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# Educational Needs of Nurses for Wound Care

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EDUCATIONAL NEEDS OF NURSES FOR WOUND CARE

A Scholarly Project Submitted to the Graduate School  
in Partial Fulfillment of the Requirements  
for the Degree of  
Doctor of Nursing Practice

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EDUCATIONAL NEEDS OF NURSES FOR WOUND CARE

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# EDUCATIONAL NEEDS OF NURSES FOR WOUND CARE

An Abstract of the Scholarly Project by  
Stephanie Adee

The purpose of this study was to conduct a needs assessment of registered nurses' knowledge base and attitudes toward wound care and to be able to customize a wound assessment tool to meet those needs. The visual assessment is an essential part of wound care and performing accurate assessments can lead to making the correct diagnosis, starting appropriate treatment timely, and discharging patients sooner. There are over five million patients suffering from chronic wounds and more cases are added yearly. The nurses need a tool to assist them in their daily assessments. This study utilized an anonymous survey of 23 acute care registered nurses in a small rural hospital. The author developed a 19 question survey which included demographics, multiple-choice questions, and open ended questions to assess the nurses' knowledge and feelings toward wound care to be analyzed in a mixed method, cross-sectional design to evaluate knowledge but to also hear the voice of the participant. An analysis of the data revealed that the nurses have adequate knowledge of pressure ulcers but lack the confidence to use this information. The nurses requested additional education on wound care and are interested in a wound assessment tool to use as a resource to assist them with documenting on their daily skin assessments.

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## **CHAPTER I**

### **Introduction**

Wound assessments are an essential part of any wound care program. Accurate assessments are required to determine the wound stage, the dressing needed, and if a wound is healing or getting worse. If the wound is not accurately assessed, it can lead to delayed healing, costing the patient and facility additional nursing time and resources. As wound care as a specialty continues to expand, the public can expect to see improved healing times, shortened patient stays, and improved quality of care as well as they will see a reduction in overall cost (Greatrex-White & Moxey, 2015).

There have been a number of wound assessment tools developed to assist nurses with this process. Wound assessment tools could lead to improvements in the care that nurses provide; however, not all nurses learn in the same way and not every tool is as easy to use as the author intended. There are also a number of algorithms on wound care but without basic wound care knowledge it is sometimes difficult to follow these as well. Facilities should assess their nurses' needs before assigning a new wound care assessment tool. New nurses may feel inadequate to appropriately assess wounds, while nurses who have been practicing for a while may have acquired most of their knowledge from on-the-job training not realizing the importance of staying current on wound care

information and current practices. According to Greatrexi-White and Moxey (2015), when nurses learn on the job they are more likely to base their practice on rituals or personal preferences. Evidence-based practice is as essential to wound care as it is in any other area of nursing practice. Wound assessment itself is not the goal but a means to achieve optimal wound management (Greatrex-White & Moxey, 2015).

### **Description of the Clinical Problem**

There are an estimated five million patients with chronic wounds in the United States with an additional 1.5 to 1.8 million cases added each year (Buckley, Tran, Adelson, Agazio, & Halstead, 2005). Because of growing costs and the numbers of patients that are requiring advanced wound care services, there is a need to standardize the documentation of all chronic wounds. Providers should see a description and be able to identify what the wound is and whether a wound care consult is appropriate. Using a systematic approach to stage or describe the severity of wounds and to measure the progress toward healing is a key component of a facility wound management plan (Arndt & Kelechi, 2014).

Research that is focused on training nurses or other health care clinicians is limited. Visual inspection is essential in wound assessments and 65% of adult learners have been classified as visual learners (Harris et al, 2010, p. 254). According to Harris et al, 78% of novice nurses and nursing students are also visual learners. They have noted gaps in nurses' knowledge of wound care in such aspects as identifying tissue, staging of pressure ulcers, identifying tunneling and undermining (2010, p. 254). There is also a need to continuously monitor the nurse's knowledge base and ease of completing the wound assessment tools to ensure proficiency.

When working in the acute care setting, the registered nurse (RN) must perform an initial patient assessment that has a focus on skin integrity so that any rash, ulcer, or wound may be documented in the health record (Lilly, Estocado, Spencer-Smith, & Englebright, 2014). How well the nurse completes the assessment is directly related to that nurses training and experience. There is a need to identify if a knowledge deficit exists in the RNs on wound assessment, to determine where that knowledge deficit lies, and to implement a tool which will establish a standard wound assessment.

### **Significance**

The significance of this project to nursing was that as wound care programs implement wound assessment tools, there should be a standardization of care and documentation that could lead to increased awareness, more accurate identification of wounds and staging, and better identification of wound progression. With education and training, the RN could more accurately identify wounds and make dressing decisions based on what is visible in the wound. This could lead to more cost effective care and the discharge of patients from the hospital sooner. Greatrex-White and Moxey (2015) evaluated 14 wound assessment tools for how well different wound assessment tools could meet the needs of RNs. They found two wound assessment tools that they believe best met the nurse's needs: National Wound Assessment Form and Applied Wound Management form. Greatrex-White and Moxey (2015) also found a need for further research to identify what RNs believe their needs to be and to identify current practice guidelines.

