EDUCATION ON MENTAL HEALTH COMPETENCIES FOR REGISTERED NURSES IN THE EMERGENCY DEPARTMENT

by

Allyson Sambach

A DNP Project Submitted to the Faculty of the

COLLEGE OF NURSING

In Partial Fulfillment of the Requirements

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In the Graduate College

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GRADUATE COLLEGE

As members of the DNP Project Committee, we certify that we have read the DNP project prepared by Allyson Sambach, titled Education on Mental Health Competencies for Registered Nurses in the Emergency Department and recommend that it be accepted as fulfilling the DNP project requirement for the Degree of Doctor of Nursing Practice.

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Final approval and acceptance of this DNP project is contingent upon the candidate's submission of the final copies of the DNP project to the Graduate College.

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DEDICATION

I would like to dedicate this dissertation to my dog, Frank, my fiancé TJ, who has been the most compassionate, patient, and understanding person I have ever met, and my mother, who knows the real me. My dog Frank made everything possible on many levels and in ways I am still discovering; I will always miss him.

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ABSTRACT

Purpose: The purpose of this quality improvement project is to increase emergency department nurses' knowledge on mental health competencies; ultimately increasing and improving the care for behavioral health patients in the emergency department.

Background: Visits to the emergency department for psychiatric complaints have been steadily increasing over the years. Research exploring emergency nurses' attitudes, feelings, and comfort level to care for behavioral health patients show that nurses feel inadequately trained and unprepared. If nurses are unprepared to care for patients with mental illness, the safety and ability to provide quality nursing care, decreases. This can exacerbate patients who are already anxious or experiencing a mental health crisis.

Methods: For nurses in the emergency department, a pre and post survey method was used to collect data before and after an educational intervention. Using the domains of the Behavioral Health Care Competency survey as a guide, an educational video was constructed with voiced over PowerPoint slides and video clips. The same survey was used to measure changes in nurses perceived knowledge and confidence of behavioral health care competencies pre-and post-education

Results: Total participation was small (n=12). However, using the Wilcoxon-signed-rank to compare data, there was a statistically significant change in the total score overall ($p=0.018$, $\alpha=0.05$).

Conclusion: Data collected during this quality improvement project is congruent with previous study's outcomes. Providing focused mental health education to nurses increases their understanding and assuredness to care for psychiatric patients in the emergency department.

IMPROVING KNOWLEDGE OF MENTAL HEALTH CARE

Background Knowledge

The Emergency Department (ED) has become a place where the public goes for more than just a medical crisis; the ED is frequently used as an alternative to primary care and other non-urgent situations. The 24-hour availability of providers within the ED makes the setting an attractive option. In the United States (US) from 2006-2014, there were 137.8 million ED visits (Moore, Stocks, & Owens, 2017). Interestingly, from 2006 to 2014, visits for medical related ailments increased by 11.7%, while mental health/substance abuse-related visits increased 44.1% (Moore et al., 2017). The increase of mental health/substance abuse-related visits is noteworthy because psychiatric illnesses are estimated to be "the second leading cause of disability in both the years of potential life lost due to premature mortality and the years of productive life lost due to disability" by 2020 (Morris, Ghose, Williams, Brown, & Khan, 2018, p. 672). In Arizona, over nine years (from 2006 to 2014), mental health visits to the ED increased by 68.6%, and in just two years, from 2014 to 2016 (Figure 1) there was a 19.5% increase in ED visits for mental health reasons (Sagna, Gupta, & Torres, 2017). Due to the increasing visits to the ED for behavioral health reasons, there needs to be a greater focus on mental health competencies being incorporated into the fundamental education of healthcare workers.

Often, patients experiencing a mental health emergency will present to the ED for medical clearance and psychiatric evaluation. These emergencies can include suicidal thoughts, suicide attempts, acute psychosis, homicidal thoughts, and homicidal attempts, among other mental health emergencies. Patients may be experiencing their first mental health crises, suffering from post-traumatic stress disorder (PTSD) or trauma, and they may be frightened and

vulnerable. For staff in the ED, the fast-paced, stimulating environment of the ED does not facilitate ease of assessing and managing this patient population. Patients with mental health complaints often wait longer for assessment, treatment, and discharge planning than patients presenting with only a medical illness, as mental health problems are not viewed as true emergencies (Innes, Morphet, O'Brien, & Munro, 2014).

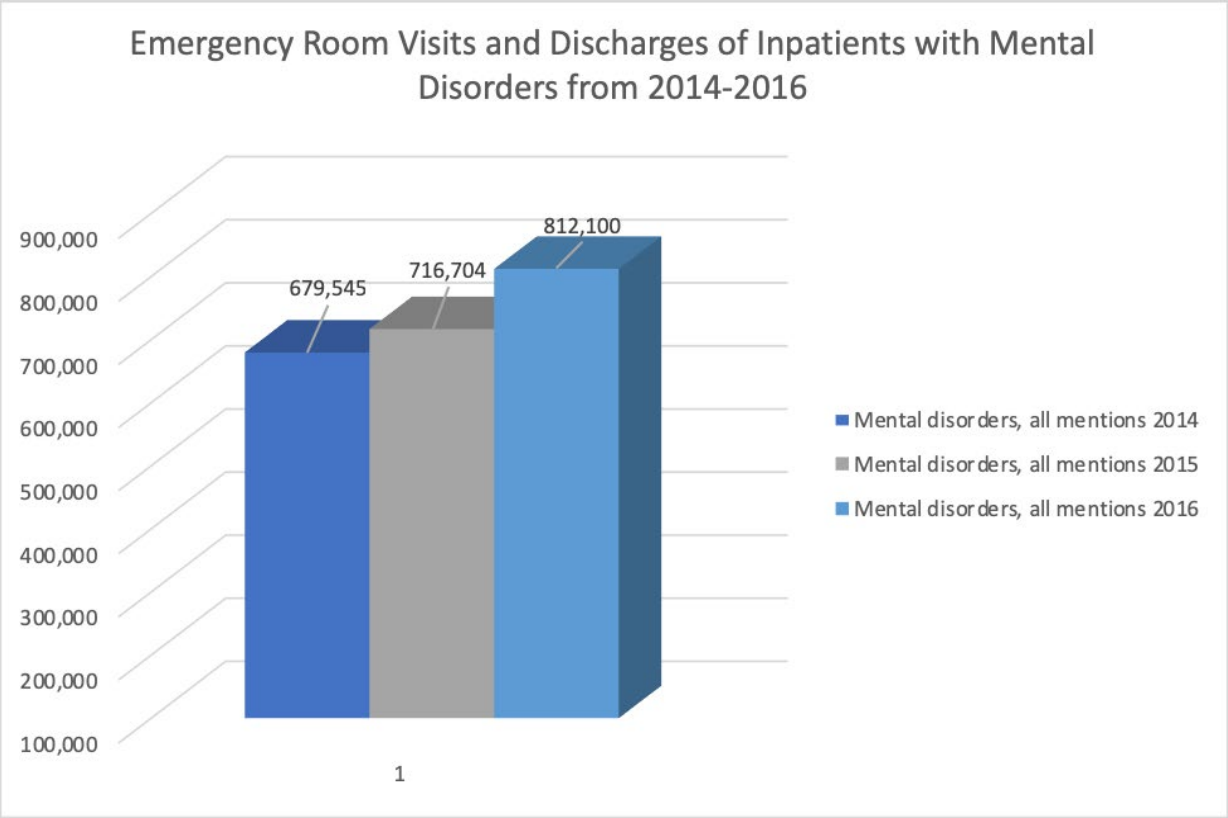


FIGURE 1. Data from Arizona Department of Health Services 2014-2016 ED visits and in-patient discharges for mental health diagnosis.

Behavioral health patients differ from patients being seen for medical emergencies. Mental health patients have expressed wanting time to talk with their nurses, build rapport and trust, and have open, honest, and clear communication (Gunasekara, Pentland, Rodgers, & Patterson, 2013). Mental health issues require particular skills and proficiencies from the ED

staff, such as therapeutic communication, psychotropic medication knowledge, and other behavioral health competencies to provide safe patient care (Winokur, Loucks, & Rutledge, 2017). Health care organizations require annual education to be completed by ED staff on handling medical emergencies and crises, yet generally speaking, no preliminary or continuing training is offered on topics that pertain to mental health. Frustration from both ED staff and mental health patients stems from the lack of healthcare professionals fundamental training, not having behavioral health specialists in the ED, available community resources, and no collaboration with specialty providers (Wolf, Perhats, & Delao, 2015).

From School to Practice

Nursing students report apprehension and trepidation in anticipation of interacting with the behavioral health patient population due to the paucity of experience in both the didactic and clinical segments of school (Martin & Chanda, 2016). There has been a reduction of lecture and required clinical hours for nursing programs' mental health education over the last six years (Loveland, 2016). Insufficient knowledge regarding mental health conditions and proficiency in assessing this patient population leads to individuals with mental health problems receiving inadequate care. One study found nursing students regard mental health nursing as one of the least desirable (Happell, & Gaskin, 2013). However, with more immersion hours and didactic work, the students did have a more positive view. This same study concluded that informed clinicians can positively influence outlooks in this area of practice (Happell, & Gaskin, 2013). There is an existing knowledge gap concerning mental health patients and ED registered nurses (RN) and providers. An emphasis on implementing mental health education to improve the care

and management of behavioral health patients in the ED will improve the throughput and safety of both patients and staff (Innes et al., 2014).

