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Effect of Educational Training on Nurse Leaders' Knowledge, Attitude, and Behavior Toward Suicide Prevention

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This is to certify that the doctoral dissertation by

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Walden University
2020

Abstract

Effect of Educational Training on Nurse Leaders' Knowledge, Attitude, and Behavior

Toward Suicide Prevention

by

Ruth Odochi Ifediora

MSN, Grand Canyon University, 2017

BSN, University of Texas–Arlington, 2014

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Suicide is the 10th leading cause of death among adults in the United States and one of the top 10 most commonly occurring events that lead to serious injury or death in the hospital. Nurse leaders who are not working in psychiatric facility are instrumental in promoting culture of safety to mitigate adverse outcomes like suicide. The purpose of this single group pre- and post-test study, guided by the theory of planned behavior, was to determine the effect of the American Psychiatric Nurses Association Competency-Based Training for Suicide Prevention (Acute Care Setting Course) on the knowledge, attitude, and behavior (KAB) of 37 nurse leaders toward suicide prevention. KAB of the nurse leaders was measured using the Emergency Department Safety Assessment and Follow-Up Evaluation. Data were matched and analyzed using the Wilcoxon sign ranked test, which showed a statistically significant difference in the nurse leaders' pre- and post-test knowledge and behavior toward suicide prevention. Results were mixed about the nurse leader's attitude toward suicide prevention. Two ED-SAFE questions measured the nurse leader's attitude toward suicide prevention. "Universal screening for suicide will result in increased psychiatric evaluation." (pre-test $=3.0$, posttest $=4.0$, $z = -3.619$, $p < 0.001$, $r = 0.60$). "Universal screening for suicide will slow down clinical care (pre-test $=1.0$, posttest $=1.0$, $z=- 1.020$, $p< .308$, $r= 0.17$).Future research should focus on evaluating the impact of suicide prevention training on the nurse leaders' KAB toward suicide prevention using positive patient outcomes to evaluate the education's effect over time. Nurse leaders' training in suicide prevention is imperative to empower nurse leaders in promoting suicide prevention in hospitals, which will effect positive social change.

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Dedication

This study is dedicated to God and to my late parents, HRN Eze T.O. Atumah and Deaconess Ugoeze Comfort Atumah Aguagba.

Acknowledgments

I will like to honor GOD whose mercy and grace has been sufficient on this amazing journey. My appreciation goes to my faculty chair Dr. Leslie Hussey, Dr. Martin, and all the faculty members who contributed to the success of this journey.

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Chapter 1: Introduction to the Study

The Joint Commission (TJC) classifies suicide in the hospital as an event that must be prevented at all costs (Platt, Arensman, & Rezaeian, 2019; TJC, 2019). Suicide has been depicted as a global public health issue requiring a comprehensive, collaborative prevention approach (Centers for Disease Control and Prevention [CDC], 2019, Platt, Arensman, & Rezaeian, 2019, TJC, 2019). A more recent requirement in the acute setting by TJC is a mandatory universal suicide screening (TJC, 2016). Nurses, who make up the majority of healthcare staff, are required to perform universal screening to ensure patient safety (American Association of College of Nursing, 2019, Haddad & Toney-Butler, 2019; Ortiz, 2018; TJC, 2016; Snavely, 2016). Nurse leaders are instrumental in promoting the policies that advance patient safety, including suicide prevention in hospitals (Rape, Mann, Schooley, & Ramey, 2015).

The skill set required to address the needs of suicidal patients includes understanding of suicide phenomenology, positive attitude, and appropriate behavior (practice) toward prevention suicide (American Psychiatric Nurses Association [APNA], 2018). But a review of the literature did not reveal research on nurse leaders' competency or training in suicide prevention. Given the current emphasis around suicide prevention, there is need to assess the knowledge (understanding of the phenomenology of suicide and suicide prevention), attitude (individual perception and beliefs about suicide and suicide prevention), and behavior (ability to demonstrate skills such as advocating for policies that mitigate suicide, performing appropriate assessment and initiating prompt interventions that save lives; Baggio et al., 2019; De Berardis, Martinotti, & Di

Giannantonio, 2018; Kuhlman et al., 2017) of this population toward suicide prevention.

This research addressed the knowledge, attitude, and behavior (KAB) of nurse leaders

toward suicide prevention. Further, evidence supports that suicide prevention training

contributes to increasing staff knowledge, which impacts staff attitude and behavior

toward suicide prevention (Maina, Bukusi, & Kumar, 2019; Navin, Kuppyli, Menon, &

Kattimani, 2019). Therefore, this study may equip the nurse leaders in the hospital with

knowledge, attitude and skills that promote suicide prevention, promote a safe practice

environment, and improve patient outcomes and determine the effect of suicide

prevention trainings on the level of knowledge of nurse leaders.

Chapter 1 contains the background, problem statement, the purpose of the study,

research questions and hypotheses, theoretical framework, and the nature of the study.

Additionally, this chapter describes the relevant definitions, the assumptions that inform

the study, the scope and delimitations, and the limitations. The chapter ends with the

significance of this study to clinical practice and patient outcomes.

Background

Nurse leaders interact with their environment, profession, and colleagues to shape

the face of healthcare based on evidence, education, and experience (Institute of

Medicine [IOM], 2011). Nurse leaders should engage and commit to ongoing knowledge

acquisition to be able to adapt to the evolving healthcare. Nurse leaders influence positive

patient outcomes and improve safety across the trajectory of the practice environment

(Adams, Djukic, Gregas, & Fryer, 2018). Studies have shown that nurse leaders influence

staff nurses to action that results in positive change through their KAB (Adams et al.,

2018; Arkansas State University, 2016; Charlene Ingwell-Spolan, 2018; Susanne, Katie & Lisbeth, 2012). Knowledge of healthcare delivery, which includes knowing the dynamics of suicide prevention, is a vital element in achieving patient safety environment with zero suicide and other related safety issues. Therefore, to influence change and bring about safe practices toward suicide prevention, more research is needed to evaluate nurse leaders' KAB toward suicide prevention.

Suicide prevention refers to the initiatives, strategies and approaches targeted toward creating awareness, instituting interventions, and monitoring the responses to save a life (Stone et al., 2017). Promoting suicide prevention in the hospitals is imperative to save lives. However, research has shown that some hospitals do not have a suicide prevention plan (VanSickle et al., 2016). Further, some hospitals have nurse leaders who are skeptical on the preventablility of suicide (Betz, Brooks-Russell, et al., 2018). However, barriers to suicide prevention such as negative staff attitude, lack of knowledge of the suicide epidemiology, and lack of confidence among nursing staff can be resoved by having suicide prevention training for practicing nurses and change in currculum for student nurses (Nebhinani, Jagtiani, Chahal, Nebhinani, & Gupta, 2017; Pope, Slovak, & Giger, 2016, Puntil et al., 2013). However, there is gap in the scientific literature that addresses the effect of suicide prevention training on the KAB of nurse leaders (Betz, Brooks-Russell, et al., 2018). Therefore, this study was intended to provide evidence on the KAB of nurse leaders before and after participating in APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course).

Problem Statement

The incidence of suicide continues to rise in the United States. Suicide was identified as the 10th leading cause of death among adults in the United States (CDC, 2018). The suicide rate in the United States is at 13.5 per 100,000 deaths with 45,000 Americans dying by suicide each year (CDC, 2018). Further, suicide within U.S. hospitals are estimated at 49 to 65 cases each year (Williams, Schmaltz, Castro, & Baker, 2018). However, TJC reported that between 2016 and 2017, 89 suicides occurred in the hospital setting (Knowles, 2018). Similarly, various studies have found that 75% of those who died by suicide had a therapeutic encounter with a healthcare provider such as nurses a month before their death (Bolster, Holliday, Oneal, & Shaw, 2015; Graves et al., 2018). Suicide occurrence in the hospital accounts for the top 10 most commonly occurring sentinel events; a recent report released by the TJC rated suicide as fourth in the sentinel event rating with 89 suicides (Knowles, 2018).

There is extensive literature on the impact of nursing staff on suicide and suicide prevention. Most studies have identified that nursing staff lack of knowledge, negative attitude, and poor practices (behavior) toward suicide are barriers to effective suicide prevention (Bolster et al., 2015; Heyland et al.,2018; Neville & Roan, 2013; Puntil et al., 2013). Thus, TJC encourages the healthcare leaders to have knowledge of suicide prevention strategies (TJC, 2019). Furthermore, the United States has declared suicide prevention a public health priority requesting for a comprehensive suicide prevention approach and universal screening within hospitals (Henderson, 2018, TJC, 2016).

Nurse leaders occupy a strategic position and that their decisions, practice, and beliefs shape the direction of future suicide prevention strategies (Betz, Brooks-Russell, et al., 2018, Hayland, Delaney & Shattell, 2018; Merrill, 2015; Wong, Cummings & Ducharme, 2013). Nurse leaders are critical to creating and promoting a practice environment that enhances positive patient outcome in hospitals. Thus, enhancing nurse leader's KAB toward suicide prevention through training is imperative. However, there is limited research on the effect of educational training on the KAB of nurse leaders who are responsible for initiating, implementing, monitoring and assessing the suicide prevention strategies and outcomes in the hospitals.

Purpose

The purpose of this study was to determine the effect of the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) on the KAB of the nurse leaders toward suicide prevention in U.S. hospitals. The independent variable was the APNA training, and the dependent variables were KAB of the nurse leaders. Evidence has shown that the core suicide prevention approach is early screening, risk identification, risk formulation, and appropriate interventions (Hogan & Grument, 2015). However, the KAB of healthcare staff is often compounded by lack of training or inadequate training among healthcare staff, including the nurse leaders (Schmitz et al., 2012). Developing a competent nurse leader is imperative to shape the healthcare environment that promotes patient safety (IOM, 2011). Competent nurse leaders' impact work ethics, create a conducive environment, and promote patient outcomes (Spano-Szekely, Quinn Griffin, Clavelle, & Fitzpatrick, 2016).

Research Questions and Hypotheses

Research Question 1: What effect does the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) have on the nurse leaders' knowledge about suicide prevention?

$H_0$1: The APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) will have no effect on nurse leaders' knowledge about suicide prevention.

H_a1: The APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) will have an effect on nurse leaders' knowledge about suicide prevention.

Research Question 2: What effect does the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) have on the nurse leaders' attitude toward suicide prevention?

$H_0$2: The APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) will have no effect on nurse leaders' attitude toward suicide prevention.

H_a2: The APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) will have an effect on nurse leaders' attitude toward suicide prevention.

Research Question 3: What effect does the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) have on the nurse leaders' behavior toward suicide prevention?

$H_0$3: The APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) will have no effect on nurse leaders' behavior toward suicide prevention.

H_a3: The APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) will have an effect on nurse leaders' behavior toward suicide prevention.

Theoretical Framework

The theoretical framework for my study was the theory of planned behavior (TPB). The TPB is an extension of the theory of reasoned action developed by Ajzen and Fishbein, which posits that human behavior can be predicted based on the individual behavioral intention which is the attitude toward that behavior and normative norm (Ajzen, 1991; Boslaugh, 2019). The basic concept of the TPB is that an individual with essential resources and opportunities such as knowledge (perceived behavioral control [PBC]) and consideration of the action (attitude), including expectations (normative norm), will succeed in performing a behavior. The premise is focused on the notion that motivation and ability are essential in influencing behavioral achievement (Ajzen, 1991). The TPB was chosen as a framework because the core constructs such as attitude, subjective norm (expected knowledge), and behavior are variables that align with the current study. I examined whether there was any significant change in nurse leaders' KAB after the administration of suicide prevention training (Ajzen, 1991). I present further details of the TPB in Chapter 2.

Nature of Study

I conducted a quasi-experimental, single group pre- and post-test matched-pairs study design to examine the effect of the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) on nurse leaders' KAB. The independent variable was the APNA training, and the dependent variables included nurse leaders'

KAB toward suicide prevention (Ayaz, & Sarıkaya,2019; Şengül & Ünal, 2018). The

APNA training is a suicide prevention training developed by the nurses for the nurses,

which covers (a) the phenomenology of suicide, (b) the risk and protective factors related

to suicide, (c) Suicide risk assessment and interventions using APNA algorithm and

shared documentation of findings, (d) initiating a shared safety plan, and (e)

environmental safety assessment (APNA, 2018). Subsequently, I measured the nurse

leaders' KAB with ED-SAFE provider survey (Appendix C) developed by Marian, Ivan

Miller, and Camargo in 2013 (Betz, Sullivan, et al., 2013).

Definitions

Attitude: Different ways individuals view a particular issue or concept. Attitude is

defined in TPB as behavioral belief and outcome evaluation based on the cognition of the

specific phenomenon (Ajzen, 1991). The definition denotes that attitude can be learned

and re-learned

Behavior: The "Conduct, general practice, course of life, course of action toward

or to others, treatment of others."(Oxford English Dictionary,1989, para.2) Some of the

suicide prevention behavior (practices) expected of the nurses and the nurse leaders is the

ability to promote policies that enhance suicide prevention, perform suicide risk and

environmental assessment, formulate risk and implement interventions that prevent

suicide (APNA,2008).

Knowledge: The "awareness or perception acquired through insight, learning, or

investigation expressed in a form that can be shared" (Chinn & Kramer,2015, p.250)

Nurse leader: A "registered nurse (RN) who has 24 hour/7-day per week accountability for the direct supervision of RNs and other healthcare workers providing nursing care in an inpatient area" (Adams et al., 2018, p. 261).

Assumptions

There were assumptions for my study. The first assumption was that the nurse leaders would respond to the ED-SAFE provider survey with a high level of integrity and truthfulness. Second, I assumed that the nurse leaders want to provide a suicide free environment for patients and would value suicide prevention in their facility.

Scope and Delimitations

The scope of this study focused on nurse leaders. The target population included nurse leaders with a title of a nurse manager, associate manager, nurse administrator, nurse supervisor, project manager, operation specialist, nurse executive, nurse officer, and nurse coordinators who work in the hospitals within the Southwestern United States. The target population came from the hospitals accredited by TJC and funded by various government agencies. This study was informed by the TPB framework, which explains the effect of education on the nurse leaders KAB (Ajzen, 1991).

Delimitations of this study included the utilization of convenience sampling to recruit the nurse leaders who work in the hospitals that are accredited by TJC within the southwestern United States. The utilization of random sampling was not used because of the sensitivity of the suicide (Betz, Brooks-Russell, et al., 2018). Another delimitation of this study was the collection and analysis of the survey data. The ED-SAFE provider survey was used to measure the KAB of nurse leaders pre- and post-APNA Competency-

Based Training for Suicide Prevention (Acute Care Setting Course). The ED-SAFE

provider survey measures the knowledge, attitude, and practice of emergency department

providers in caring for patients who are suicidal (Betz, Sullivan, et al., 2013). The data

collected from the participants with the unique individual code was transferred to the

SPSS 25.0 software. A two tailed Wilcoxon signed-rank test was used to analysis the

paired data from the ED-SAFE provider survey (Fetaji & Fetaji, 2018).

