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AMERICAN NURSES ASSOCIATION NEW YORK

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EDITORIAL

The Academic Nurse Educator Shortage and Public-Private Partnerships

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Deputy Editor-in-Chief
DOI: https://doi.org/10.47988/janany.76557668.3.2

The nursing shortage has become an intractable problem in the US and across the globe. Nurses on the frontline in all healthcare settings see this each and every day, and it is wearing all of us out! While the issue is deeply complex, it can be viewed from two primary aspects: recruitment of new individuals into the profession and retention of new and existing nurses in professional practice. I will discuss retention of nurses in a subsequent editorial. Today's focus is on recruitment of new nursing students and the role that nursing education plays in ensuring that there are enough professional registered nurses to provide care. Without enough nursing faculty members, including those in the classroom and at the bedside, we won't have enough practicing nurses.

Central to recruitment of new nurses is ensuring that there are sufficient spots in nursing programs to educate these new nurses. The Center for Health Workforce Studies (CHWS) identified that registered nurse (RN) graduations from New York State's nursing education programs have remained relatively stable statewide, with a slight uptick (1.6%) from 2016-2020 (CHWS, 2022). However, the CHWS also projects an annual increase of 16,910 RNs will be needed between 2018-2028 (p. 44). Nursing programs need to graduate more RNs, remaining stable is not sufficient. This requires close cooperation between healthcare systems and academic institutions.

The National League for Nursing (NLN, 2023), in their recent survey, noted that close to 80% of nursing programs reported difficulty recruiting and hiring faculty. Chief among the reasons for hiring challenges was not being able to offer competitive salaries. Most ANEs know that new graduates will earn a higher salary than the ANEs who taught them (Blackwell-Sachs et al., 2022; Jarosinski et al., 2022).

A strong option to address the nursing faculty shortage is academic-practice partnerships (Blackwell-Sachs, et al., 2022; Poindexter, 2022). While academic-practice partnerships are not new (Beal et al., 2012), they remain a valuable opportunity to establish a recruitment pipeline (Jones & Spiva, 2023), an opportunity to grow and develop clinical faculty (Luckenbach et al., 2021; Ruth-Sahd, 2023), and an opportunity to address faculty salaries (Moss et al., 2022). The National Advisory Council on Nurse Education and Practice (NACNEP), in their report from 2019, identified that "large health systems often partner with academic nursing programs in their geographic area to encourage advanced education, provide classes on-site, and serve as clinical learning sites for undergraduate and graduate nursing students" (p. 20). The National Council of State Boards of Nursing (NCSBN) noted that COVID-19 resulted in an increase in practice-academic partnerships (NCSBN, 2023). More work is needed to keep this forward momentum, across the U.S. and in New York State.

Many of us work with nursing students in our healthcare organizations and breathe a sigh of relief when the semester ends, and we can work without students in tow. Are you a nurse that is teaching-curious? Have you considered how you can be part of the nursing education team, either as clinical faculty or even a classroom teacher? Brown et al. (in press) found in a review of the literature that healthcare employers need to provide emotional, logistical, and financial support when practicing nurses pursue educational preparation to become nurse educators (p. 7). Are you a faculty member that is also practicing in the clinical setting? What you do you about the academic-practice opportunities in your community?

Did you know early on that you wanted to teach, even in nursing school? Vardaman et al. (in press), spoke to another opportunity for partnerships between academics and practice, and suggested finding future academic nurse educators by identifying and encouraging potential nursing students to consider nursing education as a career path. Students who serve as teaching assistants either during school or after graduation can be mentored by academic nurse educators, providing real-life experiences to inform teaching practice.

Brown et al. (in press) also spoke to the bi-directional benefits of academic-practice partnerships, including how both sides benefit by maximizing adult learning strategies when orienting new nurses and providing simulation opportunities for clinical practice improvement. The U.S. Department of Labor Nursing Expansion Grant program (2023) has invested substantial funds to increase the number of nursing instructors and educators through public-private partnerships. Known as The Nurse Education Professional Track - Track 1, funding for four grants will increase the number of nursing instructors and educators by training new or upskilling experienced current or former nurses (including retired nurses) into advanced postsecondary credentialing necessary for nurses to become nursing instructors. Awardees included Arizona State University, Massachusetts General Hospital Institute of Health, The Regents of the University of California, and University of Alabama. Information is just coming out regarding how these awardees will be using their funds.

In addition to academic-practice partnerships, other collaborations are and will continue to be necessary. Quay et al. (2023), in their nominal group technique study, identified multiple essential strategies to address the academic nurse educator shortage by professional nursing organizations. First, a collaborative task force working together at the national, state, and local levels to address the academic nurse educator shortage is needed (p. 59). They discuss *Action Now!*, a coalition in Washington state, that has been dedicated to addressing the shortage of nurse educators at community and technical colleges that was able to attain a 26.5% increase in nurse educator salaries through designated state funding (p. 29).

New York State received several awards for the Nurse Education Professional - Track 2, which is intended to train participants as frontline healthcare professionals and paraprofessionals, including direct care workers in order to advance along a career pathway and attain postsecondary credentials needed for middle- to high-skilled nursing occupations. While this is helpful to address the nursing shortage, it does not address the need for

additional faculty positions in our state. Hopefully, other examples that address academic-practice partnerships and professional collaborations to grow our nursing faculty positions, including equitable salaries, will occur as well.

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ORIGINAL RESEARCH

Lateral Violence as Experienced by Registered Nurses in Magnet-Designated Hospitals

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Abstract

Background: Lateral violence exists among nurses in both magnet and non-magnet designated hospitals despite efforts to decrease the incidence. Lateral violence can be verbal and displayed by yelling, swearing, belittling, and other similar behaviors, while non-verbal assaults include eye-rolling, withholding of information that is necessary to perform the job, gossiping, and spreading rumors. Objective: This research was conducted to understand lateral violence as experienced by registered nurses in magnet-designated hospitals. **Methodology:** Lateral violence in magnet-designated hospitals has not been studied extensively; therefore, a qualitative descriptive phenomenology design was chosen for this study. Eleven registered nurses who experienced lateral violence while working in magnet-designated hospitals participated in face-to-face interviews. Participants were recruited through the American Nurses Association-New York (ANA-NY) website. Data collection was conducted using semi-structured questions and transcribed verbatim. Data were analyzed using the Stevick-Colaizzi-Keen Method. **Results:** Five themes emerged from the data: Not wanting to go back to work, Being screamed or yelled at, Not allowed to ask questions, I had anxiety, and Being put down or talked down to. **Limitations:** Recruiting participants for the study was challenging. The reason could have been that nurses were preoccupied during this period with the SARS-CoV-2. The disease impacted New York State, and nurses experienced significant loss of lives daily and had to work in unsafe conditions due to a lack of personal protective equipment. **Clinical Implications:** The results of the study provided insight into the problem of lateral violence in nursing and may be used to revise and implement programs to decrease the incidence of lateral violence in the workplace.

Keywords: lateral violence, bullying, incivility, horizontal violence, magnet hospitals.

Funding: No funding was obtained.

Conflict of Interest: There is no conflict of interest in the preparation of this manuscript.

Acknowledgment: This research protocol was reviewed and approved by the University of Phoenix Institutional Review Board.

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Lateral Violence as Experienced by Registered Nurses in Magnet-Designated Hospitals

Background

Lateral violence has been referred to as acts of bullying, incivility, and horizontal violence (American Nurses Association, 2015; Myers et al., 2016). The American Nurses Association (2015) defined bullying as harmful repeated acts to nurses occurring over time and is humiliating and offensive. Incivility, which is also referred to as lateral violence, may be intentional or unintentional, and the behaviors are perceived as rude or disrespectful. The behaviors include eye-rolling, abrupt or arrogant remarks, and misnaming people (Abolfazl Vagharseyyedin, 2015, Lachman, 2015).

According to Rayner and Keashly (2005), adult bullying was first termed mobbing and became the focus of research in the 1980s. Scandinavian researchers studied mobbing and used the term when groups gathered to carry out negative behaviors. Roberts (1983) was among the first researchers to discuss lateral violence in nursing, and since then, the behavior has been documented using other terms, such as bullying and incivility. In the late 1980s, European researchers used the term bullying to describe negative behaviors in the workplace. Research in the United Kingdom and North America has been focused on the characteristics of the bully and the organizational structure in the development of the phenomenon. Negative behavior involved in bullying relates to the persistence of the behavior (Rayner & Keashly, 2005).

The culture of the workplace has been reported to lead to lateral violence in nursing. Smith et al. (2018) conducted a study to determine if an association existed between the nurse work environment and nurse coworker incivility. The authors reported the study's results and indicated that the average participant never or intermittently experienced coworker incivility. In addition, an inverse correlation between a positive work environment and incivility was noted (Smith et al., 2018).

While studies have been conducted in non-magnet-designated hospitals to understand the existence of lateral violence, limited studies have been conducted in magnet-designated hospitals (Pfeifer & Vessey, 2017). Magnet designation is bestowed on organizations that promote excellence in nursing practice. The magnet model is based on the principles of transformational leadership, structural empowerment, exemplary professional practice, new knowledge, innovations and improvements, and empirical outcomes. Structural empowerment empowers nurses by involving them in the organization's decision-making process. Nurses are part of the organization's committees that focus on improving patient care and providing measures to ensure that the care is provided safely (American Nurses Credentialing Center, n.d.).

In 2008, The Joint Commission issued a sentinel alert to address the harassment, bullying, and lateral violence that affected nurses in the workplace. The Joint Commission (2008) emphasized the need for organizations to have zero tolerance for all intimidating and disruptive behaviors. An unhealthy, hostile environment would be created whenever intimidating and disruptive behaviors were present and unsafe for staff and patients (The Joint Commission, 2008). Butler et al. (2018) conducted a quantitative, cross-sectional, descriptive study to examine nurses' perceptions of bullying in the workplace, and the receipt of unmanageable workloads was found to be the most negative act. The least experienced act was spreading gossip and rumors. Findings also indicated that bullying was experienced regularly by 5% of the participants, while 68% reported experiencing no bullying (Butler et al., 2018).

Studies have been conducted to examine the prevalence of lateral violence and bullying. A quantitative explorative study was conducted to investigate the prevalence and risk factors of lateral violence and bullying among Italian nurses. The findings of this study indicated that 35% of the nurses surveyed experienced negative interactions, of which 42.3% were bullied and 59% experienced psycho-physical consequences of the negative interactions. The psycho-physical disorders and symptoms reported included anxiety, reduced commitment to the organization, sleep disorders, and repeated sensations of irritability and anger, and 21.9% of the nurses thought of leaving the institution (Bambi et al., 2019). In a United States study, Brewer et al. (2020) also examined the prevalence of bullying in nursing and reported that bullying was occurring weekly/daily at 31%. No significant differences were found among nurses who experienced one or no act of betrayal or those who experienced one or no act of support when workplace types were compared. Additionally, job dissatisfaction and increased absenteeism were evident among nurses who felt betrayed by the organizations (Brewer et al., 2020).

Limited literature has explored lateral violence in magnet-designated hospitals (Pfeifer & Vessey, 2017). The present study focused on the lived experiences of registered nurses regarding lateral violence in magnet-designated hospitals. This study adds to the body of knowledge regarding lateral violence and, specifically, lateral violence in magnet-designated hospitals.

Methodology

Research Design

Qualitative descriptive phenomenology was used to explore the lived experiences of registered nurses related to lateral violence in magnet-designated hospitals. In qualitative research studies, the researcher attempts to obtain the participants' perspectives on a topic. Qualitative research is used to examine phenomena in health and human services (Cristancho et al., 2018). Broad and open-ended research questions were used in the research to allow the respondents to provide in-depth information on lateral violence.

Phenomenology is understanding the person's interpretation of the experience and their perception of the experience that is interpreted as real. The thoughts and beliefs of the person play a role in the way the experience is interpreted. According to Baglietto (2021), "Exploring the participants' lived experience offers a deeper and richer meaning to provide a better understanding of its impact on the participants" (p. 27). In phenomenological research, the researchers clear their thoughts from all biases and assumptions and then gather information to help understand and put meaning to a phenomenon. This process is referred to as Epoché or bracketing (Moustakas, 1994).

Procedure

Approval for the research study was obtained from the University of Phoenix Institutional Review Board and the American Nurses Association -New York. Blast emails were sent from the American Nurses Association-New York website to prospective research participants. Nurses interested in volunteering to participate in the study responded to the email using the provided contact

information and were screened to ensure inclusion criteria were met. Nurses who experienced lateral violence while working in a New York State magnet-designated hospital were included in the study. Nurses who worked outside of the geographic area were excluded from the study. A definition of lateral violence was included in the blast email used to recruit participants and during the screening process. No incentives were provided to participants to avoid coercion. A return email with the informed consent forms was sent. The demographic data forms were emailed to the respondents after the informed consent forms were returned to the researcher. The participants were contacted via email to schedule a Zoom video interview at their convenience. The interviews were audio recorded and transcribed verbatim. The average length of the interviews was forty-three minutes. Confidentiality was maintained by assigning alphanumeric codes in place of participants' names. All research documents were placed in a locked file cabinet in the office at the researcher's personal residence. Only the researcher had access to the locked files. Additional confidential items, including notes, audio recordings, recorders, and transcripts, were placed securely in a separate locked file cabinet. Password-protected files were created for computers and storage devices used during the study.

Sample

A purposive sampling technique was used in this study to recruit registered nurses that have experienced lateral violence while working in a New York State magnet-designated hospital. Data collection commenced in August 2021 and concluded October 2022. Demographic data were obtained from each participant after they had signed and returned the informed consent form. The demographic data included the years of nursing experience, gender, age, marital status, type of unit worked, race/ethnicity, highest level of education, and shift worked (see **Table 1**). Eleven registered nurses from medical-surgical, perioperative, intensive care, and step-down units were included in the study to help gain a better insight into lateral violence in magnet-designated hospitals. Three of the participants were male. Seven of the participants had between 0-5 years of nursing experience. The participants were between the ages of 18-60 years old and were mainly single. Two of the participants were African American, four were Caucasian, two were Hispanic, and three participants were in the category of other. All participants held Bachelor of Science in Nursing degrees and worked mainly on the night shift.

Interview Guide

Each interview commenced with a broad opening question, "What are the lived experiences of registered nurses as they experience lateral violence in magnet-designated hospitals?" Probing questions were then used, such as "Tell me about your experiences with lateral violence while working in a New York State magnet designated hospital," "Can you tell me how this lateral violence has affected you?" and "Is there anything else you would like to add to help gain a better understanding of your experiences related to lateral violence?" Finally, the participants were asked, "Do you have any questions?"

Several techniques were used to establish the trustworthiness of the data. Credibility was maintained in the research by journaling and developing a trusting relationship with the participants. Member checking was conducted by returning the transcripts to the participants to review for accuracy. Transferability was achieved in the study by journaling and documenting in detail information about the participants' attitudes, the setting used to

Table 1

Summary of Demographic Data (n =11)

	P01	P02	P03	P04	P05	P06	P07	P08	P09	P10	P11
Years of experience	0-5	0-5	6-10	0-5	0-5	20+	11-20	0-5	0-5	0-5	20+
Gender	M	M	F	F	F	F	F	F	F	M	F
Age in years	31-40	18-25	41-45	18-25	18-25	56-60	31-40	26-30	26-30	18-25	51-55
Marital status	S	S	S	S	S	D	M	M	S	M	D
Unit	Step down	ICU	ICU	M/S	M/S	L&D	OR	ICU	NICU	M/S Step down	Step down
Race	C	C	O	C	C	H	H	O	A	0	A
Highest degree	BSN	BSN	BSN	BSN	BSN	BSN	BSN	BSN	BSN	BSN	BSN
Shift	N	D	N	N	N	N	D	D	N	D	N

Note. This table demonstrates the demographic data of the participants.
P01-P11=participant's number
Race: C=Caucasian, O=Other, H= Hispanic, A=African American
BSN= Bachelor of Science in Nursing
N=night shift D = day shift

collect the data, and the participant's reactions to the questions. None of the participants required mental health support; however, some of the participants became emotional when relating their experiences. To maintain dependability in the study, the dissertation chair reviewed the transcripts from the interviews and themes identified. The transcripts were transcribed verbatim and reread to check for accuracy. Reflexive journaling was used to maintain confirmability during the study (Korstjens & Moser, 2018).

Data Analysis

Moustakas' (1994) modification of the Stevick-Colaizzi-Keen method of analysis was used for the data analysis. Colaizzi's method of data analysis is used to understand the lived experiences of a phenomenon by revealing themes. The relationships between the themes are also revealed (Wirihana et al., 2018). The transcripts of each interview were reread several times to understand the significance and meaning of each statement. Each transcript was reviewed, and all relevant statements and phrases made by the participants about their lived experiences with lateral violence in the magnet-designated hospitals were listed. Irrelevant or vague statements were eliminated by reading and rereading the transcripts. The irrelevant statements were not coded. The statements were highlighted and coded into broad themes. The prominent themes were placed on a chart, and the statements made by the participants were placed into the appropriate categories. Nonrepetitive or nonoverlapping statements were identified. The meaning of the statements was categorized based on identified themes. The themes identified were outlined and examples from the statements made by the participants were used to help understand the feelings on lateral violence expressed by the participants. The themes were validated by comparing them with the interviews of the participants. Description of the experiences were formulated using only the themes pertaining to the participants' experiences. The textural-structural descriptions were compiled into one description of the experiences and used to describe the phenomenon. The data were validated by emailing the transcripts and the findings to the participants to ensure the information was accurately transcribed and reflected. Data collection concluded when no new themes emerged. A total of five themes emerged from the data (Moustakas, 1994).

Strengths and Weaknesses

The research design was appropriate in helping to gain an understanding of lateral violence as experienced by registered nurses in magnet-designated hospitals. The qualitative research method allowed the participants to use words freely to provide rich data related to their experiences with lateral violence. The research question was addressed appropriately using the phenomenological approach because the registered nurses were able to relate their lived experiences regarding lateral violence in a magnet-designated hospital during the interviews. Transferability is limited due to the unique perspective of the participants. The current study used qualitative research methodology; therefore, a small sample size was appropriate.