Local Problem

In the ED at a Level I trauma hospital in downtown Phoenix, Arizona, patients are initially triaged by an RN, and labeled between a Level 1 (most urgent) to Level 5 (least urgent) that correlates with the acuity of the presentation of the patient, and the anticipated resources needed based on the patient's chief complaint. The algorithm used for triaging patients is called the Emergency Severity Index (ESI) and was established by the Agency for Healthcare Quality and Research (AHRQ) (2018). In the ED, the ESI is beneficial in appropriately designating patient acuity and thus prioritizing patients who need to be seen more urgently by a physician. Most of the patients who present for psychiatric issues (e.g., altered mental status, suicidal ideation/attempt, psychosis, new behavioral issues) are triaged as a Level 2 per the ESI. The ESI guidelines only briefly reference mental health patients, and what factors would earn patients a Level 2 ESI (high priority) (Manton, 2013). However, according to the hospital's organizational policy, a physician assistant (PA) or a nurse practitioner (NP) can only see patients with ESI Levels 3, 4, or 5. This then leaves only ED physicians to care for the behavioral health patients with lower ESI levels. Although this hospital is a teaching hospital with an adult psychiatric unit, the ED physicians do not consult psychiatry for patients experiencing mental health issues; this is not due to the lack of need for consultations in the ED. Mental health patients must first have basic diagnostic exams to rule out any underlying medical causes of their mental state. Medical clearance is usually required by behavioral health facilities should patients need to go inpatient for psychiatric reasons. After any potential medical issues are ruled out, patients are then deemed

"medically cleared" and only then are they seen by a therapist via telepsychiatry. If a patient has an altered mental status, and telepsychiatry is not appropriate (e.g., lethargy, acute alcohol intoxication, severely paranoid) ED staff contact Crisis Preparation Recovery (CPR), and a therapist comes to the ED to speak to the patient in person. This can take several hours as CPR is contracted with many facilities around the metropolitan Phoenix area and are dispatched on a first-come first-serve basis.

After the patient has been evaluated, either by telepsychiatry or CPR, the recommendations from the therapist are reviewed at a centralized location that serves the organization's hospitals in Phoenix. Based on the recommended disposition by the therapist, the patient's information is sent to local behavioral health facilities to find appropriate placement. The patient's information, including insurance, must then be reviewed by the receiving facility and a provider must accept the patient. Then, a nurse from the behavioral health facility calls the ED RN to receive report on the patient, and finally transportation can be set up by ED social workers. All of these steps delay implementation of appropriate and beneficial psychiatric care. It is crucial for patients experiencing a mental health crisis to receive timely and appropriate interventions.

The American College of Emergency Physicians (2016) suggest several solutions to combat the issues that arise with psychiatric patients, especially when boarding these patients in the ED. One such solution is to increase the education to ED health care workers concerning psychiatric stabilization of patients during ED visits. Marciano et al. (2012) suggests that with education, ED physicians comfort level of treating patients with mental illness will increase, and hopefully lead to a willingness to treat. Additionally, the Emergency Nurses Association (ENA)

has published recommended guidelines in efforts to address the issues that mental health patients face in the ED. The ENA guidelines call for reinforced and strengthened mental health education in undergraduate, postgraduate, continuing education, and professional development programs, and advises utilizing a psychiatric NP, peer counselors, and having a separate area for psychiatric patients in the ED to decrease stimulation and provide privacy (Manton, 2013) The specific ENA guidelines to be implemented in the ED include staff training and increased knowledge regarding mental illness. The training can be done through online courses, staff meetings, and required annual continuing education.

Project Purpose

This purpose of this quality improvement project is to provide emergency department (ED) registered nurses (RN) at Banner University Medical Center (BUMC) in Phoenix with essential mental health knowledge needed to care for behavioral health patients in the emergency room. Providing such knowledge to ED nurses also can improve the care that mental health patients will receive, as mental health patients require RNs to be well versed in therapeutic communication, psychotropic medication knowledge, and other mental health competencies in order to provide safe and effective patient care (Winokur et al., 2017).

Stakeholders

Stakeholders are important to any project as they usually share a common interest with the organization's events and outcomes and are relied upon for project implementation and meeting objectives (Harrison & Thompson, 2014). Major stakeholders in the treatment of mental health patients presenting to an ED are the ED medical director, the ED nursing director, ED senior nursing management, RNs, attending physicians and residents, and of course, the patients.

Study Question

For ED nurses caring for patients admitted with a mental illness, does education and training on psychiatric treatment modalities in the ED increase nurses' knowledge to care for mentally ill patients?

Theoretical Framework

Novice to Expert

Patricia Benner's *Novice to Expert* theory will be used for guiding this project. Benner (2004) used the Dreyfus model of skill acquisition underpinning her research as it applied to nursing. The five levels of nursing practice, according to Benner (2004), are novice, advanced beginner, competent, proficient, and expert. Movement through the stages is fluid, and on a continuum, as nurses change specialties, or even organizations (Figure 2). A novice nurse relies on recollected information from schooling on conceptual principles and rules and seeing the parts instead of the whole; this is in contrast to an expert, who relies on lived experiences and intuition to view and guide his or her practice while seeing the whole picture with fluctuating parts and becomes engaged in the active participation of care (Stewart, 2013). Benner's (2004) theory posits that being an expert is situational, rather than a trait or talent; nurses are not experts in all situations, for example, an expert nurse working in the intensive care unit would not necessarily know anything about working in labor and delivery (Brykczynski, 2014). Benner's (2004) research has been used in sundry areas of nursing; general staff nursing, critical care nursing, community health nursing, advanced practice nursing, and even in nursing education (Brykczynski, 2014). Having clinical expertise is considered to be a complex type of knowledge that has both intricate and sophisticated moral judgments. Once a basic level of capability is

reached, learners need opportunities to experience how other colleagues at various levels handle similar situations to develop their own gamut of clinical and professional expertise (Spouse, 2013).

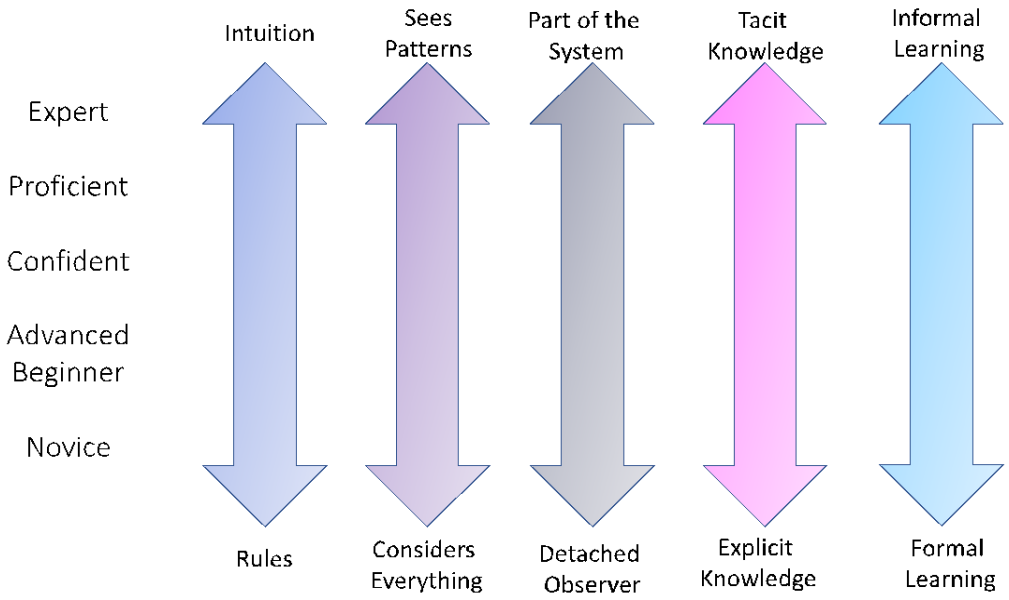


FIGURE 2. Benner's novice to expert model. (Adapted from Benner, 2004)

On the Continuum

Nurses in the ED are required to have many specialty certifications, such as advanced cardiac life support (ACLS), pediatric advanced life support (PALS), and National Institutes of Health Stroke Scale (NIHSS). RNs are also required to complete a check off for competency during orientation to administer certain medications. Additionally, as pharmaceutical companies experience drug shortages, and the government puts restrictions on providers prescribing narcotics, researchers are finding alternative medication choices to use, some of which require the completion of additional hospital-specific education. RNs must also be cognizant that

administering these alternative medications may not be in their scope of practice, per the state board of nursing. ED nurses are moving forward on the novice to expert continuum of emergency medicine. None of the additional education requirements are focused on mental health, leaving RNs at the novice level of knowledge on mental health competencies.

Patients who have mental health issues are prevalent in all specialties of nursing, yet it seems that there is a poverty of training on the intricacies of caring for patients with a psychiatric illness. Handwerker (2012) indicates that nursing is "not something that is simply done, but is rather an embodied state of being. Being a nurse requires the constant exchange of cognitive knowledge, perception, judgment and skilled ethical action" (p. 1). RNs in EDs are on the continuum of novice to expert and receive required continuing education annually, which reinforces the concepts learned in nursing school. Mental health nursing is a specialty on its own, however, and as previously stated, the number of patients frequenting the ED who are suffering from mental illnesses have been on the rise. The lack of mental health education in nursing school and continuing education programs through hospitals place many ED RNs in the novice category when it comes to caring for patients with mental health issues. The education that will be provided for this quality improvement project will enhance ED RNs' understanding and awareness of the needs of patients experiencing mental health issues, which will further the nurses' placement towards expert on the continuum.

In order for the education and knowledge to be disseminated throughout the ED to RNs, the Nursing and Midwifery Council (NMC) (2014) advised that nurses should work together as a team by respecting the abilities, expertise, and influences of their colleagues. The NMC further states that nurses must willingly share skills, knowledge, and experience and must confer and

take advice from other nurses when appropriate. Harris, Beurmann, Fagien, and Shattell (2016) indicated that utilizing a core nursing value, therapeutic communication, and being open-minded to the reality that the patient is experiencing may decrease the patient's severity of symptoms, improve patient outcomes, and lessen provider stress.

