

2019

Effects of Increasing Education for Clinicians on Stress While Treating Pressure Injuries

Roscelyn Garner
Walden University

Follow this and additional works at: <https://scholarworks.waldenu.edu/dissertations>



Part of the [Medicine and Health Sciences Commons](#)

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Health Sciences

This is to certify that the doctoral dissertation by

Roscelyn Shannon Louise Garner

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

Review Committee

Dr. Suzanne Richins, Committee Chairperson, Health Services Faculty

Dr. Kenneth Feldman, Committee Member, Health Services Faculty

Dr. Loretta Cain, University Reviewer, Health Services Faculty

The Office of the Provost

Walden University
2019

Abstract

Effects of Increasing Education for Clinicians on Stress While Treating Pressure Injuries

by

Roscelyn Shannon Louise Garner

MA, San Francisco State University, 2005

BS, San Francisco State University, 2003

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health

Walden University

November 2019

Abstract

Previous healthcare professionals researched the effects of treating and healing pressure injuries within long-term care facilities. This study was conducted to explore the stress clinicians face when treating pressure injuries in the long-term care setting. This qualitative study provides information for the need to educate nurses about treating and healing pressure injury. It was derived from a phenomenological study that incorporated real life perspectives of individuals responsible for treating and healing pressure injury. This study was guided by Castles and Ferguson's conceptual framework related to employee perceptions on pressure injuries, employee level of education and knowledge about improving quality initiatives can impact treatment protocols on pressure injuries. This study was conducted in 3 nursing facilities in California using data collected voluntarily using the Pressure Ulcers Knowledge Test by Pieper and Zulkowski tool. Data were collected from surveys with 24 participants and 2 interviews. The demographic information and narrative interviews were transcribed through use of NVIVO to identify themes and coded for analysis of these phenomenological perspectives. The pressure injury data was analyzed using SPSS. The analysis reflected that Registered Nurses are key to treating and healing pressure injuries. Education and reduction of stress during the treatment of pressure injuries improves outcomes. The study results showed participants felt satisfaction when they minimize pressure injuries to residents within long-term care; clinicians stress also decreased through increased education for them and systematic changes with early education during clinical rotations to impact social change with leaders in long-term facilities.

Effects of Increasing Education for Clinicians on Stress While Treating Pressure Injuries

by

Roscelyn Shannon Louise Garner

MA, San Francisco State University, 2005

BS, San Francisco State University, 2003

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health

Walden University

September 2019

Dedication

I like to dedicate this PhD to my children Jacquell, T'keyah, and Darnell, and my grandson, Ja'Moni, for being my continued inspiration and blessing to complete my PhD. Thank you to my father, Ronald Garner (RIP), and nana, Margaret Wilkerson (RIP), for encouraging me to never stop my education for your unconditional love and support. My two god-daughter's Nakeysha and Sade. My godfather Ronnie and god-sister Patricia for always being positive and uplifting.

Acknowledgments

I would like to thank Dr. Suzanne Moss Richins and Dr. Kenneth Feldman for being committee chairs and my leading guidance and support. You have been there through some challenging times for achievement of this degree including a major car accident and the loss of my brother. Thank you to Soror Dr. Jeronica Goodwin for your extra work efforts, late nights, support and encouragement. Thank you to Jen, my dissertation advisor. Thank you to my Utilization Review Board, Dr. Tammy Root and Walden University for all the resources available and the residencies leaders.

Many thanks mom, sister and brother, immediate family and to a host of other family and friends that have given support through a kind words, prayer or other genuine gestures. Thank you to the contributors who participated as a volunteer or gave interviews and allowed your organization to participate as a voice for future education.

(2 Corinthians 9:11-12) “You will be enriched in every way so that you can be generous on every occasion, and through us your generosity will result in thanksgiving to God. This service that you perform is not only supplying the needs of the Lord’s people but is also overflowing in many expressions of thanks to God.”

Table of Contents

List of Tables	iv
List of Figures	v
Chapter 1: Introduction to the Study.....	1
Background	1
Problem Statement	2
Purpose Statement.....	3
Research Question	4
Conceptual Framework.....	4
Nature of the Study	5
Definitions.....	5
Assumptions.....	6
Scope and Delimitations	7
Limitations	7
Significance.....	8
Conclusion	9
Chapter 2: Literature Review	11
Introduction.....	11
Literature Search Strategy.....	13
Conceptual Framework.....	14
Key Statements and Definitions in the Framework	16
Literature Review Related to Key Variables and/or Concepts	16

Identify Germane Scholarship	18
Previous Research.....	20
Synthesize Studies Related to Research Question	21
Conclusion	22
Chapter 3: Research Method.....	24
Introduction.....	24
Research Design and Rationale	24
Role of the Researcher	25
Biases	26
Methodology.....	27
Ethics	29
Summary and Conclusions	29
Chapter 4: Results.....	30
Introduction.....	30
Demographics	30
Data Collection	31
Data Analysis	32
Evidence of Trustworthiness.....	33
Results	34
Descriptive Review.....	36
Narrative Interview Responses	37
Themes.....	42

Conclusion	44
Chapter 5: Discussion, Conclusions, and Recommendations.....	45
Introduction.....	45
Interpretation of Findings	45
Limitations	46
Recommendations.....	47
Implications.....	48
Conclusion	48
References.....	49
Appendix A: Question from Survey Focused on Wounds (Partial)	57
Appendix B: Statistical Results for Correct Responses	58
Appendix C: Statistics on Articles Read.....	61
Appendix D: Interview Questions and Themes	65
Appendix E: Pieper-Zulkowski Pressure Ulcer Knowledge Test Version 2	66

List of Tables

Table 1 *Descriptives*35

Table 2 *Descriptions Based on Years of Experience and Gender*35

List of Figures

Figure 1. Continuum of effects of clinicians	15
Figure 2. Graph for coding clinical education effects.....	42
Figure 2. Graph for coding clinical education effects.....	42
Figure B1. Years of exp./answer correct responses.....	59
Figure B2. Job category answered correctly on pressure ulcers.....	60
Figure C1. LASTRead responses within less than >1 or < 3 pressure ulcers.....	61
Figure C2. Crosstab on read articles based on education level.....	61
Figure C3. Crosstab on read articles based on job category.....	62

Chapter 1: Introduction to the Study

Pressure ulcers have presented challenges in the long-term care community and have impacted quality of life for residents. Pressure ulcers are a “serious problem and presents adverse effects on healthcare compromising patient safety” (Vasconcelos & Calir, 2015, p. 1). Multiple risk factors impact quality of life and the continued effects of long-term care patients suffering from pressure ulcers. This study was conducted for healthcare clinicians and those interacting with in long-term care settings with pressure ulcers (see Zimmerman, Karon, Robinson, & Beutel, 2000). Research shows that more education is needed for clinicians who are responsible for treating and healing pressure ulcers in the long-term care setting (Cotter & Trevellini, 2010). For this study, clinicians are included registered nurses, licensed vocational nurses, certified nurse assistants, activities directors, occupational therapists, and administrator/executive directors. This research may indicate a need for more educational resources prior to graduation from nursing school. Additionally, changing assessment and treatment practices may help improve quality of life and decrease mortality rates.

Background

Pressure injury have affected the long-term care community for many years (Brandeis, Morris, Nash, & Lipsitz, 1990). Pressure injuries are measured from Stage 1 to unstageable and can be fatal within the elderly population. Preventative measures for assessment and treatment are necessary to impact healing outcomes (Jaul & Menzel, 2014, p. 2). Clinicians are the primary contacts responsible for treatment, assessment,

and healing pressure injuries starting with the admission process. A resident with acquired pressure injuries must be assessed and treated immediately. An untreated pressure injury can have detrimental effects on the resident and staff (Koy, Angsuroch, & Fisher, 2015). There is also a relationship between quality of care and staffing environment, job satisfaction, and burnout (Koy et al., 2015). The complexities of treatment and healing pressure injuries are problematic for clinicians during treatment and healing, which impacts quality outcomes. Healing pressure injuries and chronic wounds can be a challenge during the treatment and healing process (Thomas, 2013). Continuous treatment of pressure injuries will produce future outcomes hoping to change social perceptions in all settings.

I conducted this quantitative study incorporating phenomenological design to capture the correlation between increased education and training and reduced quality of care outcomes related to pressure ulcers. A study of pressure ulcers and the stress it places on clinicians may be related to a lack of education in the long-term setting. This study will hopefully address issues and have a direct effect on quality of care outcomes.

Problem Statement

Pressure injuries are an issue in the hospital and nursing home industry among geriatric patients. The Centers for Disease Control (2009) revealed that 11% of nursing home residents experienced pressure injuries in 2004 with an association of other diagnoses as comorbidities. Researchers have determined best practices to reduce or prevent pressure injuries include increased education for improvement of quality of life. For example, Armstrong et al. (2008) stated that pressure ulcers in the hospital setting are

a preventable event. In some cases, nursing staff applied costly wound healing treatments to patients who were sent to skilled nursing facilities (Castle & Ferguson, 2010). Skilled nursing facility leaders must report pressure injuries to regulatory agencies as sentinel events (Rantz, Flesner, & Zwygart-Stauffacher, 2010). Sentinel events are an unexpected occurrence needing immediate attention that can lead to physical harm or death (Joint Commission, 2013).

This study addressed education of clinicians related to treating and healing pressure injuries in the skilled nursing home and the stress it causes them as well as the effects on quality of care results. Research has indicated that more research is necessary on whether more education to the geriatric community reduces stress in nurses (Singh et al., 2014). Increased education to reduce pressure injuries is necessary to produce the quality outcomes in clinicians relating to stress. The connection with pressure injuries and work-related stress has an impact on clinicians (Andersen, Smith, & Havaei, 2014). The admission and assessment process of pressure ulcers by clinicians is key from an educational perspective for residents in long-term settings. Clinicians must have the proper education to treat, assess, and heal them while improving quality of life.

Purpose Statement

The purpose of this study was to analyze how the knowledge of pressure injuries among clinicians impacts their ability to treat and heal pressure injuries. I surveyed 24 clinicians in three care facilities and interviewed two clinicians to determine the factors that may reduce stress and improve care.

The results of this research could impact outcomes from governmental regulators assessing nursing homes while analyzing the sentinel events through the OSCAR (On-line Survey, Certification, and Reporting System) report. Additionally, this research may reflect an increased level of confidence and reduction of stress resulting from more educated clinicians who treat pressure injuries to promote healing and subsequently improve the quality of care.

Research Question

Can more education be designed to prevent pressure injuries and decrease stress of clinicians who treat and heal pressure injuries?

Conceptual Framework

Pressure injuries impact the quality of care for the nursing home residents. This research incorporated Castles and Ferguson's (2010) conceptual framework related to pressure injuries and the level of education on pressure injuries that impact treatment protocols. I used Castle and Ferguson's work based on Donabedian's structure, process, and outcomes (SPO) model to review quality indicators in nursing homes. Structures refer to organizational characteristics associated with care, process refers to things done to and for a resident being treated, and outcomes are the desired states for a resident being treated (Castle & Ferguson, 2010). I used this model to review whether quality initiatives have an impact on the reduction of pressure ulcers and education (see Castle & Ferguson, 2010). I used several resources to look at improvements within facilities by applying the SPO model to state and federal survey deficiencies and quality initiatives for

quality improvement. The SPO model allowed for an assessment on pressure injuries, education, and the impact of stress during the treatment and healing process.

Nature of the Study

This quantitative study included a phenomenological design to analyze the correlation between increased education and training and reduced quality of care outcomes for pressure injuries. I surveyed 24 clinicians at three care facilities in California using Pieper and Zulkowski's (2014) Pressure Ulcer Knowledge Test, and I interviewed two clinicians to gather their perceptions and knowledge on pressure injuries and stress. Surveys were conducted by contacting leaders of the organizations and requesting research at their sites. The stages of pressure injuries (stages 1-4), and those who are requested to participate as inclusionary respondents to include all clinicians may have knowledge working in nursing facilities, reading scholarly resources, or educational learning institutions. The collected data were entered into NVIVO and SPSS.

