

University of Nevada, Reno

Knowledge and Attitudes of Nurses on Pressure Injury Prevention and Care

A thesis submitted in partial fulfillment of the requirements for the degree of Master of
Science in Nursing

by

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requirements for the degree of

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Abstract

Each year, more than 2.5 million people develop pressure injuries, which contribute to pain, infection risk, and increased healthcare utilization, and are considered indicators of quality of care. Knowledge and attitudes toward pressure injuries influence interventions and outcomes. Existing evidence demonstrates that gaps are key factors in assessment, prevention, and treatment of pressure injuries.

Methods

A cross sectional survey of nurses' responses to the PK-PUKT and Moore and Price instrument distributed by snowball sampling.

Results

Results demonstrate gaps in knowledge, attitude is generally positive and behavior barriers. This may account for the prevalence of pressure injuries, and demonstrates the need for improved education, undergraduate nursing instruction, and research in the field of pressure injury risk assessment, prevention, and care, to effect outcome improvement.

Conclusions

Due to sample size limitations, no conclusions can be drawn from this study.

Dedication

“People say the effect is only on the mind. It is no such thing. The effect is on the body, too. Little as we know about the way in which we are affected by form, by colour, and light, we do know this, that they have an actual physical effect. Variety of form and brilliancy of colour in the objects presented to patients, are actual means of recovery.”

- Florence Nightingale, from *Notes on Nursing: What it is and What it is Not*, 1859

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Chapter 1

Introduction

Background

Pressure injuries, formerly known as pressure ulcers, pressure sores, decubitus ulcers, decubitus sores, decubiti, and bedsores, have been a concerning factor in patient care for nurses since the time of Florence Nightingale (1859). Each year, more than 2.5 million people develop pressure injuries, which contribute to pain, infection risk, and increased healthcare utilization (Agency for Healthcare Research and Quality [AHRQ], 2014). Pressure injuries are increasingly viewed as indicators of the quality of care provided to patients. Strategies to prevent facility-acquired pressure injuries (FAPIs) and other types of skin breakdown are of increasing interest in healthcare settings. Despite this, pressure injuries remain a common problem. Hospital-acquired pressure injuries (HAPIs) occur in 3%–34% of hospitalized patients worldwide and result in longer hospital stays, increased morbidity, and increased human suffering (Alderden et al., 2017).

In addition, since October 2008, The Centers for Medicare and Medicaid Services has not reimbursed facilities for stage 3 or stage 4 pressure injuries that are acquired in an acute level healthcare facility (Centers for Medicare & Medicaid Services [CMS], 2019), along with other preventable conditions. This has great impact on acute care centers, and especially on nursing, in that prevention measures, documentation, assessment, and treatment modalities are critical components of patient care, led by nurses. This applies to all nurses, not just wound care specialists and physicians, and has implications in increased cost of care, increased resource utilization, including human resources, and

poor patient outcomes (Fleck, 2009). Therefore, prevention measures, accurate assessment, appropriate documentation, and application of evidence-based treatment modalities becomes essential to the nursing professional. Though HAPI rates have decreased since the implementation of the CMS regulations, they are still of concern. This trend is reflected in a retrospective review of inpatient admissions in Kaiser-Permanente acute care facilities, which demonstrated a 0.57 per 1,000 patient days incidence of HAPI (Rodinelli et al., 2018). This incidence is similar to other reported findings in recent years, and includes all stages of HAPI, not just the non-reimbursed stage 3 and stage 4 injuries. While rates are decreasing, it is still important to focus on this significant issue in healthcare, due to the human impact: pain, suffering, infection, disfigurement, and death can result from pressure injury development in acute-care facilities.

Statement of Problem

The state of educational programs is of great concern when examining HAPI and pressure injury care. Many studies have demonstrated that nurses generally have a 75th to 79th percentile level of pressure injury knowledge, which is higher than medically trained healthcare providers (Ayello, Zulkowski, Capezuti, Harris-Jicman, & Sibbald, 2017). Approximately 30% of nurses state that they had received adequate wound care education, and cite the need for hands-on and didactic education sessions, and a lack of annual competencies (Ayello et al., 2017). These results highlight the need for further education, competency, and interactions that promote knowledge acquisition for nurses in the area of pressure injury care and prevention. In addition, evidence-based interventions and educational program implementation has been shown to not have the impact

expected, especially in the most critical patients and care environments. Research has demonstrated that attitudes of caregivers reflect the values placed on such interventions and education, and impact on the implementation of evidence-based practice in pressure injury prevention and care (Barakat-Johnson, Barnett, Wand, & White, 2018; Cox & Schallom, 2017; Moore, & Price, 2004; Tayyib, Coyer, & Lewis, 2016; Targari, Mirshekari, & Forouzi, 2018).

Purposes

The main purposes of this study were to (a) assess the initial level of knowledge of nurses in the assessment, staging, and treatment of pressure injuries, and (b) assess the attitudes, behaviors, and perceived barriers of pressure injury care expressed by nurses.

Significance to Nursing

Successful professionals work as a part of a team, with a goal to improve outcomes. They obtain this goal by translation of knowledge acquired into practice. Utilizing the modified Schon's theory of adult learning (1983) applied to wound care, as Sibbald and colleagues (2012) described, the learner gains knowledge from experiences and classroom instruction, and must then apply this into the care environment. Applying interactive methods of education allow for critical thinking, which can assist in application of knowledge in the healthcare work environment. Blended educational strategies have been shown to help adult learners obtain these goals. Before application of new strategies for education, the baseline level of knowledge must be assessed, including nurses in all stages of their career, from student to seasoned. The Pieper-Zulkowski Pressure Ulcer Knowledge Test (PZ-PUKT) (Pieper & Zulkowski, 2014) is a measure of pressure injury knowledge, which has been tested repeatedly, and modified over time to

reflect changes in evidence (Delmore, Ayello, Smart, & Sibbald, 2018). The current tool is known as PZ-PUKT version 2.

Despite the convenience and availability of globally accepted evidence-based prevention guidelines, pressure ulcer prevalence has not decreased significantly in recent years (Moore et al., 2019; Rodinelli et al., 2018). In addition, the risk for pressure injury development is increasing with changes in our population. Increased numbers of seniors, higher rates of obesity, cardiovascular disease, diabetes, and conditions leading to decreased mobility and other activities of daily living contribute to increased risk of pressure injury development (Boyko, Longaker, & Yang, 2018; Kayser, VanGilder, & Lachenbruch, 2019). While increased risk may contribute to some stasis in the prevalence of pressure injuries, it does not explain the stagnation of rates in the face of evidence-based practices. Identification of factors that lead to or are barriers to implementation of pressure ulcer prevention guidelines is an important aspect of application of evidence and insight (AHRQ, 2017). Among these are attitudes, and negativity toward pressure injury care may be significant (Avsar, Patton, O'Connor, & Moore, 2019; Barakat-Johnson, Barnett, Wand, & White, 2018). Positive outcomes often correlate with positive thoughts about performing behaviors that lead to those outcomes, while negative outcomes often link with feelings of failure. Using tools to measure attitudes may be of use in predicting clinical performance.

Moore & Price (2004) developed a tool to assess the attitudes of nurses, which has demonstrated validity and reliability, including when modified for cultural inclusion (Avar, Patton, O'Conner, & Moore, 2019; Barakat-Johnson, Barnett, Wand, & White, 2018; Cox & Schallom, 2017; Moore & Price, 2004; Tayyib, Coyer, & Lewis, 2016;

Tirgari, Mirshekari, & Forouzi, 2018). The Moore & Price instrument (MPI) was developed as a measure of the attitude of caregivers related to areas of assessment, prevention, and care of pressure injuries. This MPI and similar tools have been utilized to measure attitudes of nurses and other caregivers, with varied results, often based on cultural differences (Aydin, Karadag, Gul, Avsar, & Baykara, 2019; Coyer et al., 2019; Eatfa, Argaw, Gemechu, & Melese, 2018; Khong, Goh, Phang, & David, 2019; Usher et al., 2018). An examination of attitude can help discern barriers to implementation of evidence-based practices and knowledge obtained pertaining to the care of pressure injuries.

Research Question

Following the PICOS format as described by Higgins and Green (2011), a research question was developed to address a significant factor in pressure injury care and prevention: do registered nurses, licensed practical/vocational nurse, certified nursing assistants, and student nurses, who care for patients with pressure injuries, have knowledge and attitudes of pressure injury prevention and care? This question can be explored with a cross-sectional descriptive study utilizing reliable and validated survey tools.

Chapter 2

Review of the Literature

Literature Search Strategy

Electronic databases were utilized to search for extant literature using the search terms “nurse education pressure injuries”, and limitation on the extent of searches were applied, specific to each database. Searching EBSCO Host for the terms resulted in over 5400 items. Applying filters for expansions for equivalent subjects, publications in the past five years, academic journals, and full text availability reduced the results to 64 results. Searching in PubMed.gov with the same search terms resulted in 138 items. Application of filters for full text, past five years of publication, and human topics refined results to 106 items. Lastly, Nursing@Ovid was searched using the same terms, resulting in over 500 items. Filters applied included related terms, full text, four or more relevancy stars, and publication in the past three years, resulting in 166 items. The results from each databased were reviewed for relevancy and applicability to the PICO question by selecting for items that pertained to acute care settings, education of nurses, pressure injuries, and adult populations and deselecting items dealing with interventions, devices, technologies, pediatrics, and non-pressure injuries. This resulted in in 15 items from EBSCO Host, 19 items from PubMed.gov, and 17 items from Nursing@Ovid. After results were reviewed for duplications, and filtered for content applicable to the PICO, the final list of items was reduced from 51 items to 24 distinct items in total.