Limitations

The participants in the study were nurses who experienced lateral violence in magnet-designated hospitals in New York State; therefore, the experience may be different for nurses in different states or non-magnet-designated hospitals. Another limitation was the challenge of recruiting participants. The reason could have been that nurses were preoccupied during this period with the SARS-CoV-2. The disease impacted New York State, and nurses experienced significant loss of lives daily and had to work in unsafe conditions due to a lack of personal protective equipment. Only registered nurses from magnet-designated hospitals who responded to the email blast and indicated they experienced lateral violence were included in the study.

Results

Five core themes emerged from the data: (1) Not wanting to go back to work, (2) Being screamed or yelled at, (3) Not allowed to ask questions, (4) I had anxiety, and (5) Being put down or talked down to.

Theme 1: Not Wanting to Go Back to Work

Not wanting to go back to work emerged as a major theme in the study and was endorsed by nine participants. The participants verbalized that they came into the nursing profession very enthusiastic and wanting to provide care to patients. However, their experience with lateral violence made them feel unsafe in the workplace. The participants expressed not wanting to go back to work due to the negative interactions with other nurses. One participant expressed feeling miserable and irritable at work while another had anxiety on off days over the thought of returning to work. Having to return to work when certain nurses were on duty was very uncomfortable for others. The participants had thoughts of leaving the hospital, transferring to another unit, and leaving the profession due to this experience. Participant 005 shared, "I sometimes would just dread going to work to know I was working with these people that if I was in a situation that I would honestly feel unsafe. The participant went on to say, "I definitely felt very miserable um I would get irritable very easily at work." Participant 010 stated, "It affected me like you don't want to go back to work anymore. Sometimes you think about transferring to a different place." The participant added, "I always had anxiety coming into work because I didn't of course. I didn't know what to expect. You don't feel comfortable, and you know it's going to affect the patient safety you know."

Theme 2: Being Screamed or Yelled at

Seven participants in the study expressed *Being screamed or yelled at* by other nurses or their preceptors in the presence of other nurses, doctors, managers, and patients. The participants' responses were focused on the interaction between nurses and their preceptors. Participant 007 stated, "the culture of the unit was the staff would yell at each other and the negative behavior should not be taken personally by the recipient." This theme emerged when the participants were asked to recall events in the workplace they perceived as lateral violence. Participant 002 verbalized, "so my preceptor unplugged the balloon pump to see how long it would um take for me to realize but I was in the other patients room for like 20-30 minutes and patient was like very sick decompensating so one of the other nurses saw my preceptor do this and then afterwards when I went back in the other room she was like screaming at me like how couldn't you realize this blah blah and it was the first time going back into the room since she did it and she made it seem like I hadn't realized for hours." Participant 004 shared, "then this other nurse I guess happened to go into my patient's room came out of the room and then yelled at me in the middle of the nursing station in front of everybody that my patient wasn't washed up how dare I let her sit in bed without a bath."

Theme 3: Not Allowed to Ask Questions

Eight participants verbalized *Not allowed to ask questions* was a concern. This theme did not appear in any of the literature re-

viewed. The nurses were new to the unit, hospital, or the profession, so asking questions was a part of their learning process. Providing care to patients in a safe manner is important and failing to ask questions could result in harm to the patient. However, their questions were not well received by the nurses and preceptors. The participants voiced concerns about being viewed as incompetent when questions were asked and did not want to ask questions because of the responses they received. Nurses are required to provide care to patients in a safe manner. Asking questions before performing tasks is an expectation for any nurse, especially newly hired nurses, or nurses unfamiliar with the unit. Participant 004 verbalized, "she had no interest in me asking questions or wanting to like allow me to learn anything." Participant 005 shared, "I remember that they despised me asking questions and it wasn't just with one nurse, it would be with other nurses and in time I realize if I'm asking this person questions and he's my resource and then if he's going to everybody else and saying this and people are listening then that's just going to make me look incompetent."

Theme 4: I had Anxiety

The theme *I had anxiety* was endorsed by five participants and emerged when the participants were asked the effects of lateral violence. The negative interactions in the workplace brought on feelings of anxiety or being anxious during their scheduled shift or prior to coming into work. The participants verbalized developing anxiety or feeling anxious due to lateral violence in the workplace. This theme was consistent with findings in other studies reviewed. Participant 002 stated, "I just had so much anxiety about going to work and about like always like thinking I was gonna mess up or I wasn't going to meet the expectations of my preceptor or that even if I was doing something the correct way." Participant 009 mentioned, "I definitely came into work with anxiety. Thinking like "Oh my God I'm gonna go to work and I'm gonna have to deal with this person who's gonna dislike everything that I do no matter what I do."

Theme 5: Being Put Down or Talked Down to

Being put down or talked down to was a unique finding in the study. This theme emerged when the participants were asked to recall their experiences with lateral violence. Five participants verbalized receiving responses from other nurses and their preceptors, which made them feel incompetent and questioned their knowledge regarding the care of their patients. One participant expressed feelings of anger and dehumanization by the negative interactions. Good communication skills are vital when interacting with patients, family members, or other healthcare team members. However, the participants verbalized that the way they were spoken to by the nurses made them feel like they were being put down or talked down to. One participant verbalized that the staff were not receptive when questions related to the job were asked and the responses received were disrespectful towards them. Participant 001 mentioned, "Overall, they just kind of um put us down to make us feel like it was us and we obviously didn't know what we were doing and that we were bad at our jobs, and it made us second guess the tasks that we were doing." Participant 002 stated, "the continuous like talking down upon um by my preceptor um (pause) every day I was like ridiculed for asking any questions uhm when I did ask questions, they weren't good questions." The emerging themes from the interviews are highlighted in Table 2.

Discussion

The participants in this study provided insight into lateral violence in magnet-designated hospitals. Incivility, which is also referred to as lateral violence, has a financial impact on healthcare institutions, costing approximately $24 billion annually. The cost can be up to $145,000 to replace a nurse in a specialty area (Tedone, 2020). The participants in the study verbalized the negative impact of lateral violence and not wanting to go back to work. Participants discussed experiencing lateral violence from senior nurses and nurses assigned as preceptors. Belittling in the presence of nurses, doctors, and patients was a common practice among nurses that was also experienced. Managers and educators believed the preceptors so the preceptee could voice nothing negative. The preceptee would be given positive feedback from the preceptors. However, the preceptors would say something different to the unit leadership, which was surprising to the preceptee. The stress and anxiety from the negative experiences in the workplace made the nurses leave the institution or change units.

The five domains in Rayner and Keashley's (2005) conceptual framework were evident in the responses provided by the participants. The participants mentioned that the negative behaviors were repeated, occurred over a period, and affected them physically, emotionally, and psychologically. Anxiety and not wanting to go back to work were some of the negative effects. The participants verbalized being unable to do anything to stop the negative interactions. Negative behaviors are often experienced or witnessed by other nurses; however, the behavior went unreported or was not addressed because the perpetrators were viewed as being in power. The participants referred to the perpetrator as "god" or one who does no wrong. The term bullying was used to describe the experience. Understanding the domains of Rayner and Keashly' (2005) can help to bring awareness to the negative behaviors in the workplace and the effects of bullying related to the victim, patients, and their families.

The findings add to the body of work that supports the creation of healthy work environments. The Joint Commission (2021) and the American Nurses Association (2015) emphasized the need for healthcare organizations to address the negative behaviors that influence staff performance. Hospitals are encouraged to adopt principles that help create healthy work environments. The American Association of Critical Care Nurses (2016) identified evidence-based standards to establish and sustain a healthy work environment. The standards align with the American Nurses Association's Code of Ethics for Nurses. The standards include skilled communication, true collaboration, effective decision-making, appropriate staffing, meaningful recognition, and authentic leadership. Educating staff at all levels will promote clinical excellence and better patient outcomes (American Association of Critical Care Nurses, 2016).

A positive work environment can be achieved by providing ongoing education on lateral violence. Education helps to bring awareness about unacceptable behaviors in the workplace. A good reporting tool that encourages nurses to report negative interactions should be in place. Complaints made by staff need to be followed up in a timely manner. This assures the staff they are being heard and their complaints are taken seriously. Education on dealing with the effects of lateral violence also needs to be provided to staff by introducing the Employee Assistance Program (EAP) to new employees. The EAP is helpful to employees experiencing emotional distress and stress, depression, and anxiety. The phone number and services offered by the EAP should be visible throughout the institution so that staff will know how to access care when needed. The participants verbalized experi-

encing lateral violence from assigned preceptors, which indicates that preceptors may not have been prepared for the role. Nurses willing to become preceptors need to be educated to provide a positive learning environment for the new employees on the unit.

Leaders play a significant role in decreasing the incidence of lateral violence by recognizing the early signs of negative behaviors in the workplace through training. Managers, educators, preceptors, and other leadership team members must develop awareness regarding lateral violence to identify it in the clinical setting (Rutherford et al., 2019). Nursing leadership is important in promoting and sustaining healthy work environments. Healthy work environments help to retain nurses and increase nurse engagement (Anthony & Brett, 2020). In addition, patient care is safer, and the quality of patient care is higher. The incidence of burnout and workplace violence decreases in healthy work environments (Wei et al., 2018).

The Joint Commission (2021) emphasized the need to eliminate incivility, bullying, and workplace violence. Leaders are responsible for defining workplace violence, implementing policies with representation of staff in all areas of healthcare, developing post-incident strategies, and a reporting system. Leaders should reinforce the zero-tolerance policy by acting immediately when negative behaviors are witnessed or reports of negative behaviors are received from the staff (Rutherford et al., 2019). Zero tolerance for negative behaviors in the workplace must be clearly outlined in the policies manual and include consequences for noncompliance. The American Nurses Association (2015) noted workplace violence as being underreported and reiterated the need for institutions to develop zero-tolerance policies. Desharnais et al. (2023) emphasized the need for leaders and administrators to work collaboratively and reinforce the policy because having a policy is not enough. The leaders need support when reports are made to upper management to encourage reporting and not being judged as being the reason for the existence of the problem on the unit. The leaders must not exhibit biased behaviors to avoid other nurses from perceiving nothing will be done to the perpetrators because of their status on the unit as senior nurses or because they are relied on to perform certain roles on the unit such as preceptors.

Conclusions

Lateral violence is prevalent in magnet-designated and non-magnet-designated hospitals. Five themes emerged from the data. The themes were: Not wanting to go back to work, being screamed or yelled at, not allowed to ask questions, I had anxiety, and being put down or talked down to. This study provided insight into lateral violence in magnet-designated hospitals and supports the need for additional research on this population. Quantitative studies can be conducted to explore lateral violence among nurses working in magnet-designated hospitals to determine the incidence of lateral violence. The information obtained can be used to bring awareness to leadership in magnet-designated hospitals of the existence of lateral violence and the need to address negative behaviors.

Conducting research on nurses' perceptions regarding their involvement in innovative opportunities within magnet-designated hospitals is essential. Involving all nurses will help leadership to understand the challenges faced and concerns they may have in the workplace. Additional studies should be conducted within magnet-designated hospitals to understand leadership's approach to addressing lateral violence. Creating and sustaining healthy work environments for nurses is essential because lateral violence has a negative impact on patient outcomes, nurses, and the organization.

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SCOPING REVIEW

The Utilization of Aggression Risk Assessment Tools to Reduce WorkplaceViolence in the Emergency Department: A Scoping Review

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Abstract

Background: Aggression risk assessment tools provide a standardized assessment of behaviors in psychiatric patients to predict violent events. The utilization of an aggression risk assessment tool on behavioral health patients (BH) to reduce workplace violence in the emergency department (ED) is unknown. ***Objectives:*** The review aims to identify and synthesize the existing literature on aggression risk assessment tools for the reduction of workplace violence (WPV). It also aims to examine the feasibility of five tools identified in research for potential adoption in behavioral health patients treated in the emergency department. ***Methodology*:** This is a scoping review using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standards. A search of electronic databases between 2018-2022 included the Cumulative Index of Nursing and Allied Health Literature (CINAHL), Academic Search Premier, Health Source: Nursing Academic Search Premier, Health Source: Nursing Academic Edition, and MEDLINE. ***Results*:** The 12 research studies used in this scoping review demonstrate that aggression risk assessment tools are predictive of violence and may reduce the incidence of workplace violence. The feasibility of adopting an aggression risk assessment tool in the emergency department should consider imminent violence, dynamic risk factors, and ease of utility. The Dynamic Appraisal of Situational Aggression (DASA) and the Brøset Violence Checklist (BVC) are identified as the most feasible for the emergency department with increased evidence supporting the utilization of the Brøset Violence Checklist. ***Limitations:*** The studies included did not examine the exact patient population in the setting desired as there were limited publications. Additionally, the definition of violence in the studies varied. As a result, the findings may not have the same outcome on violence for behavioral health patients in the emergency department. ***Conclusion and Recommendations*:** While aggression risk assessment tools are found to be predictive of violence, additional research is required to understand the effect on behavioral health patients in the emergency department to reduce workplace violence. The Brøset Violence Checklist has potential feasibility of use, but further research is warranted.

Keywords: Workplace Violence, Risk Assessment, Emergency Department, Behavioral Health, Patient Violence

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The Utilization of Aggression Risk Assessment Tools to Reduce Workplace Violence in the Emergency Department: A Scoping Review

Workplace violence (WPV) is a significant issue for nurses across the nation, contributing to burnout and job dissatisfaction. The Occupational Safety and Health Administration (OSHA) defines WPV as the potential or active threat of disruptive behaviors including verbal or physical violence, intimidation, and harassment at work (Ching Lim et al., 2022). According to the U.S Bureau of Labor Statistics, healthcare workers are five times more likely to experience serious injuries related to WPV than any other occupation (The Joint Commission, 2021). Unfortunately, these data may be greatly underreported, leading to concern over the wellbeing of healthcare teams and the potential normalization of violence in the workplace. In the emergency department (ED), caring for behavioral health (BH) patients may increase the risk of violent incidents experienced by nursing professionals due to the unpredictable nature of this patient population (Costumbrado et al., 2022). Aggression risk assessment tools offer an objective, structured assessment for the identification of behaviors to predict violent events. This potential intervention targets the early identification of potentially violent patients and may be utilized by nurses to decrease WPV.

Background

The effects of WPV expand past an individual's physical well-being, but also to their psychological well-being. It may lead to depression, post-traumatic stress disorder (PTSD) and anxiety, potentiating high turnover rates and burnout of nursing professionals (Havaei et al., 2022). This negatively affects patient care. For an organization, the frequency of WPV can create a hostile work environment and lead to the dissatisfaction of team members (Galanis et al., 2023). WPV has a significant financial impact on the victim and the organization who must endure costly healthcare expenses related to the incident. On average, WPV costs the United States (U.S.) 151 billion dollars each year (Chapin & Dietrich Koller, 2022). This cost may be avoided with appropriate interventions aimed at early identification of potentially violent patients.

The ED is a portal of entry for the treatment of BH patients who may be undiagnosed with psychiatric disorders or sent for immediate stabilization during a psychiatric crisis. With the lack of available beds in psychiatric facilities, BH patients may wait in the ED and become "boarders" for a few days until accepted. These particular encounters pose a higher risk for WPV to occur. BH patients can be defined as individuals who experience behavioral disturbances, mental health diagnosis, or substance use disorders. With scarce information on a patient's past medical history upon presentation to the ED, the nurse relies solely on subjective assessment skills to gauge the risk for imminent violence, those occurring within 24 hours, or when to initiate interventions to reduce patient aggression. The lack of objectivity in determining whether a patient may become violent is controversial because each ED nurse perceives the level of aggression differently.

Current approaches to manage violence appear to be reactive rather than proactive. As of January 2022, the Joint Commission (TJC) (2021) recognized the severity of this problem and revised its standards to include the active prevention of WPV to improve outcomes for patients and healthcare workers. As a result of this mandate, healthcare organizations must develop an action plan. While there are no standardized interventions across EDs for the reduction of WPV, there are a variety of methods to manage violence, including hospital security threat protocols, physical restraints, and chemical restraints (Black Parker, 2019). During security threat protocols, multiple nonclinical team members including security officers may respond to an alleged WPV incident with excessive force, potentially causing injuries to the patient. During these encounters, the nonclinical team members may hold down the patient for the nurse to administer chemical or apply physical restraints, which is associated with poorer patient outcomes, such as physical harm, nutritional deficiencies, falling, pressure injuries, and incontinence (Black Parker, 2019; de Bruijn et al., 2020). Physical restraints refer to equipment applied to physically restrict the movement of a patient's limbs. The use of physical restraints can pose an ethical dilemma when used based on subjective clinician judgement (de Bruijn et al., 2020).

Chemical restraints refer to medications administered to sedate an individual, such as Lorazepam (Ativan) or Haloperidol (Haldol), to decrease aggressive and combative behavior. In some cases, these management strategies may be enacted prematurely based on subjective clinical assessments, raising ethical and quality questions. Thus, the subjectivity of initiating physical or chemical restraints is controversial and should be approached with caution. Current WPV prevention practices focus on managing violence after it has occurred, exposing a gap in care and safety. The effects of utilizing aggression risk assessment tools to decrease the incidence of WPV in BH patients of the ED is unknown. To better understand these effects, the purpose of this scoping review is to analyze the available evidence and to determine if the existing tools can be adopted in the ED.

Methods

Objective

The scoping review aims to identify and synthesize the existing literature on aggression risk assessment tools for the reduction of WPV. In particular, the review will examine the feasibility of five tools for potential adoption in BH patients located in the ED. The adoption of a standardized aggression risk assessment tool for use in BH patients of the ED can potentially offer a proactive approach in promoting safety among nursing professionals and provide high- quality care to BH patients.

