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The document mentioned above has been reviewed and accepted by the student's advisor, on behalf of the advisory committee, and by the Assistant Dean for MSN and DNP Studies, on behalf of the program; we verify that this is the final, approved version of the student's DNP Project including all changes required by the advisory committee. The undersigned agree to abide by the statements above.

Brandy G. Mathews, Student

Dr. Karen Stefaniak, Advisor

Final DNP Project Report

Use of Simulation Involving Standardized Patients as an Education Program to Increase Nurse
Confidence in Caring for Patients with Drug and Alcohol Problems

Brandy Galloway Mathews, MSN, MHA, RN

University of Kentucky

College of Nursing

Summer 2016

Karen Stefaniak, PhD, RN – Committee Chair

Jan Findlay, PhD, PMHNP-BC – Committee Member

Laura Fanucchi, MD – Clinical Mentor

Dedication

I would like to dedicate this body of work to my Nana, Juan Thompson, for her unending love, encouragement, and support.

Acknowledgements

I would like to acknowledge all those who played a part in my success in completing my doctoral work. First and foremost, my mother, Melissa. She has always believed in me and raised me in a way that allowed me to believe in myself. I'd also like to thank the men in my life. I have been dragging my son, Robert, to class practically since he was born. I hope that I have demonstrated the importance of education and set a good example for him to work hard as he heads off to college this fall. I'd like to thank my fiancé, Eddie, for his support and encouragement but most of all for putting up with me during this process. Lastly, I'd like to acknowledge Gwen, Sarah, and Laura as we travelled this path together and I couldn't have done it without them!

I would also like to acknowledge my committee. Dr. Karen Stefaniak, my advisor and committee chair, who with her experience, expertise, and guidance, has supported me through this entire process and helped me to feel confident that I would get through it. Dr. Jan Findlay, who served as the clinical expert and spent a great deal of her time and talent with me on my project. Without her, this pilot project would not have succeeded. I have to also give her credit for talking me off the ledge a time or two. And, lastly, thank you to Dr. Laura Fanucchi, for her willingness to serve on my committee and for suggesting the idea for my second paper. Most importantly, I'd like to thank her for leading the work to address the issues associated with caring for patients with a substance abuse disorder in our clinical setting. I look forward to making positive changes for these patients and the people who care for them. I'd like to acknowledge Amanda Wiggins for her assistance with the statistical portion; Whitney Kurtz-Ogilvie for helping me to be a better writer; and Joe Gatton and Melissa Wilkeson in the COM Standardized Patient Program for providing and training the actors.

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Capstone Overview

An adequate and competent workforce is necessary to ensure quality care is delivered to patients; therefore, nurse turnover in a hospital setting is a focus area for nurse leadership. Identification of a specific unit with a current and historical high turnover rate was cause for concern. Through the course of seeking understanding of the issue, anecdotal feedback revealed that the challenging patient population contributed to the turnover. In trying to better understand that perception, it was discovered that many of the patients had substance abuse issues. The nurses, challenged and frustrated by caring for these patients and their negative behaviors, did not feel prepared to care for the patients or to manage their behaviors. Initially seeking to address the turnover and retention issues; yet, ultimately focusing on developing a plan that would support the nurses in caring for these patients was the purpose of this practice inquiry. Consideration was given to conduct a simulation exercise focusing on caring for patients with addiction issues and challenging behaviors to determine if that would have an impact on the nurses' readiness and satisfaction in managing this patient population. The three-fold purpose of this practice inquiry project was to 1) understand simulation and its influence specifically on nurse confidence, 2) to determine if confidence plays a role in improving clinical competence, and 3) to conduct an exercise to determine the effectiveness of simulation as an educational exercise in experienced nurses to determine its effectiveness in a specific patient population.

The first manuscript *High Fidelity Simulation and its Impact on Nurses' Confidence* was a literature review which evaluated the impact of high fidelity simulation as a teaching method on nurses' or nursing students' perceived confidence in their abilities. The findings of this review supported simulation as a teaching method that positively influenced nurse confidence. The second manuscript *Confidence and Competence: Is There a Correlation* was also a

literature review. The purpose of the review was to understand the meaning of the concepts of confidence and competence as they are used in health care and to determine if there is a relationship between them. More specifically, the goal of this review was to determine if confidence is a predictor of clinical performance or competency in nursing practice. The findings of this review were inconsistent; however, there was support for additional study.

The final manuscript *High Fidelity Simulation and its Impact on Nurses' Confidence* was a description of the mixed methods, pre and post test pilot project. The purpose of the pilot project was to educate nurses through use of simulation to address the behavioral problems inherent in patients who are actively using or withdrawing from drugs and/or alcohol or who have a history of drug and/or alcohol use problems.

Manuscript 1:

High Fidelity Simulation and its Impact on Nurses' Confidence

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Abstract

Aim: The purpose of this literature review was to evaluate the impact of high fidelity simulation as a teaching method on nurses' or nursing students' perceived confidence in their abilities. The goal was to develop an understanding of the role simulation plays in increasing caregiver confidence in clinical care.

Method: A review of the literature included an electronic search of the CINAHL and Google Scholar databases. A search using key terms high fidelity, simulation, confidence and nursing was conducted. The identified 118 articles' abstracts were reviewed to ensure that the impact of simulation on confidence was discussed, focusing initially on articles with the word confidence in the title. The search was limited to articles published between 2006 and 2016, written in English with full text available. 24 articles were included in this literature review.

Results: Simulation is considered an effective strategy for educating nursing students and practicing nurses in several clinical settings, including medical surgical, critical care, pediatrics, and obstetrics.

Conclusion: This literature review supports that simulation is an effective means of education and skills training. It also confirms that confidence in skills and abilities is increased following simulation training for both nursing students and practicing nurses. Additionally, nurses and nursing students are overall satisfied with the simulation experience.

Simulation is defined as something that is made to look, feel, or behave like something else especially so that it can be studied or used to train people. (Simulation), (n.d.). In Merriam-Webster's online dictionary. Simulation in nursing education can be categorized into three main types – low fidelity, medium fidelity, and high fidelity. Low fidelity simulation includes practicing skills such as initiation of intravenous access on a dummy arm or conducting peer to peer learning through discussion of case studies (Cant & Cooper, 2009). Medium fidelity is described as somewhat more realistic than low fidelity but not as highly technical as high fidelity. It can include the use of low-technical mannequins for practicing of skills or interventions. High fidelity simulation is defined as a teaching method which produces realistic clinical situations in a protected environment (Leigh, 2008). This can be accomplished through the use of computerized mannequins who can be controlled to respond to interventions and display changes in vital signs or use of real persons playing the part of the patient and acting out the scenarios. High fidelity is the most realistic simulation exercise and it is the focus of this literature review. The fidelity or believability of the situation is an important element to consider when evaluating meaningfulness of simulation. The fidelity not only impacts the user's satisfaction but also the effectiveness of the exercise. The purpose of this literature review was to evaluate the impact of high fidelity simulation as a teaching method on nurses' or nursing students' perceived confidence in their abilities. The goal was to develop an understanding of the role simulation plays in increasing caregiver confidence in clinical care.

Methods

A review of the literature included an electronic search of the CINAHL and Google Scholar databases. A search using key terms high fidelity, simulation, confidence and nursing was conducted. The identified 118 articles' abstracts were reviewed to ensure that the impact of

simulation on confidence was discussed, focusing initially on articles with the word confidence in the title. The reference lists of all included articles were also reviewed to identify additional sources. The search was limited to articles published between 2006 and 2016, written in English with full text available. Excluded from the review were articles related to simulation with medical students or physicians, low fidelity simulation, and simulation which was focused solely on specific skills acquisition. After review of the articles and application of the exclusion criteria, 24 articles were included in this literature review.