Electronic databases were utilized to search for extant literature using the search terms “nurse attitude pressure injuries”, and limitation on the extent of searches were applied, specific to each database. Searching EBSCO Host for the terms resulted in 71

items. Applying filters for expansions for equivalent subjects, publications in the past five years, academic journals, and full text availability reduced the results to 27 results.

Searching in PubMed.gov with the same search terms resulted in 84 items. Application of filters for full text, past five years of publication, and human topics refined results to 46 items. Lastly, Nursing@Ovid was searched using the same terms, resulting in over 8700 items. Filters applied included related terms, full text, five relevancy stars, and publication in the past five years, resulting in 25 items. The results from each databased were reviewed for relevancy and applicability to the PICO question by selecting for items that pertained to acute care settings, education of nurses, pressure injuries, and adult populations and deselecting items dealing with interventions, devices, technologies, pediatrics, and non-pressure injuries. This resulted in five items from EBSCO Host, 13 items from PubMed.gov, and 21 items from Nursing@Ovid. After results were reviewed for duplications, and filtered for content applicable to the PICO, the final list of items was reduced from 39 items to 15 distinct items in total.

Literature Review

General Education Strategies.

Among the search results, several items demonstrated generalized educational strategies for diverse, adult, healthcare professionals. Some items were interdisciplinary, reflecting on the diverse nature of healthcare education, while others focused on the education of nurses, as students or as licensed professionals. Of the seven items discovered, support of active learning, experiential learning, and diverse methodology, outside of traditional lecture and evaluation was demonstrated in four items. Inclusivity, diversity, cultural competency, and social components of educational strategies were

recommended by evidence discovered. The additional three items were supportive of quality and safety educational methods proposed by the Institute for Healthcare Improvement or provided guidelines and tips for improving nursing education.

Breytenbach, Ham-Baloyi, and Jordan (2017) performed a literature review, which provided eight different teaching methodologies or strategies that demonstrated improvement and diversity for nurse education. Their review discovered three strategies that improved knowledge outcomes: concept mapping, internet-based learning, and evidence-based interactive strategy. The additional five techniques contributed to improved education outcomes, but a combination of applicable strategies allowed for diverse, interactive, and active learning opportunities, and could synergize the impact on outcomes, when applied appropriately to the educational situation.

It is important to point out the emphasis on group activity, as healthcare does not occur in a silo, but is an interdisciplinary collaboration of individuals. Beauvais et al. (2017), Breytenbach et al. (2017), Gonzalez, et al. (2017), Levey (2016), MacNeill, Telner, Sparaggis-Agaliotis, and Hanna (2014), and Parsh and Gardner (2016), all discuss the merits of group work and enhancement of outcomes for nurse learners. The combination of interactive group learning, with diverse strategies and techniques is supported by the evidence.

Pressure Injury Attitudes.

Even with evidence-based interventions and educational programs, pressure injuries happen to acute care admitted patients, especially in the critical care areas, such as intensive care units (ICU), critical care units (CCU), and cardiovascular intensive care units (CVICU) units. Many cross-sectional descriptive studies on the attitudes of

caregivers have been performed to assist in understanding other factors involved in pressure injury care and prevention. While knowledge, barriers, interventions, and skills are important researched topics in pressure injury care, attitudes and values of the caregiver is a factor often overlooked. Research has demonstrated that caregivers often neglect, avoid, or place lower priority on prevention techniques as a result of devaluation of pressure injury prevention or care. Tayyib, Coyer, and Lewis (2016) discovered a theme in their qualitative analysis, which they identified as “impact of workload”, meaning optimal care was compromised due to the number of tasks, and the prioritization of care in the critical care setting. Their study of critical care nurses showed positive attitude expression, but actions demonstrated neglect of evidence-based practices, interventions, and care as a result of lower priorities placed on skin health, especially when dealing with critical illness. Time barriers had an impact as well, in that the number of care tasks required to be performed were disproportionate to the time available to perform them.

In a similar study by Tirgari, Mirshekari, and Forouzi (2018), Iranian ICU nurse attitudes were evaluated. Moderate attitudes regarding pressure injury prevention and care was demonstrated, but lower scores were noted in the categories of responsibility for care and confidence of effectiveness of interventions, demonstrating distrust or lack of knowledge in efficacy of care. The study linked attitude and knowledge together, in a positive correlation. An Australian study (Barakat-Johnson, Barnett, Wand, & White, 2018) demonstrated positive attitudes toward pressure injury prevention and care, which correlated positively with experience and knowledge, in a wide range of care areas. They point out that though attitudes were positive, application of care is often lacking, as in the

previous studies, and result in lack of interventions, leading to increased rates of healthcare associated pressure injuries. Another study conducted in Australia demonstrated participant self-reported ability to overcome barriers in PI prevention, positive attitudes about PI prevention, and high priority ratings for PI prevention. The most identified barrier was that of high patient acuity and timeliness (Coyer et al., 2019). Similar findings in a study by Cox and Schallom (2017), demonstrated positive attitudes in American critical care nurses, but once again pointed out that application of interventions does not correlate with attitudes. Again, attitudes, experience, and knowledge had positive correlations. Further support of positive attitudes, but barriers to implementation were demonstrated with student nurses (Garrigues, Cartwright, & Bliss, 2017). Students ranged in attitude from ambivalent, aware, committed, and passionate. Their learning environments, specifically critical care, trauma, and long-term care affected their progress on the attitude spectrum. In addition, exposure to work with a wound care professional expanded their attitude spectrum growth.

Pressure Injury Knowledge.

Among the seven general pressure injury knowledge studies, design and methodology varied. Three studies used cross sectional descriptive studies (Aydın, Karadağ, Gül, Avşar, & Baykara, 2019; Cowan, Garvan, Rugs, Barks, Chavez, & Orozco, 2019; Faria, Prado, Lima, Rogenski, Borghardt, & Massaroni, 2016), while 1 utilized pre-test and post-test analysis (Lee & Kim, 2016). One study was of mixed methodology, pre-test and post-test with repeat observation (Martin et al., 2017), and 1 descriptive analytic study (Tirgari, Mirshekari, & Forouzi, 2018).

In Tirgari and colleagues' study (2018), discovery of statistically significant relationship between pressure injury knowledge and attitudes, with a positive correlation relationship was found. Demonstration of pressure injury prevention as one of many priorities and quality indicators of nursing care was also performed. Lee and Kim (2016) utilized a pressure injury classification system education program which resulted in positive effects on nurses' knowledge and ability to visually diagnose classes of pressure injuries and incontinence associated dermatitis. However, the system also resulted in poor discrimination of suspected deep tissue injuries, unstageable and stage 3 pressure injuries, which indicated a need for further education in visual diagnoses and discernment. Martin and colleagues (2017) compared initial and repeated observations to find a statistically significant reduction of pressure injury prevalence rates after on-line education, which demonstrated enhanced staff knowledge of a pressure injury prevention program. The incorporation of evidenced-based education into clinical practice resulted in the reduction of pressure injury prevalence, in this study.

The three cross sectional descriptive studies, (Aydın, Karadağ, Gül, Avşar, & Baykara, 2019; Cowan et al., 2019; Faria et al., 2016) were similar in that they demonstrated knowledge gaps that were unexpected, or lower than expected in Turkey, Brazil, and the United States. These three studies elucidated the need for specific pressure injury program education, focusing on evidence-based practice, documentation, and assessment skills for wound care providers. They emphasized individualization of programs to meet provider's needs, and recommended repetitive, or pre-test and post-test studies to demonstrate sustained knowledge and observations to support change in practice.

Pressure Injury Education with Validated Tool Use.

Application of a validated pressure injury knowledge assessment tool is another theme found in the literature search. Five items described and demonstrated application of the Pieper-Zulkowski Pressure Ulcer Knowledge Test (PZ-PUKT) to assess knowledge levels of registered nurses. Three studies took place in Australia (Barakat-Johnson, Barnett, Wand, & White, 2018; Fulbrook, Lawrence, & Miles, 2019; Lawrence, Fulbrook, & Miles, 2015), one in Brazil (Sousa, & Faustino, 2019), and one in the United States (Miller, Neelon, Kish-Smith, Whitney, & Burant, 2017). In all these studies, the PZ-PUKT or modified version of this tool were utilized, and they were descriptive cross-sectional surveys. A major limitation in each study was that the tool was only administered once, and did not include pre-education and post-education evaluations of pressure injury knowledge. The Brazilian study modified the PZ-PUKT to fit within cultural and language differences. Each study resulted in confirmation of knowledge deficits in pressure injury care and prevention. From these studies, we have evidence of international deficits in knowledge of pressure injury care.

Pressure Injury General Education.

From the current literature search, two items described general pressure injury strategies and evaluated their success levels. Chaplain (2017) evaluated the use of an educational kiosk for pressure injury risk assessments and prevention methods. The evaluation of this best practice organization's approach to education of staff nurses included a brief video presentation, and then an interactive game of categories, and question challenges, as well as a demonstration activity utilizing an interactive format.

Nurses reported and demonstrated engaged learning, and application of knowledge to patient education and assessment techniques.