Synthesis of Evidence

RNs in the ED have reported feeling as though patients with mental health concerns in the ED are not true emergencies, especially when compared to patients with medical issues that need immediate life-saving interventions (Clarke, Usick, Sanderson, Giles-Smith, & Baker, 2014). Additionally, Plant and White (2013) indicated that nurses do not feel supported by organizational management, do not feel they have adequate resources, lack the knowledge and basic skills regarding appropriate interventions to care for psychiatric patients, and have limited time in a busy ED to devote to properly care for patients with mental illness. Yet, Okafor et al. (2015) noted that patients with mental illnesses in crises need to receive timely and appropriate care to prevent exacerbation of symptoms. However, psychiatric patients who utilize the ED may not be seen in a timely manner. Patient perceptions of their care and treatment are important. Harris et al. (2016) gained patient perspectives concerning ED visits for mental health issues. From their interviews, the researchers concluded that the ED environment can exacerbate patients' distress. The researchers learned there is a need for enhanced RN-to-patient communication, and that patients would like holistic consideration from providers when assessing, evaluating, and disposition planning. Regrettably, Marchand, Palis, and Oviedo-Joekes, (2016) found a positive correlation between patients diagnosed with a mental disorder and perceived prejudice and discrimination from healthcare workers.

Specifiers

To inform this study, literature searches were conducted using PubMed and CINAHL Plus with full text. Search terms included: psychiatric education behavioral health patients AND (emergency department or emergency room) AND (healthcare professionals or healthcare workers or healthcare providers or physician or nurse or doctor). Searches were limited to only include articles with full text, published in the past 16 years, and peer reviewed. Options to select major subjects included: mental disorders, patient care, clinical competence, emergency patients, attitude of health personnel, nurse attitudes, physicians, emergency, emergency medicine, emergency nursing, emergency care, emergency service; and utilization of SmartText Searching. This search returned 143 unique articles. Google Scholar was also used with the terms "emergency department" and "mental illness" and "nurse" and "attitudes" or "knowledge" "education" -children -drugs, 2015-now. This returned 310 results. Both searches required the articles to be in English.

To be included in the literature review, the overarching theme of each article had to be about mental health patients, nursing, providers, and the ability or comfort level or knowledge to care for patients in the ED. Articles were evaluated to determine if the research setting was an ED, if the authors of each article referred to patients with mental illness, perceived competence of ED staff and/or knowledge regarding mental illness, RNs and physicians, and education about mental illness. Articles were rejected if they were about pediatric patients, any other specialty in healthcare and not ED, psychiatric nurses working in the ED, patients with comorbid medical/behavioral issues, patients with substance abuse, or patients specifically with self-

harming behaviors. Thirteen articles met the inclusion criteria for this project (Appendix A).

Nursing Care of Mental Health Patients

RNs have reported feeling inadequately educated and lacking knowledge, skills, and expertise in providing apposite care and treatment to behavioral health patients who present to the ED (Innes et al., 2014; Plant & White, 2013; Winokur et al., 2017; Wolf et al., 2015). Increasing RNs' education and professional development improved their confidence levels and care they provided to psychiatric patients (Manton, 2013). The ENA (Manton, 2013) recommended guidelines for mental health content education in undergraduate, postgraduate, continuing education, and professional development programs.

Difficulties have been reported in providing patients in the ED with mental illness quality care. Carlson and Hall (2014) conducted research with various healthcare disciplines to identify barriers in treating mental health patients and the use of restraints. Such barriers included being prideful, jumping the gun, and not understanding mental illness. Healthcare staff indicated they were burnt out, lacked patience, had little or no confidence, or were fearful. These feelings led to staff behaviors such as "rigidly enforcing rules, exhibiting intolerance, disrespecting patients, or insisting on maintaining control" (p. 4). Implementation of a psychiatric fast track service using an integrated emergency care model with an evidence-based approach was piloted in an ED in Georgia (Okafor et al, 2015). This pilot program included having a psychiatrist on call and a licensed clinical social worker (LCSW) in the ED. By having these mental health experts available, overall wait times for mental health patients decreased and throughput increased in the ED. Moreover, an additional benefit reported was a statistically significant reduction in the use of restraints (Okafor et al, 2015). Wright et al. (2003) concluded that relationships exist between

ED nurses' perceptions of their work environment, and their dispositions towards behavioral health patients and the care they provide to these patients. Several studies emphasized ED staff do not feel well equipped, have enough management support, or enough knowledge/education to provide care to psychiatric patients in the ED (Dombagolla, Kant, Lai, Hendarto, & Taylor, 2019; Innes, et al., 2014; Marynowski-Traczyk & Broadbent, 2011; Plant & White, 2013). The lack of knowledge, skills, and expertise in providing apposite care and treatment to behavioral health patients who present to the ED is not only reported by RNs, but by physicians as well. Zun (2012) found that ED physicians receive little training on behavioral health emergencies. In a survey that included both ED physicians and RNs, knowledge deficits most frequently mentioned comprised risk assessment, triaging mental health patients, legal responsibilities and concerns, chemical sedation medications, communication and interaction, and conducting mental status assessments (Sivakumar, Weiland, Gerdtz, Knott, & Jelinek, 2011). The education provided to ED nurses will encourage and support advocating for mentally ill patients by sharing learned knowledge with physicians.

Limitations

This search found 143 and 310 articles, some of which overlapped, yet only 13 met inclusion criteria (under 10% and 5%, respectively). Based on these search results alone, there seems to be a general dearth of research in this particular area. Since mental health visits to the ED are increasing, the paucity of attention to this is problematic. The reviewed literature shows a need for increased awareness and understanding regarding the care and treatment of the mentally ill by healthcare professionals in the ED. Succinct and frequent communication and a compassionate attitude have been discussed (Harris et al., 2016) as ways to decrease mental

health patients' stress and agitation. Sample sizes included in the studies were small, making it harder to generalize study results across EDs in differing demographic regions. More research is needed to include what elements are most important for furthering ED staff education and increasing RN and physician comfort level.

METHODS

Project Design

This quality improvement project evaluated the significance of a focused educational intervention on psychiatric competencies for RNs in the ED. Information was collected via online survey. The survey assesses participants knowledge and confidence of behavioral health care competencies (BHCC). Testing of the BHCC substantiates the reliability and validity of the survey as a measure of hospital RNs proficiency to care for patients with mental health issues (Rutledge et al., 2012). The educational intervention was based off the BHCC categories; assessment, practice/intervention/recommendation of psychotropics, and resource adequacy. Immediately succeeding the completion of the first survey, a link to the education populated. The education included video clips and narrative PowerPoint slides put together to form a cohesive audiovisual learning module. The outline for the educational video is listed in Appendix B. At the end of the education, another link was provided to the post-survey. Measuring RNs knowledge with a pre- and post-test determines if the educational intervention significantly affected participants behavioral health knowledge.

Setting

This QI project was available to Banner University Medical Center Phoenix ED RNs. The educational intervention was provided utilizing an online platform for participants to do at

their convenience. Allowing participants to complete the survey at their leisure can increase completion results. Conversely, allowing participants to complete the survey and education unsupervised is a limitation, as their full attention and participation cannot be verified.

Participants and Recruitment

Participants in this study were ED RNs. Any length of experience or time in the ED was acceptable, but participants had to currently be working in the ED. There were no exclusions based on age, gender, or ethnicity. The ED nursing director sent an email to all eligible staff notifying them of the project. The email contained an explanation of the project, and a link to the first survey. The goal was to have 30 participants. Permission was obtained from the organization, as well as the emergency department (Appendix C, D).

Data Collection

The data collection period was 19 days, from mid-October until the first week of November. An email was sent out by the ED director informing RNs of the project and included a link to the pre-education survey. The survey was administered electronically via Qualtrics. Upon completion of the first survey, participants were automatically taken to the educational video, which was posted using YouTube as a platform. The link to the post survey was in the description box of the video, and participants were notified to use the link to be taken to the post survey. In compliance with HIPAA, no participant information was collected. Participants chose a unique identifier, that was a combination of letters and numbers, to match their pre-/post-educational intervention surveys only. Participants were informed of their confidentiality in the project disclaimer contained within the recruitment email. Additionally, demographic data was

collected during the first survey (Appendix G), and participants were told that involvement in the quality improvement project is voluntary and that they may withdraw at any time.

Instrument

RNs filled out the Behavioral Health Care Competency (BHCC) survey (Rutledge, Wickman, Drake, Winokur, & Loucks, 2012) via Qualtrics both before and after the educational intervention. This survey uses a five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. The main categories of the survey include questions related to assessment, practice/intervention competency, recommendation of psychotropics, and resource adequacy. Permission to use the survey was obtained from one of the creators, Dana Rutledge PhD, RN (see Appendix H). The survey questions are provided in Appendix I. The post-survey was done at any time within one week following the education, after which the survey closed. The ED director sent out an email during the second week to remind ED RNs about the project. As previously stated, testing of the BHCC substantiated the reliability and validity of the survey as a measure of hospital RNs perceived proficiency to care for patients with mental health issues (Rutledge et al., 2012). The strengths of the study used to validate the BHCC survey included a large sample size (n=844) from three unique hospitals with a variety of nurses from different specialty units. The researchers' team of specialists comprised content experts (a certified psychiatric-mental health nurse, and a nurse certified in emergency nursing, expertise in mental health nursing, and who was also a clinical educator for Behavioral Health Service), and three nurse researchers with methodology expertise. During the preliminary data analysis, seven items did not perform well and were subsequently excluded from the final survey. The items removed included four negatively worded items and three that were related to restraints. From the data

gathered, the researchers concluded strong construct validity, internal consistency, and reliability estimates. Cronbach's alpha coefficient estimates indicated internal consistency that was sufficient for a newly developed survey tool. Among nurses with and without any mental health experience and nurses that had training in de-escalation and assaultive behavior and those that did not, there were statistically significant differences in all mean subscale scores which supports the BHCC's capability to discern between the group's perceptions of their competency (Rutledge et al., 2012).