Limitations

External Validity

Some of the limitations that may cause a threat to external validity are the uses of

non-random sampling, testing reactivity, and history. Nurse leaders who work only in the

acute setting, subacute hospital, or rehabilitation center were the target population for this

study. This unique nature of this population posed a threat to external validity affecting

the generalization of the study outcome. The use of convenience sampling to recruit

participants was another threat to the external validity of this study (Kenny, 2019; Knapp,

2016). To reduce the effect of this threat, effort was made to give every nurse leader in

the designated region an opportunity to participate in the study (Knapp, 2016). The

offering of the pretest also posed a threat to external validity because the participants

were exposed to the test questions before the posttest.

Internal Validity

Instrumentation, history, and experimental mortality were also some of the threats

to this study. According to Knapp (2016), incorporating multiple data collecting

techniques such as online and paper surveys is likely to introduce a threat to internal

validity. To minimize this threat, I maintained consistency by using only a paper survey format before and after the administration of the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course). The posttest was administered immediately after the APNA training to reduce any threats from delayed measuring of the variables. All classes were taught by the same facilitator to reduce any threats from the use of multiple facilitators, which could threaten internal validity (Knapp, 2016).

The threat to construct or statistical conclusion validity was the degree to which conclusions toward the relationships among variables are accurately reported as a result of the data analysis (Kenny, 2019). These threats were related to type I and type II errors. To minimize these errors, a standardized power value of 0.8 and the validated (ED-SAFE) tool was used to collect the data for this study.

Significance

Nurse leaders are critical in the initiation and implementation of comprehensive suicide prevention strategies such as universal screening, counseling on access to lethal means such as a gun, and suicide risk management in the hospital (Betz, Brooks-Russell, et al., 2018; Khubchandani, Wiblishauser, Price & Thompson, 2011; Pope et al., 2016; Suicide Prevention Resource Center (n.d.-b). The findings from this study provided foundation information on the KAB of nurse leaders toward suicide prevention

Further, onboarding and ongoing education of nurse leaders are significant in maintaining competency in healthcare. Evidence has shown that education is a catalyst to KAB change (Mutale, Anne-Thora Vardoy-Mutale, Kachemba, Mukendi, Clarke, & Mulenga, 2017). The exposure of the nurse leaders to suicide prevention training may

enhance understanding of the topic of suicide, which may offer the nurse leaders the tools to inform health care policies, projects, and programs targeting suicide prevention.

Nurse leaders play a vital role in the promotion of a culture of safety in hospitals (TJC, 2017), and change in nurse leaders' behavior contributes to the promotion of safety culture (O'Connor & Carlson, 2016). This study will identify the current KAB of the nurse leaders and the effect of the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) on KAB. This study will create a positive social change in various ways. First, the findings contribute to the literature focusing on suicide prevention through education that permeates the culture of safety at the individual and organizational levels. Second, the study contributes to the discussion on the significance of ongoing education training to enhance the KAB of the healthcare staff toward suicide and suicide prevention.

Summary

Suicide prevention contributes to patients' safety in healthcare. Despite the call from the U.S. Surgeon General and other agencies such as TJC, CDC, and World Health Organization for zero suicide incidences, the suicide rate continues to rise. Evidence shows that nurse leaders are critical in upholding suicide prevention in the hospital. However, some are skeptical about the preventability of suicide. Additionally, literature supports educational training's effect on nursing staff KAB toward suicide prevention, but no research targets nurse leaders, necessitating this study to bridge the gap. This quasi-experimental single group pre- and post-test matched design contributed to closing the identified gap by evaluating the effect of the APNA Competency-Based Training for

Suicide Prevention (Acute Care Setting Course) on nurse leaders' KAB. This chapter

provided an overview of this study from the background to the significance of the clinical

practice. Chapter 2 will detail the literature review, the theoretical framework, and the

delineation of the relevant variables measured in the study.

Chapter 2: Literature Review

Introduction

The 2019 National Patient Safety Goal emphasized the imperative of suicide prevention in hospitals for all healthcare staff, including leaders (TJC, 2019). Nurse leaders, a subset of healthcare leaders, play a critical role in the initiation and implementation of suicide prevention as a part of promoting patient safety (Merrill, 2015). Factors that are thought to be a barrier to suicide prevention are staff KAB (Bolster et al., 2015; Heyland et al.,2018; Neville & Roan, 2013; Puntil et al., 2013). However, though staff KAB toward suicide prevention has been well studied, there is a gap in the literature on nurse leaders' KAB.

An extensive literature review was completed to explore current literature on nurse leaders' KAB. The search returned several studies on the nurses, including the effect of suicide prevention training. However, no research focused on the impact of suicide prevention training on nurse leaders' KAB. Thus, the purpose of this study was to determine the effect of APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) on the KAB of the nurse leaders toward suicide prevention in U.S. hospitals. This study evaluated the effect of suicide prevention training on nurse leaders' KAB. This chapter includes a detailed review of the TPB and the core concepts of suicide, suicide prevention, the nurse leaders, and nurse leaders' KAB toward suicide prevention.

Literature Search Strategy

The CINAHL & MEDLINE, Google Scholar, ProQuest Health & Medical Collection, Ovid Nursing Journals, PsycINFO, Business Source Complete, ScienceDirect, ERIC, PubMed, and SAGE Journals through the Walden university library for peer-reviewed articles were searched. The JSTOR database and various government agencies such as the Center for Disease Control, the World Health Organization, Suicide Prevention Resource Center, and books were also reviewed. The key searched terms used in searching are *suicide, nurse leaders, nurse administrators, suicide prevention, suicide prevention strategies, suicide prevention training, culture of safety,* and *suicide prevention in the hospital*. The search was limited to 5 years (2015 to 2019) of publications utilizing the Boolean operators (and, or) to enhance the search focus. However, due to limited literature focusing on nurse leaders and the theoretical framework, there were inclusions of peer-reviewed historical literature older than 5 years.

Theoretical Framework

Theoretical Propositions and Assumptions

I chose the TPB (Figure 1; Ajzen, 1991) to guide my study. The TPB is an extension of the theory of reasoned action developed by Ajzen and Fishbein, which posits that human behavior can be predicted based on the individual's behavioral intention, which is the attitude toward that behavior and normative norm (Ajzen, 1991; Boslaugh, 2019). The theory of reasoned action also includes PBC (Ajzen, 1991). Thus, the TPB postulates that human behavior can be predicted based on behavioral intention and perceived behavioral control.

Attitude is defined in the TPB as behavioral belief and outcome evaluation based on the cognition (Ajzen, 1991). In other words, an individual response toward a phenomenon, in this case suicide prevention, is dependent on the level of knowledge or information related to a topic (Venes, 2013, para 1). The attitude can be positive or negative (Ajzen, 1985, 1991). The TPB posits that if a person's attitude is negative, the likelihood of performing a behavior will be low, affecting the behavioral intention and the chance that the actual behavior will be performed. Conversely, if the individual attitude is positive, the likelihood of the individual performing the behavior is high. Thus, the more favorable the attitude of nurse leaders toward suicide prevention, the more likely they will demonstrate the suicide prevention behaviors.

In addition to attitude, normative norm, also known as the normative belief/or subjective norm, is a belief that social pressure exists that mandate one to perform or not perform the behavior (Ajzen, 1991). For example, the TPB posits that the intention to perform a certain behavior depends on the motivational factors that influence or impede the behavior, which affects the intention (Ajzen, 1991). For example, a nurse leader with an understanding of TJC (2019) expectations toward suicide prevention in the hospital (normative norm) is likely to participate and promote suicide prevention in their facility.

Further, the TPB depicts that human behavior is not only governed by behavioral intention (volitional control) but also through the notion of PBC (Ajzen, 1991). PBC, known as control belief or behavioral control, is defined as "people's perception of the ease or difficulty of performing the behavior of interest" (Ajzen, 1991, p.183). According to the theory, PBC changes based on the situation and control the individual has over the

behavior. PBC is likely to propel or deter an individual from performing the behavior bypassing the behavioral intention. The PBC component of the TPB is determined by the control belief that an individual can perform the behavior (self-efficacy; Ajzen,1991). Therefore, an individual with in-depth knowledge about a specific phenomenon will likely increase control in performing that behavior. The PBC component of the TPB suggests that nurse leaders would be more likely to increase their knowledge, form a positive attitude, and demonstrate the behavior toward suicide prevention if they believed they would be successful in preventing suicide in their facility (see Figure 1).
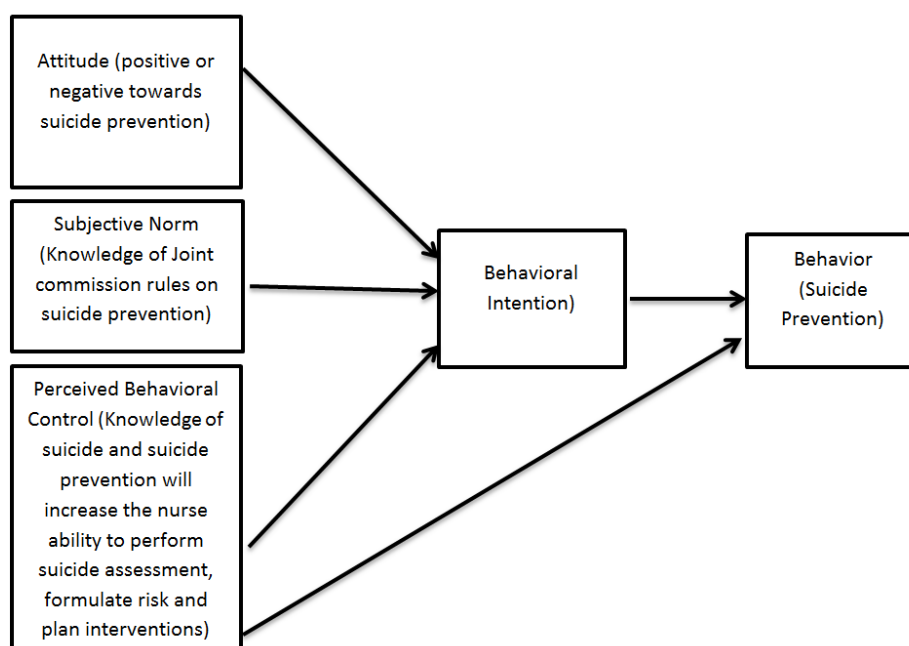
Figure 1. Theory of planned behavior model.

The TPB also posits that people will perform a behavior that seems beneficial, achievable, and acceptable to them because they have the control over the behavior (Ajzen,1991; Karras et al., 2018). To exercise control and perform the behavior, the individual will acquire the necessary resource and the opportunity to exercise the

behavior called actual control over behavior. Some of the essential resources and opportunity are skills, knowledge, money, and cooperation of others (Ajzen, 1991). An individual with essential resources and opportunities such as knowledge (PBC) and consideration of the action (attitude), including expectations (normative norm), will succeed in performing the behavior (Ajzen, 1991). Thus, this study offered training on suicide prevention, and data were collected pre- and post-evaluation of nurse leaders' knowledge (cognition component of attitude), attitude, and behavior toward suicide prevention consistent with the TPB framework.

Previous Applications of the Theory of Planned Behavior

In health and social science, the TPB has been used to predict human behavior and evaluate health interventions (Dickens, Lamont, & Gray, 2016; Javier, 2018; Tung et al., 2019; Zhou, Stoltzfus, Houldin, Parks, & Swan, 2010). For example, Zorrilla et al. (2019) conducted a cross-sectional study of 430 young adults to predict the help-seeking behavior of individuals diagnosed with mental health illness such as depression. The results supported the TBP framework by showing a statistically significant correlation existed between attitude and help-seeking behaviors among the participants.

Additionally, Kuhlman, Walch, Bauer, and Glenn (2017) performed a quasi-experimental study to evaluate the effect of gatekeeper training on suicide prevention and found that trained gatekeeper participants were willing to engage in suicide prevention behavior such as eliciting for suicide ideation, a suicide plan, and prompt referral for treatment than the untrained gatekeepers. Further, Aldrich, Wilde, and Miller (2018) also supported training in shaping the behavioral intention and PBC of gatekeepers when they

encountered a potential suicide person. Finally, Karras et al. (2018) indicated that the TPB framework was effective in predicting help-seeking behavior among veterans.

Rationale for Use

The assumptions of the TPB outweigh other behavioral theories appropriate for this current study. The theory was developed to predict human behavior. Several researchers have used the theory to explain human behavior toward some specific phenomenon. For example, Muehlenkamp and Hagan (2019) found that the TPB is significant in explaining college students' intent to ask and refer to peers to appropriate system who presents with suicide risk behaviors. Based on this study and previous studies already delineated, this theoretical construct enhanced the understanding of variables in this study and their connections. The TPB theory (Ajzen,1991) was used to inform this study because the core constructs such as attitude, subjective norm (expected knowledge), and behavior are variables most relevant to this study. The intended result is to determine whether there is a significant change in nurse leaders' KAB after the administration of the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) toward suicide prevention.

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Literature Review Related to Key Variables and Concepts

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Suicide and Suicide Prevention

Despite the various definition perspectives, intent and outcome remain a central theme across definitions and disciplines (Goodfellow, Kõlves, & de Leo, 2018; Hosany, & Sibindi, 2017). Suicidal behavior encompasses suicide ideation, suicide attempt, and suicide (Hosany & Sibindi, 2017). The CDC (2018) standardized the suicide definition,

which was used for this study: "death caused by self-directed injurious behavior with an intent to die as a result of the behavior" (para.1).

Prevention of suicide refers to the initiatives, strategies, and approaches targeted toward creating awareness, instituting interventions, and monitoring the responses to save a life (Stone et al., 2017). Suicide is a complex phenomenon, and any action that promotes health-seeking behavior, creates awareness (risk factors, warning signs, and available resources), promotes self-esteem, and reduces suicide behaviors is a prevention strategy. Effective suicide prevention is imperative to build protective factors (robust family connectivity, good health, and access to care) and reduce risk factors (psychiatric conditions, medical conditions, etc.; CDC, 2018). In 2009 and 2012, the Office of the U.S. Surgeon General called on health care and the community to initiate comprehensive suicide prevention strategies (Graves, Macke prang, Van Natta & Holliday, 2018; U.S. Department of Health and Human Services Office of the Surgeon General and National Action Alliance for Suicide Prevention, 2012).