Ayello, Zulkowski, Capezuti, Harris-Jicman, and Sibbald (2017) provided an interdisciplinary education module pertaining to the state of wound care and pressure injury education for nurses, and recommendations for the future. This expert article references the “C and C+” levels of pressure injury knowledge of nurses and “D” level knowledge for physicians and physician assistants in the United States and Canada. In addition, knowledge deficits exist in other countries, such as Canada, Brazil, and Sweden, among others. Surveys of nurses demonstrate feelings of inadequate wound care preparation via formal education, training, continuing education, or other methods. Citing extant literature and studies, recommendations of improved nursing school curricula, as well as educational initiatives for the professional nurse were made. Targeted programs, involving pre- and post-testing, technology-based education, such as mobile phone applications, interactive and mixed-methodology sessions, and practice in skills and attitudes are the recommended, evidence-based methods for increasing knowledge in pressure injury care and wound care.

Validated Pressure Injury Knowledge Testing.

When assessing knowledge of pressure injury formation, prevention, assessment, and care, a validated, reliable tool should be used. The gold-standard evaluation tool for pressure injury knowledge is demonstrated in the discovered literature as the Pieper-Zulkowski Pressure Ulcer Knowledge Test (PZ-PUKT) (Delmore, Ayello, Smart, & Sibbald, 2018; Montenegro de Albuquerque et al., 2018 ;Rabeh, Palfreyman, Souza, Bernardes, & Caliri, 2018), which was updated to Version 2 in 2016 to reflect expanded

knowledge. The PZ-PUKT has been adapted to use in multiple care settings, with student nurses, nurse instructors and educators, nursing aides, and care technicians. Culturally, different languages and cultural settings have been tested, and the PZ-PUKT retains its validity. The recommended utilization of the PZ-PUKT is to assess knowledge gaps by administering a pre-test, performing education, and then evaluation with a post-test (Delmore et al., 2018). Following this process, knowledge deficits identified, can be addressed, and demonstrated to be corrected.

Conceptual Framework

Donald Schön was an influential theorist who assisted in development of the reflective learning theory, single loop learning, and double loop learning. Schön was a graduate of both Yale and Harvard Universities, and pursued research in behavioral and organizational sciences. He introduced insights pertaining to learning systems, framed reflective practice inquiries, and developed figurative descriptions of social situations. Along with fellow researchers, scientists, and philosophers, Schön studied learning systems, and described how life experiences and lessons learned throughout the lifespan contribute to personal development and organizational shifts in periods of change (VanVliet, 2019).

Schön developed a theory of reflective practice, in which professionals become aware of their knowledge base, and learn from experiences. Reflection in action, occurs when a behavior is happening, while reflection on action occurs after the event, and includes review, analysis, and evaluation. Additionally, he describes knowing in action, as a term that defines tacit knowledge: the information that is not easily transferred through verbalization, or other communications. Knowing in action applies to many

areas, such as speaking a language, playing a musical instrument, or use of technical equipment (peterbuwert, 2012). Schön was involved in the changes in society, government, and business, in the 1970's in the United States. With changes in social movements, industrialization, and government policy, as well as their interactions, development of a theory of change, adaptation, and learning for the institutions of the time was a focus. Schön asked questions addressing how these institutions transform themselves, what consists of an effective learning system, what learning, and knowledge operates within social learning processes, and what personal demands are made on the individual in this learning environment (Smith, 2011).

The focus of Schön's theory (Smith, 2011) is on the concepts of reflection in action and reflection on action. As described, reflection in action is within the moment of the event occurring, and how we are thinking at that time. Connection to the professional issue at hand is often done with emotions, feelings, and prior experiences, which allows the individual professional to attend to the issue, and be present. This focuses on what the professional does in the situation to keep them focused on the problem or issue faced. The professional will draw on previous experiences, and choose a course of action that reflects their prior knowledge. This is a common process of experience, and decision making in the moment, which leads to choosing what to do next, and acting upon it immediately or within a short period of time. In contrast, but also connected to reflection in action, reflection on action takes place after the professional issue occurs. This is when the professional refers to actions taken, possibly through the process of reflection in action, and reviews the process and experience. This may present as discussion with other professionals, journaling, or other processes that allow the professional to spend time in

review of the event and actions, of why actions were taken, what caused the person to act in the way they did, and the situation and environment where the situation took place (Smith, 2011).

Schön's theory posits professional growth begins when we view the actions taken as a profession through a critical lens, and in effect, doubt our actions, or question why we did what we did in the circumstances of the event. The presence of doubt indicates that there is more to be learned, and spurs the motivation to learn. Doubt can focus our thoughts into questions, and frame situations as problems, for which we can find solutions. In some situations, we can plan and systematically remove potential solutions to find an answer, and remove the doubt, which is often done in clinical reasoning situations. In other situations, the doubt remains, and a series of possibilities are present, with no clear, defined, or evidence-based answer to the problem in the professional's knowledge base. In these situations, the professional learner then explores further, searching for solutions or evidence to support actions and decisions. In some cases, the individual finds support for the choices, and reinforce what they had already learned. In other cases, the person learns new information, or discovers the lack of information, and searches for ways to inform personal practices through reflection (Young, 2015)

In Schön's theory, experiences are coupled with reflection to increase and deepen understanding of information, tasks, and concepts. Application of this theory to the adult learner stresses the importance of reflection in action, and reflection on action. This has applicability to the continuing professional education, professional development, and advancement of clinical practice. Adult learners have needs which drive their educational goals, and this should be the focus of the educational program, rather than the needs of

the educator or institution (Delmore, Ayello, Smart, & Sibbald, 2018). Application of adult learning theory impacts on clinical, leadership, education, and research areas of healthcare. Adult learners are present in all aspects of professional development areas, and have needs specific to their population. Varied learning scenarios allow the adult learner to critically think, and reflect on action in an educational setting. Often in the clinical setting, especially that of wound care, the provider of care reflects in action, to make decisions on treatments and therapies. Continuing education settings allow the wound care provider to reflect on action, by providing a blend of situations and approaches to learning, and allowing the learner to achieve their goals, and not just the institutional goals (Delmore et al., 2018). Application of Schön's theory has been previously performed on the topic of wound care education, as demonstrated in the curriculum of the International Interprofessional Wound Care Course (IIWCC) at the University of Toronto, Ontario, Canada, and at Stellenbosch University in South Africa (Sibbald, Ayello, Smart, Goodman, & Ostrow, 2012). The application has moved the professional from classroom instruction to continuous professional education. In addition, reflection upon learning is an essential technique for healthcare professionals, which allows the professional to discover the meaning of their knowledge, and how to apply it in future situations (Grant, Kinnersley, Metcalf, Pill, & Houston, 2006; Sobral, 2000).

In application to educational programs for professional adult learners in wound care, guidelines based on adult learning theory are enumerated by Flannigan (2008) and include the assessment of prior knowledge as well as evaluation of learning and educational activities. The author continues to recommend real-life content which can be applied and is relevant to situations faced by the professional. The opportunities to learn

must be taken advantage of and utilized as effectively as possible, and this can be achieved with varied and collaborative activities that focus on principles, rather than just facts. The most effective programs are self-directed, and led by the students, have built in flexibility, and reinforce learning while providing professional, constructive feedback. Utilizing these principles, we can develop an educational module for pressure injury staging, assessment, prevention, and care, and can apply it to nurses in the acute care setting.

Chapter 3

Method

Design

This question of research can be explored with cross sectional design. A self-report survey with a convenience sample including a snowball sampling method was used to collect data and evaluate practices, information sources, and knowledge of pressure injury care and prevention amongst registered nurses, licensed practical/vocational nurses, certified nursing assistants, and student nurses. Initial plans for electronic and paper surveys were modified considering the COVID-19 pandemic, and all surveys were provided in an electronic format, due to adherence to government and health authority directives. Electronic contact with known potential survey participants was initiated, including a brief introductory explanation, and then a document containing the consent to participate, instructions, and survey tools were provided. In addition, 3 non-investigator individuals were asked to participate as non-respondent contacts. After the individuals were introduced to the documents and greeting, they served as initial contacts for other individuals to participate in the surveys. All participants were encouraged to share the survey with other qualified individuals. Over 330 individuals, including registered nurses, licensed practical/vocational nurses, certified nursing assistants, and student nurses were contacted in these ways. Some contacts were with other allied health professionals, physicians, and physician assistants, who could pass the survey on to qualified nurse participants.

Population and Setting.

The population of interest is the registered nurse (RN), licensed practical/vocational nurse (LPN/LVN), certified nursing assistant (CNA), and student nurse who is currently employed or studying in acute care settings, serving the inpatient population, from areas including, but not limited to critical care, medical-surgical, perioperative nursing units in the United States of America. Distribution of electronic surveys and use of snowball sampling methods allowed for dissemination of the survey. Requirements for the participant include qualification as a RN, LPN/LVN, CNA, or student nurse, with at least one month of practice or study in the inpatient acute care setting, and the ability to participate in an English-language survey electronically for 20 to 30 minutes. Utilizing data from the American Association of Colleges of Nursing (Rosseter, 2019) a population estimate of 32,110,000 currently employed registered nurses exist in the United States as of 2017. As of 2017, 922,196 LPN/LVN existed in the United States (The US nursing work force, 2018), while 1,564,200 CNAs were documented in 2018 by the Bureau of Labor Statistics (Nurse.org, 2020). Nursing student enrollment from 2015 demonstrated 320,074 student nurses in the United States (Jonas Philanthropies, 2015). Use of a sample size calculator set for this population estimate, with a 90% confidence level, and 10% margin of error, the ideal sample size is 68 participants (Qualtrics, 2019). The process of recruitment commenced after approval by Institutional Review Board (IRB) of the University of Nevada, Reno.

Data Collection Plan.