Design

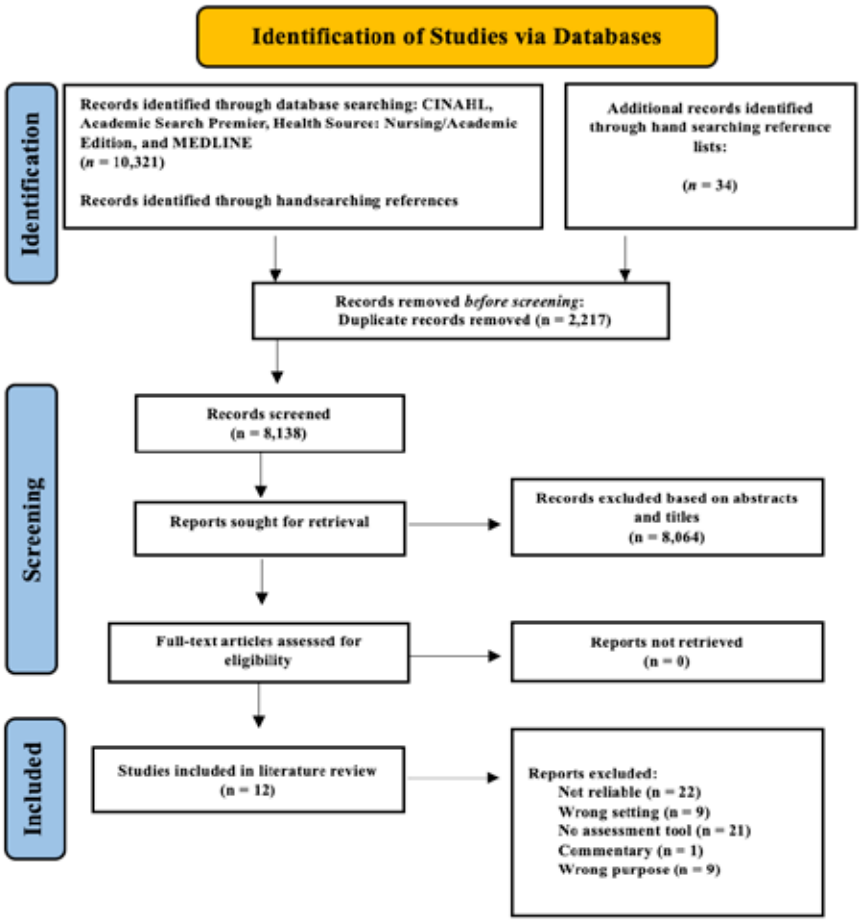
The review was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) standards as shown in Figure 1 (Page et al., 2021). The research question that steered this review was, "Among adult behavioral health patients (18 years or older), does utilizing an aggression risk assessment tool decrease the incidence of violence during their stay in the emergency department?" The following steps were used to conduct the search: 1) identify a research question, 2) perform a literature search, 3) determine pertinent studies, 4) synthesize the data, and 5) formulate conclusions.

Search Strategy

A search of databases including the Cumulative Index of Nursing and Allied Health Literature (CINAHL Ultimate with full text), Academic Search Premier, Health Source: Nursing Academic Search Premier, Health Source: Nursing Academic Edi-

Figure 1

Study Selection Process



Note: Adapted from PRISMA Flow Diagram (Page et al., 2021).

tion, and MEDLINE was performed. The search strategy utilized synonyms, SmartText searching, and key terms. Search terms included "violence risk assessment tool," "effect" AND "aggression risk assessment tool," "violence risk assessment" AND "behavioral health," "violence risk assessment" AND "emergency," and "agitation management." Hand-searching reference lists from articles screened, aided the acquisition of further knowledge. Only peer-reviewed, full-text articles were evaluated.

Articles were included if they met the following criteria: 1) available in English; 2) examines predictive validity of risk assessment tools; 3) describes a patient population similar to BH patients; 4) adults age 18 years and over (with an exception of one article with patients 10 years and older incorporated due to its statistical significance and setting in the ED); 5) publications between 2018-2022 (with exception of three that were selected by hand-searches because they added significance). Exclusion criteria included: 1) publications that are narratives, perspectives, or commentaries; 2) does not explicitly mention risk assessment tools; 3) describes long-term care settings; and 4) lacks measurement of patient violence as an outcome.

Search Outcomes

The search yielded 10,321 results with an additional 34 articles chosen for review from hand searching reference lists. Duplicates (n=2,217) were removed prior to screening and those with irrelevant abstracts and titles were discarded (n=8,064). A remainder of 74 full-text records were manually reviewed and 62 were discarded because of unreliable studies (n=22), incorrect setting or patient population (n=9), no risk assessment tool used (n=21), commentary (n=1), and wrong purpose (n=9). A total of 12 articles were carefully selected based on the eligibility criteria and the purpose of the current review. A total of 21 tools were identified, but only five will be examined based on increased evidence for predictive validity and potential feasibility in the ED clinical setting.

Synthesis of Results

The number of articles included in this review suggests research on the utilization of an aggression risk assessment tools for BH patients located in the ED is limited. The examination of the included studies is organized by outlining important considerations when selecting a tool for adoption: how violence is defined, the dynamic or static factors used in assessment, and ease of utility for nurse documentation (Table 1). It is further categorized by the type of tool: Historical, Clinical, Risk Management-20 Factors (HCR-20), Aggressive Behavior Risk Assessment Tool (ABRAT), Short-Term Assessment of Risk and Treatability (SMART), Dynamic Appraisal of Situational Aggression (DASA), and the Brøset Violence Checklist (BVC).

Definition of Violence

The definition of violence provided in 11 of the 12 articles slightly differed among the publications and 10 articles specified a predictive timeframe of violence called imminent violence which varied between 24 to 72 hours across the studies. Chu et al. (2013) refers to violence as verbal threats or interpersonal violence, such as acts of hitting, punching, or kicking. Connor et al. (2020) defined violence based on interventions needed: administration of intramuscular sedatives or leather restraints. Other studies like Sharifi et al. (2020) follow official definitions from the World Health Organization (WHO) declaring violence as the threat or act causing physical or psychological harm. The systematic and literature reviews included mention challenges in comparing studies due to variance in definition (Dickens et al., 2020).

Dynamic Versus Static Factors

The aggression risk assessment tools assess various types of patient risk factors and is categorized as dynamic or static. Anderson and Jenson (2018) describe static factors as those that are unmodifiable, such as demographic or medical history. Dynamic factors are modifiable like boisterousness or the attitude of a patient (Chu et al., 2013). The tools evaluated in this review are composed of a combination of both static and dynamic factors, such as the HCR-20 and ABRAT, or solely dynamic factors like START, DASA, and BVC. Multiple studies support the use of dynamic factors in short-term length of stay (LOS) settings (Anderson & Jenson, 2018).

Ease of Utility

Six articles compare ease of tool utility. The studies discuss all of the tools except START. Kim et al. (2022) note that ABRAT could be completed in two minutes and has been built into the electronic health record (EHR) allowing for quick implementation. The HCR-20 is discouraged due to extensive chart reviews for historical data and an average time for completion was not provided (Ghosh et al., 2019). In comparison, Griffith et al. (2013) and Ghosh et al. (2019) reveal that DASA takes less than five minutes to complete and has received positive feedback from nurses. Similarly, nurses report the BVC is convenient since it can be completed within one to three minutes (Moursel et al., 2018).

HCR-20

The Historical, Clinical, Risk Management-20 Factors (HCR-20) is composed of 20-items: 10 static, five dynamic, and five risk factors (Chu et al., 2013). Each are rated on a 3-point scale providing a risk score (Chu et al., 2013). According to statistical analysis, the studies agreed that HCR-20 had a good area under the curve (*AUC*), *AUC* = 0.72 with 95% CI [0.65-0.79] revealing predictive validity (Chu et al., 2013). However, the sample size was small (n=70), raising concerns over the reliability of the data.

ABRAT

The Aggressive Behavior Risk Assessment Tool (ABRAT) is a 17-item assessment rated on a 2-point scale (Kim et al., 2011). Kim et al. (2011) performed a prospective study on medical-surgical patients with a sample size of n=2,726 to assess imminent violence within 24 hours. The researchers found that it had a strong predictive validity with an excellent *AUC* = 0.82 and 95% CI [0.75-0.90] (Kim et al., 2011). In a second prospective study, Kim et al. (2022) modified ABRAT into a seven-item tool and assessed all triage patients entering the ED. The sample size was even larger at n=10,554 with statistical significance AUC = 0.91 with 95% CI [0.87-0.95], corroborating reliability and predictive validity (Kim et al., 2022). This study reported a sensitivity of 84.3% with a 95% CI [0.795-0.899] and specificity of 95.3% with 95% CI [0.948-0.957] meaning ABRAT is able to identify violent patients correctly at 84.3% of the time. Despite this, the nurse documentation compliance rate was low (44.8%), making the data possibly unreliable (Kim et al., 2022).

START

The Short-Term Assessment of Risk and Treatability (START) tool includes 20 dynamic risk factors scored on a 3-point system in psychiatric settings to determine if patients would become violent within 72 hours of admission (Anderson & Jenson, 2018). In statistical analysis, START had good *AUC* scores, *AUC* = 0.714, but excluded the CI (Anderson & Jenson, 2018). Doubts for reliability stemmed from the small sample size n=30 (Anderson & Jenson, 2018).

DASA

The Dynamic Appraisal of Situational Aggression (DASA) aims to identify violent BH patients within 24 hours of the assessment (Connor et al., 2020). This seven-item tool uses a 2-point rating scale (Connor et al., 2020). Based on the six publications that evaluated DASA, its predictive validity is supported by an *AUC* = 0.70 and 95% CI [0.77-0.82] (Connor et al., 2020). Connor et al. (2020) performed a retrospective cohort study in the ED with a reliable sample size of n=1,548. Furthermore, a randomized controlled trial performed by Griffith et al. (2013) with a blinded control and experimental group provided predictive validity of AUC = 0.707 at a 95% CI [0.664-0.747] and accounted for confounding variables by excluding temporary or contracted staff, but had recruitment bias though voluntary staff participation.

BVC

The Brøset Violence Checklist (BVC) is utilized in acute psychiatric settings and is based on six-items assessed on a 2-point system (Ghosh et al., 2019). Anderson and Jenson (2018) reported the BVC as one of the top tools for predictive validity with an excellent AUC = 0.93, AUC = 0.85, and a sensitivity of 62.8% with a specificity of 96.2%, meaning 96.2% of expected violent patients were actually violent. Summat et al. (2022) discussed in a systematic review how Partridge and Affleck (2018) had a large sample size (n=2,064), promoting reliability. Dickens et al. (2020) reported that a randomized controlled trial found that the BVC decreased the incidence rate of violence and reduced the rate of staff needing coercive measures by 27%. Sharifi et al. (2020) reported a decrease in verbal abuse from 89.2% to 45.9%.

Table 1

Synthesis Table of Aggression Risk Assessment Tool Themes in the Literature

Themes Identified	Sammut et al. (2022)	Kim et al. (2022)	Sharifi et al. (2020)	Dickens et al. (2020)	Connor et al. (2020)	Ghosh et al. (2020)	Moursel et al. (2018)	Anderson & Jenson (2018)	Partridge & Affleck (2018)	Chu et al. (2013)	Griffith et al. (2013)	Kim et al. (2011)
Classification of Risk Factors (Static or Dynamic)				X		X		X		X		
Ease of Utility	X	X		X		X	X	X				
Definition of Violence	X	X	X	X	X	X	X	X		X	X	X

Note: One study did not discuss the themes collectively identified.

Discussion

The objective of this scoping review is to identify and synthesize the current literature on aggression risk assessment tools for the identification of potentially violent BH patients to reduce WPV in the ED. The review includes studies that offered insights on key considerations when selecting a tool for implementation and five tools with potential for adoption by the ED. The purpose is to describe knowledge gaps that exist and reveal an opportunity for future research on the utilization of the aggression risk assessment tools in this setting.

The findings of the scoping review provide substantial evidence on the predictive nature of aggression risk assessment tools. Although a limited number of publications were identified specifically for the utilization with BH patients of the ED, the results may be potentially generalizable. There is statistically significant evidence on the reduction of violence in the same patient population, but in a different setting. According to the studies evaluated, risk assessment tools are a valuable resource to nurses in preventing imminent violence through early identification of patients deemed as high-risk. Early identification can help reduce the incidence of violence among BH patients of the ED by de-escalating a patient before their aggression progresses. With an objective assessment replacing current subjective clinical judgement, effective management of violence in the ED can occur.

Reviewing the best tool for implementation in the desired setting requires understanding special considerations of the environment and its characteristics. Collective themes in the literature reveal noteworthy considerations when selecting a screening tool: assessment of violence, classification of risk factors, and ease of utility. To implement an aggression risk assessment tool in the ED, a few criteria must be met. Ideally, the tool needs to be able to predict violence for a short duration of time since the LOS in the ED is relatively short compared to inpatient psychiatric units where patients may stay for weeks. Imminent violence as reported in the literature often refers to a timeframe within 24 hours to 72 hours and reported to be more predictable when assessing for dynamic versus static risk factors (Dickens et al., 2020). Frequently, BH patients presenting to the ED have little medical history to provide the healthcare team during a mental health crisis. Due to the manner in which patients arrive in the ED, a tool excluding historical factors would be more suitable. Thus, tools specifically utilized for predicting imminent violence within 24 hours and inclusive of dynamic risk factors compared to static should be considered.

Another characteristic that impacts the type of tool selection is its ease of utility. This is an important consideration prior to implementing a tool in the ED. Depending on the length of time needed to complete the tool, it can directly impact whether or not the intervention will be successful. The ED is fast-paced and aims for immediate stabilization of patients. Therefore, tools that can be completed quickly are preferred. Documentation and difficult to complete tools negatively impact the time a nurse spends with a patient. It also delays interventions and reduces the quality of care.

Five tools most relevant for use among BH patients of the ED were identified as HCR-20, ABRAT, START, DASA, and BVC. The HCR-20 was determined to have poor feasibility. It is a lengthy 20-item assessment that assesses static risk factors and is not easy to use (Ghosh et al., 2019). Despite the predictive validity of ABRAT, a scarce number of studies exist, excluding those published by the founder of the tool which can be potentially biased. Furthermore, the static factors and the 17-item checklist makes ABRAT impractical in the ED due to time constraints. While START incorporates only dynamic risk factors, it has a 20-item assessment. Of these five tools, the DASA and BVC are the most studied and validated, as well as found to be reliable, and feasible. The DASA and BVC assess dynamic factors for imminent violence and offer ease of utility through a 7-item and 6-item tool, respectively.

Many publications and studies support the use of aggression assessment tools in psychiatric patients; but further research is needed to test the predictive validity of risk assessment tools specific to BH patients in the ED since these are not currently standard practice. Between the BVC and DASA, the BVC is found to be slightly more predictive with more precise statistical data. However, the lack of experimental studies published on this population limits generalizability. For that reason, additional research is necessary.

There is no statistically significant data on the utilization of aggression risk assessment tools specified for BH patients of the ED that was identified in this review. One study had statistically significant data utilizing ABRAT in the ED, but it was not specific to BH patients and assessments were only performed upon patients' arrival at the triage area. Studies dedicated to examining this particular population and setting will offer novel information. Incorporating specificity and sensitivity, as well as implementing inter-rater or interobservers standards, will confirm the reliability of the assessment tools. Additionally, many studies reviewed had small sample sizes, affecting the generalizability and validity of

the results. Larger sample sizes will provide better understanding of the effect that aggression risk assessment tools have on WPV.

Future research should focus on performing studies specifically among BH patients of the ED, as well as formulating guidelines for implementation. There is also a need to explore the frequency that assessments should be performed, whether upon admission, once every shift, or as needed. The proposal of standardized interventions based on the risk ratings will support nurses in intervening before behaviors escalate. Lastly, data collected should consider the effect that the utilization of risk assessment tools has on the frequency of physical and chemical restraints usage.

The findings of the scoping review have potential implications on WPV and nursing practice. With the Joint Commission's updated standards effective January 2022, EDs will need to improve their workplace violence prevention plans. This is an opportunity to pilot the use of an aggression risk assessment tool, such as the BVC, to reduce the incidence of violence and promote early intervention. Since the coronavirus (COVID-19) pandemic, EDs are caring for almost double the amount of BH patients than previously (Alvarez Romero et al., 2022). The unpredictability of BH patients present a risk for higher incidence of WPV if no proactive interventions are in place. This concern also has implications for burnout and turnover of the nursing workforce. The improvement of WPV may also improve staff retention rates. Perhaps the most important implication is on nursing practice. Standardizing risk assessments for BH patients in the ED is not only needed for the reduction of violence for nurse safety, but it provides better nursing care to patients. Utilization of a tool would provide the opportunity for nurses to reduce the frequency of forceful and potentially traumatic management of aggression, leaving patients and families safer and more satisfied.

Limitations

Although a comprehensive review of the literature was performed with thorough analysis of the publications selected, a few limitations should be noted. First, not all articles had a clear definition of violence. There were inconsistencies in the definitions provided in the literature, affecting the comparability. A few studies did not provide any clarification of what actions or behaviors were considered as violence. This impacts what was measured, possibly leading to underreporting of WPV and affected the tool's validity. Secondly, despite the objectivity with using a standardized risk assessment tool, subjectivity may still play a role because not every study reported inter-rater reliability to verify that the initial nursing assessment score produced was accurate and consistent by the primary rater. This affects the tool's predictive validity. Lastly, the lack of published research on the specific patient population and setting of the review might lead to differences in results upon application.

Conclusion

Numerous aggression risk assessments tools have been successful in the early identification of behaviors associated with agitation in psychiatric patient care settings to prevent WPV. The adoption of a tool in this patient population presenting to the ED may offer similar results. Based on the findings, the tool should be useful in identifying imminent violence, assessing dynamic risk factors, and should be easy to use. Additional research is needed to determine the effect of aggression risk assessment tools on BH patients specifically located in the ED. This will enhance the generalizability, reliability, and feasibility of its utilization in this setting.

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Promoting Physical Activity in Young Adults with Type 1 Diabetes

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Abstract

Background: Physical activity (PA) is an important component of self-management for young adults with type 1 diabetes (T1D), but very few achieve recommended levels. ***Objective***: The purpose of this pilot study was to improve PA levels by implementing a PA intervention in a diabetes center with young adults aged 18-25 with T1D. ***Methods***: A hybrid model was used to implement the intervention in an academic medical center and collect data on the preliminary efficacy. PA levels were assessed in all participants (n=15), who were counseled on PA by the diabetes staff and then wore a Fitbit to monitor their PA, with step-count data syncing to their electronic health record (EHR). The primary outcomes were changes in self-reported PA and Fitbit step-counts over 12 weeks. An exploratory aim assessed factors associated with PA, including depressive symptoms and fear of hypoglycemia. Descriptive statistics were used to describe all variables. The RE-AIM model was used to evaluate the implementation.
Results: The sample mean age was 19.6±1.8 years. The majority were female (n=10), White (n=11), and full-time students (n=13). Step-counts rose during the first 6 weeks but returned to baseline at 12 weeks. All participants' PA levels were assessed, and they received counseling from the diabetes staff. ***Limitations***: This was a pilot study in one academic setting with a homogenous sample of participants. ***Conclusions***: PA assessment and counseling for this population can be implemented during a clinical visit. Having patients enter their own PA data electronically may facilitate data collection.