Definitions

Pressure ulcers: Pressure injury, defined by the National Pressure Ulcer Advisory Panel (NPUAP, 2014), is a lesion caused by unrelieved pressure that causes damage to the underlying tissue(s), while friction and shear are present factors to the development of pressure injuries. Pressure injuries range in stage from 1 to 4 with multiple comorbidities affecting the elderly population. Pressure injuries are also known as bedsores or decubitus ulcers. Bedsores most often develop on skin that covers bony areas of the body, such as the heels, ankles, hips and tailbone.

The NPUAP (2014) has updated the term *ulcer* to *injury for pressure injury*. Within this manuscript *pressure ulcer* and *pressure injury* are used interchangeably. For this research, the old pressure ulcer definition applies, though it is important to note that pressure injury is now described with tissue loss and anatomical features.

Quality: In this study, quality was measured in terms of structures, processes, and outcomes. Structural measures are organizational characteristics associated with the provision of care, process measures are characteristics of things done to and for that resident, and outcomes measured are the desired states one would like to achieve for the resident (Castle & Ferguson, 2010).

Assumptions

This study makes assumptions based on the phenomenological assumptions. The research design focused on the assessment, education and stress encompassed in the skilled nursing environment. The assumptions provided analysis and conceptual researched outcomes for providing delivery of care, system outcome utilizing SPO framework as an example by Castle and Ferguson, 2010 and education and reduction of stress with clinician to treat and heal pressure injuries. Therefore, the assumption of increased access to education, access to system and immediate assessment upon admission can support the improvement of quality of care and the research question the more education be designed to prevent pressure injuries and decrease stress of clinicians who treat and heal pressure injuries.

Scope and Delimitations

This study was based in the Bay Area consisting of surveys and interviews utilizing the Pressure Ulcers Knowledge Test by Pieper and Zulkowski (2014) tool as well as independent approved questions used for the interviews. The host sites were skilled nursing facilities providing rehab, sub-acute, and standard skilled nursing services. All individuals were invited to participate with experience in nursing facilities that participate with resident care.

The delimitation was the approval process with multiple sites for access. Additionally, participation was scarce secondary to illness, conflict in scheduling, or surveys at several facilities. I made several visits to 1 or 2 facilities and the participation and support for onsite leadership was minimal due to various reasons on the day of arrival. For example, conflict in scheduling, or meeting of the day. Facilities nursing home administrators wanted to participate, unfortunately, they have corporate and regional directors concerns would not allow third party research to be conducted. The selected facilities participated. An audio was used with permission on for accuracy for transcription only.

Limitations

The limitations that presented during this research study were geographic locations and gaining access to participants. Accessing data on education and stress on the web was a bit challenging. Therefore, utilizing the Walden library resources and academic advising and the was instrumental in acquiring the relevant resources for databases, articles, journals, and utilizing APA formatting. Additionally, the access to

pressure injury, education on pressure injury, cross-referenced with clinicians experiencing stress from treating and healing pressure ulcers and study was not immediately revealed. The researched is visible for pressure injury individually at large. The work on education and pressure injury and clinicians presents a limitation. The measure for addressing limitations was to working with my committee chair and dissertation academic advising. Additionally, working with Walden Residency 4 and serving as a panelist allowed me access to a robust question and answer session as well as resourceful information from Walden library and resource guide. The process allow for completion and added to the literary review and access to NVIVO and SPSS.

As a result, I was able to process data for scoring, create word clouds, and from a conceptual framework based on the research design researching pressure injury and representing resident and clinicians add value to the outcomes on quality of care.

Significance

The prevalence of pressure injuries is reviewed during an annual regulatory survey process. The reports submitted to the government about each resident contain scores for each patient's pressure injuries under the quality of care section. Nursing homes receive a comparative analysis score with the state and national averages on several key areas, including pressure injuries. Nurse employees then become aware of the focus, internally and externally, on the outcomes of pressure ulcers (Zimmerman, et al., 2000). For example, the OSCAR report is used by several agencies to review quality of care within nursing facilities (Zimmerman, et al., 2000).

This research addresses the need for more research on pressure injury treatment and healing and the stress placed on clinicians, especially from the negative perceptions of health care associated with pressure injuries. The intent of this study was to encourage increased education for clinicians. Increasing education for nursing staff will impact the evaluation of nursing assessments and avenues for identification of pressure injuries, which will aid in the discussion of employee perception and education leading to quality of care outcomes for pressure ulcers (Zimmerman, et al., 2000).

Conclusion

More education is needed to affect health outcomes (Cotter & Trevellini, 2010), which my research addressed by examining whether there is a connection between education and pressure injuries treatment. I assessed clinicians' age, gender, years of study, and whether they had read articles on pressure injuries care. I also interviewed two clinicians, which provides narrative, real-life experiences and adds validity and reliability of the data presented within the study.

Although treating pressure injuries may be costly, with adequate education cost may be significantly reduced. If clinicians with increased education and resources can impact the daily treatment processes, they will contribute to better quality of care outcomes, which affects the OSCAR reporting and other health care initiatives (Berg et al., 2002). Thus, this study provides information that can encourage improved education for clinicians treating pressure injuries within long-term care settings.

Chapter 2 is focused on a literary review of those notable writers who contributed to the subject for research. The writings selected for this research created a foundation to support the need for research on pressure injuries.

Chapter 2: Literature Review

Introduction

In this study, the goal was to analyze whether education had an impact on clinicians who treat and heal pressure injury. Pressure injuries are a common problem in the nursing home industry, and nursing homes have received regulatory violation complaints, which can lead to citations and fines based on evidence of continued concerns relating to pressure injuries that are documented as a sentinel event. A sentinel event is an event that could cause harm or injury to an individual, and they reflect the quality of care in hospital care settings (CMS, 2014; Rantz et al., 2010). Geriatric patients have suffered from pressure injuries with a prevalence of 11% and cost amounting up to \$500 to \$70,000 per wound annually in nursing home communities, and studies continue to focus on a need for understanding contributing factors for treatment and healing (Boyko, Longaker, & Yang, 2016).

Pressure ulcers are monitored to ensure that quality of care in nursing facilities produce satisfactory outcomes for residents in the geriatric population, which have affected approximately 3 million adults (Lyder & Ayello, 2008). Pressure ulcer assessments and treatment protocols for nursing staff include minimum data sets to produce pressure ulcer quality improvement reports, providing oversight into quality measures and allowing research to reflect any clinical stress related outcomes. Clinicians in facilities must complete nursing assessments and other clinical information that are collected, entered into the database, submitted and analyzed on the minimum data sets submitted by facilities. Government officials at the state and national levels monitor to

see when a pressure injury is acquired within a nursing facility (Harrington, 2000).

Deficiencies of pressure injury's with federal oversight affect the perception of nursing facilities' quality of care and outcomes relating to stress of clinicians (Harrington, 2000).

Nurses face multiple stress-related tasks of healing and treating pressure injuries from Stages 1 to 4, possibly including those that are deemed un-stageable. For example, pressure injuries may indicate whether nursing staff have provided quality of care (Rahman et al., 2015). Patient encounters with staff have highlighted the need to increase nursing knowledge because of connections between nurses' lack of knowledge and improvement of care (Zamanzadeh, Valizadeh, Tabrizi, Behshid, & Lotfi, 2015). The incidence of pressure injury can lead to stress due to the stigma of bad care, as research has shown a correlation between staff, quality of care, and satisfaction of employees and job burnout (Koy et al., 2015). Research has indicated nurses' stress levels as a component in the outcomes of quality of care in long-term care, and assessments and satisfaction for adequate quality of care for patient outcomes and teamwork work hand in hand (Koy et al., 2015). Education received prior to entering long-term care communities and during their stay impact employee outcomes, indicating a need for more education to nursing programs' curriculum on pressure ulcers and handling stress during the treatment of pressure ulcers as well as emphasizing state and federal regulatory survey compliance (Singh, 2015). Thus, education for clinicians on a continuous basis is necessary to reduce employee stress during treating and healing pressure injuries.

The literature review provided support on the social implications of this research and the future influences during clinical treatment of pressure ulcers (Wipke-Tevis et al.,

2004). Analysis of stress, education, and the incidence of pressure injuries may sway social perceptions about the quality of care by identifying the cause of pressure ulcers and their subsequent comorbidities. Keywords and phrases were used to collect the literature for this research and determine outcomes of the study and the framework for this project. This chapter identifies key writings relevant to pressure ulcers and discusses the structure and phenomena applicable to pressure injury, quality of care, treatment and healing of wounds. This chapter is also focused on the foundation of pressure injury and key variables of education and employee's perception of stress.

Literature Search Strategy

The literature review consisted of searches for *pressure ulcers*, *stress*, and *education*, which provided peer-reviewed articles and websites as literature for this study. The following are the databases I used to access research: Google, Google Scholar, Walden Library (ULRICHSWEB; Peer-reviewed), and Wiley Online Library. I searched for articles on the following topics: pressure ulcers; nursing school education & pressure ulcers; employee stress & pressure ulcers; employee stress, pressure ulcers, long term care, minimum data sets & pressure ulcers; wound care & long-term care; sentinel events & pressure ulcers; nursing homes & pressure ulcers; federal surveys & pressure ulcers; state surveys & pressure ulcers; and online survey certification and reporting (OSCAR) & pressure ulcers. I used the following key terms: *nursing facilities*, *pressure ulcers*, *stress*, *long-term care*, *state and federal surveys*, *education*, *sentinel events*, *OSCAR reports*, and *minimum data sets*. Literature that was over 5 years old; research from other countries; and research not specific to pressure injury, education, and stress were excluded. There

was a massive amount of literature on pressure injury, so the exclusion was to narrow the focus to key terms and literature written within 5 years.

A summary of the evidence yielded an abundant amount of research on pressure injury. This data came from authors, journals and books that were cross-referenced among the databases and websites. The literature used in this research produced relevant, updated and current analytical data on pressure ulcers in long-term facilities and healthcare settings in the U.S. and abroad. For example, Jaul and Menzel (2014) and Castle and Ferguson (2010) provided work that was instrumental for my research. After the initial search, the selected writers were cross-referenced with databases on Walden, Google books, JSTOR, Oxford journals, Wiley Online, *The Gerontologist*, *Journal on Aging*, and Sage Publications. Additionally, the CMS website produced information, definitions, analytical data and research outcomes that provided a great resource for data on a range of topics for a variety of scope in practice.

Conceptual Framework

Conceptualization is a “network or plane of concepts” that is expanded and based on previous research (Jabareen, 2009). In this study, I used a conceptual framework based on the perception of pressure ulcers, stress, and lack of education using an interpretive approach relating to the social and cultural reality of pressure injury’s in nursing homes. Conceptualizing pressure injuries and interpreting whether the lack of education affected the employee stress during the healing and treatment processes was the goal of my research. Figure 1 depicts a model with pressure ulcers as the center of the research focus. The connecting circles highlight the key factors that aided in

conceptualizing pressure ulcers originating in the geriatric population within nursing facilities.

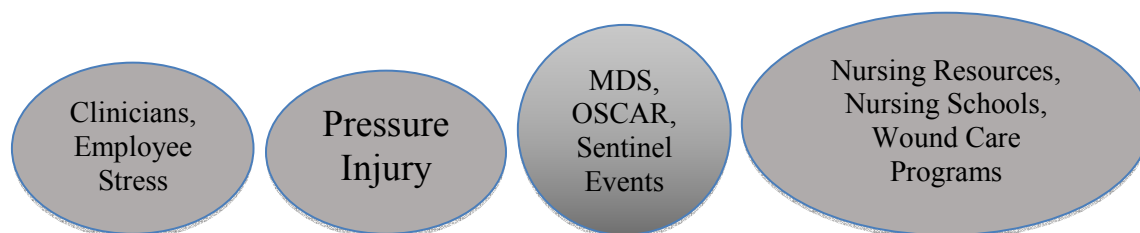


Figure 1. Continuum of effects of clinicians. MDS refers to minimum data sets.

During the search for conceptualization of pressure ulcers, I found multiple variations on pressure ulcer development including treatment, assessment, and comorbidities affecting the healing process (Jabareen, 2009). For example, Aljezawi et al. (2014) noted that acutely ill residents with multiple comorbidities and multiple key variables are part of analyzing pressure ulcers in nursing facilities. Ayello and Levine (2008) were also cited by multiple theorists and provided research on the pressure ulcer continuum, indicated that 15% of the elderly who are hospitalized will develop a pressure ulcer. Additionally, Dellfield (2004) has been cited multiple times on the prevalence of pressure ulcers in nursing homes. Further, Jaul and Menzel (2012) produced evidence on the effects of pressure ulcers and the effects on quality of care and mortality, which could be associated with quality of care.