Due to sampling challenges (e.g., cost, time, identifying participants), a snowball sampling method, mainly using personal contacts and referrals, will be used to recruit participants. The investigators will personally contact individuals from professional

organizations and personal contacts. The investigators will ask personal contacts (snowball sampling) for recruitment. If individuals agree to participate, an information letter will be provided. The information letter is available in English. The investigators will explain the purpose of the research, participants' eligible criteria, the participants' rights, and provide a brief description of the nature and extent of involvement, e.g., participation in a confidential 20 to 30-minute survey. Participants options to complete a survey is limited to electronic, due to the COVID-19 pandemic. The investigators will also ask these participants to contact their colleagues in nursing to fill out surveys. If participants agree to recruit others, they will be given instructions about the eligibility requirements (e.g., age), as well as the information letter, paper copies of the questionnaire, and a survey document. Surveys began distribution after IRB approval on April 11, 2020 and finished on April 30, 2020.

Instruments.

The Pieper Zulkowski-Pressure Ulcer Knowledge Test is recommended for use by the Agency for Healthcare Research and Quality (2017) program for hospital pressure injury prevention. Permission for use was obtained on February 8, 2020 via electronic correspondence with Dr. Karen Zulkowski. This tool contains 72 items, used to measure three domains: prevention (28 items), staging (20 items), and assessment (24 items). The Moore & Price attitude scale is utilized to measure attitudes of nurses when examining pressure injury care. Permission for use was obtained on February 3, 2020 from Dr. Zena Moore via electronic correspondence.

Pieper-Zulkowski pressure ulcer knowledge tool.

The original tool, developed by Pieper & Mott (1995), consisted of a 47-item knowledge assessment comprised of true-false questions. Early studies demonstrated that nurses' knowledge of pressure injuries was significantly higher the more recently they had experienced intake of pressure injury information, such as articles, or lectures. The tool has undergone multiple revisions since its conception, and now consists of 72-items, in the true-false-don't know format assessing prevention/risk, staging, and description knowledge. The most recent revision of the tool entitles PZ-PUKT version 2 (Pieper & Zulkowski, 2014) has been demonstrated as reliable. Cronbach's α was .80 for the 72-item PZ-PUKT. Cronbach's α values for the subscales were as follows: staging, .67; wound description, .64; and prevention/risk, .56. The mean correct scores were as follows: total, 80%; prevention, 77%; staging, 86%; and wound description, 77%. Though the tool does not have a recommended cut-off score for grading knowledge level, it was noted that individuals with certification or advanced training in wound care did better overall than non-wound care certified nurses, and better than nurses who did not hold any certification. One version of the tool, modified for hospital use is recommended as a benchmarking tool for staff knowledge on pressure injury staging, description, and prevention (AHRQ, 2017). Included in PZ-PUKT version 2, is a 12 item demographics tool, which gathers knowledge on work environment, experience, certification, licensure, education, age, and gender, to assist in correlation of those items with pressure injury knowledge.

Moore & Price attitude scale.

The Moore & Price (2004) pressure injury attitude tool was developed to assess and examine the attitudes of nurses toward pressure injuries. The questionnaire consists

of 28 questions divided into 4 sections: Prevention, behaviors, barriers, and details of practice. Prevention consists of 11 items in a five item Likert scale format ranging from “strongly disagree” (1 point) to “strongly agree” (5 points), with a score range of 11 to 55 points. The behavior section consists of eight items, two of which may not be answered based on prior item responses. These items are multiple choice, and select all that apply, and focused on assessing information related to the actions taken by nursing staff in the care and prevention of pressure injuries. The third section explores barriers to practice, and allows respondents to rank in order of importance their barriers to assessment, documentation, and intervention implementation for pressure injuries. These are open-ended responses, and allow the respondent to write in their own words. The final section on details of practice consists of five items, which ask about area of practice and experiences, with check-box answers. Reliability of this tool was demonstrated with a Cronbach’s alpha coefficient of 0.81 in 20 participants, and it was 0.75 3 weeks later when retested (Mortazavi, Rafiei, Nasehi, Jafari, Jafari, & Hosseinzadeh, 2016).

Data Analysis

The data from the surveys were entered in an Excel spreadsheet, validated by an independent person and imported to the IBM SPSS Statistics 26. A score of 1 was allotted to all correct answers, and the total scores were summed for PZ-PUKT. A passing score of above 75% was used as a cut-off measure of adequacy of knowledge. The Moore & Price tool items were coded as 1 for “Strongly disagree” to 5 for “Strongly agree,” with the scores reversed for negative items. A higher mean attitude score of $\geq 75\%$ implied satisfactory positive attitudes. Descriptive data were analyzed for the study sample characteristics (e.g., frequency, percentages, mean, and standard deviations). The

domain scores for PZ-PUKT and Moore & Price tool were calculated based on the answers given divided by the number of questions stipulated within the domain in percentage.

Chapter 4

Results

Demographics

Upon analysis of the participant's surveys, 21 submissions were returned of the greater than 330 surveys distributed. Of these 21 returned surveys, 19 had been transmitted with identifiable answers, with two submissions including illegible or unclear answering schemes. The two unclear submissions were removed from eligibility. The sample population as shown in Table 1 consisted of registered nurses (15), a licensed practical or vocational nurse (one), student nurses (two), and an advanced practice registered nurse (one), but no responses from certified nursing assistants. Diversity in age ranges was noted, from 21 years older and up, with a majority between 31 and 50 years of age (10). Years in practice was also varied, with most respondents having more than 10 years of experience (13). The gender identity of respondents was mostly female (14), with one response of no answer. Most respondents had a baccalaureate degree or higher (15), with one reply of no degree. Most respondents were not certified (12), and of those that were the majority were certified in wound specialties (five). Nearly half of the respondents stated they had attended a lecture (nine) or read an article or book (10) on pressure injuries in the past year. Most respondents identified use of the internet for pressure injury information (14) and reading of National Pressure Injury Advisory Panel (NPIAP) or European Pressure Ulcer Advisory Panel (EUPAP) guidelines (eight) was reported as well.

Of significance was the response of job category, which further limited data for use in the study. Since the study specified working in the acute care setting or being a

student nurse to be an inclusion criterion, seven of the 19 responses were excluded from use in the study. This attrition of data was unfortunate, but may have application in later study, bringing validity to the knowledge and attitudes expressed by the individuals. The remaining 12 surveys included acute care workers and student nurses and will be further investigated for knowledge and attitudes.

Knowledge

The summation of scores for the included respondents is shown in Table 2. Overall respondents answered items on the PK-PUKT correctly 69.34% (SD 18.5 and range 26.39 – 95.83%) of time. Approximately 10% (SD 3.8 and range 4.17 – 15.28%) of answers were incorrect, and almost 16% (SD 20.3 and range 0-69.06%) of items were marked as “don’t know”, expressing a knowledge gap of near 26% from respondents. There was a near 3% (SD 8.3 and range 0 – 29.17%) rate of missing answers as well, that impacted upon the correct score rates. Wound subscales of staging and wounds were less likely to be answered incorrectly, while the prevention subscale was more likely to be answered incorrectly.

Table 3 displays scores in relation to demographic information. Highest average scores were demonstrated by registered nurses, baccalaureate prepared respondents, those in practice for greater than 5 to 10 years, and certified wound specialists. Lowest average scores were seen in student nurses, those with diplomas, those in practice for less than a year, and non-certified respondents.

Attitudes

The study result indicated that all respondents’ (n = 12, 100%) attitudes towards pressure ulcer prevention were positive (mean = 39, SD = 2.80, range = 8). The lowest

possible score (negative attitude) was 11 whilst the highest possible score (positive attitude) was 55. Respondents scores ranged from 36 to 43, indicating neutral to positive attitudes, at best, as demonstrated in Table 4.

Behaviors.

Respondents' behaviors were examined through a series of 8 items, some of which could be moved past based on prior answers. Risk assessment was performed on all patients by half of respondents (n=6), and of those that did respond to performing risk assessment, they carried this out daily in most responses (n=5, 71.4%). Once again, half of respondents write pressure injury prevention plans (n=6) on all patients, while a third (n=4) never write prevention plans. In addition, a third of respondents (n=4) never read pressure injury prevention plans. Of those that do read prevention plans, a majority (n=5, 62.5%) did so to review the plan of care. Prevention care plans are updated daily (n=3, 25%), when pressure injuries develop (n=2, 16.7%), or for other reasons (n=4, 33.3%) such as scope of practice, department policy, or when consulted as a specialist. All respondents stated they carry out pressure injury prevention care plans, and that they did so because it is essential to nursing practice. Other responses included modeling behavior (n=1, 8.3%), expectations (n=1, 8.3%), policy (n=2, 16.7%), and statements of improved outcomes and better standard of care (n=2, 16.7%).

Barriers.

Open-ended questions with the option to include up to 3 responses per item were provided to assess the barriers to pressure injury assessment, care planning, and prevention for respondents. A total of 89 discrete answers were provided from the 12 respondents. Many individuals did not include the full three responses per item, though

no individual included more than three responses. The responses were then related to categories for ease of reporting. Categories of barriers were extended across the three items, and any responses that were not repeated were included in the category of other. These categories, and their percent scores are reported in Table 5. Common barriers through the three items were time constraints, acuity of the patient, and human resources. Time constraints ranked in the top two responses of all three items, and included multitasking, time spent doing priority tasks, and addressing needs other than those related to pressure injuries.

Chapter 5

Summary and Recommendations

Summary of Results and Discussion

As stated previously, the aim of this study was to assess the initial level of knowledge in assessment, staging, and treatment of pressure injuries. In addition, the attitudes, behaviors, and perceived barriers of pressure injury care were examined. Due to a small sample size (3.6% response rate), there was not an adequate representation of the population utilized.