Data Analysis

To determine if the educational intervention increased the knowledge of RNs in the ED, the data were analyzed with Stata. The data were compiled and merged for use in Stata with help from Dr. Janet Rothers of the University of Arizona. Originally, a paired t-test was chosen as the statistical test to measure change before and after the educational intervention. However, since participation was less than n=30, a Wilcoxon signed rank test was used. The Wilcoxon signed rank test is used to analyze change in the same subjects at different time points. The Wilcoxon signed rank test allows researchers to investigate two related groups of measurements for variance; to compare the impact of an intervention (McDonald, 2014). Therefore, this test was the most appropriate in determining if there was a statistically significant difference between nurses' perceived knowledge of mental health competencies before and after the educational intervention. There are four main domains in the BHCC survey; assessment, competency, psychotropic knowledge, and resource knowledge. The totals of these domains were compared pre-and post-education, along with the total sum of all domains in order to answer the study question and determine if the educational module increased RNs knowledge and confidence.

Ethical Considerations

This project is a quality improvement (QI) project providing education to healthcare professionals. While no research is being conducted for this QI project, ethical considerations are still important. Approval from the University of Arizona's Internal Review Board (IRB) was obtained (Appendix E) prior to project implementation, as well as approval from Banner University Medical Center's Evidence Based Practice Committee, and non-research data use committee (Appendix F). Participants were informed that their participation was voluntary (Appendix J), and they may withdraw at any time. Participants acknowledged this via Qualtrics before starting the preliminary survey. All participants taking part in this QI project were treated fairly. All data analyzed was aggregated and did not include potentially identifying information. However, as an employee of the department where the QI project is taking place, there was potential that participants identity may be revealed. There were no identified risks to participants or patients.

RESULTS

Participant Demographics

In the ED, 96 RNs were sent the email explaining the project and survey. 27 participants took the pre-education survey. Of those 27, 12 continued to complete the education and post-survey; matched by the unique ID they were asked to create. The total number of matched pre-/post-surveys that could be analyzed was 12 (n=12). Of the 12 participants, 83% were female between the ages of 27-32, or older than 45. A majority (58%) had their bachelor's in nursing and had been a nurse for 4-9 years (41.67%), with 50% having less than two years' experience in

the ED. Additionally, 50% said they had never worked in mental health, and 58% said they had friends or family with mental health issues (Table 1).

TABLE 1. *Demographic data.*

Demographic		Count (%)
Age	21-26	0
	27-32	41.67%
	33-38	0
	39-44	0
	45+	41.67%
Gender	Female	83.33%
	Male	16.67%
RN Education	Diploma	0
	Associates	8.33%
	Bachelors	58.33%
	Graduate	33.33%
Years as RN	0-3	33.33%
	4-9	41.67%
	10+	25%
Years Working in ER	0-2	50%
	3-5	25%
	6-8	8.33%
	8+	16.67%
Experience in Mental Health		
	Yes, as RN	33.33%
	Yes, as other	16.67%
	No	50%
Friends/Family with Mental Illness		
	Yes	58.33%
	No	41.67%

Data Outcome

The goal of this QI project was to answer the study question "For ED nurses caring for patients admitted with a mental illness, does education and training on psychiatric treatment modalities in the ED increase nurses' knowledge to care for mentally ill patients?" Increasing knowledge and confidence levels of the RNs positively impacts the care that mental health

patients in the ED will receive (Winokur et al., 2017). A list of all survey questions with pre and post totals can be found in Table 1.

TABLE 1. *Sum of all participants' totals for individual questions*.

	Pre-Education	**Post-Education**
Assessment:	Total score for each question	Total score for each question
I can assess patients for potential psychiatric problems.	43	49
I can identify signs and symptoms of common psychiatric conditions (e.g. depression, schizophrenia, bipolar disorder).	44	47
I can identify common neuroleptic, tranquilizers, and anti-depressant medications used with psychiatric patients	45	53
I am able to assess patients for risk of suicide (suicidality)	48	51
I can recognize behaviours that indicate a patient may have alcohol or drug abuse problems	49	53
I can recognize signs and symptoms of alcohol withdrawal	53	50
I can recognize signs and symptoms of drug withdrawal	49	47
I can distinguish between dementia and delirium	43	51
I can recognize the warning sings in patients whose behavior may escalate to aggression or dangerous behaviours	49	51
Practice/Intervention Competency:	Total score for each question	Total score for each question
I can initiate appropriate nursing interventions for common psychiatric issues such as depression, bipolar disorder, and psychosis	43	45
I can effectively interact with patients who have mental issue problems	43	47
I am able to maintain a safe environment for patients on my unit who have a psychiatric condition	48	51
I can effectively manage conflicts caused by patients who have mental problems	40	46
I can effectively intervene with a patient having hallucinations	39	47

TABLE 1 – *Continued*

Practice/Intervention Competency:	Total score for each question	Total score for each question
I am able to use de-escalation techniques and crisis communication to avert aggressive behaviours	43	46
I plan for more time to take care of patients with psychiatric issues compared with my other patients	39	47
I am able to maintain a therapeutic relationship with most patients on my unit who have psychiatric issues	45	49
Recommendation of Psychotropics:	Total score for each question	Total score for each question
I am confident that I can recommend use of psychotropic drugs to physicians for appropriate patients	28	43
I recommend psychotropic drugs to physicians for psychiatric patients	25	39
Resource Adequacy:	Total score for each question	Total score for each question
I know when to ask for outside help (e.g. physician, psychiatric nurse, other) for a patient with psychiatric issues or dangerous behaviours	53	55
I call for outside resources (e.g. physician, psychiatric nurse, other) when I recognize a patient's behaviours are escalating beyond my capabilities	54	55
I am confident that help is available to me when I need assistance with patients who have co-morbid behavioural or psychiatric issues	45	49
Hospital resources are available to me when I need assistance with behavioural health, or psychiatric issues, or substance abuse issues	42	51

The total sum of all participants pre and post scores for each domain can be found in Table 3. The total differences in individual scores pre- and post- education are compared and presented (Figure 3). There were two outliers among participants that had a decrease in total score post-education. Otherwise, nine participants had an increase in score, and one participant scored the same both pre and post education.

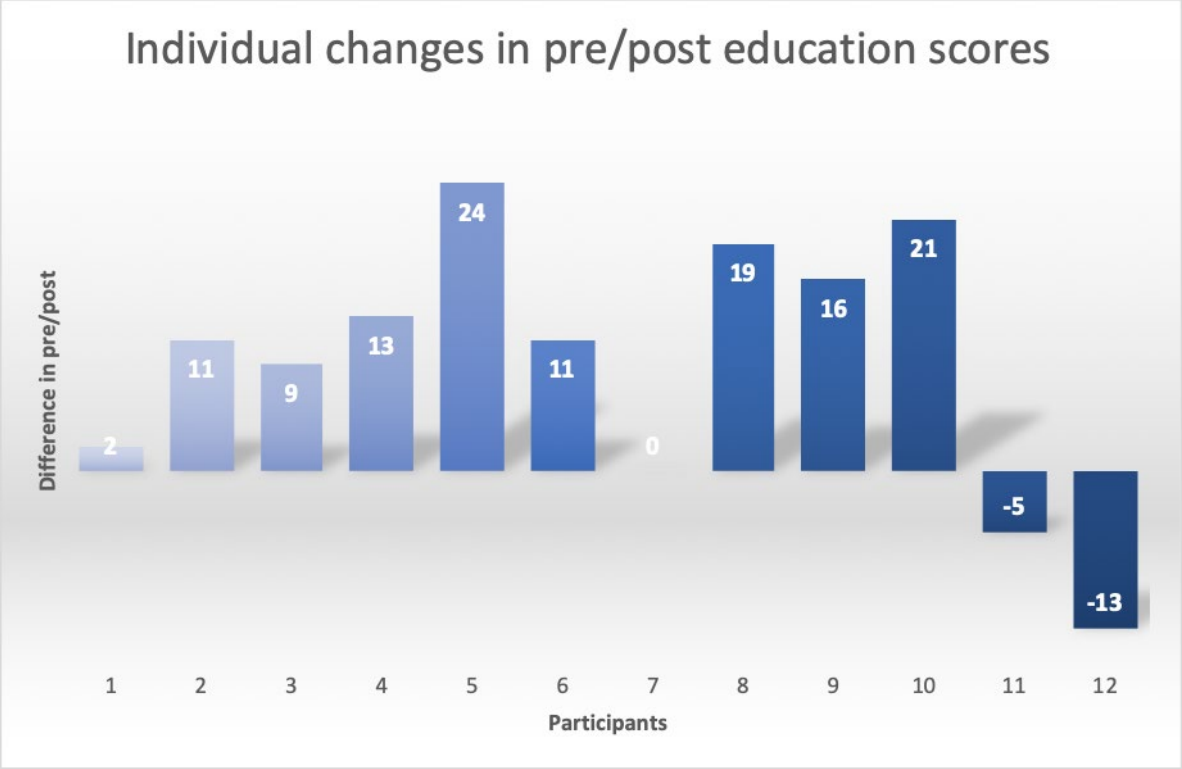


FIGURE 3. Individual changes in total score pre -and post-education.