Findings

Effectiveness as Learning Strategy

Based on the evidence, simulation is considered an effective strategy for educating nursing students. The effectiveness of simulation was studied in different student populations including those who were in their first clinical rotation (Bambini, Washburn, & Perkins, 2009) and those in their final year of study (Wagner, Bear, & Sander, 2009). Different clinical settings were involved in the studies including critical care (Kaddoura, 2010; Mould, White, & Gallagher, 2011), maternal/ child (Bambini et al. 2009), medical surgical (Gordon & Buckley, 2009; Moreland, Lemieux, Myers, 2012; Smith & Roehrs, 2009), mental health (Barlett & Butson, 2014; Kameg, Clochesy, Mitchell, Suresky, 2010), and pediatrics (Bultas, Hassler, Ercole, & Rea, 2014; Dowson, Russ, Sevdalis, Cooper, & DeMunter, 2013; Samawi, Miller, & Haras, 2014).

Impact on Confidence

Participation in a simulation exercise has been shown to increase the students' confidence in several ways. Two studies found an increase in student confidence in the maternal and child health setting reporting an increase in confidence in performing skills related to infant and

maternal care. These skills included infant care and maternal discharge teaching (Wagner et al, 2009) and assessment skills (Bambini et al, 2009). In these studies, students cited a benefit of simulation as the opportunity to practice skills prior to entering the clinical setting (Wagner et al, 2009).

Similarly, Kaddoura (2010) found that simulation training improved overall confidence in a group of newly graduated nurses practicing in a critical care environment. These nurses also reported that the simulation training improved their confidence in their ability to make decisions, manage stress, and delegate responsibilities. All of these are crucial elements of critical care practice.

The evidence demonstrates an improvement in nurse confidence following simulation exercises in both adult and pediatric clinical settings. Four studies evaluated the effects of simulation training on nurses' confidence in emergency situations, with two focusing on pediatric emergencies (Bultas et al., 2014; Dowson et al., 2013) and two focusing on adult patients (Gordon & Buckley, 2009; Roh, Lee, Chung, & Park, 2013). All four showed improvements in nurses' confidence after simulation training. Nurses reported increased confidence in their ability to recognize patient deterioration (Bultas et al., 2014; Gordon & Buckley, 2009), perform lifesaving interventions such as resuscitation (Dowson et al., 2013; Gordon & Buckley, 2009), and work together to intervene appropriately in emergencies (Bultas et al., 2014). They also reported improved confidence in their ability to communicate patient information and communicate with other members of the resuscitation team (Gordon & Buckley, 2009). Interestingly, these improvements in confidence do not seem to be dependent on the amount or type of experience the nurses have (Dowson et al., 2013; Gordon & Buckley, 2009).

Exposure to emergency situations and resuscitation events are experiences that cannot be guaranteed for nursing students. Simulation is an opportunity to provide students and clinicians with exposure to low frequency clinical situations because the clinical events situation can be fabricated and practiced. In addition to resuscitation, patient care during death is a clinical scenario where simulation could provide meaningful practice. For example, Fabro, Schaffer, and Scharton (2014) used simulation to teach end of life and palliative care to students. In this study students not only reported an increase in confidence in caring for dying patients and their families, but they also reported being more confident in their communication skills. Interestingly, Moreland et al. (2012) found that students' overall self-efficacy in caring for dying patients was improved but the exposure to a simulation event created decreased self-efficacy in the emotional aspect of caring for a dying patient. Communication with patients, families, and other members of the health care team is another skill that nurses and students must master. Studies have demonstrated that simulation improves confidence in communication (Fabro et al., 2014; Kameg et al., 2010) in different settings.

Clearly, most of the evidence indicates that simulation improves confidence, for both nursing students and practicing nurses. Furthermore, there is some suggestion that simulation may be a more effective teaching tool than traditional, lecture-based teaching methods. Two studies (Bultas et al., 2014; Dowson et al., 2013) specifically compared simulation training with traditional teaching. Both found a significantly higher increase in nurse confidence following simulation than that achieved with traditional teaching methods.

However, not all the evidence supports these findings. Brannan et al. (2008) and Blum et al. (2010) measured how nursing students' confidence was impacted by teaching assessment and skills through traditional lecture-based teaching versus simulation-based teaching. Both sets of

researchers found that the students' self-confidence increased from both traditional lectures and simulation training, with no significant difference between the two. It is important to note that these studies do not negate the effectiveness of simulation training; they simply suggest that simulation and traditional teaching methods are equally beneficial.

These studies support the need for additional research to determine whether simulation training imparts more or better benefits than traditional teaching. It is also worth noting that these two studies focused on nursing students, while Bultas et al. (2014) and Dowson et al. (2013), who did find more benefit from simulation than traditional teaching, focused on practicing nurses. It may be worthwhile to examine whether more experienced nurses benefit more from simulation training than traditional education, or vice versa.

Other Benefits

An increase in confidence is not the only realized benefit of simulation training. Simulation has demonstrated effectiveness in improving nurse and nursing students' communication, delegation, and critical thinking skills. Through anecdotal feedback and qualitative evaluations, researchers have found additional benefits to both students and newly graduated and experienced nurses as a result of participation in simulation exercise. One of the most frequently reported benefits was the opportunity to practice a clinical skill, assessment, or teaching technique in a nonthreatening environment without the risk of harm or negative impact to a real patient (Bambini et al., 2009; Fabro et al., 2014; Kameg et al., 2010; Lucas, 2014; Roh et al., 2013). Students and nurses experienced less anxiety knowing that they could make mistakes without the threat that a real person could be harmed. Conducting scenarios in a simulation environment allowed participants to experience the outcome of their intervention and to learn from their own mistakes and the performance of peers (Roh et al., 2013). Another

important and beneficial element of a simulation exercise was the debriefing session following the exercise (Gordon & Buckley, 2009; Lucas, 2014). During a debriefing session, participants are able to evaluate their own performance and the performance of other participants. They are able to reflect on the experience, to discuss what went well, and to review what actions can be improved. This reflection is an important aspect of the learning process (Bartlett & Butson, 2014; Kaddoura, 2010). The opportunity to give and receive feedback from peers, team members, and educators is also an important and beneficial piece of the simulation experience and debriefing. It is suggested that participants are able to learn from the experience and to apply that learning in a clinical situation (Blum et al., 2010; Najjar et al., 2015; Wagner et al., 2009).

From an educator's point of view simulation is considered a beneficial and effective learning tool for two primary reasons – the opportunity to guarantee exposure to a specific clinical situation and the opportunity to evaluate performance and identify any insufficiency. The ability to expose students to a clinical situation that has either not been encountered before or is not encountered often in a practice setting is considered a major benefit of simulation (Bartlett & Butson, 2014; Fabro et al., 2014). Creating an opportunity for students to experience a low frequency event such as patient death, gives students the opportunity to practice skills before encountering the situation in a clinical practice environment. Educators are responsible for ensuring that students are prepared to become future nurses; therefore, must ensure that their learning needs are met and clinical skills are obtained. Educators identify gaps in knowledge and experience. Simulation creates the opportunity to identify a knowledge deficit through evaluation of the performance during the simulation exercise (Kaddoura, 2010). When a knowledge deficit is identified, learning strategies can be developed to address the gap.

Simulation provides the opportunity to learn by doing and repetition creates the chance to demonstrate skills acquisition.

Discussion

Limitations

Throughout the studies, different tools were used to measure perceived confidence and the effectiveness of simulation. There was no consistency in tool selection amongst the studies although several tools were used more than once. The tools ranged from researcher designed surveys and interviews to validated survey instruments. The most commonly used method for assessing effectiveness and the impact of simulation as a learning tool was researcher designed questionnaires and pre and post-test surveys (Bambini et al., 2009; Gordon & Buckley, 2009; Mould, White & Gallagher, 2011; Schoening, Sittner, & Todd, 2006; however, guided or semi structured interviews (Kaddaura, 2010) are referenced only once. The lack of a common survey instrument could have an impact on the comparability of the study outcomes because the variables are not being measured in the same manner. The inconsistency in a survey tool could also question the reliability and validity of the instruments used.

Gaps in the Literature

While simulation is generally considered an effective teaching method for nursing students, further research is needed to determine the point in the nursing curriculum where simulation is most the effective in increasing students' confidence (Thomas & Mackey, 2012). Students gain some degree of confidence as they advance through a nursing program; therefore, timing of use of simulation as an education adjunct could be important. Introducing simulation at the most beneficial time could further increase confidence that is not otherwise gained by experience alone. A need to understand this creates an opportunity for additional research. An

understanding of the difference between confidence gained through simulation and confidence gained through actual clinical experience could assist educators in scheduling simulation exercises at the most influential and effective time during the course of study. Further study is also needed to evaluate individual factors which might influence simulation effectiveness or improved confidence such as age, gender, years or type of experience.