Beitz and Rijswijk (2012) evaluated a web-based teaching program and algorithm. They found that the online program is valid, reliable, and beneficial when it

was evaluated by nurses who already have formal wound care training, but non expert clinicians struggle with the program.

### **Specific Aim**

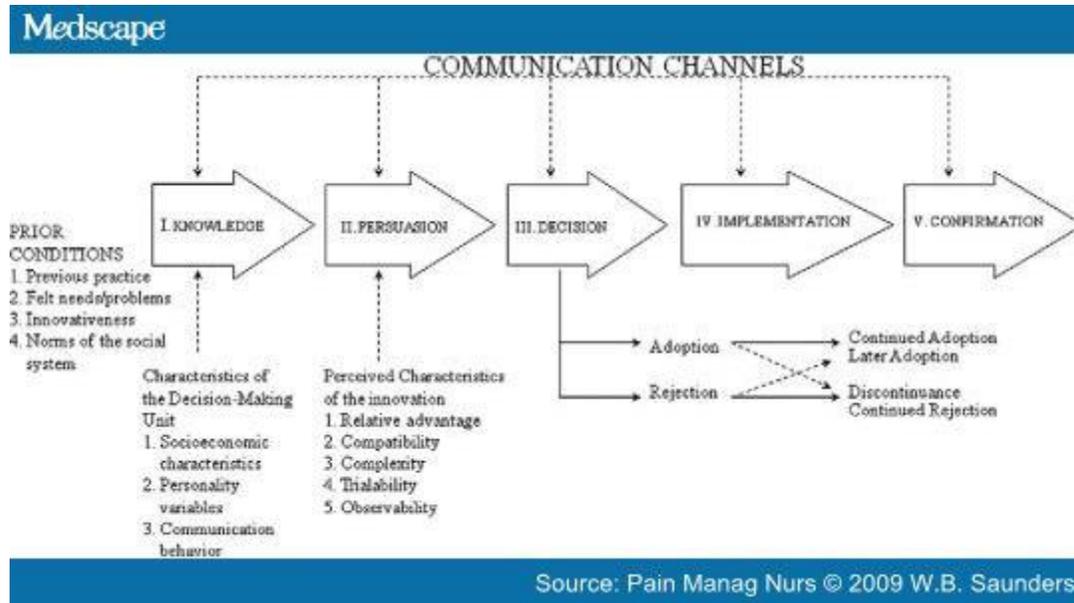
The aim of this project was to conduct a needs assessment of acute care registered nurses' basic understanding and attitudes toward wound care and to customize a wound assessment tool that was based on the findings of the nurses' needs. The results of this project will allow administration of a rural hospital in southeast Kansas to implement a wound assessment tool that can meet the needs of their nurses while offering the nurses education that will enable them to speak to other health care professionals confidently. In addition, the nurses should be able to educate patients on their wounds and course of wound care treatment. With education, the nurses could be empowered to teach their patients about wounds, their etiologies, and when it is appropriate to seek wound care specialist.

### **Theoretical Framework**

The theoretical framework chosen to guide this project is E. M. Roger's Diffusion of Innovation Theory. It states that over time, an idea gains momentum and spreads through a specific population and communication diffuses through a specific population (2010). The key to adopting an idea is that the person must perceive the idea, behavior, or product as new or innovative. There are four stages by which a person chooses to adopt a new innovation:

1. Knowledge-the new idea
2. Persuasion-the nurses' identifying that this education will be of benefit to their patients and enhance their practice.

3. Decision-when the nurses engage in activities that lead to the choice of whether or not to adopt it.
4. Implementation- when the idea is first used in clinical setting.
5. Confirmation-after the adopters have chosen to adopt or reject the new idea or product.



Diffusion of Innovation Theory fits well with this research project because the goal was ultimately to educate the nurses in basic wound care practices. This education and implementation of a wound assessment tool is the new idea. RNs will receive education which is a type of persuasion. After their educational offering is complete, the nurses will determine whether or not it will benefit their practice and daily healthcare delivery. Finally, as the nurses use the information, there is a time to see if they adopt the changes and use a wound assessment tool, or if they reject the new idea.

## **Project Question**

What is the knowledge level and attitudes of RNs for wound care in the acute care setting?

## **Definition of Key Terms**

- Wound assessment tool – tool that is used to measure and evaluate existing wounds and predict the wound progression. "Wound assessment tools have been developed to assist nurses in managing wounds" (Greatrex-White & Moxey, 2015).
- Chronic wound – any wound that has been present without signs of healing for greater than 30 days. "Stated simply, a chronic wound is an insult or injury to the skin that has failed to heal (Hess, 2013).
- Acute wound – an injury that occurs to the skin suddenly and heals by the normal healing process. "Many acute wounds, traumatic and surgical, are closed by primary intention- that is the skin edges are brought together manually to facilitate healing. Such wounds have a lower risk of infection, involve little tissue loss, and heal with minimal scarring after 4-14 days" (Hess, 2013).
- Novice nurses – nurses that are new or lacking experience. "The Novice or beginner has no experience in the situations in which they are expected to perform. The Novice lacks confidence to demonstrate safe practice and requires continual verbal and physical cues. Practice is within a prolonged time period and he/she is unable to use discretionary judgement" (Benner, 1984).