The results of the Wilcoxon analysis (Table 3) indicated that there were statistically significant increases in RNs overall perceived knowledge of mental health competencies after viewing the educational video (pre-test total median=168, mean=168.3, post-test total median=189, mean=187, Z=-2.346, p=0.018, Cl 95%, α=0.05). Additionally, each of the domains had in increase in post-test scores, although not all were found to be statistically significant; Assessment (median: pre=37.5, post=38, p=0.053), Competency (median: pre=27.5, post=32, p=0.049), Psychotropics (median: pre=4.5, post=8, p=0.012), Resources (median: pre=16.2, post=17.5, p=0.151).

TABLE 3. *Comparison of domain totals and total score for pre- and post-survey responses.*

	Pre-Test			Post-Test		
Domain	***Median (Min, Max)***	***Mean***		***Median (Min, Max)***	***Mean***	***p-value****
Assessment	37.5 (21, 43)	35.3		38 (29, 45)	37.7	0.053
Competency	27.5 (19, 39)	28.3		32 (20, 40)	31.5	0.049
Psychotropics	4.5 (2 ,7)	4.4		8 (2, 10)	6.83	0.012
Resources	16.2 (11, 20)	16.2		17.5 (13, 20)	17.5	0.151
Total Score	168 (124, 216)	168.3		189 (134, 226)	187	0.018

*Assessed by Wilcoxon signed-rank test

DISCUSSION

As early as nursing school, studies have shown that RN students do not feel comfortable, or proficient with psychiatric competencies (Martin & Chanda, 2016). This is problematic on many levels. Mental health nursing is present in all areas of nursing care, unlike other nursing specialties. Fortunately, reports have indicated that by increasing RNs' education and professional development, their confidence levels and ability to provide quality care to psychiatric patients increases (Manton, 2013).

Interpretation

In line with Benner's Novice to Expert theory, with education concerning mental health, ED RN's improved their overall knowledge of mental health competencies. As previously stated, RNs in the ED are required to have many certifications dealing with medical emergencies (e.g. Advanced Cardiac Life Support (ACLS), Pediatric Advanced Life Support (PALS), National Institutes of Health Stroke Scale (NIHSS), to name a few). None of the current required ED competencies or certifications provide training or education regarding mental health proficiencies. From the results of this QI project, the sum of the domains overall indicated a statistically significant improvement in the knowledge of behavioral health competencies

($p=0.018$, Cl 95%, $\alpha=0.05$). RNs in the ED are on the continuum of learning as they advance from novice to expert in their emergency medicine education. This QI project indicates that ED RNs can advance on the continuum in mental health competencies as well, by providing education that is focused on mental health nursing in the ED. Moreover, the continuing education increases the quality of care that behavioral patients in the ED receive (Okafor et al., 2015).

The variations in p-values among domains have several potential explanations. The statistically meaningful results in the competency and psychotropic domains can possibly be attributed to the focus of the educational intervention. Having worked for two years in the ED setting that was used for this project, prior knowledge of the ED RN's deficiencies in mental health competencies guided the focus of the video. Within the psychotropic domain, there were only two questions; both of which were emphatically discussed in the video (Q18 $z = -2.590$, $p=0.0096$, Q19 $z = -2.256$, $p=0.0241$ *using Wilcoxon signed-rank). As far as the competency domain, a substantial amount of time during the video was spent highlighting how to manage conflicts with mental health patients, and why making extra time to spend with these patients is beneficial on multiple levels.

ED RN's are skilled at quickly assessing and triaging patients, constantly reprioritizing levels of importance in patient care. Of the nine questions asked in the assessment domain, seven of them asked about assessment of patients with suicidal ideation, alcohol intoxication, drugs, and withdrawal; ED RN's assess these types of patients frequently. Therefore, the pre/post scores for these questions had no meaningful change; also, the topics of those seven questions were not addressed in the educational video. Amongst the nine questions asked in the assessment domain, only two had a significant pre/post score. These questions were:

1. I can identify common neuroleptic, tranquilizers, and anti-depressant medications used with psychiatric patients.
2. I can distinguish between dementia and delirium.

Both of these questions had a statistically significant increase in score ($z = -1.979$, $p= 0.0478$; $z = -2.423$, $p = 0.0154$, respectively), calculated using Wilcoxon signed rank. Again, these two survey items were addressed specifically in the education, as they are less commonly seen in the ED.

Of the total participants (n=12), two had total score decreases from pre to post-survey. A possible explanation for this is response-shift bias. Response shift bias is a theory that posits there have been changes in one's internal standards of measurement (Howard, 1980). Participants initial frame of reference used to measure themselves on the pre-test has changed. Howard (1980), who was one of the original researchers to explore this theory, found that participants were likely to assess their knowledge/attitudes/skills more accurately after the educational intervention, and overestimated their knowledge/attitudes/skills on the pre-survey prior to the education. This only became evident after the educational intervention and makes the pretest-posttest comparison invalid (Howard, 1980). Instead of using pre/post methods, Norman (2003) suggests a retrospective method; "retrospective judgment derives from additional information which was, by definition, not available at the time of the initial assessment, hence the retrospective judgment is more valid" (p. 242). This design approach collects pre-test data in retrospect and is known as the 'then-test' (Sprangers & Schwartz, 1999). While there are methods to control for response-shift bias this QI project was not set up to do so, moreover, the sample size (n=12) cannot be inferred to a larger population. One method to control for this bias

in subsequent projects with educational interventions is to include asking participants in the post-survey if the educational intervention made them recognize that they knew less about 'X' than originally thought. Additionally, measuring concepts objectively in contrast of self-reporting would be helpful to control for response-shift bias.

Over the years, visits to the ED for mental health issues have been steadily increasing. In congruence with previous studies, RNs feel inadequate in their ability to properly address psychiatric conditions. The survey used to collect data for this project had been previously confirmed for reliability and validity. The statistically significant improvement in overall score on the BHCC survey suggests mental health proficiencies need to be incorporated in the continuing education of ED RN's. RNs must be competent and knowledgeable to care for patients in a mental health crisis. Educating RNs allows them the confidence to provide safe, quality care.

Strengths

This QI project utilized an online platform to distribute the survey, provide education, and collect data, which was cost effective (zero out of pocket costs), and relatively easy. The anonymity of the online surveys and data collection allowed participants to be sincere in their responses. Participants were able to complete the surveys and education at their leisure, and not be held to a scheduled time. Additionally, using a survey that was validated added to the reliability of the data analysis.

Limitations

This quality improvement project had several limitations. Due to hospital specific restructuring of the flow of the ED, as well as organization-wide reformation of leadership,

recruitment of participants by charge nurses was not as robust, nor was it a priority, as originally discussed with previous leadership. In addition to the small sample size (n=12), the attrition rate was 53.5%, where 27 participants completed the first survey, and only 12 of those 27 completed the education and post-survey. Many factors potentially contributed to this high attrition rate. Since the RNs work email was used to distribute the survey, completing the project on computers at work was less than ideal. Since the survey and educational video were compatible to complete on smart phones, future projects could utilize text messaging with an abridged version of the disclosure and the link to the pre-survey. The full disclosure could be sent via email, or an additional link in the text message for participants to read in its entirety. Initially, the educational video was to be approximately ten minutes. However, due to the variety of different domains, and the information needing to be covered, the educational video was almost twenty minutes long, which could have discouraged some participants. Future lengthy educational interventions could be broken down into smaller 5- to 10-minute increments over several weeks to encourage participation. Furthermore, as an employee of the ED where this project was implemented, RNs could have felt obligated to participate, or conversely, declined to participate. While the survey portion of this QI project is generalizable to RNs in any specialty, the education was specifically created with prior awareness and assumptions of knowledge deficits. Whereas this educational intervention impact was measured immediately following the education, prospective measurements could be taken at multiple future points in time. A follow up could include qualitative data, such as asking if any information learned had been used effectively, or what, if any, other information should be included.

Dissemination and Future Implications

The data obtained through this QI project will be disseminated to the ED medical director, ED nursing director, and ED senior nursing leadership. The results will also be presented to the nursing research/evidence-based practice committee at Banner University Medical Center; the time has yet to be determined. Additionally, when obtaining permission to use the BHCC survey, the authors requested an abstract or executive summary. An executive summary will be emailed no later than January of 2020.

A few participants made themselves known and stated the education was interesting and helpful. A request was made to create a laminated reference of psychotropic medications that would fit on RNs identification badge. This suggestion has been taken into consideration and development of such a resource will begin in January of 2020. Approval for creating this resource was obtained from the director of nursing in the emergency department. The drugs that will be printed on the reference card will be the psychotropic drugs most frequently prescribed in the ED. The ED PharmD agreed to participate in the making of such a tool and will contribute his expertise to ensure accuracy and relevancy.

Conclusion

Over the years, visits to the ED for mental health issues have been steadily increasing. In congruence with previous studies, the data revealed that ED RNs feel inadequate in their ability to properly address psychiatric conditions. The statistically significant improvement in overall score on the BHCC survey suggests mental health proficiencies need to be incorporated in the continuing education of ED RN's. RNs must be competent and knowledgeable to care for patients in a mental health crisis. Educating RNs allows them to create an atmosphere that

promotes safety and empowers RNs to confidently provide quality patient care. Furthermore, published literature regarding nursing students and inadequate clinical and didactic coursework in mental health is concerning (Happell & Gaskin, 2013; Loveland, 2016). Future studies should focus on implementing streamlined mental health content in nursing school. Organizations may want to use an applicable variation of education on mental health fundamentals as a new hire requirement.

OTHER INFORMATION

Budget

There were no expenses or funding received in relation to implementing this QI project.