Key theorists and researchers have also analyzed pressure ulcers relating to education, long-term care, and nurses individually. They have indicated the need for education in nursing school programs to reduce stress and enhance treatment and healing of pressure injury (Romero-Collado et al., 2014). Education has been a priority when understanding and treating pressure ulcers dating back to the 17th century and will

continue to be identified with quality of care (Spear, 2013). Predicting and understanding the onset of pressure ulcers coupled with comorbidities is important for an individual's quality of life (Spear, 2013). Data assessments must occur to impact quality of life and future change (Reddy, Gill, & Rochon, 2006). Using assessments like the Braden Scale with the proper education according to CMS guidelines accepted by the NPUAP can decrease pressure injury (2014).

Key Statements and Definitions in the Framework

Pressure ulcers have been defined by many individuals, but the definition for the purposes of this research is that “pressure ulcers are areas of necrosis and ulceration where tissues are compressed between bony prominences and hard surfaces that were caused by pressure in combination with friction, shearing forces, and moisture especially in the geriatric population” (Kroshinsky & Strazzula, 2015, p. Sec. P). This definition was used to examine pressure ulcers, education received during nursing school, and stress during the treatment and healing process in nursing facilities.

Literature Review Related to Key Variables and/or Concepts

Pressure injury were the focal point of this research. The literature showed that pressure ulcers continue to affect quality of care in nursing facilities. This research encompassed clinician's education and stress while working in long-term care communities are charged with the treatment and healing process of pressure ulcers. The perception of pressure injury and the stress it places on employees are secondary to a lack of education which can aid with better care for the geriatric community. Jaul and Menzel

(2014) noted the comorbidities and discussed 2.4% and 23% contributing to the mortality rate within the elderly population.

The comorbidities can be causative health risk factors to those suffering with pressure ulcers. Spear (2013) provided a research study on pressure ulcers that reflects on causations and contribution which can impact a resident's healing potential. She suggested that pressure ulcers the degrees of pressure ulcers and included several contributory factors that cause an individual to acquire a pressure ulcer. One of the contributory factors was nutritional deficiency. Nutritional deficiencies consist of protein, zinc, vitamin D and some others. Vasconcelos and Caliri (2015) produced research on pressure ulcers and the impact that disease and nutrition have on individuals when a pressure ulcer is acquired. Poor nutrition and an inability to affect the elderly and maintain proper skin integrity and can have potential for development of pressure ulcers. Typically, identifying nutritional concerns or other high-risk issues during the nursing or nutritional assessment period is crucial. Proper assessment of the during the initial nursing assessment prior to treatment and healing can lead to great transitions while providing care to individuals with pressure ulcers.

Spear (2013) highlighted health issues that occur from pressure ulcers, which can lead to death such as nutrition and other comorbidities. She noted that pressure ulcers had several key variables of clinical training and education and that spearheading clinical training will improve quality initiatives and patient outcomes.

Pressure injury in the United States and abroad reviewed a clear picture in adapting to future social change in the health care system in long-term care. Aljezawi et

al. (2014) completed a cross-sectional study on pressure ulcers with residents in Jordanian nursing homes. They noted the issues that pressure ulcers could be for “patients and health care systems”. The study utilized the minimum data sets to identify patients with pressure injury. Prevalent in their study was the identification that once the patient assessment disclosed a high-risk factor for development of pressure ulcers that with proper preventive systems in place, a decrease in pressure ulcers would occur in the elderly population (Aljezawi et al., 2014). This study provided a look into pressure injuries and how they impact quality of care in long-term care facilities. Nursing staff and other clinic support staff are key in identifying and treating pressure ulcers to reduce the incidence in nursing facilities. Aljezawi et al. (2014) and Spear (2013) noted that influence and responsibilities nursing staff factor into the treatment and healing processes of pressure ulcers in nursing facilities.

Romero-Collado et al. (2014) researched education in nursing programs in Spain determined education in treatment over prevention. Harrington et al. (2000) analyzed staffing deficiencies relating to key variable of pressure ulcers, highlighting staff changes to imply a reduction in quality of care and that future research is necessary. The implications on pressure ulcers, education and stress will add to the phenomenon on pressure ulcers in nursing facilities.

Identify Germane Scholarship

This literature search produced germane scholarship with primary keyword pressure injury in combination with other keywords to produce relevant research. This search provided vast amount of information to research, both past and current, including

identification, prevalence, development, and treatment of pressure ulcers, as well as the assessment process, issues documented within the long-term care community, and quality of life among the elderly. Jaul and Menzel (2014) synthesized pressure ulcers and comorbidities in elderly patients in long-term care and the home settings.

The most prevalent comorbidities were noted to affect the elderly with pressure ulcers are nutrition, hypertension, and respiratory issues. Vasconcelos and Caliri (2015) noted some of the comorbidities on pressure ulcers highlighting various diseases like respiratory illness and diabetes are all contributing to the increase of pressure ulcers. Jaul and Menzel (2014) called these comorbidities, “systematic factors”, which included the aging, nutrition, and cardio issues affecting the likelihood of acquiring pressure ulcers in the frail elderly community. Clinicians must note comorbidities during the assessments that may have triggered the development of pressure ulcers. Jaul and Menzel (2014) determined the need for continuous education of caregivers and staff in both family and hospital settings. They included the need for early recognition and assessment, and identification of high-risk diseases that will lead to possible pressure ulcer developments (Jaul and Menzel, 2014, p. 1). The need for continuous education and documentation is important for the improvement of pressure injuries on the reporting systems.

Harrington et al. (2000) completed a comprehensive study on data from the OSCAR system on deficiencies from nursing facilities in the United States that focused on the quality of care. Their data revealed, within the facilities reviewed, that the “total number of quality of care deficiencies were 48,431 with a pressure ulcer mean of 6.54 and a standard deviation of 5.14” reflecting the effects and impact of staffing levels the

on quality of care outcomes (Harrington, et al 2000, p. 273-274. Their analysis is important to this research because it shows the relationship between employees and their ability to affect survey outcomes.

Previous Research

Previous scholarly work is important and instrumental to guiding future research, publications and guidance for social standards and methodology. Ayello and Levine (2008) were pioneers of pressure ulcers research and analyzing past research. They discussed in detail the current history of pressure ulcers. and Jean-Martin Charcot and Charles-Edouard Brown-Sequard discussed pressure ulcers in the 1800s. They were instrumental in noting and photographing a pressure ulcer on the buttocks of a patient, and they performed tests on guinea pigs analyzing effects of pressure ulcers.

Analysis of past and present research identified that pressure ulcers affect quality of care and could lead to death. Spear (2013) communicated successfully the relationship with pressure ulcers and how it was instrumental in starting the phenomena of pressure ulcers. Prior research helped provide an understanding about the dynamics of pressure ulcers by aiding clinicians to treat and heal, therefore improving the quality of care. Many researchers, such as, Ayello and Levine (2008) recognized as leading researchers are referenced within other research studies about pressure ulcers and quality of care. They remained relevant for many years, paving the way on the topic of pressure ulcers, quality of care, assessment protocols, and education.

Researchers continued to work on and research the prevalence of pressure ulcers for years, impacting the future focus of geriatric quality of care. Reddy, et al. (2006)

researched a variety of health care topics with one focus being effective with patient mobility. They were cited in this area of research approximately 250 times and their research added to the quality of care of those functioning in health roles, as well as those researching health related topics. Their research addressed treatment and prevention. They provided health care information on the prevalence of pressure ulcers in geriatrics patients and the costs that are associated with better health care outcomes.

Several healthcare agencies, such as the NPUAP, work together to present information on topics such as pressure ulcers. The NPUAP (2014) continues as an instrumental influential board and committee in providing detailed noteworthy information in identifying and defining pressure ulcers. The committee adds a wealth of information on pressure ulcers, prevention and assessment for clinicians and laypersons. They look at all dimensions of pressure ulcers and their literature has an impact on past, current, and future quality initiatives affecting health care and pressure ulcers. NPUAP (2014) produced manuals for in-depth approaches and treatment of pressure ulcers. As many years of research results reflect, pressure ulcers continue to be a topic that remained relevant and important for continuous quality improvement.

Synthesize Studies Related to Research Question

The research question was “Can more education designed to prevent pressure injuries decrease stress of clinicians who treat and heal pressure injuries?” The literature used in this research identified the complexities of pressure injuries in nursing facilities. The research question addressed the effects of the education gained before and after in a pre and post review of the treatment and healing of pressure injuries in order to improve

quality of care. According to Ayello, Zulkowski, Capezuti, Jicman, and Sibbald (2017), education on all levels from undergraduate and while nurses are in the workforce should continue on pressure injury. Ayello and Zulkowski et al. (2017) examined nurse response on nurse education. The responses 31.5% agreed in 2012 with adequate wound care education and only 23% of experienced nurses with more than 20 years of practice. Ayello and Zulkowski et al. (2017) noted with the need for continuous education for clinicians there is no annual requirement in nursing facilities.

The research has shown the education on pressure injury continue to be important. National Pressure Ulcer Day recognized by NPUAP (2018) held on November 15, 2018 focused on the prevention and reduction of pressure injuries. The website gave tools of competences for registered nurses to assess and continue the educational process for caring for pressure ulcers such as the risk assessment and identification. Continuous education on pressure injuries is important as noted from interviews. During the interviews there were several respondents who agreed that education was important. Ayello and Zulkowski et al. (2017) noted “pressure ulcers important to educate”. Additionally, highlighting “educating on the pressure points” are important. Finally, educating them on turning and repositioning”. Ayello and Zulkowski et al. (2017) noted 91% responded in their survey incorrectly on this subject matter.

Conclusion

There was a gap in the literature regarding the combination of pressure injury, education, and stress. The literature provided in-depth research on pressure injury, but a comprehensive search pertaining to this research question did not turn up results. Thus,

there remains the possibility for future research on pressure injuries to further add to the treatment and healing impact on quality of care in long-term care settings. Researchers have been aware of pressure ulcers since the 1700s. Zimmerman (2000) researched for those with oversight for regulatory compliance and those working in long term care settings in preventing of pressure injuries thematically impacted the long-term care social environments, clinicians, and potentially others reading this work. Chapter 3 will discuss the research methodology on pressure ulcers, the research design, and rationale dissecting the research questions and concluding with the thematic summary of pressure injuries of stress impact on clinicians due to a lack of education.

Chapter 3: Research Method

Introduction

Over time, pressure injuries have become synonymous with poor quality of care, especially regarding the geriatric community. Collado et al., 2014; Jaul & Menzel, 2014, research has highlighted the need for better education on pressure ulcers. Thus, I conducted this study to determine how providing more education to clinicians can improve quality of care and level of stress experienced by the clinician as measured by the treatment of pressure injuries. This research was concentrated on treatment and healing pressure injuries and outcomes that further affect quality of care outcomes from clinicians in skilled nursing facilities.

This chapter is focused on the research design. The research design outlines the use of the data collected and its applicability to pressure injuries, education, and stress outcomes affecting quality of care in nursing facilities. This chapter also provides details on how the data were collected, the role of the researcher, and potential ethical issues and how these were addressed.

Research Design and Rationale

The research question was designed to address the issue of clinicians' education and morale while treating pressure injuries: Can education about the cause and treatment of pressure injuries result in decrease stress among clinicians who treat pressure injuries? To assess the perception of pressure injuries and the stress it places on employees and a possible link to a lack of education, I selected a quantitative approach, as I used a phenomenological approach with interviews. The key variables of stress and education

were used to determine whether there was an effect on clinicians during the treatment and healing process. I performed interviews of clinicians to obtain their perception on the treatment processes and the emotions they feel during the healing process of pressure injuries. The interviews provide the clinicians' perspective on the treatment experience of a pressure injuries. The results can improve knowledge on what causes stress that affects individuals who provide care for those with pressure injuries at various stages, which become difficult to treat and heal.