Keywords**:** Physical Activity; Type 1 Diabetes; Counseling

Conflicts of Interest: The authors declare that there are no conflicts of interest.

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Over 1.6 million adults age 20 and above have type 1 diabetes mellitus (T1D) (Centers for Disease Control and Prevention [CDC], 2022). Diabetes is associated with an increased risk of cardiovascular disease (CVD) (Benjamin et al., 2019), but controlling risk factors can prevent or slow the progression of CVD (American Diabetes Association, 2018). The incidence of CVD is associated with longer diabetes duration (Shah et al., 2020). Thus, primary CVD prevention education should be addressed early, as younger adults with lower levels of CVD risk factors can look forward to lower cardiovascular and all-cause mortality (Michos & Khan, 2021).

The cardiovascular health in a large national registry of adults with T1D (n=7153; mean age 37±17) revealed that in a fairly young sample with T1D, control of CVD risk factors was poor and suggests a strong need for interventions to minimize risk: 27% had a hemoglobin A1c < 7% (53mmol/mol); 33% engaged in 150 minutes/week of physical activity (PA); 42% had a body mass index <25 kg/m2; and 46% had a blood pressure <120/80mmHg (McCarthy et al., 2016). Specifically, meeting PA guidelines alone could significantly improve body fat, body mass index, blood glucose, and cardiorespiratory fitness (Lauer et al., 2017).

The most recent (2018) U.S. PA Guidelines recommend that adults engage in at least 150 minutes/week of moderate-to-vigorous PA (2018 Physical Activity Guidelines Advisory Committee, 2018). The American Heart Association (AHA) and American College of Cardiology have recommended that healthcare providers (HCPs) counsel patients on adopting PA guidelines (Eckel et al., 2014). Routine PA is one of eight components of ideal cardiovascular health (Lloyd-Jones et al., 2022), yet it is not regularly assessed, nor are patients routinely counseled on achieving ideal levels. PA is an important component of diabetes lifestyle management for the prevention of CVD (American Diabetes Association, 2021). Counseling those with T1D can be incorporated into clinical care (McCarthy et al., 2022). In a survey of pediatric endocrinologists (n=84), the majority felt PA promotion was a priority, but awareness of the correct American Diabetes Association guidelines for PA was poor, and most recommended levels of PA were too low (Ilkowitz & Gallagher, 2018). Although PA counseling trends are improving, little has been done in terms of routinely assessing PA in a standardized way (Sallis, 2015). Assessing PA in the clinical setting is one approach that may facilitate a discussion between patient and provider on PA habits (Nelson et al., 2020).

The purpose of this study was to address this gap in clinical care by pilot testing an intervention that included PA assessment, counseling, and monitoring in the clinical setting where young adults with T1D seek diabetes care. This included the collection of the PA vital signs (PAVS) (Sallis et al., 2016). These PA screening questions allow the clinician to quickly assess if the patient is meeting the current guidelines for recommended PA. Therefore, the two specific aims of this study, using a hybrid effectiveness-implementation model (Curran et al., 2012), were to 1) evaluate the pilot implementation of the PAVS, PA counseling, and home monitoring of PA data in an academic pediatric diabetes center; and 2) assess the preliminary clinical efficacy of the intervention on PA levels in a small sample of young adults age 18-25 with T1D. An exploratory aim was to assess the levels of possible barriers (depressive symptoms, fear of hypoglycemia, and other potential barriers) to PA in young adults with T1D.

Methods

Intervention, Setting, and Sample

This pilot intervention study in a pediatric diabetes center was based on a hybrid implementation model focusing on both the implementation and the clinical efficacy of the intervention (Curran et al., 2012). A type 3 hybrid design tests the implementation of an intervention strategy while at the same time collecting information on the clinical intervention and related outcomes. In this study, we tested the three components of the PA intervention (assessment, promotion, and monitoring of PA) and collected data on the intervention and patients' PA levels following the intervention. The director of the pediatric diabetes center and the research nurse, also a certified diabetes care and education specialist, collaborated on the design of this intervention. The setting for this intervention was an academic medical center outpatient diabetes center. The intervention included the PAVS assessment done by the certified diabetes care and education specialist, who would enter the data into the electronic health record. This would be followed by PA counseling by the physician or certified diabetes care and education specialist. A convenience sample of patients aged 18-25 with T1D were then offered participation in the remote home monitoring for PA. This involved wearing a Fitbit Zip activity monitor daily for the 12 weeks following the PA counseling. After an initial setup, step count data from the Fitbit synced automatically through MyChart, the patient portal, to their Epic electronic health record (EHR), where they would be visible to their healthcare providers. The providers were able to elect how often and at what threshold they would get notifications about the step-count home monitoring data. The appropriate Institutional Review Board approval was obtained for this study. The study team obtained informed written consent prior to participation in the remote patient monitoring.

Measures

Baseline data, including body mass index and hemoglobin A1c, were collected from the electronic health record. Hemoglobin A1c was also collected at 12 weeks. Other baseline data collection included surveys on sociodemographics, changes in diet and insulin around times of PA, depressive symptoms, fear of hypoglycemia, and barriers to PA, these last three being factors that may influence levels of PA.

Depressive symptoms were collected using the Patient Health Questionnaire-9 (PHQ-9), a common measure that assesses the severity of depressive symptoms during the last two weeks (Kroenke et al., 2001). Hypoglycemia Fear Survey-II, a valid and reliable survey with 33 items ($\alpha = 0.94$), was used to assess the behavioral and affective dimensions of the fear of hypoglycemia (Gonder-Frederick et al., 2011). Barriers to PA in Type 1 Diabetes Scale (BAPAD-1) is a validated 12-item scale that assesses likely barriers to PA over the next six months (α=0.85) (Brazeau et al., 2012)these barriers can vary. The aim of this study was to assess the reliability and predictive validity of the 'Barriers to Physical Activity in Type 1 Diabetes' (BAPAD-1.

The PAVS, collected at baseline and 12 weeks, is a valid tool that consists of three questions: 1) On average, how many days per week do you engage in PA or exercise?; 2) On average, how many total minutes of PA or exercise do you perform on those days?; and 3) Describe the intensity of your PA or exercise (light=casual walk, moderate=brisk walk, or vigorous=jogging (Ball et al., 2016; Sallis et al., 2016).

Step-counts were measured by the Fitbit Zip, which correlates highly with the step-count data from the ActiGraph (r's = .72, .92, .96) (Schneider & Chau, 2016). Participants were asked to wear the Fitbit all waking hours for 12 weeks. Lastly, participants answered five questions on changes made to diet and insulin before, during, or after exercise, which was based on questions used in the Type 1 Diabetes Exchange Registry survey, a national database of children and adults with T1D (Beck et al., 2012).

Given the dual focus on implementation and clinical efficacy of the intervention, the RE-AIM model was used to assess the implementation of the pilot intervention (Glasgow et al., 1999) environmental, and individual components should be evaluated with measurements suited to their settings, goals, and purpose. In this commentary, the authors propose a model (termed the RE-AIM model. This model allows researchers to evaluate the public health impact of an intervention, focusing on five dimensions: reach, efficacy, adoption, implementation, and maintenance.

Data Analysis

The mean (SD) and n (%) of participant demographics and all surveys were calculated at baseline to describe the sample. The PHQ-9 total score was categorized with ≥ 10, indicating elevated depressive symptoms (Kroenke et al., 2009). Fitbit Zip step counts were downloaded for 12 weeks. To calculate the total minutes per week of PA from the PAVS that accounts for the intensity of PA, the following standard calculation was used (Exercise is Medicine, 2017): light activity time will be multiplied by 0 (light activity is not included in PA recommendations but is collected to acknowledge all attempts at PA and encourage increased intensity); moderate activity time will be multiplied by 1; and vigorous activity time will be multiplied by 2. The PAVS was then categorized into no PA, some PA (1-149 minutes), and ≥ 150 minutes.

The RE-AIM model (Glasgow et al., 1999)environmental, and individual components should be evaluated with measurements suited to their settings, goals, and purpose. In this commentary, the authors propose a model (termed the RE-AIM model was used to assess the implementation of the intervention. This included data on reach, efficacy, adoption, implementation, and maintenance.

Results

Sample Characteristics

This was a sample of 15 young adults with T1D who consented and enrolled in the study between August 2018 and August 2019. The majority were female (n=10), White (n=11), and full-time students (n=13). The mean age was 19.6±1.8 years, with a mean diabetes duration of 9.4±5.3 years (Table 1).

Physical Activity: PAVS, Fitbit steps, and Changes to Diet and Insulin

The mean PAVS collected at baseline and 12 weeks was virtually unchanged (253±375, 253±353 minutes of moderate-to-vigorous PA per week, respectively). Mean baseline Fitbit steps for week 1 (n=12) were 5419±2437 steps/day (37,932±17,058/week). In week 12 (n=8), mean daily steps were 5240±2589 (36,677±18120/week).

Table 2 shows the participants' responses when asked about changes they made to their diet or insulin around the time of exercise. Although not an outcome of the study, hemoglobin A1c remained essentially unchanged: 8.1±1.6 (65mmol/mol) at baseline and 8.1±1.5 (65mmol/mol) at 12 weeks.

Table 1
Sample Characteristics (n=15)

Characteristic	Mean (SD) or n (%)
Age	19.6±1.77
Sex	
Female	10 (67%)
Male	4 (27%)
Transgender	1 (7%)
Race	
White	11 (73%)
More than 1 race	3 (20%)
Asian	1 (7%)
Ethnicity	
Non-Hispanic	9 (60%)
Hispanic	3 (20%)
Not reported	3 (20%)
Marital Status	
Single	15 (100%)
Education in years from grade 1	14.1±1.8
Student Status	
Full-time	13 (87%)
Part-time	2 (13%)
Employment Status	
Part-time	9 (60%)
Not employed	6 (40%)
If employed, # hours worked per week	13.8±11.3
Duration of T1D	9.4±5.3
Hemoglobin A1c	
Baseline	8.1±1.6
12-weeks	8.1±1.5
Complications from T1D (heart, nephropathy, retinopathy, neuropathy)	0
Body Mass Index	
Under weight	1 (7%)
Normal weight	7 (47%)
Overweight	4 (27%)
Obese	3 (20%)
Use of physical activity tracker	
Never	8 (53%)
In the past	3 (20%)
Currently using one	4 (27%)
BAPAD-1 score	31±12
Hypoglycemia Fear Score	
Total	74.4±18
Behavior	33±8.4
Worry	42±12
PHQ-9 mean score	4.1±3.1
Depression (PHQ-9 > 10)	1 (7%)
Physical Activity Vital Sign (minutes/week of moderate-to-vigorous PA)	
Baseline	253±375
12-weeks	253±353

Note. T1D=type 1 diabetes; BAPAD=barriers to physical activity; PHQ=patient health questionnaire; PA=physical activity

Table 2

Changes to Diet or Insulin When Exercising with Type 1 Diabetes

Action	N (%)
BEFORE exercise, how often do you eat or drink carbohydrates to PREVENT a low blood sugar?	
Never	1 (7%)
Rarely	0 (0%)
Sometimes	8 (53%)
Most of the time	4 (27%)
Always	2 (13%)
DURING exercise, how often do you eat or drink carbohydrates to RAISE a low blood sugar?	
Never	0 (0%)
Rarely	4 (27%)
Sometimes	7 (47%)
Most of the time	0 (0%)
Always	4 (27%)
Do you usually make any changes in insulin either BEFORE or DURING exercise?	
Yes	9 (60%)
No	6 (40%)
If you make changes, what changes do you usually make? (Check all that apply	
Lower dose of rapid acting insulin before exercise	6 (40%)
Lower dose of long-acting insulin before exercise	0 (0%)
Suspend or lower basal rate on pump before or during exercise	6 (40%)
Do you usually make any changes in insulin AFTER exercise?	
Yes	7 (47%)
No	8 (53%)
If you make changes, what changes do you usually make? (Check all that apply)	
Lower dose of rapid-acting insulin after exercise	4 (27%)
Lower dose of long-acting insulin after exercise	1 (7%)
Suspend or lower basal rate on pump after exercise	5 (33%)
Suspend or lower basal rate on pump OVERNIGHT after exercise	1 (7%)

Process Evaluation of the Intervention Implementation

Table 3 summarizes the process evaluation data over time using the RE-AIM framework. Of those enrolled (n=15), most remained in the study (13/15 or 87%). There were no clinically meaningful changes in the PAVS, step counts, or hemoglobin A1c over 12 weeks. All 15 participants received counseling on PA. In the initial plan, the medical assistants were to collect the PAVS data and enter it into the EHR. Instead, the certified diabetes care and education specialist collected the PAVS data and then counseled the patients accordingly.

Evaluation of Potential Barriers to PA

The mean PHQ-9 was 4.1±3.1, and one participant had a score ≥ 10, indicating depressive symptoms. The Hypoglycemia Fear Survey-II total score was 74.4±18 (sample range of scores 47-100). In the BAPAD-1 scale, the three items that scored as the highest barriers to PA were: work schedule (4.3± 2.2), a low fitness level (3.3± 2.4), and risk of hypoglycemia (3.2± 1.9).

Discussion

This study was a pilot test of PA assessment, promotion, and monitoring in a sample of young adults with T1D in a busy academic pediatric diabetes center. Our dual foci were to evaluate the implementation and assess the clinical efficacy of improving PA, both of which will guide our next steps of integrating PA into the clinical care of individuals with T1D. Our process evaluation yielded valuable data and revealed some challenges to implementing PA assessment and counseling in a clinical setting. We were able to demonstrate that PA counseling is feasible and that patients are able to sync their Fitbit activity monitor to their MyChart account.

Having dedicated personnel to collect and enter these data from the patient as part of the check-in process is the first step in addressing PA. In a review of the collection of the PAVS or Exercise Vital Sign in primary care, medical assistants, clinic staff, and physicians were the dedicated personnel responsible for data collection in three studies (Wald & Garber, 2018). Alternatively, patients may enter their data as they check-in for an appointment. In an academic medical center preventive cardiology center, patients check in for their appointment using their patient portal or an electronic kiosk in the waiting room (McCarthy et al., 2021). This included answering the 3-question PAVS. Over 60 days, 72% of patients provided valid PAVS data from their patient portal or a single kiosk prompt. This method alleviates the need for clinic staff to collect the data during a busy clinical visit. After our pilot study in the pediatric diabetes center ended, the patients' PAVS data are entered into the EHR before the visit, with the medical assistant confirming its completion. The center's medical director then incorporates the PAVS data directly into the patient's note,

Table 3

Process Evaluation of Physical Activity Assessment and Promotion

RE-AIM Component and Method of Evaluation	Results
Reach	
Number of patients who agreed to participate	• 51 patients approached over 9 months; 15 consented • 13/15 at baseline; 7/13 at 12-weeks • 1 lost to follow-up and 1withdrew
% of participants where PAVS was collected	
Number of participants lost to follow-up	
Efficacy	
PAVS	• 253±375 minutes/week (baseline); 253±353 minutes/week (12 weeks) • 37,932±17,058/week 1; 36,677±18120/week 12 • 8.1±1.6 (baseline); 8.1±1.4 (12 weeks)
Step counts	
Hemoglobin A1c	
Adoption	
CDCES counsels patients on PA	• All 15 receive counseling on PA by certified diabetes educator • Physician orders remote home monitoring on 15 patients in study • All 15 participants are able to sync Fitbit to Epic through MyChart
Provider orders step count remote home monitoring in Epic	
Participants able to sync steps through MyChart	
Implementation	• Change from medical assistants to CDCES collecting PAVS data on check-in • CDCES collected PAVS and counseled all 15 patients on PA
Consistency/Adaptations of implementation	
Maintenance (Use of intervention over time)	
PAVS	• PAVS collection is lower at 12 weeks • Valid Fitbit data n=12 for week 1; n=8 for week 6; n=8 for week 12 • Physician orders of remote monitoring consistent over time
Fitbit Zip	
Remote home monitoring ordering by physician	

Note. RE-AIM = reach, efficacy, adoption, implementation, maintenance; PA= physical activity; PAVS=physical activity vital sign; CDCES=certified diabetes care and education specialist

including the PA counseling and recommendations given.

We also tested the ability of patients to engage in remote home monitoring of their step count data, which required only a one-time sync to Epic MyChart but regular syncing of their Fitbit to their smartphone or computer. Remote home monitoring of data allows the provider to see objective PA data at any time. These data may be particularly helpful to view just prior to or during a patient visit when the patient and provider can discuss the results and potential strategies to improve if necessary.

Remote patient monitoring can be integrated into clinical care. It has been used in various other clinical settings, including monitoring patients' PA progress in cardiology, neurology, and pulmonology settings (McCarthy et al., 2023). Our system of remote step count monitoring is integrated into the Epic database, resulting in more accessible access to the PA data for providers to review during a clinical visit.

In our assessment of preliminary efficacy, the self-reported PAVS was essentially unchanged. The step counts increased up to week 6 (our midpoint for data collection) and then went back down to week 1 levels by week 12. Our sample was not powered to detect significant changes, but this pattern may reflect a need to continually support and affirm efforts to improve PA. Our sample was not random and likely more interested in engaging in PA. However, we noticed that their self-reported PAVS was higher than what their step counts reveal. Achieving 150 minutes of moderate-to-vigorous PA per week requires approximately 49,000 steps per week (Tudor-Locke et al., 2011)frequency and intensity, e.g., 30min/day of moderate-to-vigorous physical activity (MVPA. Our sample reported a mean baseline PAVS greater than 150 minutes but averaged less than 49,000 steps, indicating self-reported PA overestimated their objectively measured PA. This is not unusual in self-report measures for PA. A sample of adults (n=2,372) self-reported higher daily PA than what was measured by accelerometry (49 vs 23 minutes/day) (Colley et al., 2018)372. This reinforces the need for objective measures of PA, even occasionally, to verify current activity levels.