While the evidence supports that simulation as an effective teaching tool, there is an opportunity for better understanding about the effectiveness of the different types of high fidelity simulation. Additional research is needed to determine if one type of high fidelity simulation is more effective than another. This could be accomplished by comparing outcomes of the different methods such as the use of standardized patients with human actors or computerized simulators.

The studies cited support that skills learned through simulation practices are likely transferrable to the clinical setting (Blum et al., 2010; Najjjar et al., 2015; Wagner et al., 2009) ; however the impact of simulation on actual clinical competence requires additional study. Furthermore, while the evidence clearly supports an increase in confidence, further research is needed to understand if nurse or nursing student perceived confidence is correlated with clinical competence or technical proficiency. Better understanding of this concept could provide additional support for simulation as a learning method.

Much of the literature focuses on using simulation as an education adjunct for nursing students; however, limited studies were discovered about its effectiveness as a continuing education technique for experienced nurses. Uses of high fidelity simulation as an ongoing professional development or continuing education tool should be explored further to better understand its effectiveness for practicing nurses.

Conclusion

Simulation has been used as a teaching method in a variety of clinical settings and situations with both nursing students and practicing nurses. While the evidence supports the use of simulation as an effective educational tool, the effectiveness of the simulation experience is impacted by several elements. These elements include the type of simulation used and the fidelity of the exercise. The different types of simulation have not been equally effective as a teaching method. Low and medium fidelity simulation exercises may be beneficial particularly in skill validation while high fidelity simulation is the most realistic and therefore is more widely supported as an effective education adjunct. Nurses and nursing students can achieve several benefits through the use of simulation including an improvement in communication skills, technical skills, and an increase in confidence. This review of the literature supports simulation as a means to increase confidence in both nurses and nursing students. Understanding the link between nursing's perceived confidence and actual clinical competency is an important next step in determining the impact of simulation on nursing education and patient care.

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Manuscript 2:

Confidence and Competence: Is There a Correlation?

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Abstract

Aim: The purpose of this literature review is to understand the meaning of the concepts of confidence and competence as they are used in health care and to determine if there is a relationship between them. More specifically, the goal of this review is to determine if confidence is a predictor of clinical performance or competency in nursing practice.

Method: A systematic search was conducted using the CINAHL, PubMed, and Google Scholar databases. The search was restricted to articles published in English between 2006 and 2016 with full text available. Ultimately twenty-four articles were reviewed, including twenty-one research studies.

Results: The concepts of confidence and competence have been studied in several health care related fields, including nursing and medicine. The findings of the studies are not consistent revealing both a correlation between the two concepts and no correlation between them, which makes identification of trends and conclusions difficult.

Conclusion: While at times the concepts are measured together, the relationship between confidence and competence is not clearly understood. The literature does not support that confidence is a strong predictor of competence nor are the concepts consistently correlated. Confidence does, however, play a role in competence in that it is considered by some to be a component of successful clinical practice. It is noteworthy that self-confidence and self-assessment of competence are not reliable measures of clinical competence.

Confidence and competence are important concepts in nursing practice and quality patient care. Confidence and competence are similar terms in that they are both often used to describe qualities of a person or performance; however, it is important that they are not used interchangeably and that their meanings are understood. Merriam-Webster defines confidence as a feeling or belief that you can do something well or succeed at something; the feeling of being certain that something will happen or is true (“Confidence”, n.d.). In an analysis of the concept of confidence, Perry (2011) defines some of the precursors to confidence as perceived readiness, knowledge, self-esteem, and success in past experiences. Perry (2011) states that it is critical for health care workers to possess a certain amount of confidence in order to progress to competent practice. It seems logical to assume that confidence plays a role in competence or that persons who feel confident in their practice possess the necessary skills for competent practice.

Understanding the meaning of competence is necessary in order to develop strategies to ensure competent and safe practice. A simple definition of competence is the ability to do something well enough to meet a standard or the quality or state of being competent (“Competence”, n.d.). When analyzing the concept of competence, Smith (2012) determined several essential elements including experience, skill proficiency, knowledge and communication. It is important to note that knowledge, experience, and previous success are factors in both confidence and competence. The fact that some elements are common to both these concepts contributes to the difficulty in understanding and measuring the concepts, and makes determining the relationship between them more complicated.

Competence in nursing practice is essential to achieving quality patient outcomes. To ensure competence in practice, the factors that influence achievement of competence must be understood. To better understand the concepts of confidence and competence, the measurement

and development of the concepts, and to determine if a relationship between them exists, it is important to recognize the nursing theories that may serve as the basis of understanding.

Many researchers mention two theories when describing their work related to the concepts of confidence and competence – Benner’s theory of competency development from novice to expert (Smith, 2012) and Bandura’s social cognitive theory (Black et al., 2012; Karabacak et al., 2013; Lauder et al., 2008; Oetker-Black & Kreye, 2015; Perry, 2011; Ulrich et al., 2010).

Benner (1982) describes competence as a journey through five levels of proficiency including novice, advanced beginner, competent, proficient, and expert. The levels are characterized primarily by depth of clinical knowledge, experience, and critical thinking abilities. To achieve competency in this model one typically must obtain two to three years of experience, develop a feeling of mastery, act based on experience and judgement, and be able to visualize long term outcomes based on those actions (Benner, 1982). While Benner does not speak to confidence specifically, it can be suggested that confidence is a result of competence achieved from a feeling of mastery and acquired experience. Furthermore, Smith (2012) proposes that improved performance leads to increased confidence. On the other hand, it is necessary for clinicians to acquire confidence in order to proceed in competency advancement and skill mastery (Perry, 2011). While confidence can be considered a result of competence and confidence is necessary to achieve competence, the literature does not clearly define the correlation between these concepts; however, they appear to have a definite relationship.

Self-efficacy is a concept similar to self-confidence and one that is also considered a component of competency development. Self-efficacy, according to Bandura’s social cognitive theory, is defined as an individual’s belief in and perception of their ability to perform a task or

behavior. Stronger self-efficacy beliefs are generally revealed as greater motivation and self-confidence (Lauder et al., 2008). Self-efficacy acts as a go between in the relationship between knowledge and action (Oetker-Black & Kreye, 2015). Bandura (1977) has said that individuals who perform poorly do not necessarily do so because they lack the skills but because they lack self-efficacy. Social cognitive theory supports that skill acquisition builds self-efficacy and promotes problem solving (Bandura, 1981). Improvements in problem solving, skills acquisition, and therefore self-efficacy can also be measured as an improvement in competence. It is necessary to have the knowledge base and the confidence to perform in order to deliver competent care. According to Benner and Bandura's theories, the concepts of confidence and competence appear to be related. In these theories, self-confidence and self-efficacy are both measured as one's belief in one's own ability. Belief in one's ability is necessary for performance of a skill or response. As one's abilities and experience increase, so does the measure of performance.

The purpose of this literature review is to understand the meaning of the concepts of confidence and competence as they are used in health care and to determine if there is a relationship between them. More specifically, the goal of this review is to determine if confidence is a predictor of clinical performance or competency in nursing practice.

Methods

A systematic search was conducted using the CINAHL, PubMed, and Google Scholar databases. The search was restricted to articles published in English between 2006 and 2016 with full text available. Search terms included confidence, competence, self-efficacy, proficiency, relationship, and correlation. After initial review of the identified articles, the reference lists were reviewed to identify additional articles not identified through the key term

search. This review produced a few resources published before 2006 which were included as they were deemed relevant. Articles were not limited to nursing, but included other healthcare related fields because there is value in discerning how other disciplines define and measure these concepts. Ultimately twenty-four articles were reviewed, including twenty-one research studies.