APPENDIX A:

LITERATURE REVIEW

Author / Article	Research Question/Hypothesis	Design	Sample/Setting	Data Collection (Instruments/Tools)	Findings
Carlson & Hall, (2014).	Understand contextual processes in preventing restraint use Determine how resources are used or not to eliminate restraints Explore the role of prevention policies Describe the facilitators and barriers to prevention practice	A multilevel grounded theory analysis Bourdieu's critical theory of practice	N=21 8 RNs, 1 LPN, 1 NM, 1 MD, 2 NPs, 3 MHCs, 2 ADMs, 1 AT, and 2 PMs 16 women, 5 males Data collected September 2011-March 2012 various health care professions, psychiatric facilities, and Southeastern states Virginia, North Carolina, Florida, Tennessee, and the District of Columbia.	Logic of GTM guided the system of data collection with semi-structured interviews	Participants did not feel equipped to prevent restraint use. Reasons cited were multiple barriers-lack of resources, time, space, and education, and mismanaged policy implementation. Environments of care are poorly designed. 19 participants did not feel that they had the resources to prevent restraint use.
Dombagolla, Kant, Lai, Hendarto, & Taylor, (2019)	Determine the nature of barriers to optimal management of psychiatric ED patients Quantify the burden associated with patient and ED presentation characteristics	Prospective Observational study	ED of a metropolitan Australian hospital between February and April 2017. Annual census of 85,000 patients. N=12 nurses reporting on the care of 104 patients	A tool within the data collection document and using a 5-point Likert scale Analysis was descriptive with frequencies, proportions (95% CIs) and median (IQR) values reported.	Barriers included nurses with limited knowledge and education regarding acute psychiatric management, non-psychiatric staff attitudes and avoiding certain patient presentations. Suggestions for

Author / Article	Research Question/Hypothesis	Design	Sample/Setting	Data Collection (Instruments/Tools)	Findings
					improvement: education regarding mental health theory and practical skills, drug and alcohol issues, developing positive staff attitudes and showing respect towards patients.
Harris, Beurmann, Fagien, & Shattell, (2016).	To describe the perceptions of ED visits by patients experiencing emotional distress, identifying themes among these that may guide nursing interventions that minimize stress and optimize outcomes in the treatment of psychiatric emergency	Secondary analysis of data collected in a 2012 qualitative, phenomenological study of patients' perceptions of a community-based crisis facility	N=9 Ages 21-65 Sample in the secondary analysis included 9 participants who had visited the crisis treatment setting for a variety of reasons.	Data collection occurred in the community-based crisis facility. Flyers were posted to recruit clients of the facility. They were screened, and then interviewed on site (audio recorded).	ED environment can exacerbate symptoms and emotional distress Lack of privacy Need for providers' increased attention to the interpersonal dimensions of the care encounter Overarching theme: influence of RN communication, both positive and negative, on patient perceptions of their ED encounters.

Author / Article	Research Question/Hypothesis	Design	Sample/Setting	Data Collection (Instruments/Tools)	Findings
Innes, Morphet, O'Brien, & Munro, (2014).	Identify issues managing patients with mental illness that present to the ED	A mixed method approach	N=61 40 ED staff 21 Mental health staff Large tertiary Australian hospital with a 24-hour ED	Surveys and focus groups	Inconsistencies and deficits in the educational preparation of emergency department staff to manage behavioral health patients 6 main themes: Staffing issues Lack of educational preparation Communication ED environment dynamics Restraint of patients Treatment of family/friends
Marchand, Palis, & Oviedo-Joekes, (2016).	People with mental disorders would have an increased probability of perceived prejudice and discrimination in health care settings compared to people without mental disorders	Secondary analysis using data from the Canadian Community Health Survey-Mental Health (CCHS-MH)	N=25113 respondents of the CCHS-MH Phone or in-person interview N=3006 # of the CCHS-MH respondents who had seen a healthcare provider	CCHS-MH was a cross-sectional survey focused on the mental health of Canadians	Prejudice and discrimination by a health care provider were reported by a total of 329 (10.9%) 39.2 % reported a mental disorder in the prior year 62.4 % of

Author / Article	Research Question/Hypothesis	Design	Sample/Setting	Data Collection (Instruments/Tools)	Findings
			in the last 12 months		respondents experiencing prejudice and discrimination by a health care provider also reported a mental disorder in the prior 12 months Adjusted for confounders 11 % of Canadians aged 15 and older experienced prejudice and discrimination in the prior year by a health care or service provider.
Marciano, Mullis, Jauch, Carr, Raney, Martin, Walker, … Saef, (2012).	Hypothesis = focused instruction would improve the comfort level of EPs in caring for PBPs and thereby facilitate the care for this group of patients.	Convenience sampling for both non-intervention group (NINT) and the intervention (INT) group.	Southeastern, urban, academic medical center NINT=33 INT=23	Survey with case studies describing the presentation of 10 emergency psychiatric patients designed to measure EPs' comfort levels in providing care to psychiatric patients in need of treatment that was beyond the ordinary scope of practice of EPs	Highly significant improvement in comfort levels (NINT mean 464.9, INT mean 580.7, *P* = 0.003). There were also significant improvements in summary scores noted for faculty (NINT mean 500.9,

Author / Article	Research Question/Hypothesis	Design	Sample/Setting	Data Collection (Instruments/Tools)	Findings
					INT mean 608.4, *P* = 0.039) and for residents (NINT mean 399.4, INT mean 517.3, *P* = 0.012)
Marynowski-Traczyk, & Broadbent, (2011).	Explore the experiences of ED nurses caring for patients with a mental illness in the ED	Interpretive phenomenological	N=6 Registered Nurses working in an Australian ED 18-65 y/o	Semi structured interviews with guide of open-ended questions to use as a framework	3 major themes: Time and its bearing on the patient and nurse ED environment and the effect of physical surroundings on the delivery of optimal care Understanding mental illness
Okafor et al. (2015)	Better integrate emergency medical and psychiatric care Identify impact on quality improvement metrics Reduce healthcare cost	Findings from the 2010 needs assessment, and a review of best practices in psychiatric emergency care, development, and implementation of a psychiatric fast track for quality improvement	4329 ED patients from January 2011 to August 2011 (pre-intervention) compared to 4867 patients in the pilot study from September 2011 to May 2012 (intervention). Grady Hospital's Emergency Department and Psychiatric	The data was divided Pre-intervention and intervention group. Data are presented as mean ± standard deviation or as proportion or percentages among the groups. Student t test to determine the significance of mean difference of variables among the groups. Differences in restraint use were compared using Pearson	Improved quality of care measured through reduction in wait time, use of restraints, and psychological hold procedure compliance Statistically significant decrease (2 %) in restraint use from pre-intervention to intervention due to

Author / Article	Research Question/Hypothesis	Design	Sample/Setting	Data Collection (Instruments/Tools)	Findings
			Emergency Services in Georgia.	Chi square (x2) Statistical significance was set at a two-tailed P\0.05.	an overall reduction in wait times and throughput
Plant & White (2013)	Explore, describe, and interpret the experiences of emergency nurses who care for patients with mental illness	Focus group format	N=10 ED in a community hospital in the Northeast without a specific psychiatric ED Convenience sampling-placing fliers in the ED break room and in the work mailboxes of the eligible nurses and waited to be contacted by any nurses that were interested in participating	Audio recorded focus groups Using comparative analysis	Nurses do not feel supported by management, do not feel they have adequate resources, lack the knowledge and basic skills regarding interventions to care for psychiatric patients and have limited time in a busy ED to devote to patients with mental illness that present to the ED
Sivakumar, S., Weiland, T. J., Gerdtz, M. F., Knott, J., & Jelinek, G. A. (2011).	To identify the mental health-related learning needs of doctors and nurses working in Australian EDs. How clinicians perceive a need for further training; Self-reported confidence; Knowledge and ability in assessment, management	Purpose-designed survey/Cross-sectional survey	Sample of nurses and senior doctors working in EDs across Australia N=255 doctors N=109 nurses	Survey with 130 items and approximately 20 min to complete. The survey was delivered online through email invitation by the College of Emergency Nurses Australasia or the Australasian College for Emergency Medicine.	Emergency nurses have lower confidence levels and perceived lack of ability and knowledge compared with emergency doctors. Suggesting that education is of critical importance

Author / Article	Research Question/Hypothesis	Design	Sample/Setting	Data Collection (Instruments/Tools)	Findings
	or treatment skills that aid management of patients with mental health presentations.				to nurses.
Winokur, E. J., Loucks, J., & Rutledge, D. N. (2017)	1. Does the perceived competence of nurses and allied health professionals to care for BH patients improve after concentrated psychiatric education? 2. For nurse participants before the conference, what associations existed between perceived competencies to care for BH patients and initial nursing education, years in nursing and emergency nursing, time since their last Management of Assaultive Behavior (MAB) class, prior experience in psychiatric nursing, and the psychiatric designation status of the employing facility	Pre-post study	N=102 emergency nurses (72%), acute care nurses, case managers (20%), and trauma technicians and paramedics (8%) Emergency nursing conference held in Orange County Attendees were invited to participate	23-item BHCC survey Using 5-point Likert-type scale	Competence of participants increased Nurses perceive that the essential competencies to care for BH patients can be improved with education
Wolf, L. A., Perhats, C., & Delao, A.	What types of care models, including providers and protocols,	Mixed-methods design with demographically-	English-speaking emergency nurses over the age of 18,	Survey and focus group interviews	Shorter lengths of stay are associated with higher levels