Obtaining sufficient PA is important for young adults with T1D as a method of CVD risk reduction. PA can reduce CVD risk by improving cardiovascular fitness, muscle mass, muscle strength, insulin sensitivity, and body composition (Riddell & Peters, 2023). These benefits are important since high levels of overweight and obesity are evident in adults with T1D and were observed in our sample. Similarly, in a national sample of adults with T1D from the T1D Exchange Registry (n=7,153, mean age 37±17), 37% were overweight and 22% were obese (McCarthy et al., 2016)and duration was 19.5+/-13.5years. The majority (54%.

Although not a primary outcome, the hemoglobin A1c collected from the EHR at baseline and 12 weeks was unchanged. The hemoglobin A1c goal for nonpregnant adults with diabetes is <7% (53mmol.mol) (Association, 2020)general treatment goals and guidelines, and tools to evaluate quality of care. Members of the ADA Professional Practice Committee, a multidisciplinary expert committee (https://doi.org/10.2337/dc20-SPPC, and our sample was above that level. Although PA is a cornerstone of treatment for diabetes, the impact of PA on hemoglobin A1c in individuals with T1D is not as clear as it is for type 2 diabetes (Reddy et al., 2019). In a systematic review of 15 studies (13 in type 2 diabetes, 2 in T1D), endurance, resistance, or a combination of training exercises was found to significantly lower hemoglobin A1c in individuals with type 2 diabetes, but only one study in adults with T1D found combined exercise resulted in a clinically meaningful reduction in hemoglobin A1c (Rohling et al., 2016) but the effects of different training forms on metabolic control still remain unclear. The aims of this review are to summarize

the recommendations of 5 selected diabetes associations and to systematically review the effects of long-term supervised exercise interventions without calorie-restriction on glycemic control in people with type 1 and 2 diabetes focusing on resistance, endurance and combined training consisting of both endurance and resistance training. Methods: Literature searches were performed using MEDLINE for articles published between January 1, 2000 and March 17, 2015. Of 76 articles retrieved, 15 randomized and controlled studies met the inclusion criteria and allowed for examining the effect of exercise training in type 1 and 2 diabetes. Results: Diabetes associations recommend volume-focused exercise in their guidelines. In our analysis, all 3 training forms have the potential to improve the glycemic control, as assessed by HbA1c (absolute changes in HbA1c ranging from -0.1% to -1.1% (-1.1 to -12 mmol/mol. The authors concluded that there is a lack of evidence on the relationship between PA and T1D. However, regular PA can improve cardiorespiratory fitness, help maintain a healthy body weight, and potentially improve glycemia in those with T1D (Riddell & Peters, 2023).

Lastly, in exploring barriers to PA, we found 7% with elevated depressive symptoms, which is lower than other samples of adults with T1D. In the national sample from the T1D Exchange Registry (McCarthy et al., 2016)and duration was 19.5+/-13.5years. The majority (54%, 10% had a PHQ-8 ≥ 10, and in a subsample of those who were 18-24, 9% had a PHQ-8 ≥ 10 (McCarthy & Grey, 2018). In a smaller sample of adults with T1D (n=83, mean age 45±16.6), 22% had a PHQ-8 ≥ 10 (McCarthy et al., 2019). Further, in participants in the T1D Exchange Registry, increasing levels of depressive symptoms were associated with an increased odds of reporting no PA (McCarthy, Whittemore, et al., 2016). In assessing fear of hypoglycemia, the scores in our sample were higher than a large sample of adults with T1D (n=315, mean age 47 ± 15) whose total Hypoglycemia Fear Survey-II score was 67.3 ± 18.7 (Suteau et al., 2020). Fear of hypoglycemia was among the top three ranked barriers to PA, after-work schedule, and low fitness levels. Fear of hypoglycemia continues to be a significant barrier to achieving recommended PA in adults with T1D, with the frequency of hypoglycemia directly associated with this fear (Cigrovski Berkovic et al., 2021). Exploring barriers to PA with patients can be interwoven with diabetes self-management and education programs when discussing best practices for engaging in PA.

When nurses have the opportunity to counsel and educate their patients with T1D regarding the role of exercise in their diabetes self-management, they can refer to the current American Diabetes Association (ADA) Standards of Medical Care in Diabetes (American Diabetes Association Professional Practice Committee, 2022)2022. The ADA recommendation for most adults with either T1D or type 2 diabetes is at least 150 min of moderate- to vigorous-intensity aerobic PA weekly, spread over at least 3 days/week. If adults are younger and more physically fit, 75 minutes of vigorous PA may be sufficient. These guidelines are consistent with the 2018 PA guidelines for Americans (2018 Physical Activity Guidelines Advisory Committee, 2018). Progress toward a patient's PA goal, including discussing current barriers to PA and potential solutions, can be reviewed during clinical visits.

Limitations

The small and homogeneous sample in this pilot study was a limitation. The pilot study was not powered to find statistically significant differences in the pre-and post-test assessments, limiting the generalizability of the results. However, we were able to show that PA assessment, counseling, and monitoring can be integrated into clinical diabetes care. In our use of the Fitbit, we were limited to step counts and could not objectively assess the intensity of PA. Given that step counts are a common metric that is easy to use, we were able to generally assess whether participants were achieving recommended levels of PA. Lastly, our 12-week follow-up may have been too short to fully evaluate the effect of the PA counseling in the clinical setting on hemoglobin A1c. A longer follow-up can also assess the impact of the PA counseling on body weight and blood pressure. It will also provide an opportunity for healthcare providers, including certified diabetes care and education specialists and advanced practice nurses, to periodically review the average step count data, an objective measure of recent PA. This is feasible since many patients with T1D routinely have several office visits annually. However, despite these limitations, this study provided evidence that PA assessment and counseling can be incorporated into a clinical visit.

Conclusion

In this study, using a hybrid model, we were able to evaluate the implementation of a PA intervention while assessing it for preliminary efficacy. This pilot allowed us to test each of the components of the intervention (PA assessment, counseling, monitoring) on a small scale. The next step would be to enroll a larger, diverse sample with an electronic data collection of the PAVS. This will improve the integration of PA assessment and counseling within the EHR and provide an opportunity for all diabetes staff members involved to provide feedback on its utility within their current clinic workflow. Using the EHR is a scalable method to implement PA assessment and document counseling while having patients provide PA data collected remotely, either by using an activity monitor such as a Fitbit or by using the activity monitor embedded in most smartphones. The use of the Epic EHR in this intervention is scalable, especially given that Epic has the largest share (36%) of acute care hospital systems (Bruce, 2023). Ultimately, nurses and all healthcare providers can include the routine assessment and promotion of PA as an important component of health promotion for this at-risk population.

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ORIGINAL RESEARCH

Personal and Professional Impact of a Rural Interprofessional Remote Area Medical Clinic Experience Among Senior Undergraduate Nursing Students

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Abstract

Background and Significance*:** Underserved and underinsured rural residents living in the Appalachian region of Tennessee (TN) currently have higher mortality rates for heart disease, cancer, chronic obstructive heart disease, injury, stroke, diabetes, suicide, and poisoning with limited access to health care professionals including primary care physicians, mental health providers, specialty physicians, and dentists. Interprofessional (IP) service-learning opportunities can provide prelicensure nursing students with the opportunity to develop an understanding of the need for and value of IP teamwork in underserved and underinsured rural communities. ***Study Purpose and Aim*:** The purpose of this pilot study was to qualitatively explore the perceived personal and professional impact and benefits of participating in a volunteer two-day IP Remote Area Medical (RAM) clinic among six University at Buffalo, School of Nursing senior undergraduate nursing students. The study aimed to promote further insight, knowledge, and understanding of the impact and personal and professional benefits of offering senior UG nursing students a volunteer IP service-learning experience. ***Methodology*:** A qualitative descriptive design was utilized with the use of the KWLA + R© narrative response questionnaire. Guided by experiential philosophical underpinnings, data were analyzed using Braun and Clarke's Reflexive Thematic Analysis method. ***Findings*:** Data analysis generated one overarching theme: *This Experience is Something I will Personally and Professionally Hold Dearly for the Rest of My Life,* and two key themes, *Doing What My Nursing Classes and Clinical Experiences Taught Me* and *I am Planning on Volunteering Again…This is What it Really Means to be a Nurse*. ***Strengths and Limitations: The use of the KWLA+R© questionnaire allowed for the generation of rich narrative student responses that provided valuable insight regarding the personal and professional impact and benefit of participating in service learning. Limitations included the inability to generalize study findings due to the small sample size, the inability to offer more students the opportunity to participate in the experience due to limited financial support, the risk of response bias, and only nursing students who participated. ***Conclusions and Recommendations*:** Underserved and underinsured rural residents living in the U.S. have the right to access quality and compassionate primary care, dental care, behavioral health, emergency care, and public health care services. Providing UG nursing and health-related students service-learning opportunities may promote the value and importance of volunteering in opportunities such as RAM clinics as part of life-long learning and civic responsibility to address the healthcare needs and access barriers among underserved and underinsured rural communities.

***Keywords*:** rural, underserved, RAM, interprofessional, nursing, student

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Personal and Professional Impact of a Rural Interprofessional Remote Area Medical Clinic Experience Among Senior Undergraduate Nursing Students

Rural areas in the United States (U.S.) currently make up 72% of the nation's land areas, housing approximately 46 million people or 15% of the population (National Institute of Food and Agriculture [NIFA], 2022; Office of Minority Health and Health Equity [OMHHE], 2021). Rural residents face multiple and complex challenges, including limited access to affordable, high-quality healthcare (NIFA, 2022; Rural Health Information Hub [RHIH], 2021a). Access to healthcare is defined as "the timely use of personal health services to achieve the best possible outcomes" and encompasses the following four components: having adequate health insurance coverage, access to sources of care, screening and prevention services, timeliness and ability to provide high-quality care when needed, and having a strong, capable, qualified and culturally competent healthcare workforce (Agency for Healthcare Research and Quality [AHRQ], n.d., para. 1). It is important to note that one overarching goal of Healthy People 2030 is to address healthcare access and quality. Service-learning opportunities help meet this goal by addressing the objective of increasing the proportion of adults who receive recommended evidence-based preventative health care (Office of Disease Prevention and Health Promotion [ODPHP], n.d.).

Although rural residents living in the U.S. have the right to access primary care, dental care, behavioral health, emergency care, and public health care services, they often encounter numerous barriers limiting their ability to receive quality, respectful, and compassionate care. These barriers include not having the financial means to pay for health services, lack of health and dental insurance coverage, lack of transportation and long distances to services, not having time off from work to utilize services, poor health literacy, decreased confidence or ability to communicate with health care providers, existing stigma associated with conditions often found in rural communities such as mental health issues and substance abuse, and the lack of providers working in rural settings (RHIH, 2021a). Due to health inequities, people living in rural areas are at higher risk for poor health outcomes and death from heart disease, cancer, stroke, hypertension, chronic lower respiratory disease, diabetes, arthritis, unintentional injury including motor vehicle death, opioid overdose and other substance abuse disorders, suicide, and lack of maternity care due to living in maternity care deserts (OMHHE, 2021; RHIH, 2023). Additionally, many rural communities lack access to adequate and regular preventative oral health care services due to geographic isolation and workforce maldistribution (RHIH, 2021b). Oral health challenges in rural America include poor health literacy resulting in inadequate oral hygiene, high consumption of sugar-sweetened beverages leading to dental caries and living in communities not served by community water systems containing fluoridated water (RHIH, 2021b).

Background and Significance

The National Rural Health Association's (2022) position paper maintained that to address the healthcare disparities and workforce shortages plaguing rural America, sufficient access to healthcare services and professionals is needed to prevent and treat illness, increase quality of life and life expectancy, and lower risk of premature death. The Association reinforced that to address these challenges, increasing rural health care professional training in both classroom and rural settings are critically needed. Service learning is an innovative teaching and learning strategy that integrates meaningful community service engagement with academic instruction and self-reflection "to enrich the learning experience, teach civic responsibility, and strengthen communities" (University of Connecticut, n.d.). This pedagogical approach can provide prelicensure nursing students with the opportunity to develop a more profound and enhanced understanding of the healthcare needs and access barriers among underserved and underinsured rural communities. Through service learning, nursing students can gain firsthand knowledge via direct hands-on experience regarding how social determinants of health (SDoH) impact individual and population health, the role of health literacy and civic responsibility in healthcare advocacy, and the importance and value of interprofessional (IP) teamwork when caring for underserved and underinsured populations.

The Remote Area Medical (RAM) program, a non-profit program founded in 1985 by Stan Brock, provides free, compassionate, and high-quality healthcare, including vision, dental, medical, and nursing services to underserved and underinsured individuals with limited access to healthcare by volunteers of all ages using pop-up clinics. Currently, more than 900,000 individuals have received healthcare through the program, including communities located in the Appalachian region of the U.S. (RAM, 2023b; RAM, 2023a). According to the Appalachian Regional Commission (ARC, 2022), this region has higher mortality rates than the national average for heart disease, cancer, chronic obstructive heart disease, injury, stroke, diabetes, suicide, and poisoning, including drug overdoses, as well as higher numbers of unhealthy physical and mental well-being days, prevalence of depression, and risk for poor outcomes related to obesity, smoking and physical inactivity. Furthermore, adding to this daunting disparity, the ARC (2022) further reported that the region has a low supply of healthcare professionals, including primary care providers, mental health providers, specialty physicians, and dentists.

The University at Buffalo's School of Nursing (UB SON) and School of Dental Medicine (UB SDM) collaborated to provide their undergraduate (UG) and graduate students with an interactive two-day IP RAM clinic experience in a rural Appalachia, TN community. The clinic took place on the first weekend in February 2020. The students and faculty were part of a larger number of medical and dental providers organized by RAM to provide primary care, vision care, gynecological services, and dental care over a two-day period. On the first day, an orientation and tour of the clinic was provided by RAM core volunteers where students learned about the flow of patient traffic from registration, through triage, to their endpoint of medical, vision, or dental treatment. The senior UG nursing students were prepared to acquire vital signs, take health histories, complete medication reconciliation, determine patient clinical severity and triage patients into various needed specialties under the faculty supervision of two Doctor of Nursing Practice (DNP) Family Nurse Practitioner (FNP) prepared faculty overseeing the RAM experience, author MO, the SON's Global Initiative Coordinator, and author LPH, both having extensive global health experience and expertise including

RAM program participation. On their free time, students enjoyed local cuisine and visited the downtown area.

The purpose of this pilot study was to qualitatively explore the perceived personal and professional impact and benefits of participating in a volunteer two-day IP RAM clinic among UB SON senior UG nursing students enrolled in the last semester of their degree program. The research question was: What is the perceived personal and professional impact of participating in a volunteer two-day IP RAM clinic among UB SON senior UG nursing students enrolled in the last semester of their degree program? The study aim was to promote further insight, knowledge, and understanding regarding the impact and personal and professional benefits of offering a volunteer IP service-learning experience to senior UG nursing students to promote and encourage future personal and professional service work for underserved and underinsured individuals and communities.

Study Design and Method

A qualitative descriptive design was utilized using the KWLA+R©, an open-response qualitative questionnaire (see Table 1), to collect reflective written narrative responses regarding the perceived impact and personal and professional benefit of participating in the two-day IP RAM clinic among the senior UG nursing students. Braun and Clarke's (2022) reflexive thematic analyses (RTA) method consisting of the following six iterative phases was used to analyze data: 1) Dataset familiarization and immersion; 2) Identifying and organizing segments of data with similar meanings and meaning patterns into codes; 3) Generating initial themes that share a core idea or concept; 4) Developing and reviewing themes by returning to the dataset and checking to see if the themes make sense and tell the dataset story; 5) Refining, defining, naming and finalizing themes; and 6) Writing up the final report and finalizing the thematic map ensuring that the final themes remain close to and reflect the data and tell the dataset story.

A critical element supporting trustworthiness and qualitative rigor when using RTA is practicing reflexivity, where each member of the study team thoughtfully reflects on how their role as a nurse researcher and how their professional and personal knowledge and experiences may inform or shape the data collection and analysis process as well as writing up findings (Braun & Clarke, 2013; 2022; Braun et al., 2019). Reflexivity was practiced by authors MO and LPH throughout their entire RAM clinic experience and during the data collection process as well as among all study team members while working independently during the first two phases of the RTA process where initial notes and coding took place, through weekly team debriefings, and then continuing throughout the entire data analysis process until themes and subthemes were agreed on, the final report was written, and the thematic map was finalized. In addition, the first author established an electronic audit trail of study materials through a private and secure UB Box that only the study team had access to. Study approval was granted by UB's Institutional Review Board (IRB).

Participant Recruitment, Setting, and Sample

Because the purpose of this study was to qualitatively explore the perceived personal and professional impact and benefits of participating in a volunteer two-day IP RAM clinic among UB SON senior UG nursing students enrolled in the last semester of their degree program, purposive and convenience sampling were utilized to recruit participants. Interested students were required to complete a UB SON online Global Health Experience Application, which collected information including age at the time of travel, gender identification for accommodation purposes, DNP nursing program enrolled in, fluency in languages other than English, personal and emergency contact information and current interest in and any previous experience with global health opportunities. Applications were screened by both DNP FNP faculty overseeing the experience to ensure that all necessary requirements and information were obtained prior to student participation in the experience. Six UG senior nursing students, all identifying as female, agreed to participate and were required to complete the online RAM medical volunteer registration form and liability waiver with an email confirmation prior to the trip.

Data Collection

The KWLA+R© questionnaire presented in Table 1 was used with the author permission to collect data (Grinslade et al., 2015a; Grinslade et al., 2015b). The questionnaire was adapted by the authors based on Ogle's (1986) K-W-L teaching strategy: "K" (Know) *What do I know?,* "W" (What) *What do I want to know?*, and "L" (Learn) W*hat did I learn?*) and expanded to include two new additional teaching strategies, "A" (application) *How will I apply what I have learned?* and "R" (Reflection) *Reflection on the Personal and Professional Impact of the Experience*. Because the purpose of this study was to explore the perceived personal and professional impact and benefits of participating in the two-day IP service learning experience among the six senior UG students, the questionnaire was deemed a perfect fit by the authors for data collection since open-ended questions for each KWLA+R© teaching strategy could be created specifically for the purpose and aims of this study. Questionnaires were completed after the trip. Verbal consent was obtained from all six students by author MO and students were encouraged to answer each question thoughtfully with detail describing their experience.