Findings

The lack of consistency in the study outcomes makes it difficult to identify trends in the findings. The concepts of confidence and competence and the relationship between them have been studied in several groups and professions including medicine and medical students (Barnsley et al., 2004; Brinkman, Tichelaar, van Agtmael, de Vries, & Richir, 2015; Clanton, et al., 2014; Hauer, Wilkerson, Teherani, 2008; Lai & Teng, 2011), nursing (Brazil, Brink, Kaasalainen, Kelly, & McAiney, 2012; Eaton-Spiva & Day, 2011; Mitchel, 2015) and nursing students (Blum, Borglund, & Parcels, 2010; Karabacak, Serbest, Onturk, Aslan, & Olgun, 2013; Lauder et al., 2008; Liaw, Scherpbier, Rehans, & Klaninin-Yobas, 2012; Liou, Chang, Tsia, & Cheng, 2013; Oetker-Black, & Kreye, 2015), advanced practice providers (Leopold, et al., 2005), speech language pathology (Ward, Angius, Solley, Cornwell, & Jones, 2008); public health (Black, et al., 2012), and other health care workers (Castle, Garton, & Kenward, 2007). There are contradictions among the findings and sometimes within the study outcomes making it difficult to ascertain a correlation between the concepts. The findings will be better explained through the themes identified below.

In the medical field, the relationship between confidence and competence was evaluated regarding medication prescription writing (Brinkman et al., 2015), specific clinical skills (Barnsley et al., 2004; Clanton et al., 2014; Morgan & Cleave-Hogg, 2002), and the use of evidence based medicine (Lai & Teng, 2011). The findings varied in these studies. Studies in

nursing evaluated confidence and competence in different clinical settings such as midwifery (Lauder et al., 2008; McClimens, 2012) and long term care (Brazil et al., 2012) and with skill sets including documentation in the electronic medical record (Mitchell, 2015), intramuscular injections (Karabacak et al., 2013), or diabetes education (Eaton-Spiva & Day, 2007). Other professions outside of nursing and medicine are also concerned with measuring and ensuring competence in their providers and the outcomes of the studies involving other healthcare workers differed in their findings as well (Black et al., 2012; Ward et al., 2008). In the following sections those studies that found a correlation between confidence and competence, studies that found no correlation between confidence and competence, and those studies that did not focus on the correlation and/or relationship of confidence and competence will be reviewed.

Correlation between Confidence and Competence

A few studies found a correlation between confidence and competence (Black et al., 2012; Brinkman et al., 2015; Clanton et al., 2014; Leopold et al., 2005); however, the strength and direction of the association varied making it difficult to synthesize the findings. For example, in two studies related to performance of surgical skills, such as knot tying and knee injections, researchers found an association between confidence and competence after a training session (Clanton, et al., 2014; Leopold et al., 2005). Furthermore, the researchers concluded that the results were reproducible given that they found that higher confidence following the training was associated with competence in the skills measured (Clanton, et al., 2014). This finding also led the researchers in one study to conclude that students could self-evaluate their abilities on certain skills – if the student felt confident in their abilities then that confidence could represent competence (Clanton et al., 2014). Conversely, in the second study, the researchers concluded that practitioners over estimated their abilities as defined by the measures of confidence and

performance (Leopold et al., 2005). In another study, researchers found that self-confidence was weakly correlated with prescribing competence (Brinkman et al., 2015).

Black et al. (2012) conducted a public health focused study concentrating on workforce development. In this study, workers were educated on the use of specific conversation skills. Researchers found a positive correlation between demonstrated competency and staff perceived confidence following the training; however, the results may not be generalizable to other professions given the specificity of the intervention and the fact that the measured outcome was competence in using open ended questions in health related conversations.

No Correlation between Confidence and Competence

In eight studies among different professions, researchers found that neither perceived competence nor perceived confidence was a predictor of actual competence (Barnsley et al., 2004; Hauer et al., 2008; Karabacak et al., 2013; Liaw et al., 2012; Lauder et al., 2008; Mitchell, 2015; Morgan & Cleave-Hogg, 2002; Ward et al., 2008). Among nurses and nursing students several studies found no association between confidence and measured competence (Karabacak et al., 2013; Lauder et al., 2008; Liaw et al., 2012; Mitchell, 2015). Though the findings of the studies were consistent, the participants, methods, and measured outcomes varied making it difficult to synthesize the findings and apply them across the profession or to clinical practice.

Similarly, researchers, when studying the relationship between confidence and competence for skills performance of post graduate year one medical staff, found no correlation between self-confidence and measured competence (Barnsley et al., 2004). In two studies involving medical students, researchers evaluated the relationship between confidence, experience, and competence and found slightly different outcomes (Hauer et al., 2008; Morgan & Cleave-Hogg, 2002). In one study, researchers compared medical students' clinical

experience, self-reported confidence and simulation- based assessment of competence and found that experience was significantly correlated with confidence; however, confidence and experience were not correlated with measured competency (Morgan & Cleave-Hogg, 2002). In a second study to assess medical student' knowledge, confidence, and experience with colorectal cancer screening, Hauer et al., (2008) found that neither knowledge nor confidence predicted competence. Students' experience with history taking and physical examination was however a significant predictor of their performance in these tasks, although reported confidence was not.

In a study involving healthcare workers of a different specialty, Ward et al. (2008) evaluated speech language pathologists' confidence in managing patients with a tracheostomy. Researchers found that despite the fact that the majority of the participants felt confident in their care, less than half were up to date with evidence based practice and less than a third were knowledgeable in certain aspects of care. These findings support the notion that confidence is not a good predictor of clinical competence.

Two groups of researchers studied the concept of self-efficacy, which is similar to self-confidence and considered a component of confidence (Karabacak et al., 2013; Lauder et al., 2008). In both studies researchers found no statistically significant relationship between self-efficacy and students' competency in skills such as drug calculations, hand hygiene, and intramuscular injections (Karabacak et al., 2013; Lauder et al., 2008).

Correlation Not Studied

In some studies, researchers evaluated the impact of different interventions on both competence and confidence but did not necessarily attempt to find a correlation between the two concepts. For example, Eaton-Spiva and Day (2007) assessed nurses' knowledge, skill, and confidence in providing diabetes teaching and care. Following a specific education module, the

nurses reported an increase in confidence although there was not reported change in knowledge or skill. This study did not attempt to measure a correlation between knowledge or skill and confidence, however. Similarly, Blum et al. (2010) found an increase in student self-confidence and competence following both traditional learning and a simulation exercise but they did not specifically try to determine whether the increase in competence had anything to do with the increase in confidence or vice versa. Blum et al. (2010) recommended additional research to determine how and if confidence and competence gained during a simulation exercise might transfer to actual clinical experiences.

Other Findings

While most of the studies found either no correlation or a positive correlation between confidence and competence, Liou et al. (2013) found that self-efficacy was negatively correlated with clinical competence. In this study, researchers sought to understand the impact of practicing specific skills on students' competence in performing those skills. One of the factors assessed was students' confidence in their ability to perform the skills. Researchers found that some participants who had higher self-confidence ratings actually received lower competency scores on skills performance. Researchers hypothesized that these specific participant groups had a false sense of confidence because of their work experience in a clinical environment although that experience did not provide competence in the skills measured (Liou et al., 2013). Despite different findings related to the correlation between confidence and competence researchers found in some cases that study participants over-estimated their skills performance or were over confident in their ability without a corresponding increase in competence (Leopold et al., 2005; Liaw et al., 2012). This finding contradicts previous studies where experience was a significant predictor of ability and competence (Hauer et al., 2008) and the study where

experience improved confidence even though demonstrated no association with competence (Morgan & Cleave-Hogg, 2002).

There were some similarities in the studies even though the settings and populations were different. Several researchers' findings support additional training and education or practice as a method to improve competence (Brazil et al., 2012; Liou et al., 2013; Mitchell, 2015; Morgan & Cleave-Hogg, 2002; Ward et al., 2008). Several studies used OSCE as a means of measuring competence and found that confidence was improved following the OSCE (Barnsley et al., 2004; Lauder et al., 2008; McClimens, 2012). Interestingly, the final similarity was that many of the researchers deemed the concepts important and worthy of further study.