Author / Article	Research Question/Hypothesis	Design	Sample/Setting	Data Collection (Instruments/Tools)	Findings
M. (2015)	are being used in EDs in the U.S. What is the estimated ALOS for BHPs in the ED? Is there a relationship between the presence of a psychiatric provider in the ED and the estimated ALOS for BHPs? Does the presence or absence of resources affect estimated ALOS? Is there a relationship between the education and/or experience of the nurse and the estimated ALOS for BHPs in the ED? How do emergency nurses identify the challenges and facilitators to effective, safe care of BHPs in the ED?	diverse samples of emergency nurses	recruited using an email to all members of a nursing organisation. Of the 8800 emails opened, a total of 1229 (14%) surveys were completed (recruitment period 9/10/13-10/13/13. N=20 (qual) N=1229 (quant) Columbia, Maryland	Quantitative-self reported survey Qualitative-focus group interviews Cross-sectional survey data was collected using Qualtrics online survey software	of perceived nursing confidence and ability to care for this population, along with the availability of appropriate resources and protocols/standards of care (p = 0.01) Longer lengths of stay are associated with an absence of dedicated inpatient space for managing the care of these patients Lack of education, resources, and treatment options tailored to the delivery of safe, effective care for behavioural health patients.
Wright, Linde, Rau, Gayman, & Viggiano, 2003),	Conclude that a relationship exists between ED nurses' and clinical staff members' perceptions of their work environment, and their	Empirical approach and collected data via surveys	N=109 emergency nurses and non-psychiatric clinical staff in a midwestern city's public ED	56 Likert items with ten subscales (e.g., Fairness and Equity, Role Ambiguity, Role Overload) to assess relevant work	Perceptions of the fairness and equity of the work environment is associated with higher levels of

Author / Article	Research Question/Hypothesis	Design	Sample/Setting	Data Collection (Instruments/Tools)	Findings
	dispositions towards behavioral health patients and the care they provide to these patients.			environments	understanding (b = 0.27, SE = 0.13, $p \leq 0.05$) while feeling higher levels of role ambiguity is associated with lower levels of understanding (b = –0.19, SE = 0.10, $p \leq 0.05$), and also, less interactions (b = -0.57, SE = 0.29, $p \leq 0.10$).

APPENDIX B:

EDUCATIONAL VIDEO OUTLINE

Educational Video Outline

Educational video includes video clips and voice-over PowerPoint slides.

A. Intro
    a. Dr. Zubin Damania and Dr. Denise Brown -The Behavioral Health Crisis in the ED video clip
    b. Eleanor Longden TED Talk video clip personal experience with psychosis and schizophrenia
B. Assessment
    a. Dr. Larry Mellick Emergency Room video clip of a patient on an antipsychotic (Risperdal) having an acute dystonic reaction
    b. Behavioral signs and symptoms. Agitation—The chest pain of behavioral emergencies (Article from The American Psychiatric Nurses Association)
    c. Care of the Psychiatric Patient in the Emergency Department. Observed/reported behaviors (Emergency Nurses Association White Paper)
C. Practice/intervention competency
    a. Managing mental health emergencies in the ED (American Nurses Association article)
    b. Steps for safety
    c. Verbal De-escalation of the Agitated Patient: Consensus Statement of the American Association for Emergency Psychiatry Project BETA De-escalation Workgroup (Article from the Western Journal of Emergency Medicine)
D. Recommendation of psychotropics
    a. Psychiatric Medication Pearls (Taylor Nichols, PharmD, BCPP)
E. Resource adequacy
    a. Recap of escalation behaviors
    b. Social Workers extension and role
    c. Security extension and role
    d. Hospital substance abuse program information and resources
F. Conclusion
    a. Thank you
    b. Link to post survey

APPENDIX C:

SITE AUTHORIZATION

Banner
University Medical Center
Phoenix

Emergency/Trauma Services
1111 E. McDowell Road
Phoenix, Arizona 85006

May 15, 2019

University of Arizona Institutional Review Board
c/o Office of Human Subjects
1618 E Helen St
Tucson, AZ 85721

Please note that Ms. Allyson Sambach, UA Doctor of Nursing Practice student, has permission from the Emergency Department at Banner University Medical Center in Phoenix, to conduct a quality improvement project in our department for her project, "Education to Improve Knowledge of Mental Health Competencies for Registered Nurses in the Emergency Department ".

Ms. Sambach will conduct a survey of Registered Nurses in the Emergency Department. She will recruit participants through email. The email will provide a description of the project, what they will be asked to do, the time involved, and a link to the online survey and education.

Ms. Sambach has agreed to provide to my office a copy of the University of Arizona Determination before she recruits participants. She will also present aggregate results to the medical director and myself upon completion of her project.

If there are any questions, please contact my office.

Signed,

Julie Cobos, MSN, RN

Nursing Director
Emergency Department/Trauma/Observation Unit
Banner- University Medical Center Phoenix
1111 E. McDowell Rd.
Phoenix, AZ 85006
Cell 602-821-2441
Work 602-839-8210

Banner
University Medicine

APPENDIX D:

ORGANIZATION APPROVAL

Banner
University Medical Center
Phoenix

Date: July 10, 2019

To: Allyson Sambach, BSN, RN
DNP/PMHNP Student

From: Carla Clark, PhD, RN
RN EBP Coordinator

Re: DNP Student Project

Our team at Banner University Medical Center, Phoenix has assessed your project proposal for implementation potential. From our review we have determined that the project is feasible and congruent with Banner Health initiatives. It aligns with our goal to consistently apply high quality, accessible, evidence-based nursing practice and foster excellence in clinical practice.

Please follow the Banner Health "DNP Student Project Approval Process" that I previously sent to you. In accordance with that process you will need to submit this letter of support to the IRB. Following IRB determination of non-research, your proposal will be forwarded to the Banner Non-Research Determination Utilization Committee (NRDUC). This team provides one final check for HIPPA compliance.

Your next steps will include:

- Sending me the IRB determination letter confirming non -research and
- Sending me the NRDUC approval letter

At that point in time I will generate a letter authorizing you to begin your project. Please do not hesitate to contact me for any questions during the process. Upon completion of your project, we request that you disseminate your findings to our Nursing Research/EBP committee or in another mutually agreed upon forum. Best wishes on the successful completion of your project.
Sincerely,

Carla Clark PhD, RN

Carla Clark, PhD, RN
RN EBP Coordinator
Banner University Medical Center – Phoenix

APPENDIX E:

THE UNIVERSITY OF ARIZONA INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

THE UNIVERSITY OF ARIZONA
Research, Discovery & Innovation

Human Subjects Protection Program

1618 E. Helen St.
P.O.Box 245137
Tucson, AZ 85724-5137
Tel: (520) 626-6721
http://rgw.arizona.edu/compliance/home

Date:	September 26, 2019
Principal Investigator:	Allyson Sambach
Protocol Number:	1909000278
Protocol Title:	EDUCATION ON MENTAL HEALTH COMPETENCIES FOR REGISTERED NURSES IN THE EMERGENCY DEPARTMENT
Determination:	Human Subjects Review not Required

Documents Reviewed Concurrently:

HSPP Forms/Correspondence: *ASambach IRB Determination sept 11.pdf*

Regulatory Determinations/Comments:

- Not Research as defined by 45 CFR 46.102(l): As presented, the activities described above do not meet the definition of research cited in the regulations issued by U.S. Department of Health and Human Services which state that "Research means a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge. Activities that meet this definition constitute research for purposes of this policy, whether or not they are conducted or supported under a program that is considered research for other purposes. For example, some demonstration and service programs may include research activities. For purposes of this part, the following activities are deemed not to be research."

The project listed above does not require oversight by the University of Arizona.

If the nature of the project changes, submit a new determination form to the Human Subjects Protection Program (HSPP) for reassessment. Changes include addition of research with children, specimen collection, participant observation, prospective collection of data when the study was previously retrospective in nature, and broadening the scope or nature of the study activity. Please contact the HSPP to consult on whether the proposed changes need further review.

The University of Arizona maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #00004218).

APPENDIX F:

NON-RESEARCH DATA USE COMMITTEE UA-BANNER SUBMISSION PROTOCOL

#1909000278

October 15, 2019

Allyson Sambach BSN, RN, Doctor of Nursing Practice Student

RE: NRDUC Project:
Protocol Number: 1909000278: EDUCATION ON MENTAL HEALTH COMPETENCIES FOR REGISTERED NURSES IN THE EMERGENCY DEPARTMENT
New Project UA Determination of Human Research Application Version Aug 2019; forwarded to Non-Research Data Use Committee on 9/26/2019
Non-Research Data Use Committee Evaluation: Approved on 10/15/2019

Dear Allyson Sambach,

Thank you for your submission of the UA Determination of Human Research Form which outlined the above noted project. On 9/26/19 UA IRB concluded that this project was not research and subsequently forwarded it to the Banner Health Non-Research Data Use Committee (NRDUC) for oversight and review.

The project information you provided was reviewed and subsequently approved on October 15, 2019 by the BH NRDUC. Should you have any questions or concerns please feel free to reach out to the NRDUC chair at any time.

PLEASE NOTE

The NRDUC determination is based on the information you provided to the committee on your application version Aug 2019 and supporting documents forwarded to the NRDUC on 9/26/2019. If the project is modified in any way, including re-analysis of data, the determination is no longer valid. You must resubmit the project to the NRDUC for review and approval.

Please note: As part of continuing process improvement, random audits could be conducted to assess compliance and adherence with submitted/approved applications.

FYI - to be a considered a "quality improvement" activity under HIPAA, information needs to be provided back to Banner for quality/performance improvement purposes. Please make sure you work with the appropriate Banner internal owner or applicable Banner committee to share results.

A copy of this letter will be placed in the NRDUC project file.