## **Summary**

Novice nurses often do not feel prepared or adequate to assess chronic wounds and some seasoned nurses have been trained to assess wounds on the job which often leads to the implementation of personal preference rather than best practice management. Nurses have knowledge of skin integrity but may lack the knowledge in the current best practice guidelines in wound care.

There is a need to assess RNs knowledge and attitudes on wound care in the acute care setting. Nurses are an amazing resource as the first line of education for the patient with a chronic non-healing wound. Nurses can educate patients about the wound, the contributing disease process, and the treatment plan. This increased knowledge among RNs and among patients with chronic wounds has the potential to empower both groups to adequately care for wounds with confidence.

## **CHAPTER II**

### **Review of Literature**

Chapter two is a review of the literature regarding nurses' educational needs as it relates to wound care and wound care assessment tools and algorithms in the acute care setting. The literature review was intended to find available information on acute care nurses' needs in identifying the origin of wounds, the stage or grade of the wounds, and what structures are visible in the base. The development of an assessment tool that is easy to use and effective will help decrease variability in wound assessments, will decrease the inconsistency in wound documentations, and could lead to appropriate use of expensive wound products (Buckley, Tran, Adelson, Agazio, & Halstead, 2005). The aim of this project was to conduct a needs assessment of acute care registered nurses' basic understanding and attitudes toward wound care and to customize a wound assessment tool that was based on the findings of the nurses' needs.

#### **Educational Needs**

As nurses enter into practice, it is often without proper instruction in wound care. Previous studies have found wound care education in nursing school is insufficient and that the information found in the textbooks is sparse and outdated (Zarchi, Latif, Haugaard, Hjalager, & Jemec, 2014). Nurses often learn how to assess and care for

chronic wounds from their preceptor, their mentor, or on the job. According to Benner (1984), nurses often start their career in nursing without all of the knowledge needed to perform their job effectively without supervision. The knowledge deficit on the part of the practicing nurses in the acute care situation is the focus. It is important to assess the educational needs of the nurses first, and then encourage and require continued education to ensure that the health care professionals are staying up to date on the changes in wound care. The areas that require oversight are those dealing with the use of expensive products to treat wounds and the need for a standardized system which would allow all healthcare professionals to describe and document wounds in the same manner. In addition, there should be additional interest in building strong evidence in wound care, and identifying the need for additional education on skin and wound care in professional schools, including nursing schools, medical schools, physician assistant schools, and physical therapy schools (“Addressing the educational needs of wound care professionals”, 2016).

At what level are nurses comfortable with assessing, documenting, and reporting the current wounds? Greatrex-White and Moxey state, “Many nurses lack knowledge of wound management and wound assessment, and it has been suggested that a wound assessment tool could provide support for nurses in this area” (2013, p. 299). In a study by Romero-Collando, Raurell-Torreda, Zabaleta-del-Olmo, Homs-Romero, & Bertran-Noguer (2015), the authors found the information offered to student nurses in Spanish universities is deficient in regards to the inclusion of the treatment and identification of chronic wounds and pressure ulcers. Practices by nurses are including outdated information on wound care and wound treatments that are no longer approve. The

authors recommend the future degree programs should include the skills for the prevention and treatment of chronic wounds and pressure ulcers. If the nurses' wound care needs are identified and education is made a priority, then all health care professionals will "speak the same language". To get healthcare professionals to this point after many years in practice will be challenging to say the least.

In a 2010 article, Harris et al state that a portion of the increased cost of wound care may be associated with inadequate or inconsistent documentation (Harris et al., 2010). As wound care so heavily relies on assessment skills and documentation it is important for the RNs to have adequate knowledge to identify the wound and pass that information on to the physician, who in turn orders the appropriate dressing option. If the RN has not received adequate training in wound care, this could lead to misdiagnosis, longer time to heal, and increased cost to the patient. Results of a 2011 study relates that nurses tend to perceive their undergraduate education as lacking depth in multiple components which are required to provide adequate wound care (Huff, 2011).

A wound assessment tool may be required to clearly communicate characteristics about wounds but needs to be easy to use. There are many wound assessment tools available, and it is possible that one can be customized to meet the needs of the nurses. A wound assessment tool is an excellent tool to assist in the identification of the current wounds but it is not a substitute for education (Greatrex-White & Moxey, 2013). When wound care guidelines or algorithms are initiated in the acute care setting, it is important that the nurses understand that it is not enough to identify the wounds but they also have to assess the patient's comorbidities, the wound etiology, and the wound characteristics (Smith, Greenwood, & Searle, 2010).