Limitations

Understanding the correlation between these concepts is worthy of study; however, the definition of competence is fairly nebulous and this lack of a firm definition makes the concept difficult to measure. The limitations of the evidence include the fact that the literature regarding a correlation between confidence and competence is not tremendously supportive one way or the other. In many cases where there was a correlation noted, it was either not statistically significant or the significance was weak. Despite the numerous studies, the findings do not support a clear understanding of the relationship between the two concepts. Perhaps the lack of trends is because the studies were conducted among several groups and health care professions as well as in several different countries. Given that there are ten countries and six professions or groups represented in the studies one may question whether the findings are transferrable across professions. The different sample subjects and settings make it unclear if the findings in a particular study are applicable in another practice area. Also of note is the fact that studies were conducted in ten different countries and none of the studies sought to understand the cultural

implications on self-confidence. In certain cultures, there may be other variables that influence a person's self-confidence. These influences may or may not have a bearing on the association between self-confidence and competence.

In the studies referenced, competence was routinely measured through OSCE or simulation. The evidence is not clear that competence measured through this route is transferrable to actual clinical practice. It is important to continue to study the effectiveness of simulation and OSCE as a means of measuring competence. Accurate competence assessments are necessary to evaluate and ensure safe clinical practice. Continued research is warranted.

Implications

Implications for practice include the need for additional research to more fully understand the relationship between confidence and competence, the development of effective self-assessment tools, the continued evaluation of teaching and learning strategies, and the influence of caregiver confidence on patients' perception of clinical care. The concepts of confidence and competence have been studied and discussed for many years and across disciplines; however, there does not seem to be a unified conclusion or a clear understanding of the relationship between the two concepts. The lack of understanding of these concepts leaves much room for further exploration and validation of the relationship between the concepts.

The evidence suggests that confidence plays a role in competence; however not all who are confident in their abilities are deemed competent through objective measures. It is important to understand how and under what circumstances an increase in confidence translates into clinical competence (McClimens, 2012). If further research can explain the impact of confidence on competence, strategies could be developed that would influence development of both concepts. If it could be determined that subjective assessment of confidence could predict

clinical competence, self-assessments tools could be created to effectively monitor and evaluate competency development; otherwise self-assessment cannot be considered a reliable method of competency assessment.

Self-confidence and clinical competence support the development of clinical judgment and safe nursing practice (Blum et al., 2010). Because ensuring a competent workforce is a responsibility of nurse educators and leaders, understanding how students gain confidence and competence is important so that teaching and learning strategies guarantee that knowledge and skills obtained during school are translatable to clinical practice. Nursing leaders must ensure a competent workforce in order to provide safe and effective care for patients. To do so, competency must be assessed and validated on a regular basis and opportunities for competency development must be provided. Active participation in professional development opportunities may impact practicing nurses' confidence in direct patient care or skill performance. These opportunities may also serve to improve employee engagement and nurse retention by increasing nurses' perceived value to the organization. It is important for leaders to pay attention to things that make nurses feel valued and recognized for a job well done as these are factors which influence nurse retention. While not the topic of this review, evidence exists that supports the impact of engagement and recognition on retention and the impact of retention on patient outcomes.

Understanding confidence from the patient's perspective is also important. Patients trust their caregiver more and have a better experience if they feel that their caregiver demonstrates confidence (Perry, 2011). The idea that a patient's perception of their caregiver's confidence influences their perception of their care is interesting and deserves exploration. Understanding potential influences on the overall patient experience is important as the patient experience is a

marker of quality of care and will be tied to reimbursement in the near future. Future researchers should measure patient perceptions of caregiver confidence to determine how those perceptions affect the patients' overall experience. Because high quality and safe patient care is the goal for the healthcare industry, there is also an opportunity to develop understanding of the connection between confidence and patient outcomes (Perry, 2011).

Conclusion

While the evidence does not consistently find that there is a strong association between confidence and competence, it seems logical that the concepts are related. There remains value in increasing self-confidence as some evidence suggests it can be a component of, a result of, or a precursor to competence. Simply feeling confident in oneself does not guarantee competence (Smith, 2012) although a belief in ability and accomplishment is necessary for achievement. Based on this thought, self-confidence or self-efficacy may be necessary in order to achieve competence. Achievement of competent practice may lead to higher self-confidence. This circular influence of the concepts on one another supports the idea that the concepts are related. Despite the lack of a consistent, strong correlation, it is still worthy to measure both concepts and to develop strategies to improve one and perhaps consequently the other. Improvement in confidence and clinical performance has the potential to influence not only the quality of patient care through competent practice, but also to influence staff engagement, retention, and the overall patient experience.

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Manuscript 3:

Testing the Effectiveness of a Simulation Exercise on Nurses' Perceived Confidence in Caring
for Patients with Drug and Alcohol Problems

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Abstract

Purpose: The purpose of this pilot project was to test the effectiveness of a simulation exercise using standardized patients on nurses' perceived confidence in caring for patients with drug and alcohol problems.

Method: The project was a mixed methods pre-test and posttest design to assess whether simulation using standardized patients was effective in improving nurses' confidence in caring for patients with problematic drug and alcohol use issues. Qualitative data was obtained by interviewing participants using a semi structured interview.

Results: All nurses reported a positive experience as a result of participating in the simulation exercises. Use of simulation as a learning exercise to improve nurses' confidence in caring for behaviorally challenging patients with drug and alcohol use was effective.

Conclusion: Caring for patients with drug and alcohol use problems is a challenge particularly in the medical surgical environment where the nurses do not necessarily possess an adequate skill set to manage the associated behaviors. Development of an educational program using patient simulation exercises may increase nurses' confidence and ability to care for patients with dual illicit drug and/ or alcohol use disorders on medical surgical units.

Background

Approximately one-fourth to one-half of all hospitalized patients have substance use problems, and many of these patients are admitted to medical surgical hospital units for acute and possibly life-threatening health problems (Lopez-Bushnell, & Fassler, 2004; Monks, Topping & Newell, 2012). Due to the nature of substance use or abuse, patients often have underlying psychiatric illnesses and may lead to behavioral problems while receiving treatment on a medical surgical unit (Ford, Bammer, & Becker, 2008). According to Ford et al. (2008) many patients who abuse drugs and/ or alcohol develop combative and abusive behaviors toward staff, including nurses, and are consistently a challenging patient population for whom to provide care (Ford et al., 2008).

Nurses' attitudes, beliefs, and confidence in caring for patients with drug and/ or alcohol problems influence the manner of care delivery (Vadlamudi, Adams, Hogan, Wu, & Wahid, 2008) and can negatively impact the nurse patient relationship and the quality of the care provided (Chu & Galang, 2013; Crothers & Dorrian, 2011).

People with drug and/ or alcohol use disorders are often admitted to medical surgical units in an acute care hospital where nurses likely have a limited skill set to address their multifaceted care needs (Kameg, Mitchell, Clochesy, Howard, & Suresky, 2009). Caring for patients with addiction, especially when accompanied by disruptive and manipulative behaviors, requires different skills than caring for a medical patient who does not have a substance abuse issue (Kameg, Mitchell, Clochesy, Howard, & Suresky, 2009). These skills include therapeutic communication, limit setting, and de-escalation techniques. Several studies have shown that nurses received little to no formal education in caring for patients with drug and alcohol issues (Crothers & Dorrian, 2011; Ford et al, 2008; Monks et al, 2012) and confirmed that nurses do not

feel prepared to adequately care for this patient population (Ford et al., 2008). The literature supports education as an effective means to influence nurses' attitudes, knowledge, and confidence (Daly, Kermode, & Reilly, 2009; Ford et al., 2008; Monks et al., 2012; Vadlamudi et al., 2008). In addition, researchers have found that formal education will better prepare nurses to effectively manage the behavioral and physical care of patients with drug and alcohol abuse or dependence (Daly, et al., 2009; Ford et al., 2008; Monks et al., 2012; Vadlamudi et al., 2008). In a study by Monks et al. (2012), nurses reported that their lack of understanding regarding drug use and the patient's unpredictable behavior limited their ability to discuss issues related to drug use, causing increased anxiety and stress at work. It is assumed that the stresses created in caring for this challenging patient group increases dissatisfaction and job stress, and may contribute to higher turnover rate of staff.