Table 1

RAM Experience KWLA+R© Questionnaire

Know	**W**hat	**L**earn	**A**pply	**R**eflect
What Do I Know?	**What Do I Want to Learn?**	**What Did I Learn?**	**How Will I Apply What I Have Learned?**	**Experience Reflection**
What do I know about providing free healthcare?	What do I want to learn or expect to learn about my ability to provide free healthcare?	Briefly outline what you learned about yourself and your own ability to provide free healthcare to underserved and uninsured individuals.	How have I applied/will I apply what I have learned to change my practice as a student nurse and subsequently a Registered Nurse?	Take a few moments to reflect on the remote area medical team that you were a part of.
Underserved and uninsured individuals?	What do I want to learn about caring for underserved and uninsured individuals?	Outline what you learned from the service-learning activity and clarification of what you already knew.	How will I affect the underserved and uninsured individuals globally in the future? How has caring for patients changed or not changed with experience from a service-learning activity?	Consider how this service-learning activity provided you with opportunity that may change your practice personally and professionally.
Service-learning activities?	What do I want to learn about service-learning activities?			Consider how this will translate into caring for your patients/clients and working with underserved / uninsured individuals and other healthcare providers.
Active learning?				

Reproduced from (Grinslade, S., Van Zile-Tamson, C., Winkelman, T., Lazarro-Steeg, L., McDonald, P. & Raines, D. KWLA-R© Grows Up and Goes to College.). Copyright 2017 by Susan Grinslade. Reproduced with permission.

Table 2

*The Six Phases of Reflexive Thematic Analysis Guiding RAM Experience Analysis**

Phase	Recursive and Reflexive Approach
1 **Familiarization and Connection with Dataset**	• Becoming immersed, engaged, and connected with the data through listening to audio data, watching video data, and/or reading and re-reading textual data • Making initial notes (noticings) about interesting data features
2 **Generating Initial Codes and Noticings**	• Organizing data around similar meanings (meaning patterns) and reducing content into collated chunks of text and attaching initial labels (codes) • Using an inductive or bottom-up approach (close to the surface of the data) or deductive approach (starting with preconceived ideas based on exiting viewpoints/knowledge) to code the dataset • Generating codes using semantic coding (explicit codes close to participant language) or latent coding (more implicit or conceptual level codes)
3 **Constructing Candidate Themes**	• Making interpretative choices throughout the analytic process by looking at data through the researcher's lens • Developing a diverse range of codes for building themes • Building, molding, constructing, and testing out a diverse range of prototype or candidate themes
4 **Revising and Defining Candidate Themes**	• Discussing and reflecting on prototype/candidate themes to identify the most meaningful potential themes that will collectively tell the best data story • Establishing clear definitions and a provisional name for each theme • Creating a draft thematic map that visually represents initial connections between potential themes and subthemes
5 **Reviewing, Revising and Finalizing Themes**	• Compiling all coded data for each candidate theme and reviewing them to ensure they relate to a central organizing concept • Checking themes against the whole data set to ensure they fit together to tell the overall story of the data • Finalizing theme names so they clearly, comprehensively, and consciously capture what is meaningful about the data related to the research question and study purpose
6 **Producing the Final Report and Thematic Map**	• Ensuring that final themes and the thematic map remain close to/reflect the data and that they tell the story of the data • Making connections back to/tying in current research and literature findings and weaving them into results

*Braun & Clarke, 2006; 2022; Braun et al., 2019

Data Analysis

Braun and Clarke's (2006; 2013; 2022; Braun et al., 2019) RTA method was used to analyze the KWLA+R© written narrative responses guided by experiential philosophical underpinnings, an inductive approach, and use of semantic or explicit data-driven codes identified in the dataset.

Table 2 illustrates the six recursive and reflexive phases guiding RTA and how each phase supports qualitative rigor. All questionnaires were de-identified by author MO prior to their distribution to the study team for data analysis. The de-identified questionnaires and all data analysis materials were uploaded and stored in a private and secure UB Box shared folder that only study team members had access to throughout the entire data analysis process. A thematic map was created to provide a visual and figurative representation of all themes and subthemes and the relationships between them (see Figure 1) (Braun and Clarke, 2022).

Findings

The analysis of data generated one overarching theme: This Experience is Something I will Personally and Professionally Hold Dearly for the Rest of My Life, and two key themes, Doing What My Classes and Clinical Experiences Taught Me and I am Planning on Volunteering Again…This is What it Really Means to be a Nurse. The following presents a summary of the findings.

Overarching Theme: *This Experience is Something I will Personally and Professionally Hold Dearly for the Rest of My Life*

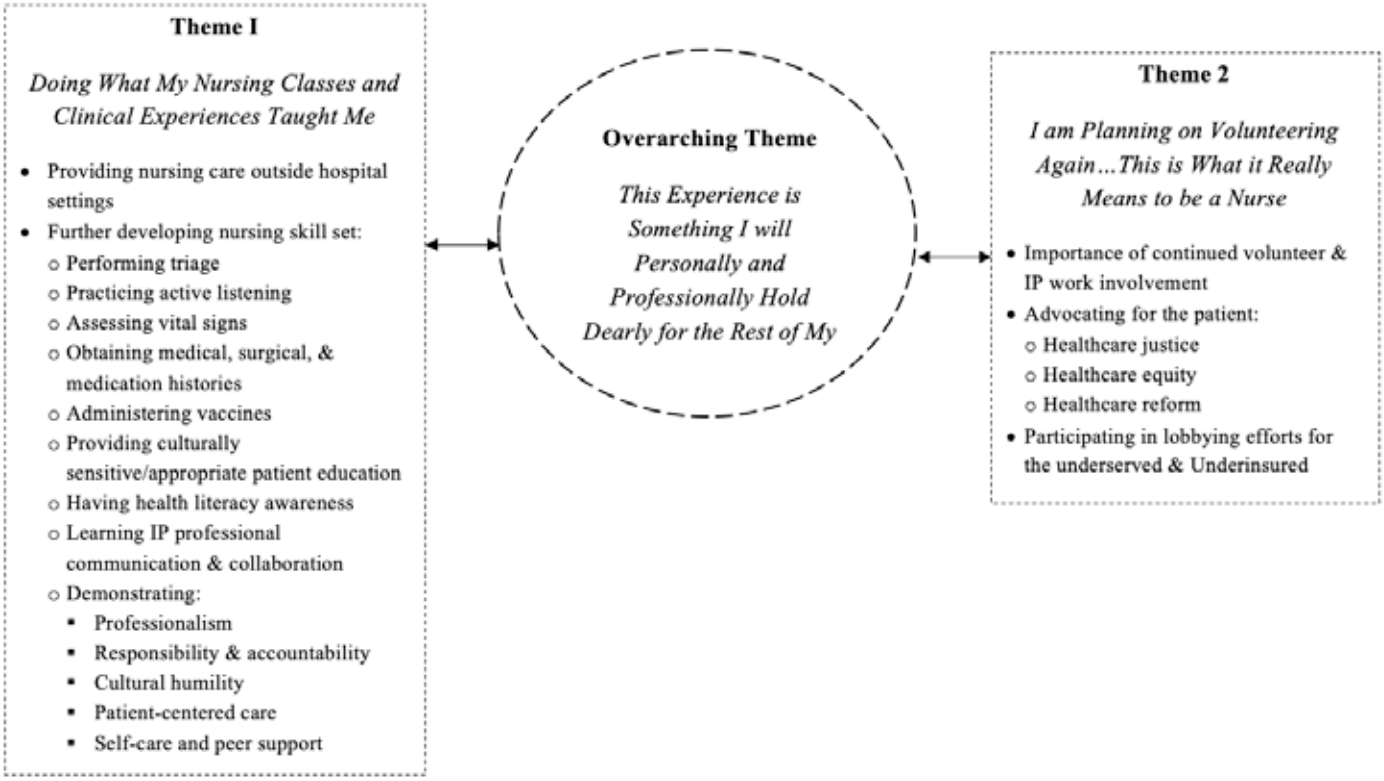
The overarching theme was embedded throughout the entire data set and within the two key themes. All six participants reflected on how their RAM experience personally and professionally impacted and benefited their lives. Participant 1 thoughtfully expressed, *"I learned more about the community I was serving and myself, both personally and professionally, in a 3-day span, than in an entire clinical rotation…This experience is something I am going to hold dearly for the rest of my life, both on a personal and professional level*." Participants 2 and 5 voiced respectively, "*This experience taught me so much, and now, I will make sure to bring this experience with all its lessons forward with me as I complete my schooling and move into my next role as a professional nurse*" and "*…This experience will stay with me and be there to remind me to be patient and still always think of the big picture when I get frustrated by their* [underserved and underinsured patients] *lifestyle choices*."

All participants commented on how the experience was life-changing and opened their eyes to the importance of and need for providing free, compassionate, and high-quality healthcare through IP teamwork to underserved and underinsured individuals with limited access to healthcare. Participant 5 reflected, "*This experience showed me how important and intertwined each branch of the healthcare industry is and when they work together for the greater good of the patient, amazing things can happen…*" Other participants expressed, "…[patients] *look forward to these opportunities because it's the only way they receive care… Every single person that we interacted with were just incredibly grateful to be able to get the care they needed* (P1); and

I [student] *had the ability to interact with people from all different walks of life, both young and elderly, providing healthcare*

Figure 1

Thematic Map: Personal and Professional Impact of a Rural Interprofessional Remote Area Medical Clinic Experience Among Senior Undergraduate Nursing Students



that they so greatly appreciated. The kindness and respect that the patients had for all the volunteers was incredible. Regardless of all the patients have been through by being underserved and uninsured they were happy to be there and receive the care that many so desperately needed. (P4)

Theme 1: *Doing What My Nursing Classes and Clinical Experiences Taught Me*

Theme 1, *Doing What My Nursing Classes and Clinical Experiences Taught Me*, captured the participant's viewpoint of how their experience provided an invaluable opportunity for applying what they learned in the traditional classroom and clinical practice setting to a real-life undeserved and underinsured disparate rural community setting. Participant 3 succinctly commented, "*At RAM, I spent a lot of time doing what my classes and clinical experiences at UB have taught me…*" Participants wrote about how triaging patients helped enhance and further develop their nursing skill set, such as assessing vital signs, obtaining comprehensive and detailed medical, surgical, and medication histories, administering vaccinations, and providing culturally sensitive and appropriate patient education. Participant 1 noted, "*Our main job was triaging patients, which meant getting their vitals, medical and surgical history, vaccinations, and current medications…we did a lot of education,*" and Participant 3 reflected, "[the experience] *taught me* [about] *taking health histories, administering flu vaccines…making sure that patients understood procedures that they were going to undergo*."

Participants shared how their experience helped them learn more about the context of caring outside of hospital settings and the importance of demonstrating professionalism and accountability. Participant 5 reflected,

It is sometimes hard to see outside the hospital different factors affecting our patients and by actually being in the field, I could see why certain choices were made…The experience also gave me a chance to practice putting myself in my patient's shoes. The patients we worked with had different life experiences than I can ever imagine…I was able to immerse myself into their lives and get to see the bigger picture and get a better understanding of why choices were made.

Participant 2 wrote,

I was able to demonstrate professionalism by holding myself and fellow students accountable… I was able to demonstrate cultural humility as well as honesty, courtesy, and decorum while working with a population that I am not familiar with…it gave me an opportunity to listen and learn…how to build therapeutic relationships [with patients]*, and how to interpret their concerns…I was able to demonstrate professional communication and collaboration with my patients as well as other professionals on the healthcare team…helped me to learn, practice, and demonstrate the Critical Element* [sic] *of caring and the therapeutic use of self…By utilizing techniques of active listening and demonstrating genuine interest in each patient's needs, I was able to effectively ascertain what I could do in the moment to improve each patient's experience.*

Participants also addressed the need for providing patient-centered care, having health literacy, and practicing cultural humility. Participant 5 wrote,

This experience truly showed me patient-centered care, which is a concept we talk about so much in school…practicing patient-centered care is so incredibly important and now I have a better idea of the types of people I want to work with in the professional setting...This experience also showed me how to speak to patients in a way that they will understand. Health literacy is a major concern and being able to explain situations at an understandable level provides the patient with autonomy over their health.

Participant 1 noted, "*There was a multitude of Spanish speaking patients, and I utilized the interpreters quite often. This would not have been a successful event without these team members, as it is impossible to properly get someone's medical history without their language*."

Finally, the need to support each other throughout the entire experience was viewed as important, comforting, and valuable to the students due to their inexperience and unfamiliarity with providing care for underinsured individuals living in underserved settings. The need for self-care and peer support in nursing is embedded throughout the UB SON UG curriculum and is reinforced and modeled by UG faculty. The students voiced how already knowing and working with each other as UB SON student peers brought them closer because of their personal experience of participating in the trip. Two participants commented, "*I was lucky enough to go down with a group that already got along on a personal level, and this experience drew us even closer…nobody else can understand what this experience was like with just hearing it from us*" (P1) and "*…I was lucky to be on this trip with five incredible nursing students. We were able to support each other… throughout the day and…when the clinic was closed, and that support made this experience even more valuable to me*" (P2).

Theme 2: *I am Planning on Volunteering Again…This is What it Really Means to be a Nurse*

The third and final theme, *I am Planning on Volunteering Again…This is What it Really Means to be a Nurse,* captured how the RAM experience greatly impacted the students' perspective regarding the critical need for and benefit of continuing to be involved in volunteer work with underserved and underinsured populations to address healthcare inequities both personally and professionally. Participant 1 voiced,

…I want to keep engaging in these types of activities… I would like to have a career working in the community, particularly with the underserved…happiness would mean being immersed in an area that needs me…I was able to connect with people, hear stories, and it moved me. And they could tell that I cared. I think this is what it really means to be a nurse.

Students also addressed the need to stay committed both personally and professionally as advocates to promote healthcare justice, and equity and reform among those who are underserved and underinsured. Participant 2 noted,

"The experience I had at RAM this past weekend has solidified my commitment to healthcare justice, equity, and reform," and Participant 4 reflected, "*Community and public health are huge components of assisting uninsured patients that are subjected to the social determinants of health, and I have become more interested in getting involved in this type of nursing since going on this trip*."

Finally, participants expressed the need to become and stay involved in lobbying efforts as future nurses to support access to quality health care for underserved and underinsured patient populations. Participant 5 noted, "*This experience really reinforced the idea that we* [nurses] *need to be the advocate for the patient and support their decisions, whatever they are*." And Participant 4 voiced,

Before working with RAM, I have never considered lobbying *for better insurance and all-round better healthcare prices, mostly because I did not think I would have much of an influence. After seeing the negative effects firsthand, I am planning to attend healthcare lobbying meetings throughout my career when I time allows. Even if I can make a small difference in the lives of uninsured and underserved patients, I would be satisfied. I knew the United States has a long way to go regarding safe and*

effective healthcare, but this past weekend made it all the more real to me.

Discussion

All six UG nursing students who participated in the two-day IP RAM clinic in Appalachia gained invaluable career and life-changing insight from their experience regarding the impact of SDoH, cultural differences, and healthcare disparities on underserved and underinsured Americans living in rural settings, which was reflected in the overarching theme. As indicated in theme one, the literature supports that short-term medical immersion experiences increase global competence and cultural awareness, and the students reported increased cross-cultural awareness (Housley et al., 2018; Schenker, 2019). While working in a complex, interdisciplinary setting with a high volume of underserved and underinsured rural patients, the students had the opportunity to apply didactic knowledge learned in the classroom and clinical setting, develop professional self-confidence, critical thinking and evaluation skills, practice cultural humility, interprofessional sensitivity, and therapeutic communication skills, and build trust under the expert guidance and mentorship of their experienced SON faculty (Delisle et al., 2016; Stubbe, 2020). Students expressed how this experience greatly differed from their traditional hospital setting clinical experiences because they were allowed to provide quality and compassionate hands-on care "in the moment" for marginalized, underserved, and underinsured rural patients chronically impacted by the SDoH.

Since this was the first time students in this study were responsible for directly assisting patients from the beginning to the end of their clinic visit, they voiced how having available and immediate access to medical records, diagnostics, and experienced providers familiar with multiple aspects of patient care in rural settings promoted their nursing confidence, comfort level, and skill set. Echoing findings from this study, current research has indicated that student participation in IP practice-based learning environments increases self-confidence and comfort level with patient interactions as well as improved teamwork skills (Housley et al., 2018). Finally, findings from this study supported the value and significance of allowing opportunities for UG nursing students to work alongside other health profession students in learning how to collaboratively address healthcare needs using a team-based approach (Nash et al., 2018; Simon et al., 2018).

As reflected in theme two, all students expressed how they gained a unique and personal life-changing perspective regarding the impact of SDoH and the value of meeting patients "where they are at" to successfully address and meet their personal and holistic healthcare needs. Findings from this study support how IP medical immersions, such as RAM, can positively influence the next generation of nurses and healthcare providers as advocates and life-long learners to promote improved access to dignified, respectful, quality, and compassionate care and affordable health insurance coverage for all Americans (Wilson, et al., 2019).

Strengths and Limitations

A strength of this qualitative descriptive study was the use of the KWLA+R© questionnaire to explore the experience of participating in a two-day IP RAM clinic among six senior UG nursing students in their last semester of study. The questionnaire generated rich student narrative responses that provided valuable insight regarding how participating in the RAM clinic promoted both personal and professional growth and development while inspiring life-long learning through volunteer work. Study limitations include the risk of participant bias due to students possibly writing their responses based on how they thought the faculty wanted them to respond. A limitation was that only nursing students participated in this study; future research could include students from other healthcare professions. Due to the small sample size, study findings are not generalizable.

Future Recommendations and Conclusion

Students in this study reflected on how participating in the RAM clinic greatly impacted them personally while enhancing their professional growth and development regarding teamwork, therapeutic communication skills, and confidence and comfort level when working with underserved and underinsured patients living in disparate rural communities. Research is needed to explore best practices for embedding IP educational experiences into nursing and health-related science curricula (Nash et al., 2018; Palatta et al., 2015; O'Leary & Clifford, 2020). Findings from this study strongly support the positive impact, value, and importance of providing IP practice-based learning experiences in remote rural, underserved, and underinsured communities and settings.

