (Polit & Beck, 2006). The average I-CVI was 0.91 and S-CVI/UA was 0.93, both meeting an acceptable content validity rating for both item level and scale-level content validity (Polit & Beck, 2006).

An invitational email was sent to 25 nurses to participate in the educational intervention. Twenty of the nurses agreed to participate for an 80% response rate. Four educational sessions were provided to allow multiple opportunities to accommodate the schedules of the participants. Once the participants agreed to attend the educational intervention, they were asked to complete the pretest. As part of the pretest, the participants were asked to create a unique identifier so that the individual's pretest may be matched with their posttest. The pretest consisted of five demographic questions in order to describe the sample; 10 true/false questions that were scored based on number of

correct answers, and one question asking about awareness of the weekend scheduling policy. Following the educational intervention, the participants were asked to complete the posttest using their unique identifier.

A total of 20 individuals ( $N = 20$ ) participated in the educational intervention for an 80% response rate. Most of the participants ( $n = 19$ ) were female (95%). The majority were aged either 30 to 39 ( $n = 9$ ) or 20 to 29 ( $n = 8$ ); three of the participants were between the ages of 40 to 49. From an educational perspective, 90% of the participants ( $n = 18$ ) were BSN-prepared and two of the participants (10%) had their associates degree. Forty-five percent of the participants ( $n = 9$ ) had 1 to 5 years of experience; 40% ( $n = 8$ ) had 6 to 10 years of experience; and 15% ( $n = 3$ ) had 11 to 15 years of experience. Sixty percent of the participants ( $n = 12$ ) were in their current position for 1 to 5 years: 30% of the participants ( $n = 6$ ) have been in their current position 6 to 10 years; and one of the participants have been in their current position for 11 to 15 years. One of the participants did not respond to the question regarding years of experience.

The mean pretest score for knowledge was 3.90 ( $SD = 1.58$ ) with a range of scores between 1 and 6. Participants were also asked to assess their awareness of patient care guidelines using a Likert scale between 1 and 7, with 1 = *No awareness at all* and 7 = *Full awareness*. The mean pretest self-assessment of patient care awareness guidelines was 4.90 ( $SD = 1.21$ ) with a range of responses between 2 and 7. Following the educational intervention, the participants completed the posttest. The mean posttest score for knowledge was 5.80 ( $SD = 0.80$ ) and the range was 4–7. The participants'

postintervention assessment of their awareness of 4.90 demonstrated a mean of 6.55 ( $SD = 0.68$ ) with a range between 5 and 7.

Using a Wilcoxon Signed Rank test to estimate the data showed a statistically significant difference in pretest and posttest scores ( $z = -3.572, p < 0.01$ ) indicating an increase in knowledge between the pretest and the posttest. Similarly, using a Wilcoxon Signed Rank test to estimate the data revealed a statistically significant difference in pretest awareness and posttest awareness ( $z = -3.684, p < 0.001$ ), indicating an increase in awareness.

### **Implications**

The findings of the DNP project show that the educational intervention increased the knowledge and awareness of the relationship between staffing and patient outcomes as well as the weekend staffing policies among those who participated in the educational intervention. This is consistent with the current literature that demonstrates education increases nurses' knowledge of the nurses and patient care needed majorly on the weekends (Aiken et al., 2002). By increasing the knowledge and awareness among nursing staff on these important topics, it is hoped that the knowledge and awareness will then be translated into practice, and as a result, will improve weekend staffing and in turn, improve patient and organizational outcomes.

Additionally, the results of this project demonstrate the need for ongoing education on an annual basis to maintain the nurses' knowledge and awareness of this important information. Policies provide guidance, standardization, and consistency in practice, and failure to comply with policies may place the nurse, patient, and institution

at risk (Carlisle et al., 2020). Thus, the need for policies in an organization is paramount; however, educating nurses on those policies is equally important to ensure that the policies are well understood and implemented into practice.

This DNP project has implications for meaningful contribution to social change by translating current existing evidence to solve an existing problem in the practice setting. By educating nurses on the relationship between staffing and patient outcomes, and the weekend staffing policy of the organization, it is hoped that the newly acquired knowledge will be translated into practice and potentially reduce the number of callouts on the weekends. Further, it is hoped that by maintaining adequate staffing, positive patient and organizational outcomes will increase.

### **Recommendations**

The results of this project allow me to make the following recommendations. First, the increase in the scores from pretest to posttest demonstrate that knowledge and awareness was increased among the nurses who attended the intervention, and it is hoped that the knowledge is then, translated into practice. As a result, it is recommended that educational interventions of this type be used to enhance nursing knowledge with the hope of that knowledge being translated into practice.

The educational intervention in this project targeted only one medical-surgical unit in the organization. A second recommendation is that the educational intervention be made available to all units in the organization to be shared with staff. Moreover, the organization would also benefit from incorporating the information provided in the educational intervention into a module on their training site so that all personnel can

access the intervention in order to increase the knowledge and awareness across all providers and staff in the organization. Last, additional educational modules are suggested to be developed and presented as mandatory training on an annual basis to improve knowledge and awareness across all disciplines with the hope of the information translating into practice for the betterment of patient and organizational outcomes.