This practice inquiry project was designed to increase the medical surgical nurses' expertise and confidence levels in caring for alcohol and drug dependent patients since no formal education is currently being conducted in the project hospital setting to assist medical surgical nurses in managing the interpersonal and clinical aspects of patients with drug or alcohol issues. The purpose of this practice inquiry project was to educate nurses through use of simulation to address the behavioral problems inherent in patients who are actively using or withdrawing from drugs and/or alcohol or who have a history of drug and/or alcohol use problems. The project objectives sought to: 1) develop an understanding of perceived confidence in caring for patients with drug and alcohol issues prior to the educational intervention among nurses, 2) to assess staff satisfaction with simulation training using standardized patients, and 3) to evaluate the effect of education through simulation on nurses' perceived confidence levels.

Review of the Literature

There is ample literature regarding the effectiveness of simulation, including studies in medical surgical, critical care, and psychiatric nursing, as well as other healthcare fields. In general, simulation is considered an effective learning tool and in some studies has been thought to have an impact on knowledge acquisition, skill performance, and confidence levels (Cant & Cooper, 2009; Laschinger, et al., 2008; Norman, 2012; Weaver, 2011). Other potential benefits of simulation include the ability to practice skills in a controlled environment and to experience situations not frequently encountered in a clinical setting (Brown, 2008; Kameg, Mitchell, Clochesy, Howard, & Suresky, 2009; Zavertrnik, Huff, & Munro, 2010).

Similarly, benefits may exist in the mental health setting where simulation is also considered effective as a training technique for nurses to practice and improve communication skills (Bartlett & Butson, 2014; Brown, 2008). Because students or inexperienced nurses may be uncomfortable while interacting with psychiatric patients, simulation offers an opportunity to practice therapeutic communication and de-escalation techniques in a non-threatening environment and may decrease clinician anxiety levels before a real clinical encounter (Kameg et al., 2009). A high fidelity simulator that has voice function may be used to conduct scenarios, allowing the student to practice therapeutic communication (Sleeper & Thompson, 2008); however, it may not be as effective in psychiatric nursing because it does not allow the “patient” to respond to verbal or non-verbal cues of the student (Brown, 2008), nor does it display uncontrolled, impulsive behaviors or demonstrate mood or affect (Bartlett & Butson, 2014).

To have the most realistic and interactive scenario, trained actors have been used to play the part of patients. Actors may be beneficial, especially in mental health nursing, as they can be trained to not only respond based on the interaction with the student, but also to display non-

verbal cues for the student to assess. Students have reported that the use of actors makes the simulation authentic and engaging (Bartlett & Butson, 2014). Similar to other high fidelity simulations, the use of actors in simulated patient encounters allows the student to practice and perfect therapeutic communication techniques (Becker, Rose, Berg, Park, & Shatzer, 2006). During the simulation, students may stop and discuss strategies or can be given the opportunity to start over trying a different technique. This has been deemed useful in improving communication between clinicians and patients (Becker et al., 2006). Using simulation exercises involving standardized patients to assist nurses in building confidence while caring for patients with drug and alcohol issues is a unique endeavor.

Method

Design

The pilot project was a mixed methods pre-test and posttest design to assess whether simulation using standardized patients was effective in improving confidence among nurses in caring for patients with drug and alcohol use issues while being treated on medical/ surgical units. The project was approved by the University of Kentucky Institutional Review Board.

Setting

UK HealthCare Good Samaritan Hospital is a 176 operational bed community hospital within the UK HealthCare System. The hospital provides care to both medical and surgical patients and houses the system's adult and adolescent behavioral health units. The hospital cares for many patients with drug, alcohol, psychiatric, and behavioral issues on its medical/surgical units.

Sample

Initially, only registered nurses from the medical surgical unit who provided care to the highest percentage of patients with drug, alcohol, and mental health diagnoses were invited to participate in the pilot project. Potential participants were identified through the established position directory which is a listing of nursing positions and occupants of each position catalogued by nursing unit. A recruitment letter was sent electronically to the nurses and a flyer was displayed in the nursing stations of each of the recruitment units. Although several nurses initially agreed to participate, most withdrew due to scheduling or personal issues therefore, there was not a large enough sample to complete the project. Registered nurses from the hospital's five medical/surgical units were then recruited to participate in this project. Nurses were included when they were employed, regardless of employment status (full time, or part time) on the medical/ surgical units of the hospital including the 4th floor, 4 west, 5th floor, 6th floor, and 7th floor. Nurses were excluded when they had submitted: 1) a formal resignation or 2) a formal intent to transfer to a unit outside of the hospital. Ultimately, ten registered nurses from four of the five medical surgical units voluntarily agreed to participate in the pilot project. The nurses who volunteered to participate in the pilot project completed the formal informed consent process.

The mean age of participants was 45 years. The project population was primarily female (90%) with an average of 12.95 years of experience as medical/surgical nurses. The majority of the nurses had a bachelor's degree (60%), while 30% had an associate's degree, and one person was educationally prepared at the master's level. The participants' clinical backgrounds were similar with eight of ten reporting their primary experience as being medical/surgical nursing practice.

Procedure

The pilot project included a pre-survey to assess nurses' attitudes and knowledge regarding caring for patients with drug and alcohol problems. The intervention was an educational session in the form of participation in a simulation exercise and debriefing session. Three different scenarios were developed by the principal investigator and an advanced practice psychiatric nursing clinical expert and acted out by professional actors provided through the University of Kentucky College of Medicine Learning Center Standardized Patient Program (Table 3.1). The scenarios included situations frequently encountered on the medical surgical unit such as identification and management of withdrawal, patient requests for high and frequent doses of pain medication, patient non-compliance with treatment plan, or dealing with difficult visitors; however, none of the scenarios included actual patient events. The actors were prepared for the scenarios by the principal investigator and the clinical expert to ensure their understanding of the intent of the scenarios. The simulation was dynamic in that the patient actors modified their behaviors and responses based upon the interaction with the nurses. Following the first simulation exercise, the nurses participated in a debriefing session led by the principal investigator. During the debriefing, the psychiatric clinical expert provided feedback and the participants discussed their experience. The patient actors also provided feedback to the nurse regarding their perception of the simulation experience. The nurse was then given the opportunity to complete the simulation again following the same scenario. Approximately a week after completing the simulation exercise, the nurses completed the post survey.

Measures

Nurses were surveyed regarding attitudes, knowledge, and perceived competence related to caring for patients with drug and alcohol problems using a survey adapted from the Drug and

Drug Problems Perceptions Questionnaire (DDPPQ, Watson, Maclaren, & Kerr, 2006). The Drug and Drug Problems Perceptions Questionnaire is a valid and reliable tool to measure attitudes of people working with drug users which also measures the degree to which nurses feel prepared with an adequate knowledge base to care for patients with drug and alcohol problems (Nilsen, Stone, & Burlison, 2013; Watson, Maclaren, & Kerr, 2006). Formal consent to use the tool was not obtained because multiple attempts to reach the authors were unsuccessful. The survey was administered before and approximately one week after participation in the simulation exercise. Survey response options included a 1-7 Likert scale, where 1 indicated strong agreement with the statement and 7 indicated strong disagreement with the statement. A semi structured questionnaire was included to assess nurse satisfaction with simulation as an education technique as well as to elicit overall feedback regarding the experience.

Analysis

Data collected included demographic information, pre and post measures, and staff satisfaction with the simulation exercise. Demographic information included age, gender, highest nursing degree, and years and type of nursing experience. Means and frequencies were used to describe the nurse characteristics (Table 3.2). The baseline information was examined to determine if there are any differences, and to what degree, between perceived confidence among the demographic variables. Bivariate analyses, including t tests, Pearson's product-moment correlation, and Spearman's rank order correlation, were completed to determine if differences exist between demographic variables and the survey questions and to determine if differences exist in survey responses between the pre and post educational session. Data were analyzed using the statistical software program, Version 22 (SPSS, Inc.).

Field notes from sessions were recorded. The simulation exercise and debriefing sessions were audio recorded and the recordings were transcribed verbatim. The transcriptions were reviewed in full twice and the comments and feedback were organized into themes.