To address the critical shortage of registered nurses and healthcare professionals practicing in rural settings, UG and graduate programs in nursing and health-related disciplines should consider incorporating collaborative IP hands-on educational and practical experiences, such as RAM, as an addition to their current curricula. It was clear through their reflections, that students gained an understanding that rural residents should have the right to access compassionate, dignified, and respectful primary care, dental care, behavioral health, emergency care, and public health care services. Providing nursing and health profession students with these invaluable and life-changing experiences may promote the relevance of life-long learning through volunteer work and the need to advocate for the health and well-being of those living in disparate rural areas across the U.S.

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ORIGINAL RESEARCH

Qualitative Researchers' Strategies for Virtual Recruitment and Data Collection: Five Case Examples

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Abstract

Background*:** During the height of the pandemic, nurses conducting qualitative research needed to pivot their in-person recruitment and interviews to a virtual format. Virtual recruitment and interviewing are more common now due to benefits such the cost savings and ease and are anticipated to grow in popularity among qualitative researchers. ***Objective: The goal of this article was to share experiences from the personal perspectives of five nurse scientists who conducted virtual qualitative research during the pandemic. ***Method:*** Our insights stem from a collective reflection on experiences derived from five distinct qualitative research endeavors. Our focus revolves around the intricate processes of securing Institutional Review Board (IRB) approval, conducting effective recruitment, and navigating the nuances of data collection. ***Results:*** We share learned IRB considerations like adding extra time to the research timeline to allow for appropriate approvals, checking IRB websites for additional information that might now be required in the proposal, and to see if any templates are available. Researchers may want to explore a waiver of written consent from the IRB if conducting a low-risk study and if obtaining an electronic consent form signature might be difficult. Strategies for virtual recruitment included using social media sites and an online research registry that were successful in obtaining faster than usual enrollment of more diverse participants in relation to type of illness, race, ethnicity, and geography. For interviews, we learned that some participants may need training to use videoconferencing technology prior to interviews. ***Conclusions and Recommendations:*** We recommend that, as we move forward and as in-person research restrictions are lifting, qualitative researchers offer participants options for completing interviews virtually, by telephone, or in person, based on the comfort level and the preference of the person enrolling in the study.

Keywords: *Coronavirus Disease Pandemic, Data Collection, Interviews, Research Design, Qualitative Methods*

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Ethical Approvals: The outdoor activity study of J. S. Sefcik was approved by the Drexel University Institutional Review Board (protocol number 2106008642). All participants provided verbal informed consent prior to enrollment in the study. Ethical approval for the study by C. Soloperto (formerly Manero) was obtained from the institutional review board of Endicott College. All participants provided written consent prior to enrollment in the study. Ethical approval for the study by I. Alrimawi was obtained from the institutional review board of Birzeit University (protocol number BZUPNH2130). All participants provided verbal informed consent prior to enrollment in the study. Ethical approval for the study by N. Wise was given by the institutional review boards of Eastern Mennonite University [F169] and duPont Hospital for Children [1740042-1]. Permissions were also obtained for the study by N. Wise from social media cerebral palsy support groups, a pediatric rehabilitation center, and another children's hospital. Parents gave written and verbal consent prior to enrollment in the study. Ethical approval for the study by S. Dickerson was obtained from the institutional review board of the University at Buffalo (protocol number MODCR 0006553) All participants provided written and verbal consent prior to enrollment in the study.

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Qualitative Researchers' Strategies for Virtual Recruitment and Data Collection: Five Case Studies

Background

The coronavirus disease 2019 (COVID-19) pandemic caused unexpected interruptions for most researchers when in-person data collection was not possible due to isolation mandates and social distancing policies. Researchers involved in various stages of recruitment and data collection were forced to pause their studies. The pandemic especially challenged qualitative researchers to come up with innovative and creative ways to initiate or continue participant enrollment and alternatives to in person interviews and participant observations to complete studies that were originally designed with face-to-face components. Additionally, qualitative researchers designing new studies had to develop methods for recruitment and data collection because the future was unknown in terms of how long in-person research was to be paused.

Prior to the pandemic, qualitative researchers were beginning to take advantage of technological advances to support their inquiries by increasing the use of virtual recruitment through social media (e.g., Facebook, X formerly known as Twitter) and online research registries (e.g., ResearchMatch) to match individuals who want to participate in clinical research studies with researchers (Harris et al., 2012; Thornton et al., 2016; Yaremych & Persky, 2022). Although these advances have helped increase recruitment for some qualitative studies, limitations have also been identified in relation to online recruitment, such as inherent bias towards people who used particular platforms (Thornton et al., 2016; Yaremych & Persky, 2022). Overall, and particularly during the pandemic, the benefits of virtual recruitment methods appear to outweigh the limitations because it is a time- and cost-efficient approach for obtaining participants including those who belong to hard-to-reach populations (e.g., recruiting those with a specific or rare health condition) (Thornton et al., 2016; Yaremych & Persky, 2022).

In recent years before the pandemic, there has been an uptick in the use of videoconferencing platforms (e.g., Skype, Zoom) to conduct qualitative interviews that have gained greater acceptance and support (Archibald et al., 2019; Deakin & Wakefield, 2014; Gray et al., 2020; Irani, 2019; Lobe et al., 2020; Mirick & Wladkowski, 2019; Shapka et al., 2016). This method for conducting interviews has the recognized benefits of convenience to addressing geographical barriers and time constraints (Foley, 2021; Gray et al., 2020; Irani, 2019; Oliffe et al., 2021; Sah et al., 2020). The acknowledged limitations of videoconferencing interviews include not being able to observe a full range of body language, video image being unclear, and poor call quality (Archibald et al., 2019; Oliffe et al., 2021; Varma et al., 2021). In addition, researchers often needed to offer participants technical support when they were unfamiliar with the platform or the technology (Roberts et al., 2021). However, the benefits of convenience with addressing geographical barriers and time constraints support the continued use of videoconferencing platforms post-pandemic (Foley, 2021; Gray et al., 2020; Irani, 2019; Lobe et al., 2020; Oliffe et al., 2021; Sah et al., 2020).

There are some literature that have emerged on the topics of addressing challenges with virtual qualitative research, as well as individual case studies on how qualitative researchers had to switch their studies from in-person data collection to virtual approaches at the start of the pandemic due to social distancing mandates (Carter et al., 2021; Roberts et al., 2021; Schlegel et al., 2021). Although these articles support the ability to conduct high-quality, rigorous, and ethical qualitative virtual research during the pandemic and beyond, additional examples in the literature will support researchers as they plan, design, and implement their first virtual qualitative study. As a group of nurse scientists, we presented our virtual qualitative studies and the steps we took to pivot our methods from a face-to-face to a virtual environment during the pandemic at a regional nursing research conference symposium. The presentations focused on our approaches and experiences to qualitative research during the pandemic including institutional review board (IRB) considerations, recruitment efforts, and data collection endeavors. Audience engagement and questions on these topics supported the need to publish our experiences.

This current article presents five empirical case studies of vastly different research topics in which we share our experiences of adjusting our qualitative methods during uncertain times, the challenges faced, and the strategies that resulted in successful completion of qualitative studies in a virtual environment. We also offer reflections on our individual experiences. Our goal with this article is to share our experiences and the lessons learned regarding study methods to assist researchers in understanding options for conducting virtual qualitative studies, including recruitment of participants and collection of data from various populations.

Study #1 (Manero, 2022): Recruitment and Data Collection Adjustments During COVID-19: Adopting and Adapting to a Novel Technology in Patients with Type 1 Diabetes

Brief Contextual Background. The closed-loop insulin delivery system (CLIDS) is a notable technological advancement for managing type 1 diabetes mellitus (T1DM) and mitigating the daily tasks and constant decision making (Iturralde et al., 2017; Tanenbaum et al., 2020). Adults with T1DM adapt to this technology over time; however, health-care providers (HCPs) have not been attentive to the stress of adjusting to CLIDS (Grando et al., 2019; Iturralde et al., 2017). Therefore, it is important to understand and disseminate patients' experiences from the decision to adopt CLIDS through the process of adapting.

Purpose and Population. The purpose of this qualitative descriptive study was to describe the self-management experiences of adults using CLIDS.

IRB Details. The IRB modification required that I provide details regarding the recruitment strategy, which changed from an in-person strategy to a social media platform advertisement because of the pandemic. The IRB approved recruitment through Facebook, which entailed the posting of a flier with study details and asking interested persons to contact me privately rather than make a public response within the forum.

Recruitment. Through a private message I contacted a Facebook page site administrator who was the leader of a support group for users of the Medtronic 670G CLIDS. This Facebook page was dedicated to peers communicating about their daily life with T1DM from around the world (N = approximately 3,000 members). I requested permission to post a recruitment letter that

was ultimately approved. The letter provided details of the study, inclusion criteria, stipend details, and data collection formats. Participants were included if they (1) had been using a CLIDS for 6–36 months, (2) were age 18–55, (3) spoke English, and (4) had a device with Internet access to the Zoom platform used for data collection. Responding to the call for participants were 25 people; 12 met the inclusion criteria, and 11 completed the informed consent and interview. Participants were asked to reach out to myself, the principal investigator (PI), if they were interested in participating. I conducted Zoom interviews between 15 May and 5 August 2020.

Data Collection and Platform. I had initially planned the recruitment process to take place in person at a large, tertiary health-care clinic and research center. However, the center closed due to the COVID-19 pandemic; thus, data collection was halted. I had to make a quick pivot to put in an IRB modification to begin data collection virtually over Zoom.

Reflections. Unexpectedly, the pandemic had a positive impact on this research project. For example, Zoom was increasingly utilized during the pandemic for the purpose of socialization. This likely made my use of the Zoom platform more acceptable. Also, for some, the pace of life was slower during the height of the COVID-19 pandemic which may have made study participation less of a burden. Some people were struggling financially, so the $25 Amazon gift card I offered to participants who completed the interview may have positively impacted recruitment efforts. Also, during the pandemic, most people with chronic diseases such as T1DM were required to interact with their providers via telehealth, which may have increased comfort with my Zoom approach.

As with most studies, my study had some limitations. Because I recruited participants via social media, I assumed that they were able to use technology to participate in the study. I may have unintentionally eliminated potential participants if they were not using Facebook, which could have impacted my results.

Implications. Utilizing Facebook for participant recruitment and Zoom for data collection were unexpected steps in my research strategy. This pivot was required so that I could complete important research that had the potential to enhance the lives of those utilizing technology to help manage a chronic disease. Recruiting from Facebook was fast, relatively easy, and effective. I was able to communicate with participants who were more racially, geographically, and culturally diverse than those who might have been recruited from a single clinic, in a single metropolitan area. Furthermore, I gained access to those receiving care from more diverse types of care providers. However, Facebook recruitment and Zoom interviewing did result in sampling bias. Those who did not have access to this technology because of computer or WiFi access were unintentionally excluded from the study by way of recruitment and data collection. This is a study limitation. Excluding these adults with type 1 diabetes may have limited data collection about experiences that give insight into the intersection of social determinants of health and novel technology. This exclusion may have impacted data richness. Although Facebook recruitment and Zoom data collection were not in the original study design, they are strategies that will undoubtedly remain efficient choices for nurse researchers because they do not compromise rigor. They enhance diversity and they are efficient.

Study #2 (Alrimawi, 2022): Adapting Data Collection: Barriers to the Implementation of Evidence-Based Practice in a Low-income Clinical Setting in Palestine

Brief Contextual Background. Evidence-based practice (EBP) is crucial for improving the quality of health care in various clinical settings (Melnyk et al., 2014; Saunders et al., 2019), reducing the cost of health care, and improving patient outcomes and satisfaction (Michie & West, 2004; Teisberg et al., 2020). Nevertheless, numerous barriers could affect the implementation of EBP in different clinical settings, mainly in low-income areas (Regalado et al., 2022; Whitehorn et al., 2021). These barriers have not been investigated previously in Palestine.

Purpose And Population. Our goal was to design a qualitative descriptive study to investigate the barriers to the implementation of EBP in low-income clinical settings within the Palestinian context from the perspectives of senior nursing students and nursing instructors.

IRB Details. Initially, IRB approval was obtained for in-person interviews. Then, I had to pivot to a virtual environment because of the pandemic. I amended the IRB application to include the changes and the rationale for recruitment by email and virtual interviews using Zoom. All the steps that we took to protect the participants' privacy, their confidentiality, and the research data were described in detail in the IRB application.

Recruitment. The study sample included 20 participants: 15 senior nursing students and five of their clinical instructors. They were recruited from a main university in Palestine. The inclusion criteria for the students were that they should be fourth-year students in the nursing program and that they should have their internship practicum in a low-income clinical setting. The inclusion criteria for the instructors were that they should have at least a master's degree in nursing and at least 2 years of experience as an instructor in a low-income clinical setting.

Initially, I contacted the dean of the nursing school by email to set up a virtual meeting to explain the objectives of the study, gain approval, and obtain access to the email lists of the eligible students and instructors. Following the meeting, I sent the study information sheet and consent form to potential participants through the university email system. I asked the participants to read the documents carefully, email me back with any questions or concerns about the study, and, if they agreed to participate, email me the signed form. Then, I scheduled them for an interview and sent a Zoom meeting link.

Data Collection and Platform. I used a semi-structured interview to collect the data for this study. I developed an interview guide based on a review of the literature and considering the research aims and objectives. I conducted the interviews virtually using Zoom. To establish rigor, I modified the interview guide based on a pilot virtual interview. The interviews lasted 30 to 60 minutes and were audio- and video-recorded through Zoom.

Reflections. The participants were familiar with the Zoom platform because they worked or studied at the university. They were given the option to turn their camera on or off during the interview, and they could use the chat feature, which some participants used to ask questions. Common issues that I encountered during data collection included maintaining a strong internet connection. Also, when some participants chose to turn their cameras off, their facial expressions and reactions to the questions could not be seen. Nevertheless, my research team was able to get rich audio data.

Another main consideration for this study was maintaining the participants' confidentiality. To achieve this goal, I used an encrypted file to send and receive emails from the participants. Only the university email system was used for communication. Moreover, we used password-protected Zoom invitations for the virtual interviews, and the participants' names were omitted from the recorded Zoom interviews.

I addressed the ability to safely manage and secure the data

using password-protected files, accessible only by the research team. We saved all the derived data, including the researchers' notes, the interview recordings and transcripts, and the data analysis on a password-protected drive. The security settings on Zoom added another layer of protection for the recorded interviews, as it enabled storing the videos in the cloud.

Implications. This study highlights the fact that virtual data collection is an excellent alternative to in-person interviews for international participants. However, qualitative researchers should plan ahead to have processes in place to maintain participant confidentiality and to securely store data from virtual interviews.

Study #3 (Wise & Gellasch, 2022): Recruitment and Data Collection Challenges, and Subsequent Adaptations during COVID-19 among Parents of Children with Cerebral Palsy

Brief Contextual Background. Cerebral palsy (CP) is a non-progressive neurological disorder affecting as many as one in 325 children worldwide (Durkin et al., 2016). Monitoring for key indicators of CP occurs during well-child encounters and includes surveillance of developmental milestones (Centers for Disease Control and Prevention, 2021). Parents voice dissatisfaction with the experience and timing of the diagnosis and the failure of health care providers (HCPs) to warn them of the potential for adverse outcomes due to their baby's premature birth (Williams et al., 2021).

Purpose and Population. The purpose for this qualitative descriptive study was to explore and describe the experiences of parents of children with CP, including their journeys to diagnosis, access to services, resources, and adaptive equipment, and suggestions for parents and HCPs to understand and manage their experiences.

IRB Details. I obtained IRB approval from the supporting institution, a children's hospital, and a pediatric rehabilitation center. I also obtained permissions from two social media CP support groups and a second pediatric children's hospital. Due to the pandemic, I had obtained a 6-month extension of IRB approval and modified the consent form to reflect the option of virtual interviews. There were also delays in IRB approval from the two children's hospitals and the pediatric rehabilitation center because committee members were working from home and not meeting as often. Additionally, information was added to the consent form about protective measures, such as face masks and sanitizing hands and surfaces, if parents chose to be interviewed in person.

Recruitment. I used a purposive sampling method with a snowball approach to recruit parents who (1) had a child between 0 and 10 years of age with a primary diagnosis of CP and (2) understood and spoke English fluently. Recruitment strategies included invitations to participate through (1) social media CP support groups, (2) a pediatric rehabilitation center, (3) two children's hospitals, (4) therapists who provided care to children with CP, (5) an early intervention program, (6) an Intermediate Unit-13 preschool, and (7) a pediatric home health agency. Shortly before the start of the COVID-19 pandemic, flyers were displayed at various agencies or information shared via the agency's website.

Data Collection and Platform. The COVID-19 pandemic prevented face-to-face recruitment by therapists or the PI, because in-home and/or in-center therapy appointments were suspended or conducted via telehealth. Additionally, posting flyers was ineffective because parents were not on site to read them. Recruitment moved to social media CP support groups, website postings, and emails to nurses who worked with patients with CP at the two hospitals. Twenty-six semi-structured interviews were conducted from January to April 2021, one year into the pandemic, in person (n = 3) or through Zoom (n = 23) video conferencing. Saturation was reached within nine weeks. All interviews were audio-recorded or recorded through Zoom. The recordings and transcriptions were password protected and only accessible by the PI and a co-investigator.

The experienced co-investigator helped with data transcription and analysis. After transcription but before analysis, parents were emailed a copy of the transcript to review and edit if needed. This step ensured accuracy and strengthened the validity and reliability of the data. Participants received a $50 gift card from Amazon or Target to thank them for their time.

Reflections. Expanding recruitment to social media enabled us access to a more diverse sample population. Participants lacking strong technological skills were unable to complete an electronic version of the consent form, citing inexperience with Microsoft Word and Adobe Acrobat. These participants chose to mail the consent form to me. None of the participants had difficulty connecting to Zoom; however, all African American participants (n=10) turned cameras off during the interview, preventing me from seeing the emotion attached to responses. Parents who participated spread the word about the study to other parents through CP support group sites, which allowed us to conclude the study in a shorter time frame than expected. Lastly, physical and occupational therapists at the pediatric rehabilitation center recruited parents personally even though their contact with parents was limited due to the pandemic.