Suicide prevention strategies outlined by were (a) healthy and empowered individuals, families, and communities, (b) clinical and community preventive services, (c) treatment and support services, and (d) surveillance, research, and evaluation. These actions represent the behavior criteria the healthcare leaders are to demonstrate toward suicide prevention.

The Nurse Leader

Nurse leaders play a critical role in advancing safety in the hospital, including suicide prevention. A nurse leader is a "registered nurse (RN) who has 24 hour/7-day per

week accountability for the direct supervision of RNs and other healthcare workers

providing nursing care in an inpatient area" (Adams, Djukic, Gregas & Fryer, 2018, p.

261). This definition was chosen because it encompasses both nurse leaders and nurse

managers with their attributes and skills. In other words, nurse leaders are healthcare

professionals who influence the outcome of the patients and staff. Adams et al. (2018)

studied the influence of nurse leader characteristics on patient outcomes. The author

utilized a cross-sectional correlational survey design to collect data from 778 nurse

leaders. Adams et al. argued that nurse leaders are critical to the healthcare industry

because nurses outnumber other healthcare disciplines. Results showed that nurse leaders

are essential in influencing and advancing positive patient outcomes. Secondly, the

authors recommended that organizations should equip and support nurse leaders with

critical resources to promote the patient's safety.

Nurse leaders influence others to action that results in positive change through

their behavior, attitude, and knowledge (Adams et al., 2018; Arkansas State University,

2016; Charlene Ingwell-Spolan, 2018; Susanne, Katie & Lisbeth,2012). Similarly,

Wolters Klumer (2015) described three top skills necessary for nurse leaders to possess to

overcome challenges : (a) shared decision-making which allows for open communication

resulting in a healthy working environment., (b) relationship management which

emphasizes the importance of building teamwork and collaboration, and (c) social

awareness which emphasizes the importance of mastering effective communication

techniques, understanding the values, beliefs, and norms that informs staff and patients

behaviors. Nurse leaders are expected to collaborate with an interdisciplinary team to enact policies that promote the culture of safety, which includes suicide prevention.

Nurse leaders interact with their environment, profession, and colleagues to shape the face of healthcare based on evidence, education, and experience (IOM,2011). To be an effective nurse leader, the IOM report recommends that nurse leaders should engage and commit to ongoing knowledge acquisition to be able to adapt to the evolving healthcare. Knowledge of the healthcare delivery, which includes knowing the dynamics of suicide prevention is a vital element in achieving patient safety environment with zero suicide and any other related safety issues.

Nurse Leader Knowledge, Attitude, and Behavior Toward Suicide Prevention

Chinn and Kramer (2015) defined knowledge as "awareness or perception acquired through insight, learning or investigation expressed in a form that can be shared" (p. 250). The knowledge of suicide prevention means that nurse leaders know the fundamental concepts and various suicide prevention strategies that mitigate suicide in the hospital. While the knowledge of nurses of suicide prevention has been thoroughly investigated, there is little research on the knowledge of nurse leaders toward suicide prevention. However, researchers have agreed that nurse leaders are instrumental in promoting suicide prevention in the healthcare industry (Kusheba & Mulvihill,2018; Ngwena et al.,2017).

To increase awareness of suicide prevention among nurses, including the nurse leaders, the APNA has developed essential nurse competencies for the assessment and management of individuals at risk for suicide. The APNA classified the role of psych

nurses in suicide prevention into two dimensions: system-level interventions and patient-level interventions (APNA 2018, 2019). Also, there is increasing evidence that infers that awareness of suicide prevention strategies can be obtained via training. For example, Pope, Slovak, and Giger (2016) evaluated gatekeeper training for assessing suicide risk among older adults and counseling on access to lethal means among geriatric case managers. The authors presented training on the strategies to access the presence of firearm and suicide behaviors for 66 participants. Pope et al. concluded that suicide prevention training increases participants' knowledge toward suicide assessment, including asking for access to a gun. Based on this, it is likely nonpsychiatric nurse leaders can increase their knowledge through training such as APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course.

Attitude refers to different ways individuals view a particular issue or concept. Attitude is defined in TPB as behavioral belief and outcome evaluation based on the cognition of the specific phenomenon (Ajzen,1991) which denotes that attitude can be learned and re-learned. There is a plethora of literature on the impact of staff attitude toward suicide and suicide prevention (Osafo, Akotia, Boakye, & Dickson, 2018; Nebhinani, Jagtiani, Chahal, Nebhinani & Gupta, 2017; Tan et al., 2017; Jones, Krishna, Rajendra, & Keenan, 2015). However, there is limited literature on attitude toward suicide prevention among nurse leaders. A recent study by Briggs (2018) determined that 40 % (n=38) of nurses in the emergency room department had a negative attitude toward patients who present with suicide behaviors. Results revealed that suicide prevention

education enhances positive attitude of nurses, increases the nurse's ability to identify risk for suicide, and raises the nurse's confidence toward suicide prevention.

A study conducted in Brazil showed that negative, moralistic, or condemnatory attitude are barriers to managing patients with suicide behaviors (Moraes, Magrini, Zanetti, dos Santos, & Vedana, 2016). Also, in the United States, Heyland, Delaney, and Shattell (2018) outlined steps to achieve universal suicide screening in emergency departments. The authors identified negative attitudes of staff as a barrier to effective suicide screening. However, Hayland et al. concluded that as the knowledge of staff increases, the negative attitude decreases. Attitude toward suicide prevention varies based on factors such as culture, experience, belief, and education.

Similarly, VanSickle et al. (2016) performed a secondary principal component analysis of the Never Leave A Marine Behind training as a suicide prevention strategy. The premise of the training was to create awareness of the importance of timely access to mental health treatment about suicide assessment and identification. The author argued that one of the perceived barriers to seeking mental health care by marine noncommissioned officers is the attitude of the leaders. Even though nurse leaders may have an inert negative attitude toward suicide, the result of this study revealed that attitude could change with increased awareness.

Behavioral expectations of nurses toward suicide prevention include assessment, risk management, development of a safety plan, monitoring of interventions, and participating in outcome study to revise any policy that does not promote safety culture (Smith, Silva, Covington, &Joiner, 2014; APNA, 2008). More specifically, Suicide

Prevention Resource Center (n.d.-a.) outlined 11 core competencies related to suicide prevention, which include leadership. The leadership competency dimension encompasses; developing and nurturing relationships, training staff, setting goals and objectives, and being prepared for staff transitions.

Smith et al. (2014) argued that skilled workers have knowledge about suicide behaviors, but differ in the levels of knowledge about the rates of suicide in special populations. The authors revealed that the higher the knowledge about suicide, the higher the staff confidence in engaging in suicide prevention behavior such as assessment, risk formulation, and interventions *(r=.30, p. <.001).* In contrast, Rebair and Hulatt (2017) and Kishi et al. (2014) argued that a lack of knowledge about suicide is a barrier to engaging in suicide prevention behavior. The studies by Smith et al. and Kishi suggested that the nurse leaders need to demonstrate positive behaviors toward suicide prevention strategies in order to promote the culture of safety for the patients and the staff.

Suicide Prevention Training

There is extensive literature on the need to have suicide prevention training across the globe. Suicide prevention training is part of the national suicide prevention strategies to save a life. Several countries, like the United States, the United Kingdom, Canada, and Australia, have adopted a suicide prevention program that encourages staff training (Kerr et al., 2018). Despite efforts to increase suicide prevention training, the rate of suicide of indicates a need for expansion of the suicide prevention training to staff in healthcare (Kerr et al., 2018; Manister, Murray, Burke, Finegan, & McKiernan, 2017; Smith et al., 2014). The office of the National Vital Statistics (2019) reported a 3.7% increase in the

suicide rate in 2017 compared to 2016. According to the National Vital Statistics, suicide was the 10th leading cause of death in 2017 in the United States. In response to the crisis, several states in the United States have mandated suicide prevention training for some health care staff (American Foundation for Suicide Prevention,2017). Unfortunately, some of these state laws do not include nurses and nurse leaders in the mandated training requirement.

Previous studies have demonstrated that the suicide prevention training is associated with positive staff attitude, increase in confidence of nurses to engage in suicide prevention behavior and skills (Rebair & Hulatt, 2017; Kerr et al.,2018; Kishi et al.,2014). Additionally, Fontão, Rodrigues, Lino, Lino, and Kempfer, (2018) and Betz, Brooks-Russell, et al. (2018) have suggested that suicide prevention training will equip nurses and nurse leaders with the knowledge, skills, and a more positive attitude which improves suicide prevention care and save lives. Pope et al. (2016) conducted a pre and posttest study to determine the effect of suicide prevention training on geriatric case managers in the assessment of suicide and firearm safety. Results indicated a significant positive effect on suicide prevention knowledge. Nurse leaders who are supposed to champion suicide prevention in the healthcare setting should undergo appropriate suicide prevention training.

This review covered literature that focuses on suicide prevention KAB (skills), including the effect of suicide prevention training on the non-psychiatric and psychiatric nurses KAB. Although many of these reviews demonstrated the benefits of increasing suicide prevention awareness among nurses, there is a gap in studies which evaluated the

effect of suicide prevention training among the nurse leaders in the hospital environment. It is crucial to administer suicide prevention training and examine the effect on the nurse leaders KAB in the hospital.

Summary

The purpose of this research was to determine the effect of APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course on the KAB of the nurse leaders toward suicide prevention. The TPB (Ajzen,1991) posits association between attitude, knowledge (PBC), and behavior toward the certain phenomenon. The TPB framework helps to define the variables relevant to this study. An extensive literature review was conducted to understand what is known and identify gaps in the effect of suicide prevention training on the nurse leaders KAB.

The review of the literature revealed that the KAB of the nurses are instrumental in suicide prevention. The literature also revealed that nurse leaders are critical in the promotion of suicide prevention in the hospital (Suicide Prevention Resource Center, n.d.-a). However, there is limited literature that focuses on examining the nurse's leaders KAB toward suicide prevention. Researchers agreed that suicide prevention training is associated with positive staff attitude, increase staff confidence, knowledge, and ability to engage in suicide prevention behavior (Briggs, 2018, Hayland et al., 2018; VanSickle et al., 2016). The suicide prevention is not limited to performing an accurate assessment to formulate risk and implement appropriate intervention.

The prevalence of suicide rates despite all effort and call to action by the US surgeon general also supports the need to understand the effect of training on the nurse

leaders KAB. Also, the Substance Abuse and Mental Health Services Administration (2018) emphasizes the importance of having a "competent, confidence, and well-trained workforce at every level of care is critical to individuals at risk for suicide" (para.1) to promote suicide prevention. Nurse leaders play a critical role in promoting patient safety in inpatient hospitals. The literature review laid a foundation and informs this study choice of research design and theoretical framework.

The research plan for administering APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course to nurse leaders to evaluate the effect on their KAB with pre- and post-survey questions will be discussed in chapter three. Studies have shown that suicide prevention training is associated with an increase in nurses suicide prevention behaviors such as positive attitude, confidence in assessing patients who presents with suicide behavior, and initiating prevention interventions (Kerr et al.,2018; Osafo, et al., 2018; Rebair & Hulatt, 2017). The single pre and post-survey research design selected for this study are consistent with a previous study that evaluated the effect of suicide prevention training among nurses (Pope et al., 2016).

Chapter 3: Research Method

Introduction

The purpose of this study was to determine the effect of the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) on the KAB of nurse leaders toward suicide prevention in a U.S. hospital. Chapter 3 delineates the research design and methodology, the research variables, and rationale for the research design. Additionally, the research method relating to population, sample, sample recruitment procedure, participation, and data collection will be described. Furthermore, this chapter explains the instruments, operationalization of constructs, data analysis, threats to validity, and it presents the ethical issues that may implicate this study.

Research Design and Rationale

A quasi-experimental, single group pre- and post-test matched pairs study design was used to examine the effect of APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) on nurse leaders' KAB (Ayaz & Sarıkaya, 2019; Şengül & Ünal, 2018). The research question was "What effect does evidence-based APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) have on the nurse leader's KAB toward suicide prevention?" The participants were recruited using convenience sampling. The participants completed a self-administered survey to provide baseline information. The participants took part in the training on suicide prevention and then completed the post-survey to evaluate the effect of the training intervention.

Design Constraints

There are constraints consistent with a quasi-experimental single group pre- and post-test design, which include lack of random sampling, no control group, the possibility of extraneous variables, and treat to internal validity (Goh, Selvarajan, Chng, Tan, & Yobas, 2016). Despite these constraints, this design has been used to evaluate the effects of interventions to produce an outcome (Cerit, 2019; Choi & Seng, 2015; İnan, Günüşen, Duman, & Ertem, 2019; Spurlock, 2018). Additionally, time and resource constraints were mitigated by using electronic, self-administered surveys to collect data, which are cost-effective, fast, and promote the privacy of the participants (Burkholder, Cox, & Crawford, 2016). I used the ED-SAFE provider survey questionnaire, a validated instrument to assess the self-perceived KAB of nurse leaders. Permission to use ED-SAFE provider survey was received from the developer to use this tool for this study at no cost (see Appendix A). The nurse leaders initially completed the pretest and completed the posttest immediately after training. The results analysis was more straightforward because the data were transferred to SPSS directly.

The use of convenience sampling to recruit participants also helped reduce the time and resources constraints. Convenience sampling is cost-effective, non-time consuming, and is easy to implement (Bornstein, Jager, & Putnick, 2013). The nurse leaders decided if they wanted to participate in the study. All the participants received free registration, which is valued at $10, to take the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) and upon completion of the course requirements were awarded 1.5 hours of nursing continuing professional development

contacts hours (APNA, 2018). I also completed 3.5 contact hours through the training as a facilitator.

Interventional Study

The APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) is the first and only competency-based suicide prevention training explicitly developed for nurses (APNA, 2018.). There have been gaps in the suicide training of the nurses, which led the APNA to develop this training (Puntil et al., 2013). The APNA training course was chosen because it delineated the system and patient interventions that nurses must demonstrate to prevent suicide. Nurse leaders completed the pretest, participated in the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course), and completed the posttest immediately after the training.

Methodology

Population

The target population was nurse leaders who worked at a hospital in the southwestern United States. The target population came from the hospitals accredited by TJC and funded by various government agencies. The hospital system employed nurse leaders at various levels to manage daily operations. The target population included any nurse leader with a title of a nurse manager, associate manager, nurse administrator, nurse supervisor, project manager, operation specialist, nurse executive, nurse officer, and nurse coordinators. Participants were recruited from the Walden participant pool, the American organization of nurse leaders, and hospitals within South Western region of the

United States. Data collection occurred during the spring of 2020 with a target estimated population size of at least 35 nurse leaders.