The phenomenological research design through interviews was used to analyze the quality of care from the difficulties of undetected pressure injuries. The goal of this section noted the goal of the researcher and the research design gaining perspective on the importance clinician experience on pressure injuries. Additionally, surveys to capture detailed analysis using the Pressure Ulcers Knowledge Test by Pieper and Zulkowski (2014) tool.

Role of the Researcher

As the researcher for this study, I conducted interviews to determine whether there were perceived stress related behaviors during the treatment and healing of pressure injuries. Additionally, the role of the researcher was based on the evidence and whether an increase in scholastic resources during and after nursing school will increase the recognition and treatment and healing of pressure injuries in long-term care settings. My goal was to interact with peers from within long-term settings from various facilities. To avoid impacting the responses from participants, which could create bias, I used an interview script to ensure consistency. I was also consistent when explaining the process

to gain consent from participants. Interview questions were reviewed and approved by the Walden University IRB.

I interviewed two participants and collected survey data from three nursing facilities in California. The interviews were coded and entered into NVIVO, and the surveys were analyzed in SPSS. After interview consent forms were signed, the candidates were asked for permission to record for transcription purposes only. Both participants gave full consent. I coded the participants as Candidate Registered Nurse C1, who responded first, and candidate Registered Nurse C2, who responded second.

Surveys were retrieved from three locations in the Northern California. The survey tool collected demographic information and participants' responses on pressure injuries. The survey that was used was the Pressure Ulcers Knowledge Test by Pieper and Zulkowski (2014). The participants were asked eight open-ended questions to clarify and provide context and understanding to the survey.

Biases

There may have been biases in participants' responses, as research has noted biases with nurses documenting and assessing the size of pressure ulcers (Jolley et al., 2014). There may also have been bias when clinicians felt that the questions on the survey asked them to be honest about their skills and understanding on assessing and treating pressure ulcers. In my role as the researcher, I tried to prevent implicit bias during this study. In any response to gender and racial differences, I remained impartial within the context of addressing all aspects of research.

Methodology

In this qualitative study, I interviewed two participants and surveyed 24 participants on how the level of education affects the stress of the clinicians during the treatment and wound healing process. According to the Nursing Home Compare website, there are 1,200 nursing facilities in the State of California. Originally, I tried to initiate research within five to seven nursing facilities. Several facilities did not allow research to be conducted within their organizations. Some administrators/executive directors and nursing staff initially wanted to participate; however, they did not receive approval to participate in the study due to company policies. After several IRB attempts, four facilities were approved for research to be conducted, though only three facilities participated. A sample of 24 participants were surveyed from these three facilities. One facility was in a rural community located in a small county, and two were in medium communities in Northern California. The demographics of the participants included personnel in nursing homes (administrators, treatment nurses, certified nursing assistants and physicians, wound care clinics (nurses and physicians), students in nursing programs, and instructors of current nurses for continuing education units. The list of participants was provided by the physicians and nursing homes administrators at each facility for voluntary participants.

I used purposive sampling of 24 individuals providing treatment and oversight of treatment of pressure ulcers. The surveys were given to participants for anonymous completion. Additionally, narrative interviews were conducted with two participants for information on the treatment and documentation process of pressure injuries. The

interviews were face-to-face and taped for transcription purposes only. I conducted the interviews and asked the same questions of each participant. Depending on the responses to the questions, several follow-up questions included (a) describe your education during your nursing program before/after treating pressure ulcers, (b) How do you feel when treating a regressed pressure ulcer?, (c) What are your thoughts about education on pressure ulcers courses currently in nursing programs? These open-ended questions were used to engage the participant in discussions about the effects of treating pressure ulcers. Once the interview and surveys were concluded, themes and variables were grouped together to identify themes during the analysis process.

The survey collected demographic information to determine whether there were similar responses based on like characteristics (i.e., gender, level of education). Demographic information included the selection of gender, level of education, and if pressure ulcer education was received during the scholastic process. The survey was focused on the stage of pressure ulcers (Stage 1-4); care giver level of education (associate degree, bachelors, masters or continuing education); number of wound care education classes during the nursing programs; rating of the level of stress during the treatment process (true, false, or don't know); and pressure ulcers in the nursing facilities. The data was collected to determine if there was a need for more education within the institutional setting prior to becoming a practicing clinician. By including the clinicians, real-life experiences added to the validity of this study.

Ethics

Ethics were addressed in the process of this research through confidentiality and the IRB process. The IRB approved the application to interview and survey clinicians about education during the treatment and healing of pressure injuries (approval no. 0302276). The goal ensured the validity of the data collected. The IRB and committee chair ensured that all data collection meets ethical standards and requirements.

Summary and Conclusions

This section encompassed the research design and ethics giving a voice when collecting data on pressure injuries and reducing stress to clinicians while ensuring there's adequate education, proper systems and assessments while providing quality of care to residents in a long-term care setting. The goal of the section was to dissect the researcher role and review the quantitative methodology while explaining the core of trustworthiness. Providing education to clinicians to care for residents in the long-term care setting, the research in this area on pressure injury, education and stress for the quality of care outcomes in the future. The research results in the next section will explore the need for more purposeful outcomes bridging the gap to address the research question.

Chapter 4: Results

Introduction

The purpose of this research was to examine whether the education of pressure injuries among clinicians affects their level of stress and quality of care outcomes for patients. My research question was “Can more education designed to prevent pressure injuries decrease stress of clinicians who treat and heal pressure injuries?” I used surveys and interviews to understand education and daily activities of treating and healing pressure ulcers and the effects on clinicians. I reached out to multiple facilities to gain access to volunteers across California with a total of 1,200 skilled nursing facilities, and three facilities provided a total sample of 24 participants. This chapter will include an in-depth discussion of the results from the surveys and interviews.

Demographics

This study consists of surveys completed from three nursing facilities. Staff anonymously volunteered to take the survey, which included demographic information and 30 questions on pressure ulcers. Within the demographic information were questions about how information on pressure ulcers is received from clinicians. The sample size was 24 anonymous volunteers with information on pressure ulcers in the long-term setting, ranging in age from 21-71, including males and females. The experience of the survey participants are diverse in scope of practice including registered nurse, licensed vocational nurse, certified nurse assistant, activities director, occupational therapist, and administrator/executive director. The educational levels ranged from certification with high school diploma to doctorate degrees.

Education is a key determinant of the research outcomes, several long-term facilities locations were sampled for data collection. Each facility received a posting for volunteers to complete surveys or to sit for narrative interviews. The setting of the surveys and interviews took place in skilled nursing facilities with long-term care clinicians with a variety of backgrounds. There were two facilities that had multiple visits and one facility that had one visit. After completion, the surveys were placed in a private envelope for processing.

A separate visit was made to a skilled nursing facility to conduct the narrative interviews. The face-to-face interviews were conducted in a quiet room that is utilized for feeding residents at u-shaped table and/or small group activities. The participants sat on one side of the table, and I sat on the other side.

Data Collection

Facilities received flyers and information with Walden University IRB approvals and consent forms. Each facility supplied me with a private room (office space, family front seating area, nursing station) where staff could volunteer to complete the survey on their own time. Prior to arriving to each facility, I made sure that all participants were informed and that the study was completely voluntary and anonymous. Twenty-four individuals completed the surveys and reviewed the consent form provided. Each volunteer completed a survey and answered questions on pressure ulcers based on their clinical knowledge. The variables in this research included gender, educational levels, and age of clinicians treating individuals with pressure ulcers. Additionally, the themes

were stressed during various stages of treating pressure injuries because pressure injuries have various stages from 1-4.

Data Analysis

The variables were assigned a category and were coded using NIVO from the demographic information collected from participants. Participants were also requested to respond to survey questions (true, false, and don't know), and variables were assigned into NIVO like nutrition, risk, and repositioning, which all contribute to the quality of life and care for long-term care residents.

When scoring the data, the independent variables were age, gender, highest degree, years of service. The questions were coded based on the data from the dependent variables and the Pressure Ulcers Knowledge Test by Pieper and Zulkowski (2014). The test was given to participants to test their knowledge of pressure injuries in the long-term care setting. Independent and dependent variables were selected from the questions for scoring purposes to identify relationship on treatment and healing pressure ulcers and producing quality outcomes and results in long-term setting.

Because qualitative research with a phenomenological framework can provide information on real experiences in healthcare (Merriam & Grenier, 2019), I conducted interviews with two registered nurses working at skilled nursing facilities. Both agreed to sign the approved Walden University consent form allowing the study to take place. I obtained verbal permission from each participant to record and use the recording for transcription purposes only before conducting the interviews. Both candidates understood that I wanted to let the conversations flow and capture all of the information

for accuracy. The audio will be locked in a lock box per university specifications with the surveys for a period specific to Walden guidelines.

The interviews were processed through NVIVO, which allowed for coding themes and quotes on pressure ulcers, education, and frustration. The analysis for interviews followed this process:

1. Entering the interviews into NVIVO
2. Creating a word frequency and a crosstab
3. Next run query to analyze themes and quotes
4. Creating a graph with codes in NVIVO
5. Reviewing and developing reference interpretation and comparison in the transcription based on the interviews.

Evidence of Trustworthiness

The goal in studies is to produce reliable and valid data for use in research. Testing data and validating the data's accuracy as a reliable source is important for compliance and ethical principles. Privacy and protection is especially important in phenomenological research (Merriam & Grenier, 2019). All data, surveys, notes and audio for transcription only are placed in a secure lockbox.

For credibility and validity, the researcher must verify the cohesive themes and justify the sources, using an appropriate strategy to verify credibility and validity (Creswell, 2009). The was verified by validated common themes and statements given during interviews and the results of the surveys from through NVIVO. The results of the research supports the thematic values scored from the interviews and surveys.

Results

The educational level of participants who took the surveys were certificate to doctorate level of education and included various levels of experience and understanding in taking care of residents with pressure injuries. The ages ranged from 21 to 71. There were 37.5% registered nurses, 33.3 licensed vocational nurses, and 29.2% other, which consisted of certified nursing assistants, therapist, activities or administrators. Fifty percent were male, 45.8% were female, and 4.2% declined to report their gender.

There were 12 demographic questions and 30 survey questions on pressure ulcers. The 30 questions had three subcategories focusing on wounds, staging, and prevention. For this research, the focus was on the questions regarding wounds related to age, gender, years of experience, listened to a lecture, read an article, information on web, read the NPUAP guidelines—Questions 1, 2, 3, 7, 10, 11, 17, 23, and 27 (see Appendix A).

Table 1 shows a mean of 4.25 an average of those sampled who responded correctly with information on pressure ulcers. The standard deviation of 1.59 is less than the mean of 4.25 and is closer toward the center of the normal distribution of the curve when sampling clinicians on pressure ulcer education. The -0.612 Kurtosis shows the many cases of that scored. The outcomes did not show a significant difference among groups with licensed vocation nurses and certified nurse assistants. The data revealed that registered nurses had more education.

Table 1

Descriptives

Statistic	Score	Std. Error
Mean	4.25	0.314
5% Trimmed Mean	4.28	
Median	4	
Variance	2.37	
Std. Deviation	1.539	
Minimum	1	
Maximum	7	
Skewness	-0.224	0.472
Kurtosis	-0.612	0.918

Table 2 shows the responses from the survey on years of experience and questions answered correctly that were entered into SPSS. There was an exception to Question 1, which was answered incorrectly. Table 2 has Questions 17, 23 and 27 received true response with 20.8, 29.2 and 41.7 percentages.

Table 2

Descriptions Based on Years of Experience and Gender

Years of Experience	N	Mean	SD	Frequency	%
Less than 1	3	3.67	0.577	3	12.5
1 year-5 years	4	3.25	1.708	4	16.7
5 years- 10 years	3	3.33	1.528	3	12.5
10 years- 15 years	3	4.67	1.528	3	12.5
15 years-20 years	1	2		1	4.2
More than 20 years	10	5.2	1.229	10	41.7
Total	24	4.25	1.539	24	100
Gender					
Male	6	4	0.894		

Female	17	4.29	1.759
Total	23	4.22	1.565

I hypothesized that years of experience was connected to number of correct responses. I used a Spearman correlation because education was collected ordinally. The Spearman's $\rho = .499$, $p = .013$ suggest a strong relationship between years of experience and number of correct responses. The Spearman's ρ correlation did not show a significant correlation between the variable of when participants last read the articles and number of correct responses. The 2-tailed test showed no significant difference on the information on the web for pressure ulcers. The information pertaining whether a participant had read the NPUAP International Guidelines showed that there is a significance with a p value of .01. Those scoring *yes* have a mean score of 5.09, and for *no* the mean score was 3.54. The one-way ANOVA test for job category (jobCAT) showed a difference based on job category, meaning that there was a difference for three group means. The post-hoc test for registered nurse scored higher, and licensed vocational nurse and certified nursing assistant were about the same. Based on the t test, there was a significance reflecting the relationship with job category on the knowledge over the licensed vocation nurses and certified nurse assistants.