Sincerely,

Kristen Eversole, BS, RHIA, CHPC
Banner Health Privacy Sr. Director/Chief Privacy Officer, NRDUC
Chair

APPENDIX G:

DEMOGRAPHIC SURVEY QUESTIONS

1. Gender 1=female, 2=male, 3= transgender female, 4=transgender male, 5=-non-conforming, 6=prefer not to answer

2. Age 1=21-26, 2=27-32, 3=33-38, 4=39-44, 5=45+

3. RN Education 1=diploma, 2=associates, 3=bachelors, 4=graduate degree

4. Years as an RN 1=0-3, 2=4-9, 3=10+

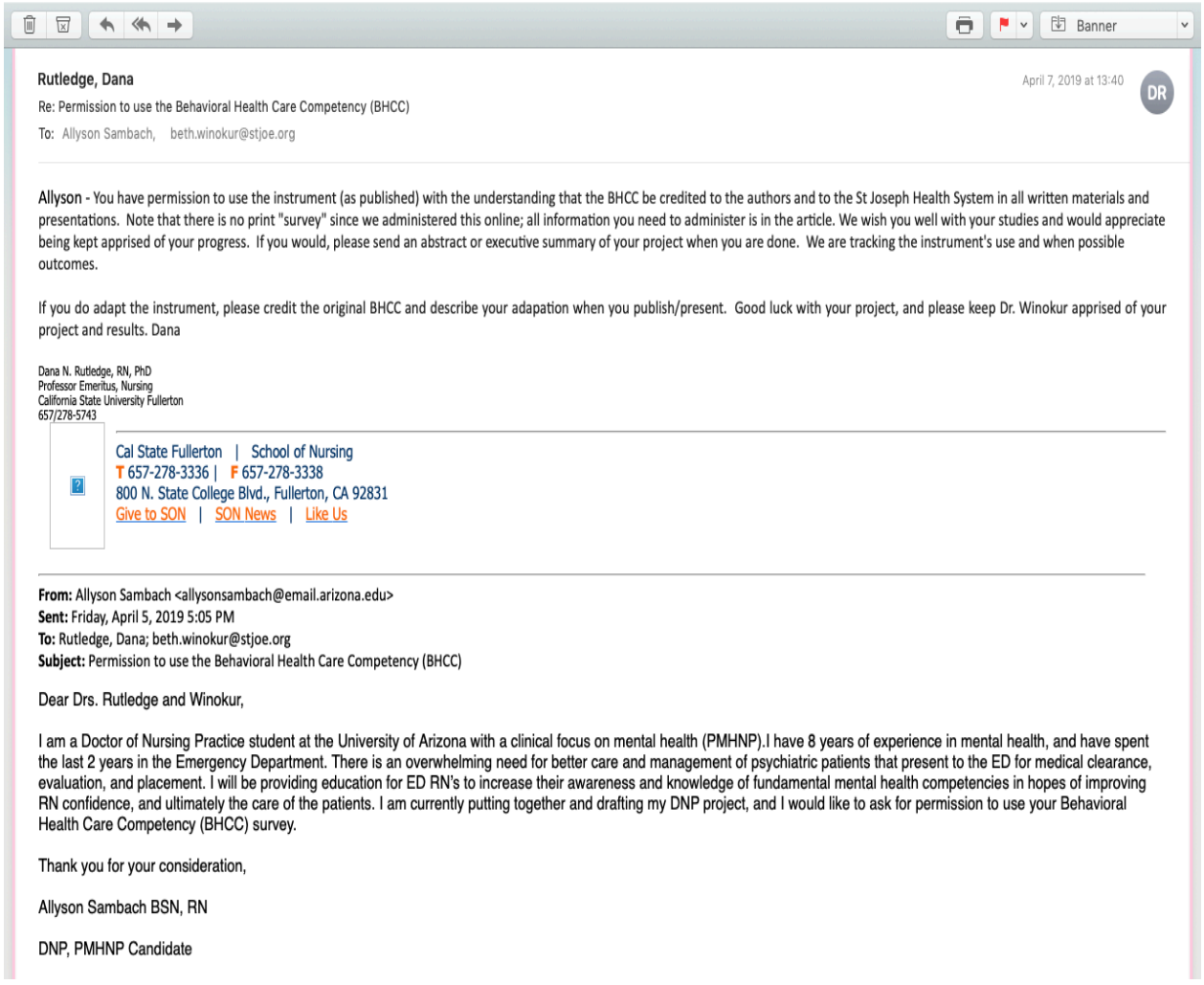
5. Any experience in mental health 1=yes, as a nurse, 2=yes as other, 3=no

6. Years in ER 1=0-2, 2=3-5, 3=6-8, 4=8+

7. Any family or friends with mental illness 1=yes, 2=no

APPENDIX H:

PERMISSION TO USE THE BEHAVIORAL HEALTH CARE COMPETENCY SURVEY



Banner

Rutledge, Dana

April 7, 2019 at 13:40

DR

Re: Permission to use the Behavioral Health Care Competency (BHCC)

To: Allyson Sambach, beth.winokur@stjoe.org

Allyson - You have permission to use the instrument (as published) with the understanding that the BHCC be credited to the authors and to the St Joseph Health System in all written materials and presentations. Note that there is no print "survey" since we administered this online; all information you need to administer is in the article. We wish you well with your studies and would appreciate being kept apprised of your progress. If you would, please send an abstract or executive summary of your project when you are done. We are tracking the instrument's use and when possible outcomes.

If you do adapt the instrument, please credit the original BHCC and describe your adapation when you publish/present. Good luck with your project, and please keep Dr. Winokur apprised of your project and results. Dana

Dana N. Rutledge, RN, PhD
Professor Emeritus, Nursing
California State University Fullerton
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From: Allyson Sambach <allysonsambach@email.arizona.edu>
Sent: Friday, April 5, 2019 5:05 PM
To: Rutledge, Dana; beth.winokur@stjoe.org
Subject: Permission to use the Behavioral Health Care Competency (BHCC)

Dear Drs. Rutledge and Winokur,

I am a Doctor of Nursing Practice student at the University of Arizona with a clinical focus on mental health (PMHNP).I have 8 years of experience in mental health, and have spent the last 2 years in the Emergency Department. There is an overwhelming need for better care and management of psychiatric patients that present to the ED for medical clearance, evaluation, and placement. I will be providing education for ED RN's to increase their awareness and knowledge of fundamental mental health competencies in hopes of improving RN confidence, and ultimately the care of the patients. I am currently putting together and drafting my DNP project, and I would like to ask for permission to use your Behavioral Health Care Competency (BHCC) survey.

Thank you for your consideration,

Allyson Sambach BSN, RN

DNP, PMHNP Candidate

APPENDIX I:

BEHAVIORAL HEALTH CARE COMPETENCY SURVEY

Assessment*

1. I can assess patients for potential psychiatric problems.
2. I can identify signs and symptoms of common psychiatric conditions (e.g. depression, schizophrenia, bipolar disorder)
3. I can identify common neuroleptic, tranquilizers, and anti-depressant medications used with psychiatric patients
4. I am able to assess patients for risk of suicide (suicidality)
5. I can recognize behaviours that indicate a patient may have alcohol or drug abuse problems
6. I can recognize signs and symptoms of alcohol withdrawal
7. I can recognize signs and symptoms of drug withdrawal
8. I can distinguish between dementia and delirium
9. I can recognize the warning signs in patients whose behaviour may escalate to aggression or dangerous behaviours

Practice/intervention competency*

10. I can initiate appropriate nursing interventions for common psychiatric issues such as depression, bipolar disorder, and psychosis
11. I can effectively interact with patients who have mental health problems
12. I am able to maintain a safe environment for patients on my unit who have a psychiatric condition
13. I can effectively manage conflicts caused by patients who have mental problems
14. I can effectively intervene with a patient having hallucinations
15. I am able to use de-escalation techniques and crisis communication to avert aggressive behaviours
16. I plan for more time to take care of patients with psychiatric issues compared with my other patients
17. I am able to maintain a therapeutic relationship with most patients on my unit who have psychiatric issues

Recommendation of psychotropics*

18. I am confident that I can recommend use of psychotropic drugs to physicians for appropriate patients
19. I recommend psychotropic drugs to physicians for psychiatric patients

Resource adequacy*

20. I know when to ask for outside help (e.g. physician, psychiatric nurse, other) for a patient with psychiatric issues or dangerous behaviours
21. I call for outside resources (e.g. physician, psychiatric nurse, other) when I recognize a patient's behaviours are escalating beyond my capabilities
22. I am confident that help is available to me when I need assistance with patients who have co-morbid behavioural or psychiatric issues
23. Hospital resources are available to me when I need assistance with behavioural health, or psychiatric issues, or substance abuse issues

APPENDIX J:

DISCLOSURE DETERMINATION

Education on Mental Health Competencies for Registered Nurses in the Emergency Department

Allyson Sambach

Doctor of Nursing Practice

The University of Arizona

The purpose of this project is to provide ED nurses with essential mental health knowledge enabling them to feel confident in caring for behavioral health patients and measure their perceived knowledge before and after. Providing such knowledge to ED nurses also improves the care that mental health patients will receive, as mental health patients require RNs to be well versed in therapeutic communication, psychotropic medication knowledge, and other mental health competencies in order to provide safe and effective patient care.

If you choose to take part in this project, you will be asked to take a survey assessing different domains of mental health, watch a short (<10 minutes) educational online presentation/video, and then reassess your knowledge by repeating the survey It will take approximately 20 minutes to complete this survey. There are no foreseeable risks associated with participating in this project and you will receive no immediate benefit from your participation. Survey responses are anonymous, but you will be asked to create a personalized identification code in order to match the before and after responses.

Completion of the survey and participation in this project is voluntary, refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may withdraw at any time from the project. In addition, you may skip any question that you choose not to answer. By participating, you do not give up any personal legal rights you may have as a participant in this project. If you complete the survey you are confirming that you voluntarily consent to participate in this project, and you understand that participation in this project is not a condition of employment at Banner Health. You may complete this survey at work. If you elect to complete the survey on your own time, you will not be paid for your time spent on completing the survey.

Thank you.

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