## **Algorithms and Wound Assessment Tools**

When a patient is admitted to the hospital, a nurse will conduct a skin assessment or if appropriate, a wound assessment. The assessment's accuracy is determined by the nurse's level of training and education. It is important for nurses conducting wound management to have appropriate and accurate diagnosis of the wound and its etiology. There are multiple examples of different vehicles to achieve this assessment accuracy. The problem is how to determine which actually meets the needs of the nurses and is easy to implement and verify. Algorithms are like a road map for wound care. They offer diagrams which assist the reader to move quickly and easily along the wound progression. They identify the progress of wound care decision making with the assistance of best practice guidelines. They should be updated frequently to assure accuracy of the information which is being followed. The wound assessment tool comes in many different types or styles, and in different formats from a measuring strip with pictures to an online pictorial tool which is enhanced by a pocket card. The NE1 Wound Assessment Tool is used to improve the ability of a nurse to consistently describe skin deficiencies and stage pressure ulcers (Lilly, Estocado, Spencer-Smith, & Englebright, 2014). The Bates-Jensen Wound Assessment Tool is another tool for training nurses to identify wounds, but evidence based guidelines change frequently (Harris et al, 2010).

There is a need to periodically evaluate nurses' knowledge of wound care (Harris et al., 2010). "It is imperative that healthcare providers examine the patient as a whole to find out other factors affecting healing, including circulation, nutrition, immune status, and avoidance of negative mechanical forces" (Oliverio, Gero, Whitacre, & Rankin,

2016, p. 72). When developing or even choosing a wound assessment tool to use in the acute care facility, the tool should be simple, easy to use and implement or the nurses may find the education required before implementing the tool too time consuming and not worth the investment.

### **Pictorial Guides, Photographs and Digital Images**

A pictorial guide is especially helpful to novice nurses that need additional training to be able to identify wounds and their etiologies. In the Bates-Jensen Wound Assessment Tool, the pictures are chosen that best depict the wound characteristics. The tool is designed to allow RNs to improve their skills both with identifying and documenting the wound characteristics which will lead to better wound outcomes (Harris, Bates-Jensen, Parslow, Raizman, & Singh, 2009).

Beitz and Rijswijk (2012) report that an online program for teaching wound assessment and care is valid and reliable. This program for training can be easy to use and was perceived as beneficial for nurses with formal education and expertise in wound care. They found that RNs without formal wound care training had a difficult time with the online version and may require additional training to be able to deliver proficient care.

“A digital photograph is not sufficient for an accurate assessment of pressure ulcer stage or wound characteristics identified by the Bates-Jensen Wound Assessment Tool. Study findings reinforce the importance of the role of the bedside assessment of pressure ulcers by wound care expert” (Jesada et al., 2013, p. 155). There can be differences in color within the image and shadow which can skew the results. The use of

digital images are important to training but they do not take the place of education and hands on training.

### **Chronic Wounds**

There are two classifications for wounds: acute and chronic. A chronic wound is a wound that has failed to heal over a period of one to three months (Casey, 2012).

Chronic wounds are problematic for the patient as they must deal with an open wound for over a month and for the clinician as they strive to first identify the etiology of the wound and how to get this wound to progress to healing in a timely period. Chronic wounds may be defined as those which have failed to progress through a reparative process to produce anatomical and functional integrity over three months (Werdin, Tennenhaus, Schaller, & Rennekampff, 2009). These wounds are often found to be associated with pathology from diabetes, ischemic disease, pressure injuries, and inflammation. These chronic wounds will usually heal by secondary intention (Baranoski & Ayello, 2016).

As the patient has suffered with an open wound for an extended period of time, the patient may feel hopeless and as if the wound will never heal. This hopelessness is a great incentive for clinicians to be able to identify the wounds, their etiology, and to be able to formulate a plan to heal the wound. When nurses are educated and if they have a pictorial guide or assessment tool to guide their decision, the patient is the ultimate beneficiary. This can enable the patient's wound to be properly identified and the correct treatment will begin sooner and the wound will be healed sooner. Zarchi et al., (2014) report that wound care might not be a high priority in many hospitals and they suggest patients with chronic wounds would benefit from assessments from specialists rather than treatment from the general nursing unit.

**Acute Wounds**

Acute wounds close by primary intention usually within 14 days. Acute wounds will usually heal following four phases: hemostasis, inflammation, proliferation/repair, and tissue remodeling/ maturation (Baranoski & Ayello, 2016). Examples of acute wounds would include: traumatic, surgical and burns. Acute wounds, except for burns, generally require simple dressings to produce a healing environment and so they are less expensive to treat than chronic wounds (Rippon, Davies, White, & Bosanquet, 2008).

**Financial Considerations**

Wound care is a significant expense for patients and health care providers. “In 2008 in the US wound care costs the health-care system more than \$20 billion each year, including more than \$4 billion in wound care products”(Rippon et al., 2008, p. 224). The cost of wound care in 2009 rose to \$25 billion and the wound care product market skyrocketed to \$21 billion in 2015 (Oliverio et al., 2016). Today, it is reported that approximately 6.5 million people develop chronic wounds annually (Oliverio et al., 2016). These figures do not tell the entire story because they do not include personal aspects such as; loss of work, medical insurance, lower self -esteem, social isolation, and depression (Oliverio et al., 2016). With so much money being associated with the treatment of chronic wounds, it is easy to see why it is important for nurses to have standardized communication and documentation to ensure that the correct diagnosis and the appropriate dressing selection is made.