Sampling and Sampling Procedures

Convenience sampling was used to recruit the nurse leaders who work in the hospitals that are accredited by TJC within the southwestern United States. Convenience sampling is cost effective, less time-consuming during recruiting, and may reduce traveling expenses (Frey, 2018). Nurse leaders who worked full time, part time, or as needed in the hospital in the leadership position were recruited for this study. To expand the participant pool, the recruitment search was extended to nurse leaders from the southwestern regions who worked in the hospital and were member of the American Organization of Nurse Leaders or students at Walden University via the participant pool. The inclusion criteria were:

- Nurse leaders who were registered nurses and held any of the following titles: nurse manager, associate manager, nurse administrator, nurse supervisor, project manager, operation specialist, nurse executive, nurse officer, and nurse coordinators) who works in a hospital setting. The hospital setting included acute hospitals, subacute hospitals, and rehabilitation centers.

- Nurses who were at least 25 years of age.

- Registered nurses who were leaders in their institution who have not taken competency-based training in suicide prevention in the past.

The exclusion criteria were:

- Nurse leaders who do not work in the hospital, subacute hospitals, and rehabilitation centers within Southcentral United States.

- Nurse leaders who had previously taken the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course).

- Nurse leaders who worked in home, nursing homes or assisted living, and did not have active registered nurse license.

To determine the sample size, the G* Power 3 software was used (Faul et al., 2009; Faul, Erdfedler, Buchner, & Lang, 2007). To determine the sample, I used a two-tailed Wilcoxon signed-rank test with an effect size of .05; power of.80, which is a standard power acceptable for studies; and conventional alpha value of .05, which yielded a total sample size of 35. The effect size of .05 and conventional alpha value of .05 are an acceptable standardized estimate to use in studies (Greenland et al., 2016). To ensure adequate sample size, recruitment was extended to 50 participants across several hospitals within the southwestern United States. The justification for recruiting 50 participants was to achieve 60% to 70% response rate (Pieper, Kotte, & Ober, 2018).

Procedure for Recruitment, Participation, and Data Collection

Before beginning the study, I received institutional review board (IRB) approval from the hospital system in the southwestern United States as well as Walden's IRB (06-10-20-0566976). Once IRB approval was received, I distributed my recruitment letter via e-mail. Individual letters were distributed to the nurse leaders and Walden University participants (who live within the zip code where the training was conducted), which included my contact information and the purpose of this study. Once identified, nurse

leaders were asked to join the study if they had not already taken the APNA

Competency-Based Training for Suicide Prevention (Acute Care Setting Course).

Once interested participants were identified, several class schedule options were

provided based on the geographic region of the southwestern United States with the

highest participant number, which allowed the participants to choose which class section

they wished to attend. The educational center of the Meadow Conference Center in

Dallas was the training center. The Meadow Conference Center was centrally located for

all the participants to attend the educational session. Upon completion of the course

requirement, the participants earned 1.5 nursing continuing professional development

contact hours. Additionally, the training was free for the participants. The justification for

using the APNA training was because it is the only suicide prevention training developed

by nurses for nurses. The permission to use the training was received from APNA at an

initial cost of $800 (Appendix B). In addition to the training participants also completed

necessary demographic information, which included name, age, practice setting, years of

nursing experience, years of nursing leadership experience, educational level in nursing,

any previous suicide prevention training before or after becoming a nurse leader, gender,

and experience in promoting suicide prevention (Appendix C).

The APNA Competency-Based Training for Suicide Prevention (Acute Care

Setting Course) took appropriately 3.5 hours per each section. The allocation of the hours

for each part of the study were:

- Announcement = 10 mins.

- Pre-survey = 30mins

- Interactive APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) presentation for 1.5 hours, which covered:

  o The phenomenon of suicide,

  o Suicide risk assessment using the APNA algorithm,

  o Communicating the risk assessment and warning signs in written and verbal form to the healthcare team members,

  o Environment assessment for hazards (e.g., ligature risks), and

  o Initiating Safety plan (APNA, 2018).

- Lunch = 30 mins (free to the participants)

- Post-survey = 30mins.

- Debriefing and networking = 20 mins

At the beginning of the training, the participants received information on the risk, benefits, and purpose of the study. The participants received an explanation that the study and the completion of the survey were voluntary and that they were not obligated to complete the survey questions. Additionally, the participants were informed on how the data were used and that their personal identifying information will not be disclosed. Before the beginning of the pretest, the participants signed the informed consent. The paper format survey questionnaire was used to collect responses. Each participant received a unique code to match the pre and posttest. Each participant also received two envelops: One contained the pretest with a code such as 1A, and the second envelope contained the posttest survey marked 1B. Anyone who chose not to complete the survey returned a blank copy. All completed questionnaires were collected and placed in a

secured envelope to maintain confidentiality. After the training, all the paper survey

answers were compiled, and the data were transferred to IBM SPSS Statistics version 25

for windows with the unique assigned participant's code followed with result analysis.

Participant Exit Process and Follow Up

All participants received information about the study with the opportunity to ask

questions. Further, at any time, any participants who wished to exit the study without

completing the provider survey pre–post-survey or attending the APNA Competency-

Based Training for Suicide Prevention (Acute Care Setting Course) were allowed to do

so. Upon completion of the training, all participants were given a thank-you card and a

link to complete APNA online evaluation to obtain their 1.5 nursing continuing

professional development contact hours certificate. A follow-up email was sent once a

week for 2 weeks to remind the participants to complete an APNA online evaluation to

retrieve their certificate.

Instrumentation and Operationalization of Constructs

Developers and year of publication. The instrument chosen for this study was

the ED-SAFE provider survey developed by Marian Betz, Ivan Miller, and Carlos A.

Camargo in 2013. The ED-SAFE provider survey measures the knowledge, attitude, and

practice of emergency department providers in caring for patients who are suicidal. The

focus of the survey was to identify whether the providers in emergency departments have

the appropriate knowledge, attitude, and practice of various suicide prevention initiatives

expected to prevent suicide in the emergency department such as universal screening and

assessing for forearm access. The ED-SAFE provider survey has been used in other

studies to evaluate the attitude and practice of staff in ED toward suicide prevention

(Betz, Arias, et al., 2015). The ED-SAFE consists of a demographic section and questions

about current experiences with caring for suicidal patients and screening. Two questions

have multiple subquestions that are ranked on a 5-point Likert scale (strongly agree,

agree, uncertain, disagree, and strongly disagree), two questions have multiple

subquestions ranked on a 5-point Likert scale (none, a few, some, most, and all), and two

questions have multiple subquestions ranked on a 4-point Likert scale (almost always,

often, sometimes, and hardly ever; Betz, Sullivan, et al., 2013).

Betz, Sullivan, et al. (2013) determined that the survey had an internal

consistency of Cronbach's alpha 0.81. Betz, Sullivan, et al. also performed an analysis of

the ED-SAFE provider survey by evaluating the response difference among providers

using Pearson Chi-square or Fisher exact. The providers' characteristics and responses

were calculated and reported by using medians with interquartile ranges or proportions

with 95% confidence intervals. Betz, Sullivan, et al. reported two-tailed $p < 0.5$, which

suggested significant statistical demonstrating that the ED-SAFE provider survey is valid

in assessing the provider's knowledge, attitude, and practice toward suicide prevention.

Thus, the ED-SAFE provider survey was administered pre- and post-APNA

Competency-Based Training for Suicide Prevention (Acute Care Setting Course) to

evaluate whether the training affects nurse leaders' KAB toward suicide prevention. Even

though the ED-SAFE provider survey was initially used for the emergency department

providers, it was appropriate for this research because it measured the nurse leaders'

KAB. Permission request to use the ED-SAFE provider survey was received on

November 24th, 2019 from Dr. Marian Betz (see Appendix A).

APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) Development. This suicide training was published in 2018 by the APNA for acute care nurses (APNA 2018). The APNA is an authority in behavioral science for nurses and published suicide competencies for psychiatric-mental health nurse generalists in 2013. However, in response to the call for universal suicide screening mandated by TJC and the increase in suicide rate published in 2017, the APNA developed APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) for acute care nurses (CDC, 2018b; TJC, 2018). The course focuses on equipping nurses with suicide prevention knowledge and skills at the system and individual level. The APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) is designed for all nurses who practice in the acute setting (APNA, 2018).

The APNA training was appropriate for this study because it is the only suicide prevention training explicitly developed for the nurses. Second, it is an evidenced-based training that took the cognition of the nurse's scope and standard of professional practice and nursing practice act during its development (APNA, 2018). The goal of the training is to improve patients' safety outcomes by equipping nurses with the fundamental knowledge, attitude, and skills necessary to inform patient safety care.

The APNA training offers an interactive, face-to-face class with safe paced online components available to the participant post-registration. I completed the APNA

Competency-Based Training for Suicide Prevention –Acute Care Setting Facilitator

before the researcher will teach APNA Competency-Based Training for Suicide

Prevention –Acute Care Setting Course. The APNA Competency-Based Training for

Suicide Prevention –Acute Care Setting Course provides all participants a workbook. The

workbook should be used as a reference after the class. Secondly, during this study,

pens, pencils, and instructions on how to complete the specific APNA Competency-

Based Training for Suicide Prevention –Acute Care Setting Course pre-evaluation, post-

evaluation, and exam will be provided so the participants can earn nursing continuing

professional development contact hours. Contact information of the researcher will be

provided to all the participants for any future questions or clarification. Finally, drinks,

breakfast, lunch, or dinner, depending on the time of the class were provided to the

participants.

Agency support. Upon receiving IRB approval from the hospital and Walden

University, the nursing leaders of the hospital where the IRB was obtained was contacted

for support. Also, participants will receive support from the APNA eLearning center

before, during, and post-training to coordinate the issuance of continuing nursing

professional development contact hours. Some of the resources available to the facilitator

to enhance the delivery of APNA Competency-Based Training for Suicide Prevention –

Acute Care Setting Course are email templates to communicate the training to the

participants and a guided presentation model for the presentation of the course content..

Operationalization. The variables of interest in this study were KAB, of suicide prevention. These variables are operationalized by the uses of ED-SAFE provider survey and the demographic survey.

Knowledge. The knowledge of suicide prevention means that nurse leaders know the fundamental concepts and various suicide prevention strategies that mitigate suicide in the hospital (APNA, 2008). The nurse's leader knowledge toward suicide prevention was measured by utilizing the ED-SAFE provider survey (see Appendix C) which was developed by Betz et al. (2013) during the multisite ED study. The ED-SAFE provider survey measures the knowledge of the health providers in managing suicidal patients scoring the survey with 5-point Likert scale and response options such as none, a few, some, most, and all. The question in ED-SAFE provider survey that measured knowledge is "what proportion of suicide do you consider preventable". During analysis, Betz et al (2013) grouped the response into two categories which are self-efficacy and management to enable calculation of logistic regression. The result of the survey delineates that the proportion of providers who believed that most or all suicides are preventable indicates having the knowledge of suicide prevention (Betz et al., 2015, Betz et al., 2013).

Attitude. Attitude is a behavioral belief and outcome evaluation based on the cognition of the specific phenomenon (Ajzen, 1991) or an individual response toward a phenomenon. The nurse's leader attitude toward suicide prevention was measured by utilizing the ED-SAFE provider survey (Betz et al., 2013). The ED-SAFE provider survey measured the attitude of the health providers in managing suicidal patients scoring the survey with 5-point Likert scale and response options such as strongly disagreed,

disagree, uncertain, agree, and strongly agree. This instrument has two items that

measured the health provider's attitude toward suicide. The attitude of the nurse leader

was measured by the proportion of the nurse leaders that answer the following questions

"Universal screening for suicide will result in increased psychiatric evaluation and

universal screening for suicide will slow down clinical care "(Betz et al., 2015; Betz et

al., 2013).

    Behavior. Behavior was the nurse leaders' confidence in engaging in suicide

prevention behavior such as assessment, risk formulation, and interventions (APNA,

2008). Using the ED-SAFE provider survey, the proportion of nurse leaders who actual

report screening patients for suicide ideation, assess for severity, perform safety plan, and

refer to outpatient treatment will be measured. (Betz et al., 2015; Betz et al., 2013). ED-

SAFE provider survey has five items that evaluate behavior with 5-point Likert scale and

response options which ranges from strongly disagree, disagree, uncertain, agree, and

strongly agree:

1. I am confident that I have the skills needed to screen patients for suicidality,

2. I am confident in my ability to further assess a patient's suicide risk severity

3. I know how to provide brief counselling to suicide patients

4. I am confident in my ability to help patients at risk for suicide create a
   personalized safety plan

5. I am confident in my ability to help find referral resources for suicidal
   patients.

APNA Competency-Based Training for Suicide Prevention –Acute Care

Setting Course. The APNA Competency-Based Training for Suicide Prevention –Acute

Care Setting Course was administered (see Appendix B) after the participants completed

the Pre ED-SAFE provider survey and the demographic survey. The APNA Competency-

Based Training for Suicide Prevention –Acute Care Setting Course is a suicide

prevention training developed for nurses that work in the acute hospital (APNA, 2018).

According to APNA, the APNA Competency-Based Training for Suicide Prevention –

Acute Care Setting Course for acute care nurses focuses on suicide phenomenon, suicide

assessment, risk formulation, interventions, environmental management, and safety. The

participants will complete the ED-SAFE provider survey after the APNA Competency-

Based Training for Suicide Prevention –Acute Care Setting Course training.

Data Analysis Plan

IBM Statistical Package for the Social Science (SPSS) version 25.0 software for

windows was used for this data analysis. All the data collected from the participants with

the unique individual code was transferred to the SPSS 25.0 software.

Data cleaning and screening procedure. Pre and post data were collected in a

protected envelope. First, I ensured that all data are paired through the unique individual

identifier (Kumar & Khosla, 2018; Jones, 2017). Then the data were screened to identify

any incomplete data or any missing data (MD), (Kumar & Khosla, 2018, Jones, 2017).

Depending on the level of the MD (unit or item level) and to ensure coherence of the

result, listwise or pairwise deletion methods will be employed (Unit or item level) in

treating any missing data (Berchtold, 2019).

Research questions and hypotheses. Research Question 1: What effect does APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course have on the nurse leader's Knowledge about suicide prevention?

H_0**1:** APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course will have no effect on nurse leader's knowledge about suicide prevention.

H_A1: APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course will have an effect on nurse leaders' knowledge about suicide prevention.

Research Question 2: What effect does APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course have on the nurse leader's attitude toward suicide prevention?

H_0 2: APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course will have no effect on nurse leaders' attitude toward suicide prevention.

H_A 2: APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course will have an effect on nurse leaders' attitude toward suicide prevention.

Research Question 3: What effect does APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course have on the nurse leader's behavior toward suicide prevention?