Results

Quantitative

There was a statistically significant correlation between age and working knowledge of drugs (or alcohol) and drug related problems. There was a strong, negative correlation, $r = -.65$, $n=10$, $p=.04$; as age increased, the nurse more strongly agreed with the statement “I feel I have a working knowledge of drugs (or alcohol) and drug related problems”. The relationship between level of nursing education, as measured by RN degree, and the measured variables was investigated using Spearman rank order correlation. There was a strong negative correlation between RN degree and agreement with the statement “I feel I have the right to ask patients questions about their drug use (or alcohol) when necessary”, $r = -.67$, $n= 10$, $p=.03$. There was a strong negative correlation between RN degree and the statement “If I felt the need when working with drug (or alcohol) users, I could easily find someone with whom I could discuss any personal difficulties that I might encounter”, $r = -.71$, $n=10$, $p=.02$. The relationship between years of experience and the variables was investigated using Pearson product-moment correlation coefficient. There was a statistically significant correlation in two areas, including years of experience and the statement “I feel that there is little I can do to help drug (or alcohol) users” demonstrated a negative correlation, $r = -.71$, $n=10$, $p=.02$. In addition, there was a negative correlation between years of experience and the statement “at times I feel I am no good at all with drug (or alcohol) users”, $r = -.87$, $n=10$, $p<.001$.

The male scored higher than females in the baseline data on all questions except “I feel I can appropriately advise my patients about drug (or alcohol) and their effects”. In this question, the male score was 3.0 compared to 3.44 for females, indicating stronger agreement for the male participant. Given the sample size limitations, it is impossible to determine if this difference is due to individual participant differences as opposed to differences based on gender.

An independent samples t-test was conducted to evaluate the impact of the intervention on nurses’ confidence and attitude in caring for patients with drug and alcohol problems (Table 3.3). There was a statistically significant difference in scores between baseline for “I feel I can appropriately advise my patients about drugs (or alcohol) and their effects”, $M=3.40$, $SD=1.43$ and post intervention $M=2.20$, $SD=.63$; $t=2.43$, $p=.03$. The difference in means was 1.20. There was a statistically significant difference in scores for “I feel I have the right to ask patients questions about their drug (or alcohol) use when necessary” between baseline $M=2.40$, $SD=.17$ and post intervention $M=1.40$, $SD=.52$; $t=2.47$, $p=.02$, and the difference in means is 1.00.

The nurses were also asked to provide feedback regarding the simulation exercise with response recorded on a Likert scale. The responses, overall, support use of simulation as a learning exercise to improve nurses’ confidence in caring for patients with drug and alcohol problems (Figure 3.1).

Qualitative

The transcripts from the debriefing sessions were hand-coded for identification of themes. The data suggested that the nurses found the simulation exercise to be realistic and meaningful. Three themes were identified from the nurses’, actors’, and clinical expert’s perspective which were consistent across groups (Table 3.4). The debriefing session included feedback from both the clinical expert and the standardized patient actor. The feedback was

positive as well as constructive regarding opportunities to manage situations or communicate differently. The actors provided a unique chance for each nurse to receive feedback as to how his or her communication style, both verbal and non-verbal, made the “patient” feel and how the interaction contributed to the outcome of the scenario. Overall, the feedback from the clinical expert was positive with the most frequent comments being to pay more attention to non-verbal communication and to ensure personal safety.

Participants were also asked to provide feedback regarding their satisfaction with the simulation experience. The nurses all reported a positive experience (Table 3.5)

Discussion

Nurses’ degree of agreement with the question “I feel I know enough about the psychological effects of drugs (or alcohol) to carry out my role when working with drug (or alcohol) users,” was the same on the pre and post survey. Otherwise, nurses agreed more strongly with the positively worded questions, indicating they more strongly agreed they had more knowledge and ability to care for patients with drug and alcohol problems following the simulation exercise. Nurses disagreed more strongly with the two negatively worded questions indicating that following the simulation exercise nurses felt they were better at caring for patients with drug and alcohol problems and they felt they could make a difference in this patient population. The results were statistically significant, however, in only two circumstances.

Limitations

Several limitations to this project exist and must be considered when interpreting the findings. Limiting recruitment efforts to a recruitment letter and a flyer placed in the nurses’ station and due to the principal investigator’s administrative role in the organization, recruitment may have reduced. The small sample size prevents the ability to generalize the findings to a

wider population. Additionally, only one male nurse participated in the exercise and there was little variability in the participants' clinical backgrounds; this, combined with the small sample size, may have led to the limited significance in the post intervention results.

The pre and post survey results could not be matched, limiting the ability to determine the impact of the project at the individual participant level. Finally, the project did not evaluate performance during the simulation exercise. Failure to measure performance makes it impossible to determine if knowledge gained is transferrable to clinical practice or if the exercise improved clinical competence when dealing with patients with drug and alcohol problems. While this was not the intent of the pilot project, measuring clinical performance could have made the results more relevant to clinical practice.

Implications for Practice

The qualitative results, as well as the post intervention quantitative findings support the use of simulation as a teaching and learning method for practicing nurses caring for patients with drug and alcohol issues, despite failure to reach statistical significance. Given the positive outcomes of this study, education in this manner should be considered as ongoing professional development opportunity in this clinical setting. It will be necessary to test whether the education is more beneficial as part of the onboarding or orientation process or as part of an ongoing competency development plan. However, some researchers suggest that education without role support will not be effective (Ford et al., 2008) while others suggest that organizational strategies, such as protocols, may also be necessary to improve nurse attitudes and the care of patients with drug and alcohol problems (Chu & Galang, 2013). This evidence must be considered and included when planning an overall strategy to address the issues surrounding this patient population. Education alone may not be enough to change practice and attitudes.

One area to consider for future research would be to repeat the post survey in the future to determine if long term impact of the educational exercise exists. Another example would be to design a study which would also evaluate the nurses' clinical performance to determine whether the education had impact on their practice or clinical competence. There is an opportunity to include practice areas such as the behavioral health unit or emergency department to evaluate whether nurse attitudes in these areas are similar to those in the medical surgical area and to determine if education in the form of a simulation exercise is effective. Lastly, there is an opportunity to develop a program that includes the multidisciplinary team in the simulation exercise. In doing so, the scenarios must be refined to include the team dynamics. This could create an opportunity for education of the team as well as the opportunity to practice inter-professional collaboration.

Conclusion

Caring for patients with drug and alcohol problems is a challenge particularly in the medical surgical environment where the nurses may not possess an adequate skill set needed for patient behavioral management. Development of an educational program may increase nurses' confidence and ability to care for these patients, but care must be taken to ensure that the educational program developed is effective. As supported by this project, simulation using standardized patients should be considered as an educational technique.

The qualitative findings support the use of simulation with standardized patients as a means of increasing nurses' confidence levels and skill in managing patients with drug and alcohol problems. The ability to practice therapeutic communication and de-escalation techniques was a valuable exercise according to the nurses who participated in this pilot project. In addition to nurse education, organizational elements such as protocols and behavioral

contracts may also need to be developed to provide the most effective care to patients who have drug and alcohol use problems while receiving treatment on medical/surgical units.