**Summary**

The review of literature has revealed that there are two classifications of wounds: acute and chronic. Acute wounds heal in a timely fashion while chronic wounds fail to heal for over one month. The dressings required to heal acute wounds are simple and inexpensive while chronic wounds are more difficult to heal and the dressing are expensive and vastly assorted. The educational needs of nurses in wound care should be evaluated as adequate training in nursing school may not available. There is a need for education and training for acute care nurses and a need to standardize the documentation and communication of wounds to be more in line with other health care professionals. Wound care assessments are mostly a visual and all acute care nurses are required to do skin assessments as part of the initial and continuing assessments. Wound assessment tools and pictorial guides can guide nurses in their assessment of the wounds and assist in the documentation of the same.

The financial implications of wound care are high. The patient will incur both monetary and psychological cost. The cost to the health care system is in the billions with the cost of wound care products growing exponentially. This is why it is necessary to identify a wound assessment tool to assess RNs knowledge and attitudes toward wound care and to identify a wound assessment tool to assist the RNs with assessments of chronic wounds.

## **CHAPTER III**

### **Methodology**

#### **Introduction**

Previous research has found a need for an assessment tool or an algorithm to help guide the health care professional with the description and documentation of wound care. This project's aim was to conduct a needs assessment of acute care registered nurses' basic understanding and attitudes toward wound care and to customize a wound assessment tool that was based on the findings of the nurse's needs. This project identified the RN's attitudes and knowledge base in wound care and with the addition of a wound assessment tool, they may be able to document and communicate to their peers confidently about wound care.

#### **Design**

With the increased number of chronic wounds, it is important for nurses to be able to identify wounds appropriately. A mixed methods, cross sectional survey design was utilized to determine the baseline knowledge level of acute care nurses' in wound care and assess their attitude toward wound care. Based on the results of the quantitative and qualitative survey, a wound assessment tool should be customized for use in the acute care setting that is based on the areas of greatest need.

**Population and sample**

The project was conducted in the acute care areas of a small rural hospital in Southeast Kansas. The acute care units will included medical, surgical, intensive care (ICU), and emergency room (ER). These areas were selected because their patients often are admitted to the hospital with existing wounds. Other inclusion criteria included both male and female registered nurses between the ages of 18-65 and who were able to read and understand English. The survey was offered to all RNs employed by the hospital in the acute care settings for two weeks beginning the last week of September 2016. Online surveys were available through Survey Monkey and all identifiable information was kept confidential.

**Instrumentation**

An anonymous survey created by the researcher was offered to all nurses who work in the stated acute care settings in late September for two weeks to collect information about wound care knowledge and attitudes toward wound care. The researcher developed a 19 question survey. Four demographic questions collected information on age, gender, years of clinical experience, and education level. Ten basic questions were asked about wound care to include pressure ulcers, venous ulcers, and characteristics of the wounds. The final five questions of the survey were open-ended and were designed to encourage opinions about wound care delivery in the current hospital setting. The survey form is available as Appendix A.

**Procedure**

Data collection for the project began after receiving approval from Pittsburg State University's Institutional Review Board (IRB) and approval from the hospital

administration. Permission was granted from the unit managers and their assistance was requested to notify all nurses of the survey and encourage their participation. The nurses were offered the Survey Monkey link through work email. Instructions on how to complete the survey was available on the website for the nurses prior to starting the survey. The Survey Monkey link was released to the nurses on September 22, 2016 and was open to participants for two weeks. Consent for participation in the survey was implied and voluntary and was explained in the invitation email. Data collected will be kept protected on a password secured server for three years after the close of the survey.

### **Analysis Plan**

The survey questions were designed to identify the knowledge base and attitudes of the nurses in acute care. The multiple choice questions were analyzed using percentages of correct responses. Open-ended questions and their answers were grouped together by over-arching theme. Guetterman, Feters, and Creswell (2015) state that mixed methods research is increasingly used in health science research to gain a better understanding of the issues and to hear the voice of the participants.

### **Assumptions**

The major assumptions of this project were that the respondents would answer each question honestly so their base knowledge could be determined. Wound care is a specialty dealing with chronic wounds that have been present for a minimum of 30 days. Due to the chronicity of the wounds, the nurses will likely have seen a number of wounds during their careers. It was assumed that the participants are volunteers and they could choose to discontinue the participation within the project at any point. It was also believed that once the nurses' knowledge and attitudes could be identified, the author

could offer a customized wound care tool to assist the nurses in streamlining their documentation and improve their communication of the chronic wounds.

### **Limitations**

The respondents only had two weeks to respond to the survey. Due to the short time that the survey was offered, it was noted that this could lead to a bias especially due to a small sample size. It was believed that with additional time, the number of participants would be larger. Another limitation could be that the survey was on a voluntary basis. Consideration must be given to different outcomes that could be seen if this study were performed in an urban hospital.