H_0 3: APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course will have no effect on nurse leaders' behavior toward suicide prevention.

H_A 3: APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course will have an effect on nurse leaders' behavior toward suicide prevention.

Analysis plan. A single group pre and post-test quasi-experimental design was used to examine the effect of APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course on the nurse leaders who work in acute hospitals in Southwestern region of US. The participants completed the ED-SAFE provider survey before and after the APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course. They also completed the demographic data which was analyzed with appropriate statistics. For example, the percentage of males and females in this study were reported as this is a categorical variable. Also, age was reported as ratio level data.

Because the ED-SAFE had questions that are answered on a 4 point Likert Scale and some are answered on a 5 point Likert Scale, a two tailed Wilcoxon signed –rank test was used to analyze the data from the ED-SAFE provider survey (Fetaji & Fetaji, 2018, Norman, 2010; Simon & Goes, 2013). The Wilcoxon signed -rank test analysis is used when a data do follow normal distribution and scores are ordinal level. The scoring is ordinal for the ED-SAFE provider survey which was appropriate for non-parametric analysis that allows for the calculation difference of median (Fetaji & Fetaji, 2018, İnan,et al,2019; Norman, 2010; Simon & Goes, 2013)

Threats to Validity

External Validity

Some factors that might cause a threat to external validity were the uses of non-random sampling, testing reactivity, and history. This study was offered to nurse leaders that worked in the acute setting only, which posed a threat to external validity affecting the generalization of the study outcome. Also, the uses of convenience sampling to

recruit participants posed a threat to external validity (Kenny, 2019; Knapp, 2016). To reduce the effect of this threat, the recruitment was extended to any nurse leader who works in the acute hospital within the Southwestern region of US that meets the inclusion criteria (Knapp, 2016). The offering of the pre-test posed a threat to external validity because the participant was exposed to the test questions before the post-test.

Internal Validity

Instrumentation, history, testing effect and experimental mortality are some of the threats to this study. According to Knapp (2016), using a different person or format such as online and paper format to offer the survey was a concern. To minimize the impact of instrumentation, consistency was maintained by using only a paper survey format before and after the administration of APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course. Secondly, post-test were measured immediately after the APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course. I was the only facilitator to teach the class to maintain historical events, which could decrease the internal validity (Knapp, 2016).

Construct or statistical conclusion validity. The factor that may cause a threat to construct or statistical conclusion validity was lack of utilization of standard power value. These threats were related to type 1 and type 11 errors (Kenny, 2019). To minimize these errors, the standardized power value of 0.8 and a validated (ED-SAFE) tool was used to collect the data.

Ethical Procedures

IRB approval was obtained from the University's Institutional Review Board, which also covers the Hospital System. Also, IRB approval was obtained from the Walden University Institutional Review Board. Upon receipt of IRB approval, participants were recruited from across the Southwestern region of the US. I collaborated with the nursing leadership academy facilitators to disseminate information regarding the study. Group email address of the nurse leaders in the hospitals across the Southwestern region of the US was collected through their executive directors who sent out an email notification to the nurse leaders regarding the study. This study was announced at nurse leaders meetings.

Ethical concerns related to recruitment. Confidentiality, protection, and privacy of all participants and participant's information was maintained. Participation was voluntary to respect autonomy of the participants (Office for Human Research Protection, 2018; Petersen, 2017). Group email addresses were requested from the human resources instead from individuals to maintain the confidentiality of the participants. The human resource representative was not aware of the nurse leaders that I recruited to join this study. Direct emails were sent to all the potential nurse leaders who met the inclusion criteria. My phone number and email address was included so that potential participants could contact me for further inquiries. Participants were reminded that they could withdraw from the study at any time. All participants received information about this study including the risk and benefits, then, participants signed inform consent before they participated in this study.

Ethical concerns related to data collection. The participants were provided with information about the study with the opportunity to ask questions. However, at any time, any participants who wished to exit the study without completing the provider survey pre-post survey or attending APNA Competency-Based Training for Suicide Prevention – Acute Care Setting Course were allowed to do so without pressure or retaliation. Secondly, each participant was given a unique code to protect their confidentiality, separate research information from personal identifiers, and match the pre and post-test. Because suicide conversation draws a sensitive feeling (Betz et al., 2015), the risk and benefits of the study were explained to all the participants. All collected information was placed in a secure envelope before transmission to electronic media.

Data protection for confidentiality. To ensure the confidentiality of data, I was the only person to handle and process the survey data. A unique code was assigned to each participant's pretest and posttest so that it can pair the pretest to the posttest for data analyses purposes. Only I knew the unique code assigned to each participants to protect confidentiality (Office for Human Research Protection, 2018; Petersen, 2017). A password-protected computer was used for all the data storage. After five years, the data were destroyed per Office for Human Research Protection regulation (Office for Human Research Protection, 2018).

Other ethical issues. The nurse leaders that work in the acute setting were the target population for this study. Based on these criteria, this study was announced to the nurse leaders because I do not report to them. However, confidentially of anyone who agreed to participate in this study from my work place was maintained.

Summary

The purpose of this research was to determine the effect of APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course on the KAB of nurse leaders toward suicide prevention. In this chapter, the methodology, the research design, and the research plan, including the rationale behind the choice of research design that will act as a framework for this study were outlined. Nurse leaders are the target population. However, convenience sampling was used to recruit nurse leaders who work in the acute hospital within the Southwestern region of the US.

Subsequently, the process of recruiting the participants, including data collection was described. Also, the process of obtaining IRB from the USTW and Walden University Institutional Review Board was delineated. Additionally, the process of obtaining the participants signed consent form before participating in this study and the participants exist process was explained.

The development of the instrument ED-SAFE provider survey, dependent variables, and independent variable (APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course) that was used in this study ae delineated (APNA, 2018; Betz et al., 2013). I used a single group pre and post-test quasi-experiment to examine the effect of APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course on the nurse leaders who work in the acute hospital in the Central Region of the US. The data obtained from the ED-SAFE provider survey was analyzed by using SPSS version 25 using the Wilcoxon Signed rank test.

Chapter 3 also outlined the plan to mitigate the potential threat to external, internal, construct, and statistical validity. This study outlined the ethical standards plan per Office for Human Research Protection to ensure confidentiality, privacy, and protections of the participants are upheld. I present the research process of the data collection and the results of my study in Chapter 4.

Chapter 4: Results

Introduction

The purpose of this study was to determine the effect of the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) on the KAB of nurse leaders toward suicide prevention in the USA hospital. This study measured the assumptions of the premise of the TPB, which posits that the attitude toward the behavior, behavioral intention, and PBC can predict human behavior (Ajzen, 1985, 1991). The research questions that guided this study related to the effect of APNA competency-based training for suicide prevention on nurse leaders' KAB toward suicide prevention. In Chapter 4, I present the data collection process compared to my previously outlined research plan and procedures. Additionally, Chapter 4 details the IRB process, recruitment process, intervention process, result from analysis, and the summary of findings.

Data Collection

A quasi-experimental, single-group pretest and posttest quantitative study was conducted to determine the effect of the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) on KAB of nurse leaders toward suicide prevention in U.S. hospitals. The nature of my study required outside partnerships during the data collection period. However, my partner organization did not have its own IRB. Therefore, I pursed IRB approval from Walden University. Upon receipt of IRB approval from Walden University, I started recruiting participants from June 14, 2020.

The data collection took over 5 weeks, starting with sending out the recruitment letter to several target populations (nurse leaders) via e-mail, Facebook, and LinkedIn. When the nurse leaders indicated an interest in participating in my study, I sent out a link to complete the eligibility survey, had them signed the consent form that contained detailed information about the study, and explained how to register for the training session with the organizational partner. The Survey Monkey link was shared immediately before and after the training session with an individual unique code so that the pre- and post-test could be matched. Forty-three participants were recruited; however, six did not meet the inclusion criteria. Therefore, 37 participants took the pretest, participated in the training session, and immediately took the posttest. Missing data were cleansed with listwise deletion as planned using SPSS.

I had to made minor adjustment in my data collection from the plan presented in Chapter 3. First, due to the unprecedented COVID 19 pandemic, the research plan was amended to the social distancing mandate to uphold infection prevention protocol. First, the target population location was extended to nurse leaders who work in U.S. hospitals (acute, subacute, or rehabilitation center). Second, Survey Monkey was used instead of the paper format. The unique participant code was changed from 1A and 1B to a randomly selected code between 202001 to 202050. Similarly, the partner organization was changed from an organization with IRB capabilities to another organization without IRB, warranting IRB approval from Walden University IRB only. However, the partner organization and I signed a cooperation partnership agreement. Finally, the partner organization offered the training session using the synchronized video digital platform

(Zoom) instead of the initial face-to-face plan. Participants were recruited via Facebook, LinkedIn, and e-mail instead of the initial plan of recruiting from some organizations after receiving e-mails from their human resources. After the data collection, the raw data were exported to Excel spreadsheets in a password-protected computer, recoded before manually and then exported to SPSS version 24 for data analysis. All the amendments were incorporated into the IRB application before approval.

Baseline Descriptive and Demographic Characteristics of the Sample

Among the 37 individual who participated, 83.8 % were female ($n = 31$) and 16.2% were male ($n = 6$). Thirty-six respondents reported their age; the oldest was 65 years old, and the youngest was 27 (Table 1). Among the thirty- seven respondents, most had been a nurse leader from 1 to 28 years (Table 1).

Table 1

Statistics

		Age	Years working as a leader
N	Valid	36	37
	Missing	1	0
Mean		47.33	8.24
Range		38	27
Minimum		27	1
Maximum		65	28

Note. a. Multiple modes exist. The smallest value is shown

Most of the respondents were Black or African American, 86.5% ($n = 32$; Table 2). Most of the participants 75.7 % ($n = 28$) were employed in the acute hospital. Almost half (37.8%, $n = 14$) held a Bachelor's of Science, but most 48.6% ($n = 18$) completed Masters in Nursing (Table 3).

Table 2

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Asian / Pacific Islander	2	5.4	5.4	5.4
	Black or African American	32	86.5	86.5	91.9
	Latinos/Hispanic	1	2.7	2.7	94.6
	White / Caucasian	2	5.4	5.4	100.0
	Total	37	100.0	100.0	

Table 3

Level of Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BSN	14	37.8	37.8	37.8
	MSN	18	48.6	48.6	86.5
	DNP	2	5.4	5.4	91.9
	PHD	3	8.1	8.1	100.0
	Total	37	100.0	100.0	

The APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course was offered as planned. The participants signed the consent form, and completed the demographic information offered via Survey Monkey platform. Next, the participants completed the pre-survey EDsafe Provider questionnaire and attended 1.5 hours APNA Competency Based Training for Suicide Prevention-Acute Care Setting course for non-psychiatric nurses offered by Smartcare Health Services. After the course, the participants completed the post the 20 minutes questionnaire about their KAB (skills) of suicide and suicide prevention with assigned unique code. There were no adverse events observed or reported during the intervention session.

Results

I used the Wilcoxon Signed-Rank Test to answer the research questions. Because the ED-SAFE has questions that are answered on a 4-point Likert Scale and some are answered on a 5-point Likert Scale, a two tailed Wilcoxon signed –rank test was appropriate to analyze the data. There are three assumptions of Wilcoxon signed –rank test (Laerd Sataistics, 2018). The first assumption is that the dependent variable should be measured at the ordinal or continuous level. The ED-SAFE provider survey used for data collection of this study consisted of eight item questions with subset questions about current experiences with caring for suicidal patients and screening. Two questions had multiple sub questions which were ranked on a 5-point Likert scale (strongly agree, agree, uncertain, disagree, and strongly disagree). Two questions had multiple sub questions which were ranked on a 5-point Likert scale (none, a few, some, most, and all), and there were nine demographic questions. The ED-SAFE rankings were measured at the ordinal level meeting this assumption. The second assumption of the two tailed Wilcoxon signed-rank test is that the independent variable should consist of two categorical, "related groups" or "matched pairs" which was met because my data were matched pairs of the pre and post- test. The third assumption of the two-tailed Wilcoxon signed-rank test is that the distribution is continuous. My data met this assumption.

Measuring Nurse Leaders' Knowledge.

There were 37 participants with no missing data. The medians of pre-test and posttest for knowledge were 3.0 and 3.0, respectively. A Wilcoxon Signed-rank test showed that there was a significant difference in nurse leader's knowledge after attending

the APNA Competency-Based Training for Suicide Prevention –Acute Care compare to before the training ($z = -3.392$, $p < 0.001$, $r = .56$).. The result suggested that the findings were statistically significant. Therefore, the null hypothesis was rejected.

Measuring Nurse Leaders' Attitude

Two ED-SAFE questions measured the nurse leader's attitude toward suicide prevention. For statistical rigor, these questions were analyzed separately. Question 1= "Universal screening for suicide will result in increased psychiatric evaluation." There were 37 participants with no missing data. The medians of pre-test and posttest were 3.0 and 4.0, respectively. A Wilcoxon Signed-rank test showed that there was a significant change in attitude after attending the APNA Competency-Based Training for Suicide Prevention –Acute Care compare to before the training (z = -3.619, $p < 0.001$, $r = 0.60$). The findings were statistically significant. Therefore, the null hypothesis was rejected.

The second question which measured attitude toward suicide prevention was "universal screening for suicide will slow down clinical care." There were 37 participants which was a 2.7% response rate. A Listwise deletion method was applied which resulted in 36 responses which eliminated all the missing data. The median scores of the pre-test and posttest were 1.0 and 1.0 respectively. A Wilcoxon Signed-rank test showed that there was no significant change in attitude after attending the APNA Competency-Based Training for Suicide Prevention –Acute Care compare to before the training (z=- 1.020, $p< .308$, $r= 0.17$).Therefore, the null hypothesis was retained .

Measuring Nurse Leaders' Behavior

Five ED-SAFE questions measured the nurse leader's behavior. A Listwise deletion method was applied which resulted in 35 responses which eliminated all the missing data. The medians of pretest and posttest are shown below (Table 4**).** A Wilcoxon Signed-rank test showed that there was a significant change in behavior after attending the APNA Competency-Based Training for Suicide Prevention –Acute Care compare to before the training:

- Question 1 "I am confident that I have the skills needed to screen patients for suicidality": z=-3.617, *p* <.0001, *r*=0.61.

- Question 2 "I am confident in my ability to further assess a patient's suicide risk severity": z= 3.562, *p* < 0001, *r* = 0.60

- Question 3 "I know how to provide brief counselling to suicidal patients" : z= 4.109, *p* < .0001, *r*= 0.69.

- Question 4 "I am confident in my ability to help patients at risk for suicide create a personalized safety plan": z= 4.336, *p* <.0001, *r*= 0.73.