Table 3.1 Simulation Exercise Scenarios

Title	Learning Objectives	Case Synopsis
Uncooperative patient/behavioral contract	<p>Help staff to set limit for patients.</p> <p>Expect patient to sign behavioral contract which says he/she will not leave the unit, visitors will be limited.</p> <p>In general how to deal with a patient who is uncooperative with treatment plan</p>	<p>Patient is admitted to the hospital following valve replacement surgery due to endocarditis. Patient has been transferred to Hospital A from Hospital B after recovering from surgery. Patient is starting to feel better but now has to remain in the hospital for IV therapy. As the nurse begins to explain the behavioral contract, the patient becomes frustrated, says he wants to leave, is not staying in the hospital if he is going to be kept prisoner, and demands to call the doctor and sign out of the hospital against medical advice.</p>
Difficult visitor	<p>Learn how to separate self from the situation, not take it personally.</p> <p>Learn when to engage security if necessary to report criminal behavior or to control a situation with show-of-force.</p> <p>Learn to set boundaries with patients and visitors.</p>	<p>Patient is admitted to the hospital with an infection that requires long term antibiotics. Pt has already been in hospital for 10 days, but needs 4 more weeks of antibiotics.</p> <p>Patient has multiple visitors.</p> <p>Suspect illegal behavior such as visitor giving patient drugs or patient accompanying visitors outside and drinking alcohol while outside the hospital. Patient was gone from room for an extended period of time and returns with several visitors. Visitors are disruptive.</p>
Pain Medication	<p>Learn how to separate self from the situation.</p> <p>Be non-judgmental.</p>	<p>Patient with osteomyelitis demanding excessive pain medications.</p> <p>Pt has history of substance abuse. Nurses are concerned that patient is taking pain medications above and beyond what is prescribed for him. Reportedly on shift last night the nurse found a used syringe in the bathroom. Patient denied knowing where it came from.</p>

Table 3.2 Demographic Characteristics of Nurses (n=10)

Demographic	Mean (SD)	or n (%)
Age	45.7 (8.6)	
Years of experience	13.0 (11.1)	
Gender	Female	9 (90%)
	Male	1 (10%)
Highest nursing degree	ADN	3 (30%)
	BSN	6 (60%)
	MSN	1 (10%)
	Doctorate	0
Clinical area	Medical\surgical	8 (80%)
	Cardiac/tele	1 (10%)
	Surgical	1 (10%)

Table 3.3 Comparison of Pre and Post-test

Questions Adapted from Drug and Drug Users' Problem Perception Questionnaire	Pre Mean (SD)	Post Mean (SD)	<i>p</i>	Difference
I feel I have a working knowledge of drugs (or alcohol) and drug related problems.	2.30 (.95)	2.20 (.63)	.79	.10
I feel I know enough about the causes of drug (or alcohol) problems to carry out my role when working with drug users.	2.80 (1.32)	2.50 (.71)	.53	.30
I feel I know enough about the physical effects of drug (or alcohol) use to carry out my role when working with drug (or alcohol) users.	2.40 (.52)	2.20 (.42)	.36	.20
I feel I know enough about the psychological effects of drugs (or alcohol) to carry out my role when working with drug (or alcohol) users	2.40 (.70)	2.40 (.52)	>.99	0
I feel I know enough about the factors which put people at risk of developing drug (or alcohol) problems to carry out my role when working with drug (or alcohol) users.	2.80 (1.32)	2.40 (.70)	.41	.40
I feel I know how to counsel drug users over the long term.	4.30 (1.64)	3.10 (1.10)	.07	1.20
I feel I can appropriately advise my patients/clients about drugs (or alcohol) and their effects.	3.40 (1.43)	2.20 (.63)	.03	1.20
I feel I have the right to ask patients/clients questions about their drug use (or alcohol) when necessary.	2.40 (1.17)	1.40 (.52)	.24	1.00
If I felt the need when working with drug (or alcohol) users I could easily find someone with whom I could discuss any personal difficulties that I might encounter.	2.80 (1.14)	2.10 (.99)	.16	.70
If I felt the need when working with drug (or alcohol) users I could easily find someone who	3.10	2.00	.08	1.10

Table 3.3 continued

Questions Adapted from Drug and Drug Users' Problem Perception Questionnaire	Pre Mean (SD)	Post Mean (SD)	<i>p</i>	Difference
would help me clarify my professional responsibilities.	(1.52)	(1.05)		
If I felt the need I could easily find someone who would be able to help me formulate the best approach to a drug (or alcohol) user.	3.00 (1.25)	2.10 (1.10)	.10	.90
I feel that there is little I can do to help drug (or alcohol) users.	3.90 (1.52)	4.80 (1.62)	.22	.90
At times I feel I am no good at all with drug (or alcohol) users.	4.10 (1.66)	4.70 (1.64)	.43	.60
On the whole, I am satisfied with the way I work with drug (or alcohol) users.	3.50 (1.18)	2.90 (1.20)	.27	.60
In general, I feel I can understand drug (or alcohol) users.	3.50 (.97)	2.70 (.95)	.08	.80

Table 3.4 Themes Consistent Among Nurses, Standardized Patient Actors, and Clinical Expert

Theme	
Communication	Tone of voice (firm, consistent, not argumentative) Non-verbal Demeanor (eye contact, smile)
Relationship	Establish trust Let patient know you are there to help Use “we” Work as a team to solve problem
Safety Awareness	Crowd control Situational awareness Call security when necessary Have escape route

Table 3.5 Nurses' Feedback Regarding Simulation Experience

Did you find this experience helpful?

Do you have any thoughts about the exercise you'd like to share?

I liked it.

I didn't feel like I was being criticized. It was this is how you did and how you could do it differently.

Using an actor was more realistic.

It got me really thinking about how to handle a situation.

I might be able to facilitate better conversation or decrease a patient's anxiety with changing a few things.

I think this is helping me work through some of those issues after a recent incident.

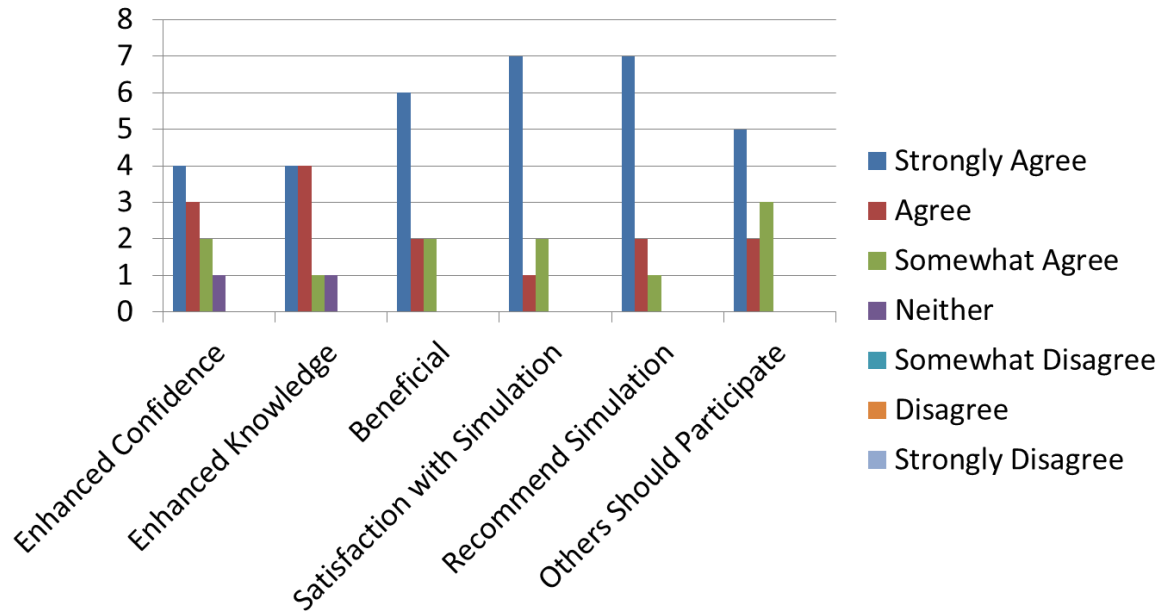


Figure 3.1 Degree of Satisfaction with Simulation Exercise

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Capstone Report Conclusion

Simulation is considered an effective learning tool and in some studies has been thought to have an impact on knowledge acquisition, skill performance, and confidence levels (Cant & Cooper, 2009; Laschinger, et al., 2008; Norman, 2012; Weaver, 2011). While much of the evidence focuses on the use of simulation with nursing students, this practice inquiry project confirmed simulation to be an effective learning strategy for practicing nurses. While the findings of the study did not reach statistical significance in many aspects, the qualitative data revealed improved confidence and nurse satisfaction with the experience. More specifically, this project supports simulation as a training technique to improve nurse confidence in caring for patients with substance abuse disorders as well as managing the challenging behaviors which often accompany the disorder. Knowledge gained through this project will be shared with nursing leadership and the substance use task force. The findings will be used to plan effective educational strategies for not only the nurses but the multidisciplinary care team managing patients with substance use disorders.

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