### **Summary**

This project was proposed to assess the knowledge level and attitudes of nurses toward wound care in the acute care setting. The data obtained was then used to customize a wound assessment tool to fit the nurses' needs. The project was not meant to make wound care nurses out of acute care nurses but rather to educate them and to offer an additional skill to more fully and skillfully document wounds on the skin assessment portion of their initial assessment.

## **CHAPTER IV**

### **Results**

#### **Introduction**

The goal of this research was to conduct a needs assessment of acute care registered nurses' basic understanding and attitudes toward wound care and to customize a wound assessment tool that was based on the findings of the nurses needs in a small rural hospital in Parsons, Kansas. This goal was achieved by administering an anonymous wound care survey through Survey Monkey. The nurses were given the opportunity to express their thoughts and feelings about wound care in an anonymous format. The anonymous questionnaire included demographic, multiple choice, and open-ended narrative questions.

#### **Demographics**

The survey was offered to 76 registered nurses at Labette Health on their acute care settings: medical, surgical, ICU and ER. Twenty-three respondents participated in the survey, which resulted in a 30.3% participation rate. The age of the respondents ranged from 21-65 with the majority being in the 30-39 and the 50-59 year categories. All participants were female. The majority of participants, 47.8%, indicated that they had an associate degree in nursing. The nurses most commonly reported that they had

worked in nursing between five and ten years. Please refer to Table 1 for additional demographic information.

Table 1. Demographics of Respondents  
(N=23)

Characteristic	n	%
<b>Gender</b>		
Male	0	0%
Female	23	100%
<b>Age</b>		
20-29	5	21.7%
30-39	6	26.1%
40-49	4	17.4%
50-59	6	26.1%
60 +	2	8.7%
<b>Years of Clinical Experience</b>		
<1 year	1	4.3%
1-5 years	5	21.7%
5-10 years	7	30.4%
10-15 years	6	26.1%
15-20 years	0	0%
>20 years	4	17.4%
<b>Education Level</b>		
Associates	11	47.8%
Bachelors	9	39.1%
Masters	2	8.7%
Diploma	1	4.3%

## Quantitative

The questionnaire was designed by the researcher to identify the knowledge base of acute care nurses. The participant's knowledge base was strong enough that they answered more questions correctly about pressure ulcers, yet, as part of the narrative questions; they requested additional training and education on them. This leads to the

assumption that the novice nurses (26% with less than five years of nursing experience) are less comfortable staging pressure ulcers.

The questions that dealt with characteristics of the wound bed had lower correct responses. The participants were asked for description of the base of the wound, to describe the periwound, or to identify a venous ulcer. These questions posed a greater challenge for the participants. Please see Table 2. for a more complete analysis of the multiple choice questions 5-14 of the wound care survey questionnaire.

Questions		Correct Answer	Correct Answer (%)
5	What is the white, moist tissue in the periwound called?	A	57.1%
6	Nurses must update the stage of pressure ulcers as granulation improves?	F	22.7%
7	Purple or maroon tissue discoloration to intact skin is called?	B	86.4%
8	The yellow moist avascular stingy tissue in the base of a wound is called?	B	72.7%
9	Full thickness wound with exposure of bone, tendon, muscle or fascia is known as?	C	100%
10	A shallow ulcer noted at the ankle of a person with complaints of increased clear drainage and swelling in their lower legs?	A	90.5%
11	What color is granulation tissue in the base of a wound?	A	69.6%
12	When assessing wound, you note that the edges are not attached and are loose all the way around the wound. How would you label this?	B	45.5%
13	While doing your initial assessment, you notice dark, dry hard place on your patient's left heel. You are suspicious that this may be...	A	87.0%
14	What would you do for the patient in question #9?	A	95.5%

## **Qualitative**

There were five qualitative or open ended questions. There were four participants who chose not to participate in this portion of the questionnaire. The responses were grouped with like over-arching ideas.

### **What do you feel would make your job of documenting wounds on your assessment easier? (n=17)**

There were 17 responses to this question. Five respondents requested additional education or classes on wound care. Their comments included: “More education.” -- “Lunch and Learn education opportunities.” – “Wound care symposium, etc.” Seven respondents requested, “Some type of tool; guidelines and/or reference that could be kept at the desk, etc.” One participant requested “Some sort of guide explaining what the different terms mean for describing wounds.” Two of the respondents would like to have a camera to document the wounds progression.

### **Do you feel comfortable documenting wounds? Explain your answer. (n=19)**

There were 19 respondents to this question and the answers varied. Only four of the respondents feel comfortable documenting on wounds another two feel they do not have adequate assessment time to spend with the patients. Nursing experience made two of the respondents report that they are comfortable documenting wounds. Being unfamiliar with wound terminology was cited as a reason to be uncomfortable with charting wounds by three. One participant answered this way: “No. I do not feel I know what all the proper terms are for describing a wound and I don’t feel like I have had enough education on wound staging.”