Though the data obtained is not supportive of conclusions, we can examine the trends, and compare them to similar studies, which show comparable results in the trends of knowledge gaps. Registered nurses, baccalaureate or higher educated professionals, and those with more years of experience were found to be more knowledgeable about pressure injury prevention, assessment, and care. Pressure injury knowledge and practices have been strongly associated with bachelor or higher degrees of education by Aydin and colleagues (2019), while years of experience were associated with higher scores in many studies (Barakat-Johnson et al., 2018; Fulbrook et al., 2019; Miller et al., 2017). Similar trends of knowledge were demonstrated in this study on education level and years of experience.

Aydin and colleagues (2019) also demonstrated that nurses with specific education in the area of wound care, such as certification or continuing education performed more effectively on knowledge assessments. Participants in another knowledge assessment study demonstrated higher scores related to access to pressure injury education available on the internet (Lawrence et al., 2015). These trends were

echoed in the current study, with higher scores from wound specialists and those who obtained education on-line. In addition, overall scores on knowledge assessment tests, including those that utilized the PZ-PUKT, demonstrated mean scores ranging from 60% to 80% (Aydın, Karadağ, Gül, Avşar, & Baykara, 2019; Barakat-Johnson, Barnett, Wand, & White, 2018; Fulbrook, Lawrence, & Miles, 2019; Lawrence, Fulbrook, & Miles, 2015; Miller, Neelon, Kish-Smith, Whitney, & Burant, 2017) which is in line with the “C” to “C+” levels shown in the past (Ayello et al., 2017). Results within this range were demonstrated in the current study, though due to sample size, they were not shown to be conclusive.

Comparison of results from this study, to the original studies performed with the assessment tools used demonstrated similar trends in outcomes. When examining the results of the PZ-PUKT tool, Pieper and Zulkowski (2014) demonstrated a mean score of 80% in total, 77% for prevention, 86% for staging, and 77% for wound description. The results of this study were similar, and in general lower than the original study. This data, however, is not directly comparable due to small sample size. In Moore and Price’s instrument research (2004), positive attitudes were demonstrated, though practice implementation was hindered by barriers of lack of time and lack of staff. They concluded that these barriers contributed to the prevalence rates, and the inability to implement evidence-based practices effectively. The positive attitudes on pressure injury care, prevention, and assessment were not reflected in the practices of the individuals involved in the study. Similar findings of barriers were demonstrated in the current study, but once again, are not able to be correlated due to small sample size.

Attitudes on pressure injury prevention have often been explored as reasons that may contribute to the stagnated pressure injury prevalence rates. Concepts of the “impact of workload” leading to compromises in optimal care due to the quantity of tasks, and the prioritization of care (Tayyib et al., 2016) have been proposed to decrease the implementation of pressure injury interventions. Prioritization, workload, resources, documentation, and time have been shown to be concerns for healthcare staff members, and identified as barriers to providing evidence-based practice (Barakat-Johnson et al., 2018; Cox & Schallom, 2018; Coyer et al., 2019; Garuiges et al., 2017; Tirgari et al., 2018). Similar trends in barriers were demonstrated in the current study, with high rates of the common reasons, such as resource, time, and human resources.

Research is demonstrating a moderate level of knowledge, and generally positive attitudes about pressure injury care, but also bringing the barriers that lead to poor implementation of care to the surface. The problem is being shown to be multifactorial, with contributions from knowledge gaps, and the impact of barriers leading to pressure injury prevalence rates that have not changed significantly since government regulation, monitoring, and value-based purchasing (

Implications for Nursing

This study demonstrates that knowledge gaps in pressure injury prevention exist, as well as behavior and attitude barriers to pressure injury prevention implementation. Long standing research has demonstrated that certain groups, such as RNs, have adequate knowledge of pressure injury prevention, but we are reminded that we do not work in a registered nurse only environment. Our former nursing sensitive indicators are being driven to become team-sensitive indicators (Ayello & Sibbald, 2019), to reflect the

modern, evolving, and complex environment of care that uses many professionals to achieve outcomes and goals. Studies have focused on the RN, the wound specialist, medical professionals, and student nurses in the past, but further study of mixed cohorts of healthcare professionals is warranted (Dalvand, Ebadi, & Ghanei, 2018).

The implications for improving outcomes for patients who are at risk for pressure injury development are vastly important. Further research into why pressure injuries are still at high prevalence, costing patients and the healthcare industry resources such as time, materials, and capital should be a focus. This research should be led by nursing professionals, as they have traditionally been the gate-keepers for pressure injury prevention and care (Ayello, & Sibbald, 2019), but also be inclusive of other healthcare professionals, as bringing different perspectives to research could elucidate barriers, limitations, and new approaches not investigated by medicine or nursing. In addition, translation of research into practice is essential. Implementation of practice changes, transfer of knowledge, and quality improvement initiatives is often a difficult process in the complex healthcare system. Effectively utilizing evidence to inform the planning of the change process is a key element, and can be facilitated with models, frameworks, quality leadership, and governance structures (Barakat-Johnson, Lai, Wand, Coyer, & White, 2020). Supportive leadership, either formal or informal, can provide the backing, resources, and impetus needed for change to be successful. Empowerment of staff, accountability, responsibility, and value are necessary factors that need support and backing to effect change.

Leadership, clinical knowledge, and the skills needed to support change are often demonstrated in transformational leaders. Those nursing professionals who have training

and expertise in transformational leadership methods may have an impact on the development and incidence of pressure injuries in the acute care setting, and beyond. Clinical Nurse Leaders (CNL) (AACN, 2020) may be one example of nursing professionals who can facilitate these changes. The special training of the CNL demonstrates accountability for patient care outcomes through integration and application of evidence-based research. They design, implement, and evaluate processes and models of care delivery, provide and manage care, and act as agents of change.

The translation of evidence into education has implications for nursing professionals and students alike. Nurses often state that continuing education opportunities are lacking in achieving the goals of knowledge acquisition. With around a 30% rate of statements from surveyed nurses demonstrating adequate wound care knowledge, gaps exist still (Ayello et al., 2017). Continued use of knowledge assessments such as the one in this study can help target gaps, barriers, and opportunities for improvement in the systems used for wound education. Additionally, the state of formal nurse education, focusing on undergraduate, pre-licensure education of student nurses, is demonstrative of gaps and barriers. In a study involving undergraduate nursing faculty from 33 states, deficiencies in curriculum were identified (Ayello et al., 2017). Key concepts of use of a validated tool to perform risk assessment, prevention protocols, incidence and prevalence were not being taught as a universal standard of education. Staging pressure injuries, use of support surfaces, regulatory compliance, and palliation were also deficient in undergraduate education on pressure injuries. Evaluation of educational programs must be ongoing and reflect the changes in practice and evidence in order to achieve outcomes of competently educated nurses.

Limitations

This study experienced several limitations, which may be related to the pandemic outbreak of COVID-19. Small sample size was a key limitation, despite over 330 solicitations to participate in the study. Responses often included statements of emotional and or physical distress, such as working long hours, not having the focus or mental capacity at the time of the survey release. Unfortunately, performing research during a global healthcare crisis is not the priority for many healthcare professionals. Since the study was focused on the acute care setting in the United States, the population from which the sample was drawn, was suffering from the effects of the pandemic. In addition, the impact on nursing students was demonstrated by the closing of colleges and universities, which effected student responses as well. With only 12 survey responses that met criteria, the sample size set for 90% confidence level with a 10% margin of error was not met. With this lack of sufficient sample size, conclusions can not be drawn.

Additional limitations to the study include sampling bias, as the 330 potential respondents were contacted by the author or the author's representatives and were personal or professional contacts. Concerns about access to a wider pool of potential participants include fears of lack of anonymity, views of the author or representatives as authorities who may have influence over personal or professional factors, and the lack of access to the survey in respect to a culturally diverse population. While snowball sampling methodology can reach wider groups than the initial contacted individuals, it also may not progress beyond those contacts. Concerns about use of electronic communication being transmittable, transferable, and traceable may also be factors leading to a lack of anonymity in survey responses. Though measures were taken to

provide security, concerns still exist based on the possibility of electronic data being inappropriately transmitted or shared with non-investigators. Fear of repercussions based on knowledge or lack of knowledge, as well as personal beliefs can also decrease responses, in that the participant may be concerned that the responses will be used to demonstrate lack of competence or controversial beliefs to individuals who hold power.

Another limitation was the composition of the sample population, which was not proportionally representative of the population. With one LPN/LVN, two student nurses, one APRN, and no CNA responses, the nursing population was underrepresented. The diversity in age, experience, gender, and education level was also lacking, as most respondents were females in the age range of 31-50 years, with 10-20 years of practice, and a baccalaureate level of education. A dearth of diversity in the population does not facilitate good representation in the sample.

Conclusions

Due to the limitations of this study, no conclusions can be drawn. Small sample size due to a response rate of 3.6% does not allow for statistically significant conclusions to any data collected at this time.