Descriptive Review

In SPSS, several analyses were completed to get the review such as ANOVA, independent sample t test, and post-hoc test. To run the ANOVA test, I first analyzed then compared means, and next I ran a one-way ANOVA test with the dependent variables of analysis using gender, job category, and those who had a combination of

Lecture/Articles/Read Prevention Guidelines/JobCAT and the independent variable correctly answers pressure ulcers. Additionally, the transform analysis was used to convert comparing the means for Last READ for scoring of the individuals who have not had a read an article in the last year. There is a significant relationship between the level of education and the number of questions answered correctly. A Tukey analysis was performed by comparing the mean, One-way ANOVA. The dependent variables job category and independent variable of those answered correctly with a mean at significant 0.05 level.

Narrative Interview Responses

Q1: The first question is, describe your education during your program nursing before/after to treating pressure ulcers.

C1: During my nursing school, I went to school in the Philippines, (by the way), four years of nursing, back then- I don't remember if we treat so much pressure ulcers. We usually do the med surge, we do the community, but not so much on pressure ulcer.

Only now when I am in the U.S, when I see different kind of wound. Although, I received my certification for school of LTC specifically for pressure ulcer that is when I learned in-depth for staging for pressure ulcers and working in a SNF. Also, we did some admissions with wounds and treating a wound vac. So, it is different kinds of wounds you see and it's so interesting. It's also a learning process when you see different types of wounds and what the treatment is going to be, how many weeks are we supposed to treat. It's interest not only on the wound that you. Are seeing and you treating, the diagnosis, the whole resident, as a person and that will depend on who the healing goes.

Interviewer: Follow-up question: After you started treating, did you complete more classes?

C1: Yes, continuing only wound certification and 2019. If you don't see much then you kind of forget. If you don't use it you lose it. If you don't see much pressure ulcer, I will have to refresh my memory. What you see in the book is a little bit similar to what you see in person. It's good if you see it all the time in the SNF, but you don't want that also. You don't want that also, in the SNF if you have a pressure ulcer.

Interviewer: Same question:

C2: During my nursing program, we were taking to hospital program for clinicals. But I haven't you know when we go to the clinicals in the hospital, the focus is not on pressure ulcers. So, I haven't really had a lot of experience with a lot of wounds when we were during clinical in nursing school. We did practice in the nursing program at least but I did really get to see that many during clinical. I am new to this, and I have not been to a wound seminar. Still in the process of getting to know. I work in a long-term care facility were there aren't that many wounds. The 3rd floor was not a wound floor and for wounds to the previous facility. The LTC facilities had wounds but the floor I worked on was not a wound floor. So, not that many experienced with pressure ulcer.

Q2: How do you feel when treating a regressed pressure ulcer? So, for example when a pressure ulcer is a stage 2 or 3 and gets' worse.

C1: Awful or frustrated. You want it to heal. You go week by week and measure then it's not progressing and you need to know the reason why. Maybe there's something behind that: turning, treatment, resident not eating enough, protein, supplement that goes

hand-in-hand. Yes, it's really frustrating if you cannot heal the wound. But it's a big accomplishment if you are able to heal the wound.

C2: Once the area is opened, the pressure ulcer is healed. That area says sort of fragile. The area always needs to be monitored.

C1: Always going to be fragile.

Q3: What are your thoughts on education on pressure ulcers courses currently in nursing program?

C1: Well, my thought about it especially in SNF elderly is it's really at risk for pressure ulcers important to educate, all the staff. Prevention is the key. It affects the resident, it's highly costly for the facility, it's expensive for the supplies, dressing and all that is it's expensive. It affects you-pressure ulcers are not pressure ulcers is not good for the State. So, prevention is the key.

Interviewer: Follow -up question for clarification and understanding only:

Have you looked back at schooling in the area to see what kind of programs they are offering education for students coming in on pressure ulcers and what are your thoughts about that?

C1: Not so much. For the students that come in here for clinical, not more particularly, it's not their primary focus. They are more focused on resident and the meds, and then the later part is the treatment. Their focus is people with diabetes and bedbound.

Clarification from Interviewer: The people that are immobilized a bed ridden.

Repeat the questions:

C2: Prevention is a big thing. Educating them on turning and repositioning. Air mattress. Turning every 2 hours should be done. Prevention is major. Once they have the pressure ulcer it is important, nutrition, prevention is really important.

Q4: If you could change anything in nursing education programs what would that be?

C1: Prevention.

Interviewer: you would have a program focusing on Prevention???

C1: Yes. That's how it starts.

C2: Educating on the pressure points. If there's redness they should not just ignore it. You treat earlier the better.

C1: Identifying the pressure points.

Q5: Is there any additional information you would like to contribute on pressure ulcers and education or stress when treating pressure ulcers?

C1: Especially during admission is when you focus, ex. Patient don't want to move, patient with a fracture and she doesn't want to move. Check the skin and initial assessment is important is when the skin breaks down in the beginning. Proper education prevention it must be implemented at all time.

C2: Knowing which patients are at risk for pressure ulcers at all times. What diagnosis their mobility.

Interviewer: My last Q6 follow up: Do you think Pressure ulcers could be very stressful in your job?

C1: Could be. You have to coordinate with staff. Medicate and all that. Some people and some family cannot have mom up more than 2 hours. The wounds itself is not progressing it is frustrating because you want it to heal, what will we do, that's frustrating and stressful. We want it to heal if it's not progressing and we want it to be successful.

C2: It is very preventable. It is very frustrating especially when you are the charge nurse when you think we are not doing our job when we know we are.

Q6: What about during State Surveyors? How does it impact you in the Survey process?

C1: Well, that's a big deal, they want to see your treatment and they want to see your process, make sure the patient is pre-medicated half hour before treatment and they will watch the process. So, it's so stressful and they will look at you from the beginning to the end. The handwashing process being monitored. It impacts our Quality Measures as well. (Interviewee chime in- agreement from C1).

C2: Haven't experienced the State surveyor. When the State is even if you are doing the same thing all year when someone is watching you and for 3 years but it's different when they come in during Survey.

C1: They ask everything, "What is the diet and what is the supplement to prevent this wound. Why are you not give this to prevent wound care for the resident's?"

Interviewee: It will definitely impact the admissions process?

C1 & C2 (agreement) Yes....Yes...

Interviewer: I don't have any other questions, and this concludes the interview.

Themes

The survey and interviews revealed information that pressure ulcers are prevalent in skilled nursing facilities. The surveys revealed that more information is needed in school nursing programs, during the clinical rotation, and during the continuing education for nursing after entering the workforce.

Based on the interview responses, four themes emerged. Participant responses are included with the themes to support the results (see Appendix D). **Figure 2.** illustrates the coding process for these themes.

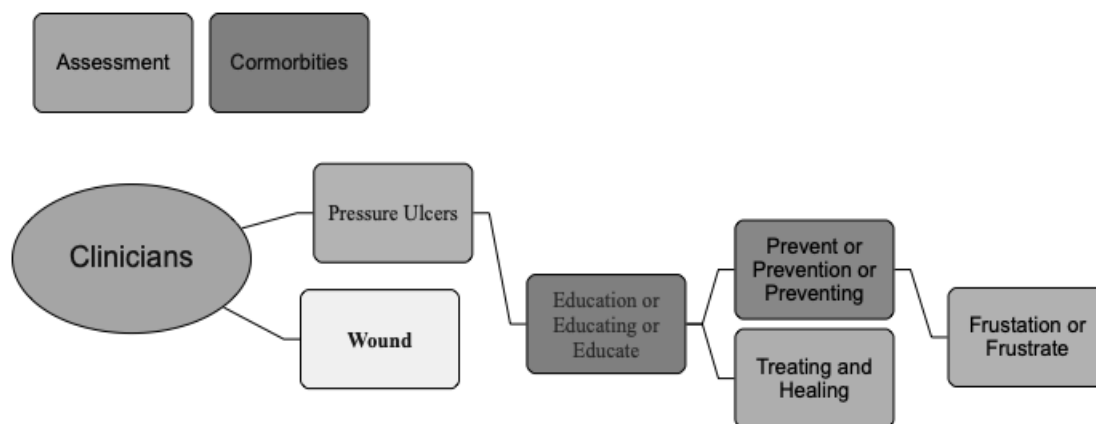


Figure 2. Graph for coding clinical education effects.

Theme 1 was increased education about the cause and how to treat pressure injuries among clinicians will impact stress and quality outcomes. Participant responses related to this theme include:

- “For pressure ulcers it is important to educate all the staff.
- Educating them on turning and repositioning that’s how it starts. Educating on the pressure points.”

Theme 2 was increased stress among clinicians treating pressure injuries is a result of a lack of education about the cause and how to treat pressure injuries.

Participant responses to support this theme include:

It gets worse. Awful or frustrated. You want it to heal in-hand. Yes, it's really frustrating if you cannot heal them, if it's not progressing it is frustrating because you want it to do what will we want them do, so that's frustrating and stressful.

We know and want it very preventable. It is very frustrating.

Theme 3 is increased knowledge on changes in systematic process with prevention, and preventable is key factors in making changes in the treatment process.

Participant responses to support this theme include:

Prevention is the key. It affects a good for the State survey. Prevention is a big thing. Prevention is major. Once they have ulcer it is important, nutrition, prevention is really important. If what would that be? Prevention. Proper education prevention it must be implemented at successful. It is very preventable.

It is very frustrating especially what is the supplement to prevent this wound.

Theme 4 was pressure ulcers beliefs and experiences of initial exposure.

Participant responses to support this theme include:

- During my nursing school, I went to school in the Philippines, (by the way), four years of nursing, back then- I don't remember if we treat so much pressure ulcers. We usually do the med surge, we do the community, but not so much on pressure ulcer. Only now when I school of LTC specifically for

pressure ulcer that's when I learned in-depth for staging for pressure ulcers and working in a . . .

- If you don't see much pressure ulcer, I will have to . . .
- SNF if you have a pressure ulcer . . .
- The focus is not on pressure ulcers. So, I haven't really. . .
- . . .not that many people experienced with pressure ulcer.”

Conclusion

During the narrative interviews, two very different perspectives from registered nursing clinicians emerged. In school programs, the educational experience was limited to pressure ulcers. However, during their clinical rotation, students interacted with patients with pressure ulcers to understand the treatment and healing protocols prior to entering the work environment. My interviews revealed a key theme outlining prevention, education and stress which were early detection, assessment (skin), nutrition (diet and supplement), proper turning and repositioning, and education of pressure points. Stress was also a common theme discussed in the interview along with resident and family compliance, proper assessment, early detection, education prevention, providing quality of life and care, and most of all the regulatory survey process.

The research revealed the results that education is necessary to impact the future of pressure ulcers in the long-term setting. To impact change, stress, regulatory outcomes, and quality of care and life, pressure ulcers education will continue to be a topic of interest. This will hopefully result in future clinician education on the topic of pressure ulcers to impact long-term settings for those treating and healing pressure ulcers.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of the study was to determine whether clinicians needed more education prior to treating and healing pressure ulcers in long-term care facilities. I conducted this quantitative study to provide a framework to treating and healing pressure injury from a phenomenological conceptual design. The results indicated reflected that registered nursing need support as clinicians with proper education, assessment to treat and heal pressure injury. There was a significant effect on the suggested outcomes the RN are experienced clinicians. All other staff surveyed or review could use addition support for increased reading, literature reviews, and other scholarly work for advanced treatment and healing of pressure injuries, to assess, treat and heal, and reduce stress to properly have an improvement with quality of care. Pressure ulcers continue to be a focus in long-term care facilities, and research has shown that education among clinicians is significant because pressure ulcers in various settings affect the geriatric population (Aqoulah et al., 2018). Thus, this study addressed the issue of pressure ulcer education, stress, treatment, and healing practices, which may lead to future research within the long-term care communities, state and federal agencies, universities, and publications.