- Question 5 "I am confident in my ability to help find referral resources for suicidal patients" z= 3.731*, p* <.0001, *r= 0.63.* The results suggested that the findings were statistically significant. Therefore, the null hypothesis was rejected.

Table 4

Descriptive Statistics: Wilcoxon

							Percentiles	
							50th	
	N	Mean	*SD*	Minimum	Maximum	25th	(Median)	75th
Pre Further Assess suicide risk-B	35	2.71	1.073	0	4	2.00	3.00	3.00
Post Further Assess suicide risk-B	35	3.51	.562	2	4	3.00	4.00	4.00
Pre Provide BC-B	35	2.49	1.095	0	4	2.00	3.00	3.00
Post Provide BC-B	35	3.34	.725	1	4	3.00	3.00	4.00
Pre Find RR-B	35	2.51	1.040	0	4	2.00	3.00	3.00
Post Find RR-B	35	3.34	.802	1	4	3.00	4.00	4.00
Pre screen for suicidality-B	35	2.80	1.023	0	4	3.00	3.00	3.00
Post screen for suicidality-B	35	3.54	.505	3	4	3.00	4.00	4.00
Pre CP Safety plan-B	35	2.37	1.031	0	4	2.00	2.00	3.00
Post CP Safety plan-B	35	3.40	.695	1	4	3.00	3.00	4.00

Summary

A Wilcoxon signed rank test analysis was performed to determine the pre and post effect of APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course on the KAB of nurse leaders toward suicide prevention. The results for research question 1 and 3 were statistically significant and the null hypothesis as rejected. However, the null hypothesis: (APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course will have no effect on nurse leaders' attitude toward suicide prevention) was retained from the response in ED-SAFE questions that measured the nurse leaders' attitude toward suicide prevention. In contrast, the response in question 1 that measured the nurse leaders' attitudes toward suicide prevention was statistically significant, and the null hypotheses was rejected.

In Chapter 5, I describe the details of the interpretation of the results findings, limitations of the study, recommendations, and implications to practice for positive social change, and clinical practice.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

I conducted a quasi-experimental, single group pre- and post-test matched-pairs study to examine the effect of the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) on nurse leaders' KAB. I obtained data using the ED-SAFE provider survey, which was provided to nurse leaders who were recruited from across the United States who participated in the APNA training. The pre- and post-data were matched using the individual participants' unique code. Using the Wilcoxon signed-rank test (nonparametric) analysis, there was a statistically significant difference in nurse leaders' knowledge and behavior toward suicide prevention after participating in the APNA training. However, I concluded that there was no statistically significant change in nurse leader attitude toward suicide prevention for a variable that suggested "universal screening for suicide will slow down clinical care." In this chapter, I present the interpretation of the study findings, discuss the limitations, make recommendations, and examine the implications to practice, knowledge, and effect on social change.

Interpretation of the Findings

My study's findings suggested that APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) has an effect on nurse leaders' knowledge and behavior about suicide prevention with a mixed result for attitude toward suicide prevention. This is consistent with the previous studies that demonstrated that suicide prevention training is associated with positive staff attitude and an increase in confidence to engage in suicide prevention behavior and skills (Kerr et al., 2018; Kishi et

al., 2014; Rebair & Hulatt, 2017). Pope et al. (2016) also found that suicide prevention

training had a positive effect on geriatric case managers in the assessment of suicide and

firearm safety. However, none of these studies focused on the nurse leaders. Therefore,

this was an important study to examine the effect of educational training on nurse leaders

toward suicide prevention. This study contributes to the current literature, emphasizing

the need to adopt a comprehensive suicide prevention approach, including increasing

staff training that promotes understanding of suicide epidemiology. The study also

contributed to the literature, suggesting targeted education about suicide prevention for

the nurse leaders, which improves patient safety (Betz, Brooks-Russell, et al., 2018;

Khubchandani, Wiblishauser, Price, & Thompson, 2011; Pope et al., 2016; Suicide

Prevention Resource Center, n.d.-b.).

Knowledge

Knowledge of the nurse leaders about suicide prevention was measured with a

variable that asked, "What proportion of suicide do you consider preventable?" Findings

from suggested that the leaders rated this variable higher post-APNA training, which is

similar with previous studies' findings indicating that that suicide prevention training

increased participants' knowledge toward suicide assessment, including asking for access

to a gun (Pop et al., 2016), and that training contributed to increasing healthcare

professionals' knowledge about suicide prevention (Boukouvalas, El-Den, Murphy,

Salvador-Carulla, & O'Reilly, 2020; Kishi et al., 2014). The results also supported

findings that demonstrated that nurses who take a course related to suicide prevention

have increased efficacy in caring for a patient (Gholamrezaei, Rezapour-Nasrabad,

Ghalenoei, & Nasiri, 2019). Other studies have demonstrated a correlation between suicide prevention training and increased healthcare staff knowledge of suicide phenomenology (Santos et al., 2014; Silva et al., 2016).

Attitude

There are a number of studies on the impact of staff attitude (positive or negative) on the patient outcomes and the effect of suicide prevention training on staff attitude (Jones, Krishna, Rajendra, & Keenan, 2015; Nebhinani, Jagtiani, Chahal, Nebhinani, & Gupta, 2017; Osafo, Akotia, Boakye, & Dickson, 2018; Tan et al., 2017). Suicide prevention training has been shown to be effective in changing nurses' attitude toward caring for patients with suicidal behavior (Briggs, 2018). Suicide prevention training was also inferred as an essential tool in changing the emergency room nurses' attitude in caring for the older population with suicidal behavior (Fry, Abrahamse, Kay, & Elliott, 2019). Similarly, Hayland et al. (2018) concluded that as the knowledge of staff increased, the negative attitude toward suicide prevention decreased.

In this study, the attitude of nurse leaders was measured by the proportion of the nurse leaders who responded to "Universal screening for suicide will result in increased psychiatric evaluation" and "Universal screening for suicide will slow down clinical care" (Betz, Arias, et al., 2015; Betz, Sullivan, et al., 2013, para.1). My study had mixed findings of the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course) effect on the nurse leaders' attitude toward suicide prevention. My findings supported those found in a recent study that evaluated the effect of education on the 50 non-psychiatric nurses' perceived self-efficacy on suicide prevention and care

(Blair, Chhabra, Belonick, & Tackett, 2018). In contrast, findings from the variable that measured if suicide will slow down clinical care were not significant ($z =$- 1.020, $p =$ .308). But Betz, Arias, et al. (2015) also found no significant relationship in the emergency room providers' belief that universal screening will slow down clinical care.

Behavior

Nurse leaders' behavior toward suicide prevention was measured by the proportion of nurses who self- reported having confidence in their skills and ability to screen a patient for suicidality, assess patients at risk for suicide, provide counseling to suicidal patients, create an individualized patient safety plan, and make an appropriate referral. My findings suggested that the nurse leaders' behaviors improved toward suicide prevention after participating in the APNA Competency-Based Training for Suicide Prevention (Acute Care Setting Course). These findings are consistent with the findings found with previous studies that suggested that suicide prevention training is correlated to positive staff attitude and an increase in confidence of nurses to engage in suicide prevention behavior and skills (Kerr et al., 2018; Kishi et al., 2014; Rebair & Hulatt (2017). Suicide prevention training has also improved non-psychiatric nurse's perceived self-efficacy (confidence) in caring for patients with suicide ideation (Blair et al., 2018).

Limitations

There were limitations to my study. The use of non-random sampling (convenience sampling) caused a threat to external and internal validity affecting the generalization of the study findings (Kenny, 2019; Knapp, 2016). Even though, effort was made to give every nurse leader in the United States an opportunity to participate,

generalizability was limited because the majority of the respondents were Black or African American, 86.5% (n=32). Another limitation affecting external and internal validity was the use of one group pretest posttest design because I did not use a control group.

Another major limitation of my study involved the history, testing, and instrumentation. Testing and retesting have the capability to influence the outcome of a study (Babbie, 2015). Even though I maintained consistency by using only an electronic survey format before and after the administration of APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course and I administered the posttest immediately, exposure of the nurse leaders to the test pre and after the training might have evoked emotional disturbance due to the sensitive topic of suicide. Secondly, the nurse leaders may have remembered the questions from taking the survey before the training. Another threat to validity was the self-report which may have influenced the outcome of KAB because confounding and extraneous variables such as years of experience, age, and educational level might have influenced the participants' responses.

Recommendations

Nurse leaders are instrumental in the promotion of suicide prevention in the hospital (TJC, 2019). I found that APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course had an effect on the nurse leaders KAB toward suicide prevention. Even though the sample size of this study was acceptable based on the power analysis, future research is needed using a larger sample size with appropriate ethnic diversity. In addition, the use of random sampling could increase the

generalization of the study outcome (Gray, Grove, & Sutherland, 2015). Therefore, research of the nurse leaders using a control group (controlling for years of experience, age, past experience with suicide prevention and academic level) to enhance generalization of the study outcomes is needed.

My study builds on the work of Betz, Brooks-Russell, et al. (2018) who found that some hospitals have nurse leaders who are skeptical on the preventability of suicide. Even though this study contributed to addressing this gap, future research to evaluate the impact of suicide prevention training on the nurse's leader's KAB toward suicide prevention in a real situation using positive patient outcomes to evaluate the impact of the education pre and post over time is needed.

Implications

Practice Implications and Positive Social Change

The importance of comprehensive suicide prevention in the hospital with nurse leaders championing the prevention process is imperative to increase quality patient care and save lives. This study contributes to the literature that addresses the effect of suicide prevention training on the nurse leaders KAB, which in turn, contributes to response to suicide prevention in the hospital. According to the APNA (2019), having a competent nurse with KAB about the epidemiology of suicide and suicide prevention contributes to suicide prevention. The role of nurse leaders in promoting safety in the hospital including suicide prevention has been documented in the literature (Adams, et al, 2018; Arkansas State University, 2016; Charlene Ingwell-Spolan, 2018; Susanne, Katie & Lisbeth, 2012). However, the findings of my study contribute to positive social change because my

research has contributed in enhancing the nurse leaders' KAB toward suicide prevention which may empower and equip nurse leaders with the tools to inform health care policies, projects, and programs of suicide prevention in the hospital.

The results of my study indicated that the nurse leaders' KAB toward suicide prevention were limited prior to participating in the APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course. However, participation in the training brought about improvement to the nurse leaders' KAB toward suicide prevention. Therefore, my study findings could inform the stakeholders and effect positive social change and nursing practice change through development of policies that may mandate suicide prevention competency-based training as part of nurse leaders' professional training. Secondly, at the organizational level, the findings may contribute to the discussion on the significance of utilizing APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course as an approved training specific to nurses to enhance the KAB of the nurse toward suicide prevention (APNA, 2018).

Theoretical Implications

This research was informed by TPB (Ajzen,1991) to examine the research questions and hypotheses aimed at evaluating the effect of the APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course on the nurse leaders' KAB toward suicide prevention. The basic concept of TPB is that human behavior can be predicted based on intention and perceived control (Ajzen, 1991; Boslaugh, 2019). My findings indicated a statistically significant change in the nurse leaders KAB toward suicide prevention before and after participating in the APNA Competency-Based

Training for Suicide Prevention –Acute Care Setting Course. These results support the theory of TPB that posits that an individual with essential resources and opportunities such as knowledge (PBC) and consideration of the action (attitude) including expectations (normative norm) will succeed in performing the behavior.

Recommendations for Practice

My study infers that participation in competency-based suicide prevention training have a positive effect on the nurse leaders KAB toward suicide prevention. Betz, Brooks-Russell, et al. (2018) and Betz, Arias, et al. (2015) also suggested that nurse leaders who received targeted suicide prevention education will achieve competency in the suicide prevention knowledge, attitude, and skills and will likely promote suicide prevention promotion in their organization.

<div align="center">

Conclusion

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Suicide is a global health issue. The consequences and the burden to individuals, communities, organizations, and the world cannot be over emphasized. Suicide prevention in the hospital is imperative to reduce sentinel events and promote patient safety (Platt, Arensman, & Rezaeian, 2019; TJC, 2019). Evidence exists that suicide prevention training can enhance healthcare staff KAB toward suicide prevention (Maina, Bukusi, & Kumar, 2019; Navin et al., 2019). This study evaluated the effect of APNA Competency-Based Training for Suicide Prevention –Acute Care Setting Course on the KAB of the nurse leaders toward suicide prevention in the USA hospitals.

My study findings provided evidence to support that the nurse leaders have limited KAB and that their participation in APNA Competency-Based Training for

Suicide Prevention –Acute Care Setting Course improved their KAB. My study supported the TPB which can effect positive social change at the individual and organizational level. Therefore, the nurse leaders training in suicide prevention is imperative to empower the nurse leaders to function effectively in the promotion of suicide prevention in the hospital.

References

Adams, J. M., Djukic, M., Gregas, M., & Fryer, A.-K. (2018). Influence of nurse leader

practice characteristics on patient outcomes: Results from a multi-state study.

Nursing Economics, 36(6), 259–267. Retrieved from

http://www.nursingeconomics.net/necfiles/2018/ND18/259.pdf

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In Kuhl, J.,

Beckman, J. (Eds.), *Action-control: From cognition to behavior* (pp. 11–39).

Heidelberg, Germany: Springer.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human

Decision Processes, 50*, 179–211. doi:10.1016/0749-5978(91)90020-T

Albright. E.A (n.d.). Descriptive statistics. Retrieved from

https://sites.nicholas.duke.edu/statsreview/descriptive/

Aldrich, R. S., Wilde, J., & Miller, E. (2018). The effectiveness of QPR suicide

prevention training. *Health Education Journal*, 77(8), 964–977.

doi:10.1177/0017896918786009

American Psychiatric Nurses Association. (2018). APNA competency-based training for

suicide prevention= acute care setting. Retrieved from

https://www.apna.org/i4a/pages/index.cfm?pageid=6512

American Association of College of Nursing. (2019a). Nursing fact sheet. Retrieved from

https://www.aacnnursing.org/News-Information/Fact-Sheets/Nursing-Fact-Sheet

American Psychiatric Nurses Association. (2019b). Psychiatric-mental health nurse

essential competencies for the assessment and management of individuals at risk

for suicide. Retrieved from

https://www.apna.org/i4a/pages/index.cfm?pageID=5684

Arkansas State University. (2016). The role of nurse leaders. Retrieved from

https://degree.astate.edu/articles/nursing/the-role-of-nurse-leaders.aspx

Ayaz, E., & Sarıkaya, R. (2019). The effect of engineering design-based science teaching

on the perceptions of classroom teacher candidates toward STEM disciplines.