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Tables

Table 1
Demographics of Participants in Knowledge and Attitude Survey

		Total N=19	% of sample
Work Location	Hospital	9	47.4
	Long term care	3	15.8
	Home care	1	5.3
	Education	3	15.8
	Other	3	15.8
	No answer	1	5.3
Age	< 21 years	0	0
	21-30 years	3	15.8
	31-40 years	5	26.3
	41-50 years	5	26.3
	51-60 years	3	15.8
	>60 years	2	10.5
Gender Identity	Male	4	21.0
	Female	14	73.7
	Other	0	0
	No answer	1	5.3
Job Category	RN	15	78.9
	LPN/LVN	1	5.3
	Student Nurse	2	10.5
	CNA	0	0
	Other	1	5.3
Years in Practice	<1	3	15.8
	>1-5	1	5.3
	>5-10	2	10.5
	>10-15	4	21.1
	>15-20	4	21.1
	Over 20	5	26.3
Highest Degree Held	Diploma	1	5.3
	Associates	2	10.5
	Baccalaureate	10	52.6
	Masters	5	26.3
	Doctorate	0	0
	No degree	1	5.3
Certified	Yes	7	26.8
	No	12	63.2
Wound Specialist Certified	Yes	5	26.3
	No	14	73.7
Lecture Attended	<1 year	9	47.4

	>1 but < 2 years	4	21.1
	2 – 3 years	2	10.5
	4 years or greater	4	21.1
	Never	0	0
Book or Article	<1 year	10	52.6
Read	>1 but < 2	3	15.8
	2-3	3	15.8
	4 or greater	3	15.8
	Never	0	0
Web-based	Yes	14	73.7
Learning	No	5	26.3
Read	Yes	8	42.1
NPUAP/EPUAP	No	11	57.9
guidelines			

Note. NPUAP = National Pressure Ulcer Advisory Panel, now NPIAP, National Pressure Injury Advisory Panel; EPUAP = European Pressure Ulcer Advisory Panel. Adapted from “The Pieper-Zulkowski Pressure Ulcer Knowledge Test,” by B.A. Pieper and K. Zulkowski, 2014, *Advances in Skin & Wound Care*, 8(3). Copyright 2014 Wolters Kluwer Health | Lippincott Williams & Wilkins.

Table 2
Results of PZ-PUKT n=12

Knowledge category	Correct	Incorrect	Don't Know	Missing
Staging sub score mean	71.18%	8.75%	9.58%	3.75%
Wound sub score mean	77.92%	7.62%	18.02%	2.08%
Prevention sub score mean	67.71%	13.99%	14.88%	2.68%
Total knowledge score mean	69.34%	10.3%	15.8%	2.89%

Note. PZ-PUKT = Pieper Zulkowski Pressure Ulcer Knowledge Test version 2. SD= standard deviation

Table 3
 PZ-PUKT Percent Correct Score by Respondents' Job Category, Education, Years of Practice, and Certification in Wound Specialty (n=12)

		n	Total Score	Prevention	Staging	Wounds
Job Category	Student nurse	2	47.23	51.79	62.50	29.17
	RN	9	79.17	75.79	83.33	79.63
	APRN	1	47.22	46.43	60.00	37.50
Degree	No degree	1	68.06	75.00	80.00	50.00
	Diploma	1	26.39	28.57	45.00	8.33
	Associate	2	63.89	66.96	70.00	55.21
	Baccalaureate	3	80.56	77.62	91.67	80.55
Years of Practice	Master	5	71.39	69.29	76.00	70.00
	<1	3	47.22	50.00	61.67	31.94
	>1 – 5	1	76.39	60.71	90.00	83.33
	>5 – 10	1	95.83	89.29	100.00	100.00
	>10 – 15	2	83.34	78.57	88.75	84.38
	>15 – 20	2	82.64	78.57	87.50	83.33
Certification	>20	3	71.30	70.24	73.33	70.83
	Wound Specialist	2	90.28	83.93	97.50	91.67
	Not Certified	10	67.36	66.43	74.00	62.92

Note. PZ-PUKT = Pieper Zulkowski Pressure Ulcer Knowledge Tool; RN = registered nurse; APRN=advanced practice registered nurse.

Table 4
Attitudes Toward Pressure Injury Prevention n=12

Variables	Respondents' attitude rate				
	Strongly agree n (%)	Agree n (%)	Neither agree nor disagree n (%)	Disagree n (%)	Strongly disagree n (%)
All inpatients are at potential risk of developing pressure sores	9 (75)	3 (25)	0 (0)	0 (0)	0 (0)
Pressure sore prevention is time consuming for me to carry out	0 (0)	3 (25)	3 (25)	6 (50)	0 (0)
In my opinion, patients tend not to get as many pressure sores nowadays	0 (0)	0 (0)	4 (33.3)	5 (41.7)	3 (25)
I do not need to concern myself with pressure sore prevention in my practice	0 (0)	0 (0)	0 (0)	0 (0)	12 (100)
Pressure sore treatment is a greater priority than pressure sore prevention	0 (0)	0 (0)	0 (0)	5 (41.7)	7 (58.3)
Continuous nursing assessment of patients will give an accurate picture of their pressure sore risk	4 (33.3)	5 (41.7)	2 (16.7)	1 (8.3)	0 (0)
Most pressure sores can be avoided ^a	4 (36.4)	3 (27.3)	3 (27.3)	1 (9.1)	0 (0)
I am less interested in pressure sore prevention than other aspects of nursing care	0 (0)	1 (8.3)	6 (50)	4 (33.3)	1 (8.3)
My clinical judgement is better than any pressure sore risk assessment tool available to me	0 (0)	3 (25)	4 (33.3)	5 (41.7)	0 (0)
In comparison to other areas of nursing care, pressure sore prevention is a low priority for me	0 (0)	1 (8.3)	0 (0)	9 (75)	2 (16.7)
Pressure sore risk assessment should be regularly carried out on all patients during their stay in hospital	9 (75)	2 (16.7)	0 (0)	0 (0)	1 (8.3)

Note. ^a this question had a n=11 due to one respondent not answering. Adapted from "Nurses' Attitudes, Behaviours, and Perceived Barriers Towards Pressure Ulcer Prevention," by Z. Moore, and P. Price, 2004, *Journal of Clinical Nursing*, 13(8), p. 942-951. Copyright 2004 by John Wiley & Sons, Inc

Table 5
Barriers to Pressure Injury Prevention

Barriers that would prevent you from carrying out pressure sore risk assessment: n = 31	n = (%)
Time constraints	9 (29)
Acuity of patient	6 (19.4)
Job description/roles/responsibilities	3 (9.7)
Patient willingness/ability to participate	3 (9.7)
Human resources	2 (6.5)
Other	8 (25.8)
Barriers that would prevent you from documenting pressure sore prevention care planning: n = 28	n = (%)
Time constraints	8 (28.6)
EHR issues	6 (21.4)
Forgetting	3 (10.7)
Acuity of patient	3 (10.7)
Job description/roles/responsibilities	2 (7.1)
Human resources	2 (7.1)
Other	4 (14.3)
Barriers that would prevent you from carrying out pressure sore prevention: n = 30	n = (%)
Access/availability of supplies	7 (23.3)
Time constraints	6 (20)
Patient willingness/ability to participate	4 (13.3)
Human resources	4 (13.3)
Incomplete/disputed orders	2 (6.7)
Acuity of patient	2 (6.7)
Other	5 (16.7)

Note: N values vary as each item allowed up to three responses, but did not require three responses. Individual responses varied from one response to three per category. Adapted from "Nurses' Attitudes, Behaviours, and Perceived Barriers Towards Pressure Ulcer Prevention," by Z. Moore, and P. Price, 2004, *Journal of Clinical Nursing*, 13(8), p. 942-951. Copyright 2004 by John Wiley & Sons, Inc

Table 6
Attitudes Toward Pressure Injury Prevention Frequency Display

	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Total Score
N	12	12	12	12	12	12	12	12	12	12	12	12
Mean	4.8	2.8	4.0	5.0	4.6	4.0	2.0	3.4	3.2	4.0	1.5	39.0
Median	5.0	2.5	4.0	5.0	5.0	4.0	2.0	3.0	3.0	4.0	1.0	39.5
Mode	5.0	2.0	4.0	5.0	5.0	4.0	1.0	3.0	4.0	4.0	1.0	40.0
SD	.45	.87	.79	.00	.51	.95	1.2	.79	.83	.74	1.2	2.8
V	.21	.75	.63	.00	.27	.91	1.4	.63	.70	.55	1.4	7.82
Range	1.0	2.0	2.0	.00	1.0	3.0	4.0	3.0	2.0	3.0	4.0	8.0

Note. Q = question. SD = standard deviation. V = variance

Appendices

Appendix A Determination of Exempt Status from Research Integrity Department of the University of Nevada, Reno Institutional Review Board.



University of Nevada, Reno

Research Integrity
 218 Ross Hall / 331,
 Reno, Nevada 89557
 775.327.2368 / 775.327.2369 fax
 www.unr.edu/research-integrity

DATE: April 10, 2020
 TO: Wei-Chen Tung, PhD, RN, FAAN
 FROM: University of Nevada, Reno Institutional Review Board (IRB)

PROJECT TITLE: [1554574-2] Knowledge and Attitudes of Nurses on Pressure Injury Prevention and Care
 REFERENCE #: Social Behavioral
 SUBMISSION TYPE: Response/Follow-Up
 ACTION: DETERMINATION OF EXEMPT STATUS
 REVIEW TYPE: Exempt
 DECISION DATE: April 9, 2020
 REVIEW CATEGORY: Exempt Category 2ii

An IRB member has reviewed this project and has determined it is EXEMPT FROM IRB REVIEW according to federal regulations. Please note, the federal government has identified certain categories of research involving human subjects that qualify for exemption from federal regulations.

Only the IRB has been designated by the University to make a determination that a study is exempt from federal regulations. The above-referenced protocol was reviewed and the research deemed eligible to proceed in accordance with the requirements of the Code of Federal Regulations on the Protection of Human Subjects (45 CFR 46.104).