Interpretation of Findings

The SPO model helped me analyze the findings and provide a voice to the clinicians in the long-term care facilities (see Castle & Ferguson, 2010). The structure in this study referred to individuals charged with providing care to residents and their education that can reduce stress during the surveyor and admission process or if a wound

regresses as determined by a comorbidity. Additionally, there are minimum data sets, OSCAR, and quality assurance and performance improvement processes in place to track and analyze the residents in skilled nursing facilities. Finally, outcomes will be noted to produce educated clinicians, improve quality of care, and reduce stress during the treatment and healing process when treating residents with pressure ulcers. As past research has shown, motivation can be improved by improving the documentation and educational standard for nurses (Aqoulah et al., 2018).

Results from the surveys and interviews revealed that the initial admission assessment process is assessment process is key in helping reduce clinician stress and ensuring quality care key. For example, Jaul and Menzel (2014) discusses assessment and prevention protocols for residents who are at high risk for acquiring pressure injury. Encountering pressure ulcers and sharing a passion for treating must continue to ensure successful outcomes and quality of care to impact to those affected. The findings of this research also indicated a need for more research to determine the level of stress and education with treating and healing pressure ulcers. Clinicians acquire knowledge at various stages of their educational journey, including initial nursing school programs throughout their careers, so it is important to have training and documentation and assessment protocols to continue improving care and reduce stress (Yap et al., 2018).

Limitations

The limitations that presented during this research study were geographic locations and gaining access to participants. The database on education and stress on the web a was bit challenging. I had to use multiple variations and word phrases to for

adequate articles, journals, dissertation reviews to properly dissect clinician, stress pressure injury and how to apply within my research framework. Some of the databases utilized was Walden University, Google Scholar, etc. Additionally, the access to pressure injury, education on pressure injury, was cross-referenced with clinicians experiencing stress from treating and healing pressure ulcers and study was not immediately revealed. The research is visible and viable for pressure injury individually at large. The work on education and pressure injury and clinicians collectively presents a limitation. This work is in support to remove and effective help change the limitations with literally work on education, pressure injury, early intervention and analysis and assessments, clinicians, survey processes, and treating and healing systems.

Recommendations

Multiple studies exist on pressure ulcers in long-term care affecting residents' quality of life and care; however, there is a gap addressing the impact of education and stress. For example, Jaul and Menzel (2014) highlighted the need for early detection during assessment and the necessity for continuing education for clinicians providing care. Additionally, pressure ulcers are complicated, are affected by comorbidities, and can be prevented with proper education, which requires a team that can provide quality care and reduce cost (Jaul & Menzel, 2014). Thus, in addition to this study, future research is necessary to continue the treatment and healing of pressure ulcers while addressing the impact of education and stress on clinicians.

Implications

This research has shown that early assessment is a key theme in treating and healing pressure ulcers. Continuous education by clinicians and reducing stress can impact quality outcomes when treating and healing pressure ulcers. This was supported by previous research that has indicated the importance of “early detection, identification and implementing preventative strategies” (Jaul & Menzel, 2014, p.3, which was discussed in the interviews reviewed as part of the admission and ongoing clinical process for treating elderly in long-term care.

Conclusion

The need for future research to impact pressure ulcers education and the quality of life is necessary for the importance of the work in geriatric communities within long-term care industry. This study included certified nursing assistants, executive directors, nurses, and therapists who all impact quality of care and daily life of long-term care residents. The results indicated that these individuals continued their education on pressure ulcers to provide care in long-term settings. It is important to align future research in education, prevention, and early detection to reduce stress while providing care and producing positive outcomes that have an impact on quality of life (see Jaul & Menzel, 2014). To impact the geriatric community regarding pressure ulcers, clinicians must come together to affect change for outcomes on quality of care for those serviced in long-term care settings.

References

- Aljezawi, M., Al Qadire, M., & Tubaishat, A. (2014). Pressure ulcers in long-term care: A point prevalence study in Jordan. *British Journal of Nursing, 23*(6), 20-26.
doi:10.12968/bjon.2014.23.sup6.s4
- Aqoulah, E.A., Ismail, S., Juni, M. H., Shahar, H. K., & Tubaishat, A., (2018). Effect of educational intervention on pressure ulcer documentation among nurses in jordan ministry of health tertiary hospitals: A quasi-experimental research approach. *International Journal of Advanced Scientific Research & Development, 5*(1), 41-52. doi:10.26836/ijasrd/2018/v5/i1/50105
- Anderson, E., Smith, M., & Havaei, F. (2014). Nursing home models and modes of service delivery: Review of outcomes. *Healthy Aging Research, 3*(13).
doi:10.12715/har.2014.3.13.
- Armstrong, D. G., Ayello, E. A., Capitula, K.L., Fowler, E., Krasner, D. L., Levine, J., . . . Smith, A. P. (2008). New opportunities to improve pressure ulcers prevention and treatment: Implications of the CMS inpatient hospital care present on admission indicators/hospital-acquired conditions policy. *Advances in Skin & Wound Care, 21*(10), 469-478. doi:10.1097/01.ASW.0000323562.52261.40
- Ayello, E. A., Zulkowski, K., Capezuti, E., Jicman, W. H., & Sibbald, R. G. (2017). Educating nurses in the united states about pressure injuries. *Advances in Skin & Wound Care, 30*(2), 83-94. doi:10.1097/01.ASW.0000511507.43366.a1
- Backhaus, R., Beerens, H. C., van Rossum, E., & Hamers, J. P. H. (2018). Rethinking the staff-quality relationship in nursing homes. *Journal of Nutrition, Health & Aging,*

22(6), 634-638. doi:10.1007/s12603-018-1027-3

Berlowitz, D. R., Brandeis, G.H., Anderson, J., Du, W., & Brand, H. (1997). Effect of pressure ulcers on the survival of long-term care of residents. *The Journal of Gerontology*, 52A(2), M106-110. doi:10.1093/gerona/52a.2.m106

Berg, K., Mor, V., Morris, J., Murphy, K. M., Moore, T., & Harris, Y. (2002). Identification and evaluation of existing nursing homes quality indicators. *Health Care Finance Review*, 23(4), 19-36. Retrieved from europepmc.org/articles/pmc4194753

Boyko, T. V., Longaker, M. T., & Yang, G. P. (2016). Review of the current management of pressure ulcers. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC5792240/pdf/wound.2016.0697.pdf>.

Brandeis, G. H., Morris, J. N., Nash, D. J., & Lipsitz, L. A. (1990). The epidemiology and natural history of pressure ulcers in elderly nursing home residents. *JAMA*, 264(22), 2905-2909. Retrieved from: <http://www.ncbi.nlm.nih.gov/pubmed/2232085>

Castle, N. G., & Ferguson, J. C. (2010). What is nursing home quality and how is it measure? *Gerontologist*, 50(4), 426-442. doi:10.1093/geront/gnq052

Centers for Disease Control. (2009). Pressure ulcers among nursing home residents: United States, 2004. Retrieved from: <http://www.cdc.gov/nchs/data/databriefs/db14.htm>

Cotter, E., & Trevellini, C. (2010). Students are part of the skin team: Pressure ulcers

- prevalence day. Retrieved from <http://www.PressureulcerUlcerPrevalence.pdf>
- Centers for Medicare and Medicaid. (2014). Sentinel events. Retrieved from <https://www.cms.gov>
- Dellefield, M. E. (2004). Prevalence rate of pressure ulcers in California nursing homes: Using the OSCAR database to develop a risk-adjustment model. *Journal of Gerontological Nursing, 30*(11), 13-21. doi:10.3928/0098-9134-20041101-08
- Dumville, J. C., Land, L., Evans, D., & Peimann, F. (2014). Negative pressure wound therapy for treating leg ulcers. *Cochrane Database of Systematic Reviews*. doi:10.1002/14651858.CD011354
- Edsberg, L. E. Black, J. M., Goldberg, M., McNichol, L., Moore, L., Sieggreen, M. Revised national pressure ulcer advisory panel pressure injury staging system: Revised pressure injury system. *Journal of Wound, Ostomy, and Continence Nursing, 43*(6), 585-597. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5098472/>
- Edelman, T. (2016). Nursing home “advancing excellence” quality program ends after a decade. Retrieved from <https://www.medicareadvocacy.org/nursing-home-advancing-excellence-quality-program-ends-after-decade/>
- Harrington, C., Zimmerman, D., Karon, S. L., Robinson, J., & Beutel, P. (2000). Nursing home staffing and its relationship to deficiencies. *Journal of Gerontology: Social Sciences, 55B*(5), 278-287. Retrieved from <http://psychogerontology.oxfordjournals.org/>
- Handler, A., Issel, M., & Turnock, B. (2001). A conceptual framework to measure

performance of public health system. *American Journal of Public Health*, 91(8), 1235-1239. doi:10.2105/ajph.91.8.1235

Koy, V., Yunibhand, J., Angsuroch, Y., & Fisher, M. L. (2015). Relationship between nursing care quality, nurse staffing, nurse job satisfaction, nurse practice environment, and burnout: Literature review. *International Journal of Research in Medical Sciences*, 3(8). doi:10.18203/2320-6012.ijrms20150288

Kroshinsky, D., & Strazzula, L. (2015). Merck manual professional version. Retrieved from:
<https://www.merckmanuals.com/professional/SearchResults?query=pressure+ulcers>.

Lannering, C. (2018). *Experiences and outcomes of systematic preventive work to reduce malnutrition, falls and pressure ulcers in nursing home residents* (Doctoral dissertation). Retrieved from <http://www.diva-portal.org/smash/get/diva2:1205505/FULLTEXT01.pdf>

Li, Y., Yin, J., Cai, X., Temkin-Greener, H., & Mukamel, D. B. (2011). Association of race and sites of care with pressure ulcers in high-risk nursing home residents. *JAMA*, 306(2), 179-186. doi:10.1001/jama.2011.942

Levine, J. M. (2005). Historical perspectives on pressure ulcers ominous of Jean-Martin Charcot. *Journal of the American Geriatrics Society*, 53(7), 1248-1251. doi:10.1111/j.1532-5415.2005.53358.x

Lyder, C. H., & Ayello, E. A. (2008). Pressure ulcers: A patient safety issue. In *Patient safety and quality: An evidence-based handbook for nurses*. Retrieved from

<http://www.ncbi.nlm.nih.gov/books/NBK2650/>

Jaul, E., & Menzel, J. (2014). Pressure ulcers in the elderly, as a public health problem.

General Practice, 2(5). doi:10.4172/23299126.1000174. Retrieved from: <http://www.omicsonline.org/open-access/pressure-ulcers-in-the-elderly-as-a-public-health-problem-2329-9126.1000174.php?aid=31347>.

<https://www.omicsonline.org/open-access/pressure-ulcers-in-the-elderly-as-a-public-health-problem-2329-9126.1000174.php?aid=31347>.

Joint Commission. (2013) Sentinel events. Retrieved from [https://](https://www.jointcommission.org)

www.jointcommission.org

Merriam, S. B., & Grenier, R. S. (2019). *Qualitative research in practice: Examples for*

discussion and analysis. Retrieved from

https://books.google.com/books?id=PL59DwAAQBAJ&source=gbs_navlinks_s

McKay, M. L. (2002). *The performance of nursing homes related to likelihood of*

pressure ulcers in low-risk residents (Doctoral dissertation). Retrieved from

ProQuest Dissertations and Theses. (Order No. 3091791)

National Pressure Ulcer Advisory Panel. (2014a). Education. Retrieved from

<http://www.npuap.org>

National Pressure Ulcer Advisory Panel. (2014b). NPUAP selected “Quality of Care

Regulations” made easy. Retrieved from

<http://www.npuap.org/resources/educational-and-clinical-resources/npuap-selected-quality-of-care-regulations-made-easy/>

National Pressure Ulcer Advisory Panel. (2014c). Root case analysis. Retrieved from

<http://www.npuap.org>

National Pressure Ulcer Advisory Panel. (2018). “National Pressure Ulcer Day”.