International Journal of Progressive Education, 15(3), 13–27.

doi:10.29329/ijpe.2019.193.2

Babbie, E. (2015). *The basics of social research* (7th ed.). Boston, MA: Cengage

Learning.

Baggio, S., Kanani, A., Nsingi, N., Sapin, M., & Thélin, R. (2019). Evaluation of a

suicide prevention program in Switzerland: Protocol of a cluster non-randomized

controlled trial. *International Journal of Environmental Research and Public

Health, 16*(11). doi:10.3390/ijerph16112049

Berchtold, A. (2019). Treatment and reporting of item-level missing data in social

science research. *International Journal of Social Research Methodology, 22*(5),

431–439. doi:10.1080/13645579.2018.1563978

Betz, M. E., Brooks-Russell, A., Brandspigel, S., Novins, D. K., Tung, G. J., & Runyan,

C. (2018). Counseling suicidal patients about access to lethal means: Attitudes of

emergency nurse leaders. *Journal of Emergency Nursing, 44*(5), 499–504.

doi:10.1016/j.jen.2018.03.012

Betz, M. E., Arias, S. A., Miller, M., Barber, C., Espinola, J. A., Sullivan, A. F., …

Boudreaux, E. D. (2015). Change in emergency department providers' beliefs and practices after use of new protocols for suicidal patients. *Psychiatric Services, 66*(6), 625–631. doi:10.1176/appi.ps.201400244

Betz, M. E., Sullivan, A. F., Manton, A. P., Espinola, J. A., Miller, I., Camargo, C. A., Jr., … ED-SAFE Investigators (2013). Knowledge, attitudes, and practices of emergency department providers in the care of suicidal patients. *Depression and anxiety, 30*(10), 1005–1012. doi:10.1002/da.22071

Blair, E. W., Chhabra, J., Belonick, C., & Tackett, M. (2018). Non-psychiatric nurses' perceived self-efficacy after an educational intervention on suicide prevention and care. *Journal of Psychosocial Nursing and Mental Health Services, 56*(6), 43–51. doi:10.3928/02793695-20180305-03

Bolster, C., Holliday, C., Oneal, G., & Shaw, M. (2015). Suicide assessment and nurses: What does the evidence show? *Online Journal of Issues in Nursing, 20*(1), 2. Retrieved from http://ojin.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Vol-20-2015/No1-Jan-2015/Suicide-Assessment-and-Nurses.html

Boslaugh, S. E. (2019). Theory of planned behavior. Retrieved from https://search-ebscohost-com.ezp.waldenulibrary.org/login.aspx?direct=true&db=ers&AN=89677651&site=eds-live&scope=site

Boukouvalas, E., El-Den, S., Murphy, A. L., Salvador-Carulla, L., & O'Reilly, C. L.

(2020). Exploring health care professionals' knowledge of, attitudes toward, and

confidence in caring for people at risk of suicide: A systematic review. *Archives*

of Suicide Research, 24, S1–S31. doi:10.1080/13811118.2019.1586608

Briggs, A. (2018). Nurses' attitudes to supporting people who are suicidal in emergency

departments. *Emergency Nurse, 26*(1), 30. doi:10.7748/en.2018.e1785

Burkholder, G., J., Cox, K. A., & Crawford, L. M. (2016). *The scholar practitioner's*

guide to research design. Baltimore, MD: Laureate.

Centers for Disease Control and Prevention. (2019). Suicide prevention. Retrieved from

https://www.cdc.gov/violenceprevention/suicide/index.html

Centers for Disease Control and Prevention. (2018a). Injury prevention & control.

Retrieved from https://www.cdc.gov/injury/images/lc-

charts/leading_causes_of_death_age_group_2016_1056w814h.gif

Centers for Disease Control and Prevention. (2018b). Suicide mortality in the United

States, 1999-2017. Retrieved from

https://www.cdc.gov/nchs/products/databriefs/db330.htm

Cerit, B. (2019). Influence of training on first-year nursing department students' attitudes

on death and caring for dying patients: A single-group pretest–posttest

experimental study. *Omega: Journal of Death & Dying, 78*(4), 335–347.

doi:10.1177/0030222817748838

Chinn, P. L., & Kramer, M. K. (2015). *Integrated theory and knowledge development in*

nursing (9th ed.). St. Louis, MO: Mosby/Elsevier.

Choi, K. R., & Seng, J. S. (2015). Pilot for nurse-led, interprofessional in-service training

on trauma-informed perinatal care. *Journal of Continuing Education in Nursing, 46*(11), 515–521. doi:10.3928/00220124-20151020-04

De Berardis, D., Martinotti, G., & Di Giannantonio, M. (2018). Editorial: Understanding the complex phenomenon of suicide: From research to clinical practice. *Frontiers in Psychiatry, 9*. doi:10.3389/fpsyt.2018.00061

Dickens, G. L., Lamont, E., & Gray, S. (2016). Mental health nurses' attitudes, behaviour, experience and knowledge regarding adults with a diagnosis of borderline personality disorder: systematic, integrative literature review. *Journal of Clinical Nursing (John Wiley & Sons, Inc.), 25*(13–14), 1848. doi:10.1111/jocn.13202

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods 41*(4), 1149–1160. doi:10.3758/BRM.41.4.1149

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175–191. doi:10.3758/bf03193146

Fetaji, M., & Fetaji, B. (2018). Assessing data processing using Wilcoxon signed-ranks test for polyclinic management system — Case study. 2018 7th Mediterranean Conference on Embedded Computing (MECO), Embedded Computing (MECO), *2018 7th Mediterranean Conference On, 1–6*. doi:10.1109/MECO.2018.8405979

Fincham J. E. (2008). Response rates and responsiveness for surveys, standards, and the Journal. *American journal of pharmaceutical education, 72*(2), 43.

doi:10.5688/aj720243

Fontão, M. C., Rodrigues, J., Lino, M. M., Lino, M. M., & Kempfer, S. S. (2018).

Nursing care to people admitted in emergency for attempted suicide. *Revista*

Brasileira De Enfermagem, 71, 2199-2205. doi:10.1590/0034-7167-2017-0219

Fry, M., Abrahamse, K., Kay, S., & Elliott, R. M. (2019). Suicide in older people,

attitudes and knowledge of emergency nurses: A multi-centre study. *International*

Emergency Nursing, 43, 113–118. doi:10.1016/j.ienj.2019.01.003

Gholamrezaei, A., Rezapour-Nasrabad, R., Ghalenoei, M., & Nasiri, M. (2019).

Correlation between suicide literacy and stigmatizing attitude of nurses toward

patients with suicide attempts. *Revista Latinoamericana De Hipertension, 14*(3),

351-355. Retrieved from

http://www.revhipertension.com/rlh_3_2019/18correlationbetweensuicideliteracy.

pdf

Gray, R., J., Grove, S. K. & Sutherland, S. (2015). The practice of nursing research:

Appraisal, synthesis, and generation of evidence (8th ed.). St. Louis: Saunders.

Greenland, S., Senn, S. J., Rothman, K. J., Carlin, J. B., Poole, C., Goodman, S. N., &

Altman, D. G. (2016). Statistical tests, p values, confidence intervals, and power:

a guide to misinterpretations. *European Journal of Epidemiology, 31*(4), 337–350.

doi:10.1007/s10654-016-0149-3

Goh, Y.-S., Selvarajan, S., Chng, M.-L., Tan, C.-S., & Yobas, P. (2016). Using

standardized patients in enhancing undergraduate students' learning experience in

mental health nursing. *Nurse Education Today, 45*, 167–172.

doi:10.1016/j.nedt.2016.08.005

Goodfellow, B., Kõlves, K., & de Leo, D. (2018). Contemporary nomenclatures of suicidal behaviors: A systematic literature review. *Suicide & Life-Threatening Behavior, 48*(3), 353. doi:10.1111/sltb.12354

Graves, J. M., Mackelprang, J. L., Van Natta, S. E., & Holliday, C. (2018). Suicide prevention training: policies for health care professionals across the United States as of October 2017. *American Journal of Public Health, 108*(6), 760–768. doi:10.2105/AJPH.2018.304373

Haddad L. M, & Toney-Butler T. J.(2019). Nursing shortage. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK493175/

Heyland, M., Delaney, K. R., & Shattell, M. (n.d.). Steps to achieve universal suicide screening in emergency departments a call to action. *Journal of Psychosocial nursing and Mental health Services, 56*(10), 21–26.doi:10.3928/02793695-20180503-03

İnan, F. Ş. Günüşen, N., Duman, Z. Ç., & Ertem, M. Y. (2019). The impact of mental health nursing module, clinical practice and an anti-stigma program on nursing students' attitudes toward mental illness: A quasi-experimental study. *Journal of Professional Nursing, 35*(3), 201–208. doi:10.1016/j.profnurs.2018.10.001

Institute of Medicine. (2011). Committee on the Robert Wood Johnson foundation initiative on the future of nursing, at the Institute of Medicine. The future of nursing: Leading change, advancing health. Washington (DC): National Academies Press (US); 5, Transforming Leadership. Retrieved from:

https://www.ncbi.nlm.nih.gov/books/NBK209867/

Jager, J. J. Putnick, D. L., & Bornstein, M. H. (2017). More than just convenient: The scientific merits of homogeneous convenience samples. *Monographs of the Society for Research in Child Development, 82*(2), 13–30. doi:10.1111/mono.12296

Javier, J. R. (2018). The use of an educational video to increase suicide awareness and enrollment in parenting interventions among Filipinos. *Asian American Journal of Psychology, 9*(4), 327–333. doi:10.1037/aap0000144

Jones. T. M.(2017) Working with messy data. Retrieved from https://www.ibm.com/developerworks/library/ba-cleanse-process-visualize-data-set-1/index.html

Jones, S., Krishna, M., Rajendra, R. G., & Keenan, P. (2015). Nurses attitudes and beliefs to attempted suicide in Southern India. *Journal of Mental Health, 24*(6), 423–429. doi:10.3109/09638237.2015.1019051

Karras, E., Stokes, C. M., Warfield, S. C., Elder, H., Stephens, B., & Bossarte, R. M. (2018). The use of theory-based formative research to design suicide prevention messaging for U.S. Veterans in midlife. *Health Education & Behavior, 45*(6), 1016–1024. doi:10.1177/1090198118769344

Kenny, D. A. (2019). Enhancing validity in psychological research. American *Psychologist, 74*(9), 1018–1028. doi:10.1037/amp0000531

Kerr, S., Martin, C., & Fleming, M. (2018.). Preventing suicide; nurse education and the occluded issue of gender. *Nurse education in Practice*, 32, 58–63.

doi:10.1016/j.nepr.2018.07.004

Kishi, Y., Otsuka, K., Akiyama, K., Yamada, T., Sakamoto, Y., Yanagisawa, Y., …
Thurber, S. (2014). Effects of a training workshop on suicide prevention among
emergency room nurses. Crisis: *The Journal of Crisis Intervention and Suicide
Prevention, 35*(5), 357–361. doi: 10.1027/0227-5910/a000268

Knapp, T. R. (2016). Why Is the one-group pretest–posttest design still used? Clinical
Nursing Research, 25(5), 467–472.doi:10.1177/1054773816666280

Kuhlman, S. T. W., Walch, S. E., Bauer, K. N., & Glenn, A. D. (2017). Intention to enact
and enactment of gatekeeper behaviors for suicide prevention: An application of
the theory of planned behavior. Prevention Science: *The Official Journal of the
Society for Prevention Research, 18*(6), 704–715. doi:10.1007/s11121-017-0786-
0

Kumar, V., & Khosla, C. (2018). Data cleaning-a thorough analysis and survey on
unstructured data. 2018 8th International Conference on Cloud Computing, Data
Science & Engineering (Confluence), Cloud Computing, Data Science &
Engineering (Confluence), *2018 8th International Conference On*, 305–309.
doi:10.1109/CONFLUENCE.2018.8442950

Kusheba, J., & Mulvihill, K. (2018). A Patient's Suicidal Ideations and a Clinical Nurse
Leader's Responsibility. *Journal of Hospice & Palliative Nursing, 20*(6), 512.
doi: 10.1097/NJH.0000000000000501

Maina, R., Bukusi, D & Kumar, M. (2019). Suicide prevention by emergency nurses:
perceived self-efficacy in assessment, management and referral at Kenyatta

*National Hospital in Kenya. Annals of General Psychiatr*y, (1), 1.

doi:10.1186/s12991-019-0240-8

Manister, N. N., Murray, S., Burke, J. M., Finegan, M., & McKiernan, M. E. (2017).

Effectiveness of nursing education to prevent inpatient suicide. *The Journal of*

Continuing Education in Nursing, 48(9), 413-419. doi:10.3928/00220124-

20170816-07

Merrill, K. C. (2015). Leadership Style and Patient Safety Implications for Nurse

Managers. *Journal of Nursing Administration, 45*(6), 319–324.

doi:10.1097/NNA.0000000000000207

Muehlenkamp, J. J., & Hagan, C. R. (2019). Factors predicting intent to intervene with a

potentially suicidal peer. *Archives of Suicide Research*.

doi:10.1080/13811118.2019.1635933

Moraes, S. M., Magrini, D. F., Zanetti, A. C. G., dos Santos, M. A., & Vedana, K. G. G.

(2016). Attitudes and associated factors related to suicide among nursing

undergraduates, *Acta Paulista De Enfermagem 29*(6), 643-649. doi:10.1590/1982-

0194201600090

Mutale, W., Anne-Thora Vardoy-Mutale, Kachemba, A., Mukendi, R., Clarke, K., &

Mulenga, D. (2017). Leadership and management training as a catalyst to health

system strengthening in low-income settings: Evidence from implementation of

the zambia management and leadership course for district health managers in

zambia. *PLoS One, 12*(7) doi:10.1371/journal.pone.0174536

National Vital Statistics. (2019). Deaths: Final data for 2017.Retrieved from

https://www.cdc.gov/nchs/data/nvsr/nvsr68/nvsr68_09-508.pdf

Navin, K., Kuppili, P., P., Menon, V., & Kattimani, S. (2019). Suicide prevention strategies for general hospital and psychiatric inpatients: A Narrative Review." *Indian Journal of Psychological Medicine 41* (5): 403–12. doi:10.4103/IJPSYM.IJPSYM_169_19.