Reviewed Documents

- Application Form - Exemption Core Application Research with Participants 013119-13-7 new form due.docx (UPDATED: 03/19/2020)
- Consent Form - Consent Information Script or Sheet 073015 new form.docx (UPDATED: 03/19/2020)
- Letter - response letter Brooks.docx (UPDATED: 03/19/2020)
- Other - WOCn permission letter.docx (UPDATED: 03/19/2020)
- Questionnaire/Survey - Survey.docx (UPDATED: 03/30/2020)

If you have any questions, please contact Cecilia Brooke Cholka at (775) 327-2370 or at cbcholka@unr.edu.

NOTE for VA Researchers: You are not approved to begin this research until you receive an approval letter from the VASNHCS Associate Chief of Staff for Research stating that your research has been approved by the Research and Development Committee.

Sincerely,

Richard Bjur, PhD
 Co-Chair, UNR IRB
 University of Nevada Reno

Janet Usinger, PhD
 Co-Chair, UNR IRB
 University of Nevada Reno

Appendix B Consent Information Script from Research Integrity Department of the University of Nevada, Reno Institutional Review Board.



INFORMATION LETTER FOR KNOWLEDGE AND ATTITUDES OF NURSES ON PRESSURE INJURY PREVENTION AND CARE

We are conducting a research study to (a) assess the initial level of knowledge of registered nurses, student nurses, licensed practical/vocational nurses, and certified nursing assistants in the assessment, staging, and treatment of pressure injuries; (b) assess the attitudes about pressure injury care and prevention as perceived facilitator or barriers to implementation of care; and (c) explore correlations between the demographics, including experience and education level, to knowledge of registered nurses, student nurses, licensed practical/vocational nurses, and certified nursing assistants in the assessment, staging, and treatment of pressure injuries.

You were selected as a possible participant because (a) you are registered nurse, student nurse, licensed practical nurse, or certified nursing assistant age 18 or older; (b) and you are able to effectively communicate and read English. If you agree to participate in this study, you will be asked to complete a survey.

If you volunteer to be in this study, you will be asked to complete a survey provided on paper or electronically. Included in the survey are three sections: demographics, assessment of knowledge, and assessment of attitudes.

Your participation should take about 20 to 30 minutes to complete.

This study is considered to be minimal risk of harm. This means the risks of your participation in the research are similar in type or intensity to what you encounter during your daily activities. You may experience inconvenience in spending the time necessary to complete the questionnaire. You may also experience discomfort from answering questions about your attitudes.

Benefits of doing research are not definite; but we hope to learn about the development of cost-effective and attitude-reflective interventions for pressure injuries, which may improve outcomes for patients. There are no direct benefits to you in this study activity.

The researchers and the University of Nevada, Reno will treat your identity and the information collected about you with professional standards of confidentiality and protect it to the extent allowed by law. You will not be personally identified in any reports or publications that may result from this study. The US Department of Health and Human Services, the University of Nevada, Reno Research Integrity Office, and the Institutional Review Board may look at your study records.

You may ask questions of the researcher at any time by calling Wei-Chen Tung (775) 682-7138 or by sending an email to wctung@unr.edu.

Appendix C Pieper Zulkowski Pressure Ulcer Knowledge Test Questions version 2

Permission for use obtained by personal correspondence with Drs. Barbara Pieper and Karen Zulkowski on Saturday, February 8, 2020.

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).

1. **Where do you primarily work?** Hospital Long term Care Home Care Private Practice Education Other (specify) _____
2. **Age:** _____
3. **Gender:** Male Female Other Prefer not to answer
4. **Job Category:** RN LPN/LVN CNA Student nurse
 Nurse Practitioner (NP) Other (specify) _____
5. **Number of years in practice:**
 < 1 year 1 year - 5 years > 5 years - <10 years
 10 years - < 15 years 15 years - < 20 years 20 years or more
6. **Highest degree held (check one):** Diploma Associate Baccalaureate
 Masters Doctorate None
7. **Are you certified in any clinical specialty?** Yes No Certification type _____
8. **Are you certified as Wound Specialist?** Yes No Certifying Organization _____
9. **When was the last time you listened to a lecture on pressure ulcers? (Check one)**
 One year or less Greater than 1 year but less than 2 years

- 2-3 years 4 years or greater Never

10. When was the last time you read an article or book about pressure ulcers? (Check one)

- One year or less Greater than 1 year but less than 2 years
 2-3 years 4 years or greater Never

11. Have you sought out information about pressure ulcers on the web?

- Yes No

12. Have you read the NPUAP/EPUAP International Pressure Ulcer Prevention and Treatment Guidelines?

- Yes No

Pieper-Zulkowski Pressure Ulcer Knowledge Test: Version 2			
Please answer each of the following by circling your answer. Be truthful; if you don't know, don't guess. Note: In some countries, the term <i>Category</i> is used in place of <i>Stage</i> .			
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 dressings increase the pain in the 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. Chair-bound 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 break down faster than unwounded skin.	TRUE	FALSE	DON'T KNOW
10. Pressure injury/ulcers progress in a linear fashion from Stage 1 to 2 to 3 to 4.	TRUE	FALSE	DON'T KNOW
11. Eschar is healthy tissue.	TRUE	FALSE	DON'T KNOW
12. Skin that doesn't blanch when pressed is a Stage 1 pressure injury/ulcer.	TRUE	FALSE	DON'T KNOW
13. The goal of palliative care is wound healing.	TRUE	FALSE	DON'T KNOW
14. A Stage 2 pressure injury/ulcer is a full thickness skin loss.	TRUE	FALSE	DON'T KNOW
15. Dragging the patient up in bed increases friction.	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 a 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. The home care setting has unique considerations for support surface selection.	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 cushions help to prevent pressure injury/ulcers.	TRUE	FALSE	DON'T KNOW
26. A specialty bed should be used for all patients at 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 assessed (i.e., weight, nutrition intake, blood work).	TRUE	FALSE	DON'T KNOW
29. Biofilms may develop in any type of wound.	TRUE	FALSE	DON'T KNOW

30. Critical care patients may need slow, gradual turning because of being hemodynamically unstable.	TRUE	FALSE	DON'T KNOW
31. Blanching refers to whiteness when pressure is applied to a reddened area.	TRUE	FALSE	DON'T KNOW
32. A blister on the heel is nothing to worry about.	TRUE	FALSE	DON'T KNOW
33. Staff education alone may reduce the incidence of pressure injury/ulcers.	TRUE	FALSE	DON'T KNOW
34. Early changes associated with pressure injury/ulcer development may be missed in persons with darker skin tones.	TRUE	FALSE	DON'T KNOW
35. A footstool/footrest should not be used for an immobile patient whose feet do not reach the floor.	TRUE	FALSE	DON'T KNOW
36. Deep tissue injury (DTI) may be difficult to detect in individuals with dark skin tones.	TRUE	FALSE	DON'T KNOW
37. Bone, tendon, or muscle may be exposed in a Stage 3 pressure injury/ulcer.	TRUE	FALSE	DON'T KNOW
38. Eschar is good for wound healing.	TRUE	FALSE	DON'T KNOW
39. It may be difficult to distinguish between moisture associated skin damage and a pressure injury/ulcer.	TRUE	FALSE	DON'T KNOW
40. Wounds that become chronic are frequently stalled in the inflammatory phase of healing.	TRUE	FALSE	DON'T KNOW

41. Dry, adherent eschar on the heels should not be removed.	TRUE	FALSE	DON'T KNOW
42. Deep tissue injury is a localized area of purple or maroon discolored intact skin or a blood-filled blister.	TRUE	FALSE	DON'T KNOW
43. Massage of bony prominences is essential for quality skin care.	TRUE	FALSE	DON'T KNOW
44. Poor posture in a wheel chair may be the cause of a pressure injury/ulcer.	TRUE	FALSE	DON'T KNOW
45. For persons who have incontinence, skin cleaning should occur at the time of soiling and at routine intervals.	TRUE	FALSE	DON'T KNOW
46. Patients who are spinal cord injured need knowledge about pressure injury/ulcer prevention and self-care.	TRUE	FALSE	DON'T KNOW
47. In large and deep pressure injury/ulcers, the number of dressings used needs to be counted and documented so that all dressings are removed at the next dressing change.	TRUE	FALSE	DON'T KNOW
48. A mucosal membrane pressure injury/ulcer is found on mucous membrane as the result of medical equipment used at that time on that location; this pressure injury is not staged.	TRUE	FALSE	DON'T KNOW
49. Pressure injury/ulcers can occur around the ears in a person using oxygen by nasal cannula.	TRUE	FALSE	DON'T KNOW
50. Persons, who are immobile and can be taught, should shift their	TRUE	FALSE	DON'T KNOW

weight every 30 minutes while sitting in a chair.			
51. Stage 1 pressure injury/ulcers are intact skin with non-blanchable erythema over a bony prominence.	TRUE	FALSE	DON'T KNOW
52. When the ulcer base is totally covered by slough, it cannot be staged.	TRUE	FALSE	DON'T KNOW
53. Selection of a support surface should only consider the person's level of pressure injury/ulcer risk.	TRUE	FALSE	DON'T KNOW
54. Shear injury is not a concern for a patient using a lateral-rotation bed.	TRUE	FALSE	DON'T KNOW
55. It is not necessary to have the patient with a spinal cord injury evaluated for seating.	TRUE	FALSE	DON'T KNOW
56. To help prevent pressure injury/ulcers, the head of the bed should be elevated at a 45-degree angle or higher.	TRUE	FALSE	DON'T KNOW
57. Urinary catheter tubing should be positioned under the leg.	TRUE	FALSE	DON'T KNOW
58. Pressure injury/ulcers may be avoided in patients who are obese with use of properly sized equipment.	TRUE	FALSE	DON'T KNOW
59. A dressing should keep the wound bed moist, but the surrounding skin dry.	TRUE	FALSE	DON'T KNOW
60. Hydrocolloid and film dressings must be carefully removed from fragile skin.	TRUE	FALSE	DON'T KNOW
61. Nurses should avoid turning a patient onto a reddened area.	TRUE	FALSE	DON'T KNOW