Retrieved from: <http://www.npuap.org/resources/educational-and-clinical-resources/2018-world-wide-pressure-injury-prevention-day/>

- Jabareen, Y. (2009). Building a conceptual framework: Philosophy, definitions, and procedure. *International Journal of Qualitative Methods*, 8(4), 49-62. doi:10.1177/160940690900800406
- Rahman, H. A., Jarrad, M., & Don, M. S. (2015). Nurse level of education, quality of care and patient safety in the medical and surgical wards in Malaysian private hospitals: A cross-sectional study. *Global Journal of Health Science*, 7(6), 331-337. doi:10.5539/gjhs.v7n6p331
- Rantz, M. J., Fleser, M. K., & Zwygart-Stauffacher, M. (2010). Improving care in nursing home using quality measure/indicators and complexity science. *Journal of Nursing Care Quality*, 25(1), 5-12. doi:10.1097/BCQ.0b013e3181c12b0f
- Rasero, L., Simonetti, M. F., Fabbri, C., Collini, F., & Dal Molin A. (2015). Pressure ulcers in older adults: A prevalence study. *Advances in Skin & Wound Care*, 28(10), 461-464. doi:10.1097/01/ASW.0000470371.77571.5d
- Reddy, M., Gill, S., & Rochon, P. (2006). Preventing pressure ulcers: A systematic review. *JAMA*, 296(8). doi:10.1001/jama.296.8.974
- Romero-Collado, A., Raurell-Torreda, M., Zabaleta-del-Olma, E., & Bertran-Noguer, C. (2014). Chronic wounds in nursing degree programs in Spain. *Journal of Nursing Scholarship*, 47(1), 51-61. doi:10.1111/jnu.12106
- Shahin, E. S. M., Meijers, J. M. M., Schols, J. M. G. A., Tannen, A., Halfens, R. J. G., & Dassen, T. (2010). The relationship between malnutrition parameters and pressure

ulcers in hospitals and nursing homes. *Nutrition*, 26(9), 886-889.

doi:10.1016/j.nut.2010.01.016

Singh, I. (2015). Training and professional development for nurses and healthcare support workers: Supporting foundation for quality and good practice for care of the acutely ill older person. *International Archives of Nursing and Health Care*, 1(2). Retrieved from <https://www.researchgate.net>

Singh, I., Morgan, K., Belludi, G., Verma, A., & Aithal, S. (2014). Does nurses' education reduce their work-related stress in the care of older people? *Journal of Clinical Gerontology*, 6(1), 34-37. doi:10.1016/j.jcgg.2014.09.003

Thomas, D. R. (2013). Clinical Management of pressure ulcers. *Clinics in Geriatric Medicine*, 29(2), 397-413. doi:10.1016/j.cger.2013.01.005

Spear, M. (2013). Pressure ulcers what are the implications? *Plastic Surgical Nursing*, 33(3), 147-149. doi:10.1097/psn.0b013e3182a57622

Vasconcelos, J. M., & Caliri, M. H. (2015). Assessment of risk for pressure ulcers in critical patients: Nursing practice and reflection in the context of multidisciplinary communication. Retrieved from <http://stti.confex.com/stti/bc43/webprogram/Paper76684.html>

Wipke-Tevis, D. D., Williams, D. A., Rantz, M. J., Popejoy, L. L., Madsen, R. W., Petroski, G. F., & Vogelsmeier, A. A. (2004). Nursing home quality and pressure ulcer prevention and management practices. *The American Geriatrics Society*, 52(4), 583-588. doi:10.1111/j.1532-5415.2004.52166.x/full

Valizadeh, L., Tabrizi, F.J., Behshid, M., & Lotfi, M. (2015). Challenges associated with

the implementation of the nursing process: A systematic review. *Iranian Journal of Nursing and Midwifery Research*. Retrieved from:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4525336/>

Yap, T. L., Kennerly, S. M., Horn, S. D., Bergstrom, N. Datta, S., & Colon-Emeric, C.

(2018). Team-Up for Quality: A cluster randomized controlled trial protocol focused on preventing pressure ulcers through repositioning frequency and precipitating factors. doi:10/1186/s12877-18-0744-0

Zulkowski, K., & Pieper, B. (2014). The Pieper-Zulkowski pressure ulcer knowledge test.

Advances in Skin & Wound Care, 7(9), 413-420.

doi:10.1097/01.asw.0000453210.21330.00

Appendix A: Question from Survey Focused on Wounds (Partial)

1. Slough is Yellow or cream-colored necrotic/devitalized tissue on a wound bed.
2. A pressure injury/ulcer is a sterile wound.
3. Foam dressing increase the pain in a wound.
7. Hydrogel dressings should not be used on pressure injury/ulcers with granulation tissue.
10. Pressure injury/ulcer scars progress in a linear fashion from Stage 1 to 2 to 3 to 4.
11. Eschar is healthy tissue.
17. Honey dressings can sting when initially placed in a wound.
23. Early changes associated with pressure injury/ulcer may develop in persons with darker skin tones.
27. Foam dressing may be used on areas at risk for shear injury.

From Pressure Ulcer Knowledge Test; Version 1 (partial; Pieper & Zulkowski, 2014)

Appendix B: Statistical Results for Correct Responses

Table B1

ANOVA of Correct Responses Job Category

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	16.300	2	8.150	7.489	.005
Within Groups	18.500	17	1.088		
Total	34.800	19			

Table B2

ANOVA for Lecture/Articles/ReadPreventionGuidelines/JobCAT

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.384	1	.384	.151	.702
Within Groups	53.529	21	2.549		
Total	53.913	22			

Note. **Those answered correctly in relation to individuals who have Lecture/Articles/ReadPreventionGuidelines/JobCAT

Table B3

ANOVA for Gender

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	22.150	5	4.430	2.465	.072
Within Groups	32.350	18	1.797		
Total	54.500	23			

Table B4

Tukey (HSD) Job Category

Dependent Variable: Answered Correctly		Sig.
RN	LPN/LVN	0.022
	CNA	0.011
LPN/LVN	RN	0.022
	CNA	0.951
CNA	RN	0.011
	LPN/LVN	0.951

Note. ** The mean difference is significant at 0.05 level. CAN = certified nursing assistant, RN = registered nurse, LPN/LVN = licensed practical nurse/licensed vocational nurse

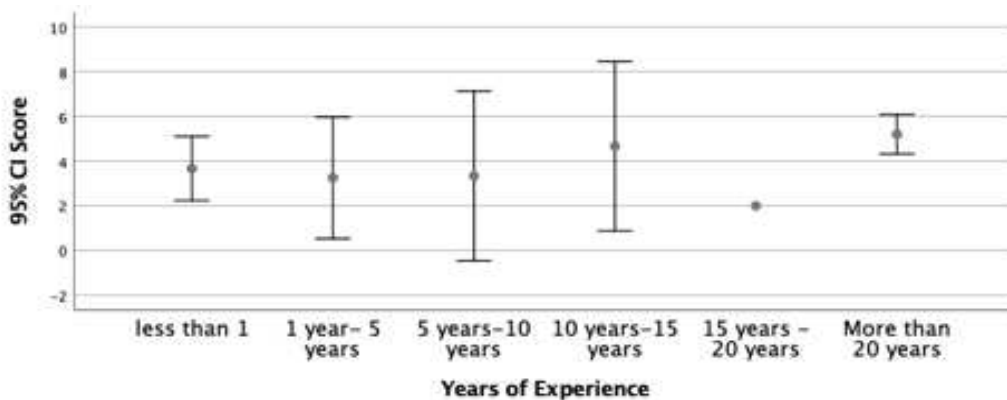


Figure B1. Years of exp./answer correct responses.

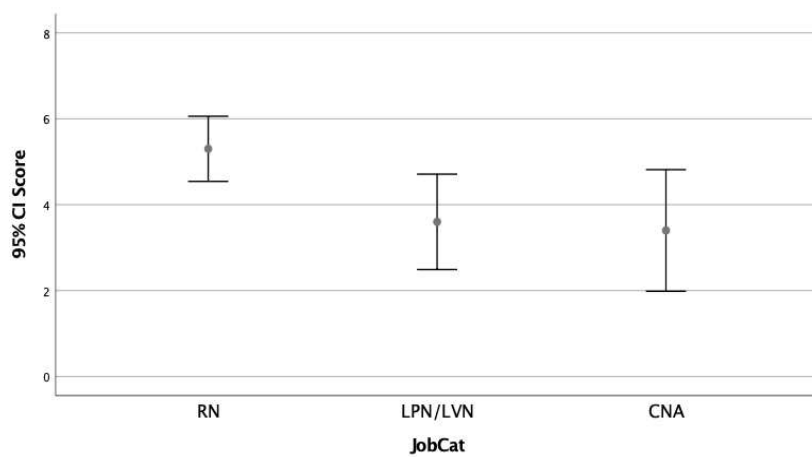


Figure B2. Job category answered correctly on pressure ulcers.

Appendix C: Statistics on Articles Read

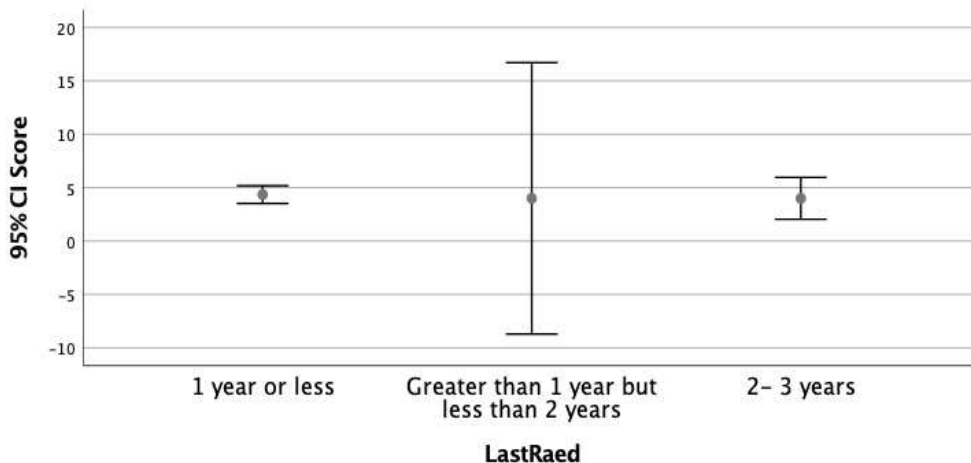


Figure C1. LASTRead responses within less than >1 or < 3 pressure ulcers.

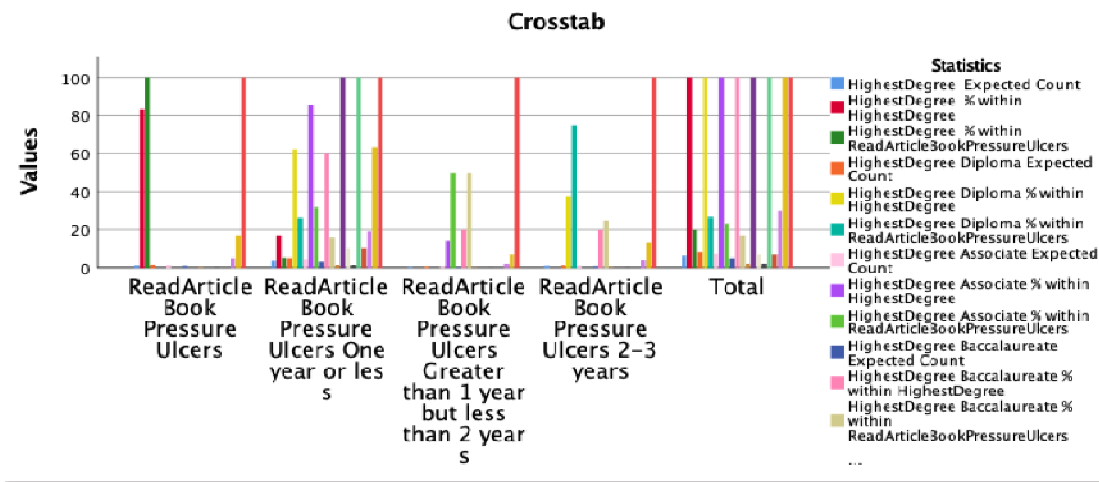


Figure C2. Crosstab on read articles based on education level.