**Do you feel like patient's wounds are adequately being treated? Explain your answer. (n=19)**

There were 19 respondents to this question. Fifteen of those that responded believe that wounds are adequately being treated and are complimentary towards the wound care specialists. There was concern expressed that improvement could be made by seeing patients earlier in the day so discharge would not be delayed. Three respondents do not believe that wounds are adequately treated and they list their reasons as no policy and procedures are in place for wounds, not having pictures or a way of tracking the progression of wounds. One respondent stated, "Not in general. Most RN's are not familiar with wounds". One respondent was ambiguous stating yes and no, as wound care is not always consulted.

**Do you feel it would be helpful to have a picture assessment tool to assist you with charting wounds? (n=19)**

All respondents thought this would be a worthwhile addition to their documentation. Some expressed concern that having a picture assessment tool should not add to their work load. Other respondents were unfamiliar with such a tool, but believed it would be beneficial. One written response states that the wound assessment tool would be beneficial especially with newer nurses.

**What are some suggestions to make wound care better for our patients? (n=12)**

Only twelve respondents addressed this question. Seven of the respondents answered that some type of education would be helpful to assist the nurses. Nurses responses included the comment, "It would be helpful to have someone review with staff

how to measure the wounds, and what to document on wounds so that there are guidelines on what needs to be charted.” Two other respondents requested the implementation of some type of policy and procedure that would address measuring, taking pictures, and care of wounds.

### **Knowledge Gain**

This study used a mixed methods approach to assess acute care nurses knowledge, thoughts, and opinions about wound care. The quantitative portion of the survey reveals knowledge deficits in terminology and describing the characteristics of the wound base. The qualitative portion of the questionnaire reveals opinions that the staff are interested and are requesting education on wound care staging and terminology.

### **Summary**

This scholarly project has been an analysis of the data obtained from an anonymous wound care survey. The goal of this research was to conduct a needs assessment of acute care registered nurses’ basic understanding and attitudes toward wound care and to customize a wound assessment tool based on the findings of the nurses’ needs. The analysis reveals a knowledge deficit in wound care and terminology relating to the structures and characteristics of the wounds. The participants requested education and seminars to teach current wound care practices, wound staging, and wound care terminology. Further discussion about implications of the data will continue in Chapter V.

## **CHAPTER V**

### **Discussion**

#### **Introduction**

The goal of this research was to conduct a needs assessment of acute care registered nurses' basic understanding and attitudes toward wound care and to customize a wound assessment tool that was based on the findings of the nurses' needs. After analysis of the research data, it has been determined that there is a knowledge deficit regarding characteristics among of wounds among acute care nurses. All nurses surveyed were interested in the development of a wound assessment tool to assist them in appropriate charting of wounds. Further education would be necessary before a tool could be implemented.

The survey's data revealed a discrepancy between the nurse's ability to correctly answer questions about pressure ulcers and their treatment and their confidence in correctly staging an ulcer. This correlates to the findings of Harris et al, (2010) that there are gaps in nurses' knowledge of wound care in aspects such as identifying tissue, staging of pressure ulcers, and identifying tunnels and undermining. The nurse participants also may benefit from education with emphasis to the characteristics of a chronic wound and wound care terminology. A wound assessment tool following an educational offering

would bring additional knowledge and confidence to the nurses and by serving as a resource for correct staging and appropriate terminology.

A wound assessment tool is a small guide, which can be carried in the pocket, and it contains pictures of example of the different stages of pressure ulcer as well as picture guides of other common wound characteristics. Wound care is changing and so is the need to stay current on all current wound care practices. According to Zarchi et al, nurses often start their careers without appropriate wound care education (2014). Emphasis should be placed on educating nurses on current wound care practice and it is important for administration to place adequate resources to offer education that will assure that nurses can feel confidence with their assessment of chronic wounds.

An educational offering will be developed and presented to the nurses and the customized wound assessment tool will accompany the education. Visual inspection is essential in wound assessments and 65% of adult learners have been classified as visual learners (Harris et al., 2010, p. 254), the education will be a combination of computer based and lecture. The wound assessment tool will also serve as a reminder of terms learned and staging examples. These steps are meant to assist the nurses in being more efficient with their charting of wounds.

### **Observations**

After review of the data, concerns were raised regarding two of the questions on the questionnaire. Both questions dealt with pressure ulcers and both had almost 100% correct responses which could lead the reader to believe that all nurses have a very good base of information regarding pressure ulcers; however, 35% request additional education relating to wound care. Due to the brevity of the questionnaire, concern could be

expressed that more questions may have given a more conclusive baseline of wound care knowledge. The researcher was concerned that nurses would not take the time to answer a longer survey and the nurses would believe that the intent was to make everyone into a wound care nurse.

### **Evaluation of Theoretical Framework**

Roger's Diffusion of Innovation Theory is relevant to this study and served as a guiding framework for the project. The presentation of the survey followed by the education and wound assessment tool both fall into the Knowledge stage and finding out more information. As the wound assessment tool is released, the Persuasion stage will begin. With the narrative answers on the survey, it is obvious that there are nurses who are interested in the change and will support it. After using the wound assessment tool in daily work and documentation, the nurses will move to the Decision stage to choose to adopt the new tool or reject it.