62. Skin tears are classified as Stage 2 pressure injury/ulcers.	TRUE	FALSE	DON'T KNOW
63. A Stage 3 pressure injury/ulcer may appear shallow if located on the ear, malleolus/ankle, or heel.	TRUE	FALSE	DON'T KNOW
64. Hydrocolloid dressings should be used on an infected wound.	TRUE	FALSE	DON'T KNOW
65. Pressure injury/ulcers are a lifelong concern for a person who is spinal cord injured.	TRUE	FALSE	DON'T KNOW
66. Pressure injury/ulcers can be cleansed with water that is suitable for drinking.	TRUE	FALSE	DON'T KNOW
67. Alginate dressings can be used for heavily draining pressure injury/ulcers or those with clinical evidence of infection.	TRUE	FALSE	DON'T KNOW
68. Deep tissue injury will not progress to another injury/ulcer stage.	TRUE	FALSE	DON'T KNOW
69. Film dressings absorb a lot of drainage.	TRUE	FALSE	DON'T KNOW
70. Non-sting skin prep should be used around a wound to protect surrounding tissue from moisture.	TRUE	FALSE	DON'T KNOW
71. A Stage 4 pressure injury/ulcer never has undermining.	TRUE	FALSE	DON'T KNOW
72. Bacteria can develop permanent immunity to silver dressings.	TRUE	FALSE	DON'T KNOW

Appendix D Moore and Price instrument

Permission for use obtained by personal correspondence with Dr. Zena Moore on

Monday, February 3, 2020.

PRESSURE SORE SURVEY

Please tick the box that most closely reflects your answers to the following questions. If you accidentally tick the incorrect box, please put an 'X' through the box and then tick the correct box:

Section 1: Pressure Sore Prevention

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
(1) All inpatients are at potential risk of developing pressure sores	5	4	3	2	1
(2) Pressure sore prevention is time consuming for me to carry out	5	4	3	2	1
(3) In my opinion, patients tend not to get as many pressure sores nowadays	1	2	3	4	5
(4) I do not need to concern myself with pressure sore prevention in my practice	1	2	3	4	5
(5) Pressure sore treatment is a greater priority than pressure sore prevention	1	2	3	4	5
(6) Continuous nursing assessment of patients will give an accurate picture of their pressure sore risk	5	4	3	2	1
(7) Most pressure sores can be avoided	1	2	3	4	5
(8) I am less interested in pressure sore prevention than other aspects of nursing care	1	2	3	4	5
(9) My clinical judgement is better than any pressure sore	1	2	3	4	5

risk assessment tool available to me					
(10) In comparison to other areas of nursing care, pressure sore prevention is a low priority for me	1	2	3	4	5
(11) Pressure sore risk assessment should be regularly carried out on all patients during their stay in hospital	1	2	3	4	5

Section 2: Pressure Sore Behaviour

Please check the tick box next to your answer. If you accidentally tick the incorrect box, please draw a line through the answer and then check the correct box.

<p>(12) Do you carry out pressure sore risk assessment:</p> <p><input type="checkbox"/> on all patients</p> <p><input type="checkbox"/> on some patients</p> <p><input type="checkbox"/> on no patients</p> <p>If you do <u>not</u> carry out pressure sore risk assessment, go to Q (14) otherwise answer Q (13)</p>
<p>(13) When do you carry out pressure sore risk assessment?</p> <p><input type="checkbox"/> on admission only</p> <p><input type="checkbox"/> daily during the patient's stay in the hospital</p> <p><input type="checkbox"/> only when the patient develops a pressure sore during their stay in the hospital</p> <p><input type="checkbox"/> when I remember to</p> <p><input type="checkbox"/> when I get time</p>
<p>(14) Do you write a pressure sore prevention care plan:</p> <p><input type="checkbox"/> on all patients at risk</p> <p><input type="checkbox"/> on some patients at risk</p> <p><input type="checkbox"/> on no patients</p>
<p>(15) When do you read patients pressure sore prevention care plans?</p> <p><input type="checkbox"/> daily</p> <p><input type="checkbox"/> weekly</p> <p><input type="checkbox"/> less often</p> <p><input type="checkbox"/> never</p> <p>If <u>never</u>, go to Q (17), otherwise go to Q (16)</p>

<p>(16) Why do you read patients' pressure sore prevention care plans?</p> <p><input type="checkbox"/> to review the care plan</p> <p><input type="checkbox"/> because there is a change in the patient's condition</p> <p><input type="checkbox"/> because the patient has developed a pressure sore</p> <p><input type="checkbox"/> other – please specify: _____</p>
<p>(17) When do you update patients' pressure sore prevention care plans?</p> <p><input type="checkbox"/> daily during the patient's stay in hospital</p> <p><input type="checkbox"/> only when the patient develops a pressure sore during his/her stay in hospital</p> <p><input type="checkbox"/> when I remember to</p> <p><input type="checkbox"/> never</p> <p><input type="checkbox"/> other – please specify: _____</p>
<p>(18) Do you ever carry out pressure sore preventative strategies:</p> <p><input type="checkbox"/> yes</p> <p><input type="checkbox"/> no</p> <p>If you do <u>not</u> carry out pressure sore preventative strategies, go to Q (20), otherwise answer Q (19)</p>
<p>(19) Why do you carry out pressure sore preventative strategies? Check all that apply</p> <p><input type="checkbox"/> because they are an essential part of nursing practice</p> <p><input type="checkbox"/> because I see other nurses doing the same</p> <p><input type="checkbox"/> because other nurses expect me to</p> <p><input type="checkbox"/> because the hospital policy states that I should</p> <p><input type="checkbox"/> other – please specify: _____</p>

Section 3: Barriers Towards Pressure Sore Prevention

<p>(20) Please rank in order of importance, in your own words, 3 barriers that would prevent you from carrying out pressure sore risk assessment:</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>_____</p>

<p>(21) Please rank in order of importance, in your own words, 3 barriers that would prevent you from documenting pressure sore prevention care planning:</p> <p>1. _____</p> <p>_____</p> <p>2. _____</p> <p>_____</p> <p>3. _____</p> <p>_____</p>
<p>(22) Please rank in order of importance, in your own words, 3 barriers that would prevent you from carrying out pressure sore prevention:</p> <p>1. _____</p> <p>_____</p> <p>2. _____</p> <p>_____</p> <p>3. _____</p> <p>_____</p>

Section 4: Details About Your Practice

Please check the tick box next to your answer. If you accidentally tick the incorrect box, please draw a line through the answer and then check the correct box.

<p>(23) Is there a pressure sore risk assessment tool in use in your practice?</p> <p><input type="checkbox"/> yes</p> <p><input type="checkbox"/> no</p> <p>If yes, please state the name of the tool: _____</p>
<p>(24) Is there a pressure sore grading tool in use in your practice?</p> <p><input type="checkbox"/> yes</p> <p><input type="checkbox"/> no</p> <p>If yes, please state the name of the tool: _____</p>
<p>(25) Have you received any formal training on pressure sore prevention & management since you qualified as a nurse?</p> <p><input type="checkbox"/> yes</p> <p><input type="checkbox"/> no</p> <p>If yes, please specify: _____</p>

<p>(26) How long have you been you qualified as a nurse?</p> <ul style="list-style-type: none"><input type="checkbox"/> less than 2 years<input type="checkbox"/> 2-5 years<input type="checkbox"/> 6-10 years<input type="checkbox"/> more than 10 years		
<p>(27) What area of practice do you work in?</p> <table><tr><td><ul style="list-style-type: none"><input type="checkbox"/> Medical<input type="checkbox"/> Orthopaedic<input type="checkbox"/> ICU<input type="checkbox"/> Burns<input type="checkbox"/> Other, please specify</td><td><ul style="list-style-type: none"><input type="checkbox"/> Surgical<input type="checkbox"/> Age Related Health Care<input type="checkbox"/> CCU<input type="checkbox"/> Plastics</td></tr></table>	<ul style="list-style-type: none"><input type="checkbox"/> Medical<input type="checkbox"/> Orthopaedic<input type="checkbox"/> ICU<input type="checkbox"/> Burns<input type="checkbox"/> Other, please specify	<ul style="list-style-type: none"><input type="checkbox"/> Surgical<input type="checkbox"/> Age Related Health Care<input type="checkbox"/> CCU<input type="checkbox"/> Plastics
<ul style="list-style-type: none"><input type="checkbox"/> Medical<input type="checkbox"/> Orthopaedic<input type="checkbox"/> ICU<input type="checkbox"/> Burns<input type="checkbox"/> Other, please specify	<ul style="list-style-type: none"><input type="checkbox"/> Surgical<input type="checkbox"/> Age Related Health Care<input type="checkbox"/> CCU<input type="checkbox"/> Plastics	
<p>(28) How long have you been employed as a permanent Staff Nurse in your hospital? (number of years of practice)</p> <ul style="list-style-type: none"><input type="checkbox"/> less than 2 years<input type="checkbox"/> 2-5 years<input type="checkbox"/> 6-10 years<input type="checkbox"/> more than 10 years		