Ngwena, J., Hosany, Z., & Sibindi, I. (2017). Suicide: A concept analysis. *Journal of Public Health, 25*(2), 123–134. doi-10.1007/s10389-016-0768-x

Nebhinani, N., Jagtiani, A., Chahal,S., Nebhinani, M., & Gupta, R. (2017). Medical students' attitude toward suicide prevention: An exploratory study from North India. *Medical Journal of Dr. D.Y. Patil University, 10*, (3),277-280 (2017), (3), 277- d oi:10.4103/MJDRDYPU.MJDRDYPUpass:[_]277_16

Nebhinani, N., Mamta, Gaikwad, A. D., & Tamphasana, L. (2013). Nursing students' attitude toward suicide prevention. *Industrial Psychiatry Journal,* 22(2), 114–117. doi:10.4103/0972-6748.132922

Neville, K., & Roan, N., M. (2013). Suicide in hospitalized medical-surgical patients: Exploring nurses' attitudes. *Journal of Psychosocial Nursing & Mental Health Services, 51*(1), 35-43. doi :10.3928/02793695-20121204-01

Norman, G.(2010). Likert scales , levels of measurement and the "laws" of statistics. *Health Science Education 15*:625-63. doi: 10.1007/s10459-010-9222-y

Office for Human Research Protection (2018). The Belmont report. Retrieved from https://www.hhs.gov/ohrp/regulations-and-policy/belmont-report/read-the-belmont-report/index.html

Ortiz, J., Hofler, R., Bushy, A., Lin, Y. L., Khanijahani, A., & Bitney, A. (2018). Impact

of nurse practitioner practice regulations on rural population health

outcomes. *Healthcare (Basel, Switzerland), 6*(2), 65.

doi:10.3390/healthcare6020065

Osafo, J., Akotia, C. S., Boakye, K. E., & Dickson, E. (2018). Between moral infraction

and existential crisis: Exploring physicians and nurses' attitudes to suicide and the

suicidal patient in Ghana. *International Journal of Nursing Studies, 85*, 118–125.

doi:10.1016/j.ijnurstu.2018.05.017

Petersen, S. (2017). Human subject review standards and procedures in international

research: Critical ethical and cultural issues and recommendations. International

Perspectives in Psychology: Research, Practice, Consultation, 6(3), 165–178. doi

:10.1037/ipp0000072

Pieper, D., Kotte, N., & Ober, P. (2018). The effect of a voucher incentive on a survey

response rate in the clinical setting: a quasi-randomized controlled trial. *BMC

Medical Research Methodolog 18.* doi:10.1186/s12874-018-0544-4

Platt, S., Arensman, E., & Rezaeian, M. (2019). National suicide prevention strategies –

Progress and challenges. Crisis: *The Journal of Crisis Intervention and Suicide

Prevention, 40*(2), 75–82. doi:10.1027/0227-5910/a000587.

Pope, N. D. ., Slovak, K. L. ., & Giger, J. T. . (2016). Evaluating a training intervention

to prepare geriatric case managers to assess for suicide and firearm safety.

Educational Gerontology, 42(10), 706–716. doi:10.1080/03601277.2016.1218706

Puntil, C., York, J., Limandri, B., Greene, P., Arauz, E., & Hobbs, D. (2013).

Competency-Based Training for PMH Nurse Generalists: Inpatient Intervention and Prevention of Suicide. *American Psychiatric Nurses Association Journal, 19*, 205-210. doi: 10.11771078390313496275

Rape, C., Mann, T., Schooley, J., & Ramey, J. (2015). Managing patients with behavioral health problems in acute care. *Journal of Nursing Administration, 45*(1), 7–10. doi:10.1097/NNA.0000000000000149

Rebair, A., & Hulatt, I. (2017). Identifying nurses' needs in relation to suicide awareness and prevention. *Nursing Standard, 31*(27), 44–51. doi:10.7748/ns.2017.e10321

Saleh, A., & Bista, K. (2017). Examining Factors Impacting Online Survey Response Rates in Educational Research: Perceptions of Graduate Students. *Journal of MultiDisciplinary Evaluation, 13*(29), 63–74. Retrieved from https://eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED596616

Şengül, Ö. A. & Ünal, F. T. (2018). The effect of creative drama on pre-service teachers' communication skills. *Journal of Kirsehir Education Faculty, 19*(2), 1162–1173. doi:10.29299/kefad.2018.19.02.001

Sfantou, D. F., Laliotis, A., Patelarou, A. E., Sifaki-Pistolla, D., Matalliotakis, M., & Patelarou, E. (2017). Importance of leadership style toward quality of care measures in healthcare settings: *A systematic review. Healthcare 5*(4), 2227-9032. doi:10.3390/healthcare5040073

Silva, C., Smith. A. R, , Dorian R. D, Covington, D.W, & Thomas E. Joiner, T.E (2016). Suicide-related knowledge and confidence among behavioral health care staff in seven states. Psychiatric Services, 67(11), 1240–1245.

doi:10.1176/appi.ps.201500271

Simon, M. K., & Goes, J.(2013).Dissertation and scholarly research: Recipes for success
(2013 Ed). Seattle, WA, Dissertation Success, LLC.

Smith, A. R., Silva, C., Covington, D. W., & Joiner, T. E., Jr. (2014). An assessment of
suicide-related knowledge and skills among health professionals. Health
Psychology, 33(2), 110–119. doi:10.1037/a0031062

Snavely, T. M. (2016). Data watch. A brief economic analysis of the looming nursing
shortage In the United States. *Nursing Economic$, 34*(2), 98–100. Retrieved from
http://www.ajj.com/services/pblshng/nej/default.htm

Spurlock, D. R. (2018). The single-group, pre- and posttest design in nursing education
research: It's time to move on. *Journal of Nursing Education, 57*(2), 69-71.
doi:10.3928/01484834-20180123-02

Stone, D., Holland ,K.,Bartholow, B., Crosby, A.,Davis, S.,Wilkins, N. (2017).Preventing
Suicide : A technical package of policy, program, and practices. Retrieved from
https://www.cdc.gov/violenceprevention/pdf/suicidetechnicalpackage.pdf

Substance Abuse and Mental Health Services Administration. (2018). Assessing
workforce readiness to provide comprehensive suicide care. Retrieved from:
https://content.govdelivery.com/accounts/USSAMHSA/bulletins/20caf20

Suicide Prevention Resource Center. (n.d.-a). Core competency: Leadership. Retrieved
from https://www.sprc.org/grantees/core-competencies/leadership

Suicide Prevention Resource Center (n.d.-b). Effective suicide prevention. Retrieved
from https://www.sprc.org/effective-suicide-prevention

Tan, L., Yang, Q. H., Chen, J. L., Zou, H. X., Xia, T. S., & Liu, Y. (2017). The potential

role of attitudes toward suicide between mental health status and suicidal ideation

among Chinese children and adolescents. *Child: Care, Health & Development,*

43(5), 725–732. doi:10.1111/cch.12471

The Joint Commission. (2019). National patient safety goal expands focus on suicide

prevention. Retrieved from

https://www.jointcommission.org/dateline_tjc/national_patient_safety_goal_expa

nds_focus_on_suicide_prevention/

The Joint Commission. (2016). Sentinel event alert. Retrieved from

https://www.jointcommission.org/-/media/deprecated-unorganized/imported-

assets/tjc/system-folders/topics-

library/sea_56_suicidepdf.pdf?db=web&hash=9C09F51F8EC16B199D93865318

71375D

Tung, G. J., Pierpoint, L. A., Betz, M. E., Brooks-Russell, A., Brandspigel, S., & Runyan,

C. W. (2019). Gun retailers' willingness to provide gun storage for suicide

prevention. *American Journal of Health Behavior, 43*(1), 15–22.

doi:10.5993/AJHB.43.1.2

U.S. Army. (2009). Suicide awareness pamphlet for leaders. Retrieved from

https://www.detrick.army.mil/asap/pdf/SuicideAwarenessPamphletforLeaders.pdf

U.S. Department of Health and Human Services Office of the Surgeon General and

National Action Alliance for Suicide Prevention. (2012). 2012 National Strategy

for Suicide Prevention: Goals and Objectives for Action. Retrieved from

https://store.samhsa.gov/product/National-Strategy-for-Suicide-Prevention-2012-Goals-and-Objectives-for-Action/PEP12-NSSPGOALS

VanSickle, M., Werbel, A., Perera, K., Pak, K., DeYoung, K., & Ghahramanlou-Holloway, M. (2016). Perceived barriers to seeking mental health care among United States marine corps noncommissioned officers serving as gatekeepers for suicide prevention. *Psychological Assessment, 28*(8), 1020–1025. doi:10.1037/pas0000212

Venes (2013). knowledge (specify), readiness for enhanced. Taber's Cyclopedic Medical Dictionary, 22nd Ed. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=nup&AN=t0hALI-107340180411&site=eds-live

Zhou, G., Stoltzfus, J. C., Houldin, A. D., Parks, S. M., & Swan, B. A.(2010) Knowledge, attitudes, and practice behaviors of oncology advanced practice nurses regarding advanced care planning for patients with cancer. *Oncology Nursing Forum,* (6), E400. doi:10.1188/10.ONF.E400-E410

Zorrilla, M. M., Modeste, N., Gleason, P. C., Sealy, D.-A., Banta, J. E., & Trieu, S. L. (2019). Depression and help-seeking intention among young adults: The theory of planned behavior. *American Journal of Health Education, 50*(4), 236–244. doi: 10.1080/19325037.2019.1616014

Appendix A: Permission to Use ED-SAFE Provider Survey

Betz, Marian

Sun 11/24/2019 2:02 PM

• You;

• Ruth Ifodora

Yes, you may use it, as long as you cite it

https://www.ncbi.nlm.nih.gov/pubmed/23426881

The survey was completed on paper and research staff entered it into a database.

Emmy Betz, MD, MPH

Associate Professor | Department of Emergency Medicine | University of

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Research Physician | Eastern Colorado Geriatric Research, Education, and

Clinical Center (GRECC) | Veterans Health Administration

Deputy Director | Program for Injury Prevention, Education and Research

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Appendix B: Permission to Use Competency-Based Training for Suicide Prevention

Dear Ruth,

Thank you for your inquiry regarding the American Psychiatric Nurses Association Competency Based Training for Suicide Prevention – Acute Care Settings. I am pleased to provide you with this lease proposal for your consideration. It provides program learning objectives, an overview of the one-year lease, and a discounted registration pricing structure. I have also attached a copy of the lease agreement and checklist for your review. In addition, a short preview is available here.

By completing this competency based training, nurses who work in acute care will be able to:

• Understand the phenomenon of suicide.
• Complete a suicide risk assessment using the newly-developed APNA algorithm.
• Communicate the risk assessment and warning signs in written and verbal form to the healthcare team members.
• Assess the environment for hazards based on unit and personal levels.
• Develop an initial shared safety plan.
• Earn 1.5 continuing nursing education contact hours.

Features of the training lease package

• Online self-paced training of two facilitators to deliver the program (3.5 contact hours each, $59 list price per training)
• Access to all materials required to hold the training: Powerpoints, email templates, flyers, guided walkthrough of presentation
• Digital copy of participant workbook for facilitator to distribute to registrants - includes summary of course content, interactive exercises, resources, and references.
• Unique code that allows each of your learners to complete the online portions of the training (pre and post assessment, post-test) and obtain their continuing education contact hours and CE certificate within 60 days of registration.
• Suicide Risk Assessment Algorithm Cards to help the nurses apply the knowledge to their practice (shipping and handling included)
• Support and quarterly reports

Program Overview

The APNA Competency Based Training for Suicide Prevention – Acute Care Settings is an in-person workshop (with some online components) led by your trained facilitators. APNA offers a one-year lease package, which includes the tools you need to conduct this training at your organization, and the flexibility to determine the number of participants you wish to train on a schedule that works

for you. When your organization purchases the lease, you will select the number of registrations you would like to purchase for the training. (Priced separately.) Registrations are available to you at discounted rates that increase as you purchase more seats. (Pricing structure below). You determine how many trainings you hold and how many nurses attend each training, so long as the total number of nurses who complete the training within the year timeframe is in line with the number of registrations you purchased.

The lease includes online facilitator trainings for two of your staff, the competency based training materials, and the ability to select the number of seats you need for the training. Each seat ordered includes the continuing education contact hours for the training and a laminated card of the APNA suicide risk assessment algorithm.

The two facilitator trainings are distributed via access to an online self-paced program (3.5 contact hours) that will train two of your own nurses to facilitate the APNA Competency Based Training for Suicide Prevention – Acute Care Settings at your institution. Once the facilitators complete this training, they gain online access to the PowerPoints, participant handbook, and other resources necessary to host and deliver the workshop. Facilitators will have access to these materials for the duration of the year lease so that they can provide the training to the number of nurses for which your organization purchased registrations and on a schedule you determine.

Workshop participants will gain access to the online portions of the training via a discount code unique to your organization and valid for the number of registrations you purchase. Your participants must complete all components of the training (online and live) within 60 days of their registrations. In addition to the training itself and the contact hours, each registration also includes a printed and laminated suicide risk assessment algorithm card which your nurses can carry with them as they apply their new knowledge to their daily practice.

APNA will provide support to your nurses and facilitators as your institution delivers the program. Your institution will be emailed quarterly reports throughout the year that include who has progressed through and completed the training, how many registrations are left, and pre and post-assessment summaries.

Pricing

The APNA Competency Based Training for Suicide Prevention – Acute Care Settings is priced at $300 for a 1-year lease. Registrations for the training are purchased in addition to this lease and are offered in bundles for a discount. The discount increases as the number of courses purchased increases. (This is based on the number of registrants you anticipate at your in-person training(s).) The final amount your organization pays will be the $300 fee for the leasing of the content plus the cost of the registrations you purchase based on the pricing structure below.

1 Year Lease: $300

Bundled Registration Pricing

Purchased in
Blocks of: Total
1-5 $18/person $90 for 5
6-10 $17/person $170 for 10
11-15 $16/person $240 for 15
16-20 $15/person $300 for 20
More than 20 $10/person $210 for 21

If you have any questions, please feel free to contact me.

Be Safe,

Nick
Nicholas Croce Jr., MS
Executive Director
American Psychiatric Nurses Association
www.apna.org
Notice from American Psychiatric Nurses Association: Please note that the information contained in this message may be privileged and confidential and protected from disclosure.

Appendix C: Demographic Survey

ID

Today's Date

What is your gender? Male, Female

What is your age?

What is your marital Status? Married, Separated, Divorced, and Single

What is your race? Black or African American, Latinos, Caucasians, Indians, and Asia

What is your practice setting?

How many years have you been working as a registered nurse?

How many years have you been working as a nurse leader?

What is the highest level of degree you have received in nursing? Associate degree, BSN,

MSN, DNP, PHD

Appendix D: Pre-Participant Screening Questions

Are you currently employed in the South Central US? Yes, NO (No, no further action is required, yes, click continue)

Do you practice in the acute, subacute or rehabilitation center? Yes, No (No, no further action is required, yes, click continue)

Have you taken the APNA CBTSP in the past? Yes, No (Yes, no further action is required, no, please reply to our email)