### **Recommendations for Future Research**

There are a number of medical facilities that have to deal with wounds that would benefit from advancing their baseline knowledge on wound care: nursing homes, long term acute care facilities, and other hospitals. This study revealed that the nurses in the study are not current on the practices of wound care and lack the knowledge and confidence to accurately stage or describe wounds. Offering a survey to other facilities to determine their level of need followed by focused education and appropriate assessment tools would ultimately enhance staff knowledge and improve patient care outcomes.

### **Limitations of Study**

One limitation is that the survey was only offered for two weeks. If the time had been extended it would allow more nurses the opportunity to participate. Only 23 RNs participated in the study out of the 76 who were offered the email link for a 30.3% participation rate. Another weakness of this study is the brevity of the questionnaire. The wound care questionnaire was not meant to be all inclusive as would be required of wound care nurses, but rather to obtain the baseline knowledge about wound care for the acute care nurses.

### **Implications for Practice**

The clinical significance of this study to nursing is that it has identified educational needs amongst acute care nurses regarding wounds and wound care. Nurses are responsible for a head-to-toe assessment at every shift. If an ulcer or wound is present, it can be challenging for nurses to identify and document accurately if they feel inadequately trained. With the addition of education and a wound assessment tool, the nurse will feel more confident in documentation as well as in their ability to communicate their findings to other health care professionals.

### **Conclusion**

As the wound care specialty continues to expand, the need to continually educate nurses is a responsibility that cannot be overlooked. This study was designed to conduct a needs assessment of acute care registered nurses' basic understanding and attitudes toward wound care and to customize a wound assessment tool that was based on the findings of the nurses' needs. The participants in this study were found to have adequate knowledge of pressure ulcers but lack the confidence in this skill. The results of the

qualitative portion of the questionnaire reveal that the participants are interested in educational offerings and the addition of a wound assessment tool to be used as a resource when documenting wounds on their daily assessment chart.

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## APPENDIX

**Appendix A**  
Wound Care Questionnaire

1. What is your gender?
  - a. Female
  - b. Male
  
2. What is your age?
  - a. 20-29
  - b. 30-39
  - c. 40-49
  - d. 50-59
  - e.  $\geq 60$
  
3. What is the highest level of education you have completed?
  - a. Associate
  - b. Bachelor
  - c. Master
  - d. Diploma
  
4. Years of nursing experience
  - a. Less than one year
  - b. One to five years
  - c. Five to ten years
  - d. Ten to fifteen years
  - e. Fifteen to twenty years
  - f. Greater than twenty years
  
5. What is the white, moist tissue in the periwound called?
  - a. Maceration
  - b. Ischemia
  - c. Pus
  - d. Epithelial tissue
  
6. Nurse must update the stage of pressure ulcers as granulation improves.
  - a. True
  - b. False

7. Purple or maroon tissue discoloration to intact skin is called?
  - a. Eschar
  - b. Deep Tissue Injury
  - c. Diabetic foot ulcer
  - d. Stage 4 pressure ulcer
  
8. The yellow moist avascular stringy tissue in the base of a wound?
  - a. Pustular drainage
  - b. Slough
  - c. Eschar
  - d. Epithelium
  
9. Full thickness wound with exposure of bone, tendon, muscle or fascia is known as?
  - a. Diabetic foot ulcer
  - b. Stage 2 pressure ulcer
  - c. Stage 4 pressure ulcer
  - d. Venous leg ulcer
  
10. A shallow ulcer noted at the ankle of a person with complaints of increased clear drainage and swelling in their lower legs?
  - a. Venous leg ulcer
  - b. Dehisced wound
  - c. 2nd degree burn
  - d. Eschar
  
11. What color is granulation tissue in the base of a wound?
  - a. Red
  - b. White
  - c. Yellow
  - d. Black
  
12. When assessing a wound, you note that the edges are not attached and are loose all the way around the wound. How would you label this?
  - a. Dehisced
  - b. Undermining
  - c. Hypergranulation tissue
  - d. Infection

13. While doing your initial assessment, you notice a dark, dry hard place on your patient's left heel? You are suspicious that this may be.....
  - a. Pressure ulcer
  - b. Venous ulcer
  - c. Surgical wound
  - d. Traumatic wound
  
14. What would you do for the patient in question #13?
  - a. Use pillows to keep the pressure off the patient's heels
  - b. Make sure to keep them in a recliner as much as possible with their legs elevated on the recliner foot rest.
  - c. Place the patient in bed, right side lying.
  - d. Nothing, as this is a normal occurrence.
  
15. What do you feel would make your job of documenting wounds on your assessment easier?
  
16. Do you feel comfortable with documenting wounds? Explain your answer?
  
17. Do you feel like patient's wounds are adequately being treated? Explain your answer.
  
18. Do you feel it would be helpful to have a picture assessment tool to assist you with your charting of wounds?
  
19. What are some suggestions to make wound care better for our patients?