Table C1

Crosstab of Articles Read on Pressure Ulcers Based on Education Level

		ReadArticleBookPressureUlcers				
			1 year or less	Greater than 1 year but less than 2 years	2-3 years	Total
	Expected Count	1.0	3.8	.4	.8	6.0
	% within HighestDegree	83.3%	16.7%	0.0%	0.0%	100.0%
	% within ReadArticleBookPressur eUlcers	100.0%	5.3%	0.0%	0.0%	20.0%
Diploma	Expected Count	1.3	5.1	.5	1.1	8.0
	% within HighestDegree	0.0%	62.5%	0.0%	37.5%	100.0%
	% within ReadArticleBookPressur eUlcers	0.0%	26.3%	0.0%	75.0%	26.7%
Associate	Expected Count	1.2	4.4	.5	.9	7.0
	% within HighestDegree	0.0%	85.7%	14.3%	0.0%	100.0%
	% within ReadArticleBookPressur eUlcers	0.0%	31.6%	50.0%	0.0%	23.3%
Baccalaureate	Expected Count	.8	3.2	.3	.7	5.0
	% within HighestDegree	0.0%	60.0%	20.0%	20.0%	100.0%
	% within ReadArticleBookPressur eUlcers	0.0%	15.8%	50.0%	25.0%	16.7%
Doctorate	Expected Count	.3	1.3	.1	.3	2.0
	% within HighestDegree	0.0%	100.0%	0.0%	0.0%	100.0%
	% within ReadArticleBookPressur eUlcers	0.0%	10.5%	0.0%	0.0%	6.7%
MD/DO	Expected Count	.3	1.3	.1	.3	2.0
	% within HighestDegree	0.0%	100.0%	0.0%	0.0%	100.0%
	% within ReadArticleBookPressur eUlcers	0.0%	10.5%	0.0%	0.0%	6.7%
	Expected Count	5.0	19.0	2.0	4.0	30.0
	% within HighestDegree	16.7%	63.3%	6.7%	13.3%	100.0%
Total	% within ReadArticleBookPressur eUlcers	100.0%	100.0%	100.0%	100.0%	100.0%

Note. **Read Articles with Years of Experience

*Level of Education with Individuals that have Read Articles on Pressure Ulcers

Table C2

Crosstab of Articles Read on Pressure Ulcers Based on Job Category

JobCategory		ReadArticleBookPressureUlcers				Total
		less than 1 year	1 year or but less than 2 years	2-3 years	Greater than 1 year	
JobCategory	Expected Count	1.0	3.8	.4	.8	6.0
	% within JobCategory	83.3%	16.7%	0.0%	0.0%	100.0%
	% within ReadArticleBookPressureUlcers	100.0%	5.3%	0.0%	0.0%	20.0%
RN	Expected Count	1.7	6.3	.7	1.3	10.0
	% within JobCategory	0.0%	90.0%	0.0%	10.0%	100.0%
	% within ReadArticleBookPressureUlcers	0.0%	47.4%	0.0%	25.0%	33.3%
LPN/LVN	Expected Count	1.0	3.8	.4	.8	6.0
	% within JobCategory	0.0%	33.3%	33.3%	33.3%	100.0%
	% within ReadArticleBookPressureUlcers	0.0%	10.5%	100.0%	50.0%	20.0%
Administrator/Executive	Expected Count	.2	.6	.1	.1	1.0
	% within JobCategory	0.0%	100.0%	0.0%	0.0%	100.0%
	% within ReadArticleBookPressureUlcers	0.0%	5.3%	0.0%	0.0%	3.3%
Director	Expected Count	.2	.6	.1	.1	1.0
	% within JobCategory	0.0%	100.0%	0.0%	0.0%	100.0%
	% within ReadArticleBookPressureUlcers	0.0%	5.3%	0.0%	0.0%	3.3%
Physician Assistant (PA)	Expected Count	.2	.6	.1	.1	1.0
	% within JobCategory	0.0%	100.0%	0.0%	0.0%	100.0%
	% within ReadArticleBookPressureUlcers	0.0%	5.3%	0.0%	0.0%	3.3%
Other	Expected Count	.3	1.3	.1	.3	2.0
	% within JobCategory	0.0%	50.0%	0.0%	50.0%	100.0%
	% within ReadArticleBookPressureUlcers	0.0%	5.3%	0.0%	25.0%	6.7%
CNA	Expected Count	.7	2.5	.3	.5	4.0
	% within JobCategory	0.0%	100.0%	0.0%	0.0%	100.0%
	% within ReadArticleBookPressureUlcers	0.0%	21.1%	0.0%	0.0%	13.3%
Total	Expected Count	5.0	19.0	2.0	4.0	30.0
	% within JobCategory	16.7%	63.3%	6.7%	13.3%	100.0%

Note. **Job category and years of experience those reading articles relating to pressure ulcers

Appendix D: Interview Questions and Themes

Question	Theme	Quotes
The first question is, describe your education during your program nursing before/after to treating pressure ulcers.	Pressure ulcers	<ul style="list-style-type: none"> • During my nursing school, I went to school in the Philippines, (by the way), four years of nursing, back then- I don't remember if we treat so much pressure ulcers. We usually do the med surge, we do the community, but not so much on pressure ulcer. • school of LTC specifically for pressure ulcer that's when I learned in-depth for staging for pressure ulcers • If you don't see much pressure ulcer, I will have to • SNF if you have a pressure ulcer. • The focus is not on pressure ulcers. • not that many experienced with pressure ulcer.
How do you feel when treating a regressed pressure ulcer?	Pressure ulcers	<ul style="list-style-type: none"> • So, for example when a pressure ulcer is a stage 2 the area is opened, the pressure ulcer is healed. • pressure ulcers courses currently in nursing it's really at risk for pressure ulcers important to educate, all • it's expensive. It affects you . . . pressure ulcers are not not good for students coming in on pressure ulcers • Once they have the pressure ulcer it is important, nutrition starts. If there's redness they the better.
What are your thoughts on education on pressure ulcers courses currently in nursing program?	Education	For pressure ulcers important to educate, all the staff. . . Educating them on turning and repositioning that's how it starts. Educating on the pressure points.
If you could change anything in nursing education programs what would that be?		
Is there any additional information you would like to contribute on pressure ulcers and education or stress when treating pressure ulcers?	Frustration	<ul style="list-style-type: none"> • It gets worse. Awful or frustrated. You want it to heal • in-hand. Yes, it's really frustrating if you cannot heal the . . . • is not progressing it is frustrating because you want it to. . . • what will we do, that's frustrating and stressful. We want it . . . • very preventable. It is very frustrating.
What about during State Surveyors? How does it impact you in the Survey process?	Prevention	<ul style="list-style-type: none"> • Prevention is the key. It affects good for the State. • Prevention is a big thing. Prevention is major.

-
- Proper education prevention it must be implemented at successful. It is very preventable. It is very frustrating especially what is the supplement to prevent this wound.”
-

Appendix E: Pieper-Zulkowski Pressure Ulcer Knowledge Test Version 2

DEMOGRAPHIC SHEET:

DIRECTIONS: Please answer each of the following questions about your background by checking the appropriate boxes).

- Where do you primarily work? Hospital Long term Care Home Care Private Practice Education Other (specify) _____
- Age: _____
- Gender: Male Female
- Job Category: MD/DO RN LPN CNA Administrator Nurse Practitioner (NP) Physician Assistant (PA) Other (specify) _____
- Number of years in practice:

<input type="checkbox"/> < 1 year	<input type="checkbox"/> 1 year - 5 years	<input type="checkbox"/> > 5 years - <10 years
<input type="checkbox"/> 10 years - < 15 years	<input type="checkbox"/> 15 years - < 20 years	<input type="checkbox"/> 20 years or more
- Highest degree held (check one): Diploma Associate Baccalaureate Masters Doctorate MD/DO
- Are you certified in any clinical specialty? Yes No Certification type _____
- Are you certified as Wound Specialist? Yes No Certifying Organization _____
- When was the last time you listened to a lecture on pressure ulcers? (Check one)

<input type="checkbox"/> One year or less	<input type="checkbox"/> Greater than 1 year but less than 2 years
<input type="checkbox"/> 2-3 years	<input type="checkbox"/> 4 years or greater <input type="checkbox"/> Never
- When was the last time you read an article or book about pressure ulcers? (Check one)

<input type="checkbox"/> One year or less	<input type="checkbox"/> Greater than 1 year but less than 2 years
<input type="checkbox"/> 2-3 years	<input type="checkbox"/> 4 years or greater <input type="checkbox"/> Never
- Have you sought out information about pressure ulcers on the web? Yes No
- Have you read the NPUAP/EPUAP International Pressure Ulcer Prevention and Treatment Guidelines?

Circle your true or false answer as truthful; or don't know.

1. Slough is yellow or cream-colored necrotic/devitalized tissue on a wound bed.	True	False	Don't Know
2. A pressure injury/ulcer is a sterile wound.	True	False	Don't Know
3. Foam dressing increase the pain in a wound.	True	False	Don't Know
4. Hot water and soap may dry the skin and increase the risk for pressure injury/ulcers.	True	False	Don't Know
5. Chairs-bounds persons should be fitted for a chair cushion.	True	False	Don't Know
6. A stage 3 pressure injury/ulcer is a partial thickness skin loss involving the epidermis and/or dermis.	True	False	Don't Know
7. Hydrogel dressings should not be used on pressure injury/ulcers with granulation tissue.	True	False	Don't Know
8. A person confined to bed should be repositioned based on the individual's risk factors and the support surface's characteristics.	True	False	Don't Know
9. A pressure injury/ulcer scar will down faster than unwounded skin.	True	False	Don't Know
10. Pressure injury/ulcer scars progress in a linear fashion from Stage 1 to 2 to 3 to 4.	True	False	Don't Know
Eschar is healthy tissue.	True	False	Don't Know
Skin that doesn't blanch when pressed is a Stage 1 pressure injury/ulcer.	True	False	Don't Know
The goal of palliative care is wound healing.	True	False	Don't Know
A stage 2 pressure injury/ulcer is a full thickness skin loss.	True	False	Don't Know
15. Dragging the patient up in bed increase friction skin loss.	True	False	Don't Know
16. Small position changes may need to be used for patients who cannot tolerate major shifts in body positioning.	True	False	Don't Know
17. Honey dressings can sting when initially placed in a wound.	True	False	Don't Know
18. An incontinent patient should have a toileting care plan.	True	False	Don't Know
19. A pressure redistribution surface manages tissue load and the climate against the skin.	True	False	Don't Know
20. A Stage 2 pressure injury/ulcer may have slough in its base.	True	False	Don't Know

21. If necrotic tissue is present and if bone can be seen or palpated, the ulcer is Stage 4.	True	False	Don't Know
22. When possible, high-protein oral nutritional supplements should be used in addition to usual diet for patients at high risk for pressure injury/ulcers.	True	False	Don't Know
23. Early changes associates with pressure injury/ulcer may development in persons with darker skin tones.	True	False	Don't Know
24. When necrotic tissue is removed, an unstageable pressure injury/ulcer will be classified as a Stage 2 injury/ulcer.	True	False	Don't Know
25. Donut devices/ring cushion help to prevent pressure injury/ulcers.	True	False	Don't Know
26. A specialty bed should be used for all patients high risk for pressure injury/ulcers.	True	False	Don't Know
27. Foam dressing may be used on areas at risk for shear injury.	True	False	Don't Know
28. Persons at risk for pressure injury/ulcers should be nutritionally assess (i.e., weight, nutrition intake, blood work).	True	False	Don't Know
29. Staff education alone may reduce incidence of pressure injury/ulcers.	True	False	Don't Know
30. Critical care patients may need slow, gradual turning because of being hemodynamically unstable.	True	False	Don't Know

Zulkowski, K., & Pieper, B. (2014). The Pieper-Zulkowski pressure ulcer knowledge test.

Advances in Skin & Wound Care, 7(9), 413-420.

doi:10.1097/01.asw.0000453210.21330.00 *Permission received with a copy of the completed document to be forward.*