### **Contributions to the Doctoral Project Team**

The doctoral project team that supported this project included many individuals. First, the site preceptor was responsible for granting access to the nursing staff and identifying the necessary and appropriate hospital policies and procedures to include in the educational intervention. The site educator was responsible for approving the project and access to nursing staff email addresses. The charge nurse on the designated unit assisted in gathering the completed pretest and posttests in order to ensure anonymity of the participants. Last, the members of the DNP Project Team reviewed and established the content validity of the educational intervention, pretest, and posttest. While these key members each contributed to the project individually, collectively these individuals had a vested interest in the success of the project. They provided guidance and approval for the educational intervention and assisted in establishing the content validity of the material. Without them, this project would not have been successful.

### **Strengths and Limitations of the Project**

Throughout the project, there were several strengths that contributed to its success. First, the host site granted me access to two medical-surgical units, which contributed to having 20 participants in the DNP project, representing an 80% response

rate. This demonstrated an eagerness for addressing this important gap in practice. Additionally, the nurses expressed a willingness to participate given that the data being collected was anonymous. Last, a strength of this project was the cooperation and support of the DNP Project Team.

Despite these strengths, there were some limitations to this project. First, COVID-19 was a limitation, despite the strong response rate, as access to hospital staff was limited. Second, the nurses who were targeted for the project were recruited from a convenience sample of nurses belonging to a single hospital organization; thus, the results may not be generalizable to other hospital organizations or nurses. Finally, the sample size of 20 participants may not adequately represent the general nursing population of the project hospital. It is recommended that this project be replicated with a larger sample, perhaps across multiple hospital organizations, to validate results.

### **Summary**

In this section, I reviewed the findings, implications, strengths, limitations, and recommendations for the DNP project. The section has demonstrated the validity of the practice-focused question and addressed the gap in practice identified. Further, recommendations for project replication and additional interventions have been identified. Section 5 will address the dissemination plan as well as practitioner self-assessment.

## Section 5: Dissemination Plan

The purpose of this DNP project was to determine whether an educational intervention focused on the relationship between adequate staffing and positive patient outcomes, coupled with a review of the organization's policy regarding weekend staffing, increased knowledge and awareness among nurses working weekends in the hospital setting. As with any project, it is critical that the results of this project be disseminated to high-ranking stakeholders for next steps to be identified and implemented among target users. Additionally, it is important that the findings of the project be disseminated among those who participated in the educational intervention. Other plans to disseminate this project include possible journal publication or presentation at a local professional organization. The project itself will be uploaded into Walden's Library and available to others through ProQuest.

### **Dissemination**

Given the results, it is important to disseminate the findings of the project. First, the findings from this DNP project will be disseminated to key nursing leaders on the med-surg unit in which the project took place. Second, it is important that the findings of this project be disseminated to other units and among key stakeholders such as, the chief nursing office, directors and federal government agencies specifically dealing with hospitals and patient satisfaction and all the AHRQ. Additionally, I plan to disseminate my project after graduation through presentations at local nursing organization meetings in my area. While the project itself will be uploaded and made publicly available through

Walden Library / ProQuest, I plan to submit my DNP project for publication in journals such as the *Journal of Doctoral Nursing Practice* or the *Journal of Nursing Education*.

### **Analysis of Self**

#### **As a Practitioner**

Understanding nursing practice and its influence on patient care has allowed me to understand that many of the issues faced by nurses need to be addressed through education. My experience with this project has taught me that by identifying an issue, understanding the issue and creating an intervention to resolve the issue is a plausible solution. As demonstrated by this project, by educating nurses and increasing knowledge that knowledge can be translated into practice.

#### **As a Scholar**

During my tenure as a DNP student and leading this DNP project, I felt pride in my ability to translate evidence into practice and share the reasoning for the importance of making simple changes that can have a cascading effect on patient care and outcomes. As a result, a continued desire to educate nursing professionals emerged and changed the focus from administration to academia after graduation. I am passionate about nursing professional practice and igniting the spark within each nurse to propel our profession as equals in healthcare.

#### **As a Project Manager**

There are always adjustments required, and leading this project enhanced my project management proficiency. Each step of this DNP project required both planning and flexibility. Organization, determination, and commitment to the goal have been



critical attributes throughout the project. The DNP project required significant project management and honed my leadership skills. A final leadership attribute learned through this project is adaptability.

### **Completion of Project**

Completing this DNP project has been a challenge for me; however, the challenge did not prevent me from achieving my goal. I have learned the value of the DNP role in terms of identifying and translating the existing evidence into practice and the value of education in increasing knowledge and awareness among staff nurses. However, it became evident through this experience that while education is an excellent initial step, it is just one step to creating positive patient and organizational outcomes. Therefore, this educational intervention will be used as a first step for additional DNP projects with the goal of building upon my education in order to allow for transition into practice to occur.

### **Summary**

Nurses are empowered to provide the highest quality of care to the patients served through the work environment that the nurse leader fosters; leadership development of this vital role must be addressed. This DNP project aims to bring to light the need and provide an initial step for this development to see that frontline workers get the best out of their career development programs.

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