Implications. Whereas the pandemic created delays in IRB approval and recruitment for me, the sample size was more diverse, and the research protocol was just as rigorous as before the COVID-19 pandemic. My personal expectations related to the study protocol had to change to meet the needs of the recruitment sites and participants.

Study #4 (Sefcik et al., 2022): Recruiting Older Adults through ResearchMatch: Insights into Outdoor Activity Engagement

Brief Contextual Background. A growing body of literature supports the physical, mental, social, and spiritual benefits that older adults receive from going outside and being exposed to nature (Finlay et al., 2015; Gascon et al., 2015). However, there is a gap in understanding how the current pandemic has affected older adults' outdoor activities and the frequency of those activities.

Purpose and Population. My purpose in conducting this qualitative descriptive study was to learn about older adults' (65 years of age and older) outdoor activity engagement and how that had been affected by the pandemic (Kim et al., 2017). Due to the COVID-19 pandemic and social distancing policies, our research team decided to recruit participants through the on-line platform ResearchMatch (researchmatch.org) and to conduct interviews virtually or over the telephone.

IRB Details. We needed IRB approval to recruit through ResearchMatch. At our college, processes were already in place to facilitate the use of the recruitment site. First, the laboratory director was already enrolled as the liaison for the faculty and research staff with the ResearchMatch platform and had developed a SharePoint site that described the process of using the tool for recruitment. Second, the IRB at our university provided a template for how language should be provided in the study protocol when using ResearchMatch. Additionally, we requested and received a waiver of written consent from our IRB so that we did not need to collect signatures from older adults. Obtaining written consent might have been a barrier to the study population due to the varying levels of ability to apply signatures to electronic con-

sent forms and to return them to study staff. Except for the fact that our application was under review with the IRB longer than anticipated due to staff challenges related to the pandemic, we did not encounter any problems obtaining IRB approval.

Recruitment. ResearchMatch is a free, secure online platform that is used to facilitate finding United States volunteers for academic research studies. Once we received protocol approvals from the IRB and the college liaison on the ResearchMatch site, we were able to post our study and have emails sent out to those who matched our inclusion criteria. We sent a total of 300 recruitment emails, opting to start slowly with 25 emails and then sending more based on our response rate. ResearchMatch generated a list of interested participants that I, as PI, downloaded and shared with the trained research assistants (RAs). The RAs followed up via email with interested older adults. For those wanting to participate in a 1-hour interview, the RAs scheduled a convenient time and sent an informed consent form via email.

Data Collection and Platform. Participants had an option to complete a videoconference call through Microsoft Teams or by telephone. For telephone interviews, the RAs had the conversation over speakerphone with the Microsoft Teams platform on in the background, recording the conversation. At the start of the interview, the RAs reviewed the consent form, answered any questions, and recorded demographics into RedCap. We used Microsoft Teams to transcribe all the interviews, and all recordings were stored on our secure SharePoint research drive.

Reflections. Within 3 weeks of posting the research study through ResearchMatch, we were able to meet our recruitment goal of interviewing 17 older adults, ages 68 to 86. We achieved geographical diversity with participants living across the United States. A high concentration of participants was located on the East Coast, although the area covered was much broader than it would have been had we been recruiting only in the region where the research team lived and worked and had we done the interviews in person.

We were able to complete the recruitment rapidly, but there were some limitations to using ResearchMatch for this study. One limitation was that we ended up having a well-educated group of participants, with three holding doctoral degrees. This result makes sense, given that the respondents had to be aware of the platform and must have created a profile to actively seek research participation opportunities. Additionally, most of the participants identified as White, non-Hispanic, so we lacked racial and ethnic diversity among the participants. This finding is consistent with that fact that 75% of the volunteers using the platform (https://www.researchmatch.org/metrics/) identified as White.

Furthermore, our participants were comfortable using technology because they signed up for a ResearchMatch profile and responded to emails if they were interested in being a research participant. This situation limited the recruitment of older adults who did not have access to technology or who were not tech savvy. Although our participants were comfortable with technology, not everyone on the videoconference call put their camera on and RAs did not probe further to find out why. An additional challenge with this study was that the software used to transcribe the interviews had many errors, and it was time consuming for RAs to reconcile the transcriptions with the audio recordings.

Implications. Recruiting through an online tool such as ResearchMatch and completing a rigorous qualitative study through teleconferencing software are possible when one needs to conduct rapid recruitment, achieve geographic diversity among participants, and/or is prevented from collecting data in person (e.g., experiencing a pandemic with social isolation regulations).

Study #5 (Talal et al., 2023): Experiences of Persons with Opioid Use Disorder Receiving Hepatitis C Virus Care Integrated into the Opioid Treatment Program via Facilitated Telemedicine

Brief Contextual Background: A diagnosis of infection with hepatitis C virus (HCV) commonly occurs in persons with opioid use disorder (PWOUD), an underserved population. Our ongoing study is designed to assess the effectiveness of providing HCV treatment via telemedicine integrated into opioid treatment programs.

Purpose and Population: The purpose of this substudy was to explore the experiences of PWOUD in an opioid treatment program who accessed HCV treatment via telemedicine. Thus, we sought in-depth interviews from clinic sites included in the parent study.

IRB Details: This substudy of the parent efficacy study required that we submit an addendum to the original IRB and gain approval from each participating site. The addendum supported data collection using the Zoom platform due to COVID-19 restrictions as well as processes for in-person interviews. The consent process required that we obtain signed consent and verbal consent prior to the interview, assuring that the potential participants understood consent components including the purpose, disclosure risks, processes to avoid disclosure, and voluntary participation. We notified participants of the compensation of $25 for the interview.

Recruitment: As qualitative researchers, we initially needed to negotiate entrée to the study of patient participants in the original study (underserved population). We had study staff who were familiar with the patient participants ask them if they would want to share their experiences with HCV Treatment by telemedicine or usual care. Participants who consented were then offered a choice of a virtual, an in-person, or a phone interview.

Data Collection and Platform. The participants were familiar with the Zoom telemedicine platform; thus, they preferentially chose virtual interviews (n=24), with two choosing not to turn on the cameras and one choosing a telephone interview. Interviews were transcribed by the Zoom transcription function. We had to edit, verify, and de-identify the transcription documents to maintain confidentiality and to ensure accuracy. Secure technology-assisted transcription functions facilitated transcribing recordings and maintaining confidentiality in producing transcripts for analysis. To provide secure data management, we used UB-Box, a university data platform that provides secure data file storage accessible only by study staff. We developed and followed a standard operating procedure to assure a consistent process during recruitment, consent, data transcription and data storage.

Reflections: To obtain individual stories of their experiences, we used the interview approach during the pandemic whereby the research staff negotiated entrée by using a virtual platform familiar to PWOUD because HCV telemedicine encounters utilized the same platform. The participants' prior experience with the Zoom platform during telemedicine encounters and their previous relationship with the research staff facilitated recruitment. We maintained flexibility in order to meet the individual preferences of the participants for the interview format (virtual, in-person, or phone). We also provided an IRB approved noncoercive compensation of $25 for their time. Editing by the interviewers assured accuracy of transcripts. Processes and procedures were advantageous in maintaining the flow and assuring protections for human subjects and data security.

Implications: The use of virtual platforms to obtain in-depth qualitative interview data is an acceptable format for the underserved population in this study due to their previous experience

with the telemedicine facilitate by the familiar staff. We openly communicated the interview process, security, and confidentiality measures to participants to allay potential concerns.

Discussion

The five case studies presented in this article focused on adaptive recruitment and data collection approaches used by five qualitative, doctoral prepared nurse scientists and their teams during the COVID-19 pandemic. These approaches had numerous strengths and some limitations that the research teams encountered when recruiting participants and conducting interviews virtually as described in the case studies. Table 1 summarizes these methods adaptations for other qualitative researchers to consider incorporating into their future studies.

IRB Considerations

Our case studies provide different examples of the process to obtain IRB approval for virtual recruitment and data collection. In some instances, the PIs submitted an IRB modification to change from in-person to virtual activities at the start of the pandemic. Others proactively submitted IRB applications knowing that their study would be virtual. IRB approval was delayed for some studies because reviewers requested more details regarding the virtual recruitment and data collection strategies. Some researchers found that IRB approval took longer than anticipated due to staffing issues and uncontrollable circumstances related to the pandemic. Delays in obtaining IRB approvals for virtual qualitative studies were not unique to us. Others also reported similar IRB delays during the pandemic (Roberts et al., 2021). Now that we are no longer in the height of the pandemic, IRB proposal approvals are likely quicker, however review turnaround time depends on multiple factors, including the workload of the department. Therefore, we recommend that qualitative researchers build in extra time into their timeline for IRB staff to manage the review process and for teams to manage any requested amendments.

Additionally, researchers should check their IRB websites or consult with their IRB staff to see what additional virtual recruitment or data collection information is now required and what templates are available. Recent articles have outlined the value and challenges of using virtual technology for qualitative interviews as well as for practical considerations for IRB protocols (Archibald et al., 2019; Varma et al., 2021). Qualitative researchers can use this information when writing the IRB application to support one's rationale in using the virtual approach exclusively or as an additional interview option (along with in-person 1:1 interviews) for participants. IRBs nationally have had to adapt to this additional data collection approach due to the pandemic; therefore, being clear as to what new/additional information will be required for virtual data collection will save time and delays when writing the application and obtaining IRB approval in a timely fashion. Researchers should consider including options in the IRB application to accommodate changing times and situations, such as having the flexibility to host both virtual and in-person interviews when possible.

An additional IRB-related recommendation we have for researchers is to consider requesting from their IRB a waiver of written consent in minimal-risk studies to facilitate study inclusion and consent, if applicable. In one case study (#3), the PI found that participants had a difficult time navigating the technology to provide an electronic signature and therefore had to mail in the signed informed consent form. In another case, study (#4), the IRB waived written consent in a low-risk study due to a potential issue with older adults recording and sending their signatures electronically. This change eased the consenting process for participants by not requiring a written signature.

Recruitment Efforts

Our case studies further support the use of technology for recruiting participants for qualitative research. By using virtual methods for recruitment, we were able to access and enroll more diverse participants faster than usual in terms of type of illness, race, ethnicity, and geography. We do, however, acknowledge that we could have introduced recruitment bias by including only people who had some technology literacy. Our participants needed to use virtual tools to see the call for advertisements on social media platforms and online research registries, which inherently omitted potential participants without or limited access to tech-

Table 1

Virtual Qualitative Research Method Strategies to Consider

IRB Considerations	Recruitment Efforts	Data Collection
Build extra time into the research timeline to allow for IRB approval (e.g., IRB may request amendments).	Virtual recruitment efforts might lead to faster enrollment of more diverse participants in relation to type of illness, race, ethnicity, and geography.	Have a back-up plan for when technology fails (e.g., conduct a telephone interview if the internet connection is not strong).
Check IRB websites or consult with IRB staff to see what additional virtual recruitment or data collection information might now be required and if any templates are available.	Take into consideration that recruitment bias may occur by advertising only to those who have consistent access to technology.	Assess if participants need training with the videoconferencing software prior to the interview and consider having a second research team member at the interview to troubleshoot technology issues.
Consider having options in the IRB application to accommodate changing times and situations (e.g., flexibility to host virtual and also in-person interviews when possible).	Consider bolstering online recruitment efforts with more traditional methods such as posting fliers, sending mail notifications, and using snowball sampling through word-of-mouth referrals.	Evaluate ahead of time if you will require participants to have their camera on or if it is alright if participants choose to have their camera off during the interview.
Evaluate if requesting a waiver of written consent from the IRB makes sense for your project because doing so might ease the consent process for people who may have difficulty providing an electronic signature.	Reach out to administrators of social media sites to obtain permission to post recruitment information that includes direct contact with the research team rather than communicating over social media.	Consider offering options for participants to complete either a virtual, telephone, or in-person interview, which may aid in recruitment efforts.

Note. IRB = Institutional Review Board

nology. This situation could create recruitment issues depending on the investigator's research question. For instance, Roberts and colleagues (2021) highlighted in their article that they had difficulties recruiting students experiencing homelessness during the pandemic due to the students' limited or inconsistent access to virtual tools.

Furthermore, researchers should be aware when using research registries that some people are misrepresenting themselves to gain access to studies and financial incentives for participation (Sefcik, 2023). While none of the research teams from these presented case studies suspected fraudulent research participants, impostors and misrepresentation in research is becoming an increasing problem that qualitive researchers should be knowledgeable about. Steps can be taken to minimize impostors from enrolling in virtual studies such as having two rounds of screening with follow-up questions over the phone or on videochat and having one experienced interviewer whenever possible to identify repetitive and illogical responses across interviews.

Researchers may also consider bolstering their online virtual recruitment efforts with more traditional methods such as posting fliers, sending mail notifications, and using snowball sampling through word-of-mouth personal referrals, to obtain participants beyond those using specific technology platforms. When we used social media sites for recruitment, we found that reaching out first to the group administrators to ask for permission to post recruitment information was helpful for gaining entrée into the group. Once we received permission to post information about the study, the information provided clearly directed interested participants to contact the research teams directly and not to voice interest on the platform for others to see. Alternatively, researchers may want to create their own study social media page and use paid customized advertisements. Cho and colleagues (2021) had great success with recruitment through Facebook advertisements focused on children with advanced cancer and their parents for a web-based pediatric palliative intervention study.

Data Collection

Our case studies provide additional support for the general ease of using videoconferencing software to conduct interviews and the added benefit of saving time and money by not traveling to meet participants, although we were not without challenges. Case study #2 specifically had issues with participants not having a strong internet connection. This challenge is one that others may anticipate having and therefore put in place a back-up plan to continue using interviews (e.g., changing to a phone interview).

In other situations, some participants needed training and technical support for the videoconferencing calls. Researchers should plan for identifying whether participants need extra technical support such as a practice session and might consider having a second research team member on the videoconference whose role is to troubleshoot technology issues. In other cases, our participants did not want to turn on their cameras, which prevented observations and information about facial expressions and body language. Researchers may want to consider ahead of time if having a camera on should be an inclusion criterion for participants that is discussed during the consenting and enrollment process.

Furthermore, qualitative researchers should consider carefully whether they want to continue virtual interviews as social isolation and pauses with in-person interviews are lifted. Some research supports the idea that there are more advantages to conducting interviews in person rather than virtually. For example, Johnson et al. (2021) analyzed 306 interviews that were conducted through in-person, telephone, and Skype in the United States, the United Kingdom, and India. They found that in-person interviews have a clear advantage over telephone and Skype interviews because they produce more in-depth and richer information and more detailed field notes. Similarly, Krouwel et al. (2019) explored the value of in-person and videoconference interviews and found that in-person interviews were slightly superior to video calls because they produced more words and substantially more statements that reflected more in-depth and variety in the ideas that were captured during the interview.

We recommend that qualitative researchers consider offering options for participants to complete either a virtual, telephone, or in-person interview based on their preference. The literature reflects that participants have varying levels of comfort and preferences for how they engage in an interview. For example, Archibald and colleagues (2019) found when interviewing nurses that, while many preferred Zoom interviews to telephone or email interviews, several said they would have selected an in-person interview if it was possible when considering time, geographical distances, and other logistical considerations. In contrast, Oliffe and colleagues (2021) found that their participants, who were men discussing intimate partner relationship breakdowns via Zoom, appeared to be more relaxed and natural when speaking from their own physical spaces (e.g., home, office). Flexibility and options as to how data collection occurs may help increase recruitment of participants and facilitate ease of completing an interview. However, we do recognize that having different forms of recorded interviews might have an impact on the data as a whole and the analysis process, so we recommend further research on the pros and cons of offering options for types of interviews.

Conclusion

The COVID-19 pandemic underscored the need for qualitative researchers to be flexible and innovative when faced with study recruitment and data collection challenges. We have shared in this article considerations about qualitative research methods that we learned through sharing our experiences with each other. We found that, in general, extra time was needed to obtain IRB approval due to additional amendments made to accommodate the shift from in-person to virtual research and staffing challenges due to pandemic-related circumstances. Checking IRB websites and consulting the IRB staff to find out what additional information might now be required in the application and to see if any templates are available can expedite the protocol approval process.

We primarily used social media sites and online research registries for virtual recruitment, which allowed us to enroll faster than usual more diverse participants in terms of type of illness, race, ethnicity, and geography. For videoconferencing interviews, some participants needed help with the technology, which should be considered as part of the planning process for all future virtual research. Additionally, some of us found that not all participants wanted to turn on their cameras for videoconferencing. Each investigator should consider ahead of time if having a camera on will be a requirement for participants. Although the video data can be helpful in qualitative research analysis, some participants might be more comfortable and talk more freely if their camera is not turned on. For future qualitative research protocols, we recommend offering participants the options of completing interviews either virtually, by telephone, or in-person based on their personal preference and comfort level and the preference. Giving participants options may increase interest in study enrollment and should be investigated in terms of how it impacts the interviews and analysis.

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EVIDENCE-BASED RESEARCH

Implementing Substance Use Screening in Adult Primary Care During COVID-19

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Abstract

Background*:** Substance use is a global and local practice problem resulting in significantly high rates of morbidity and mortality (Bisaga et al., 2018; Setodji et al., 2018). In New York City, overdose is the leading cause of preventable death (City of New York, 2020). During the COVID-19 pandemic, medical and socio-economic conditions increased substance use and abuse (Jemberie et al., 2020; Kim & Aslam, 2020). The purpose of this EBP research was to address the substance use crisis during the COVID-19 pandemic by implementing substance use screening in adult primary care. ***Research Methodology*:** A quantitative methodology was utilized for data collection. Data were extrapolated from the facility's electronic health record, and a chi-square analysis was conducted. The i-PARIHS translational science framework was utilized to support the evidence translation process. ***Results and Discussion*:** Identification of substance use, misuse, and abuse utilizing a brief substance use questionnaire was proven to be effective in busy workplace settings. A total of 733 screenings were completed during the intervention, and the results showed statistical significance in the gender of the patients (77.2% male and 22.8% female; p=0.022), ethnicity (47.9% were either African American, non-Hispanic/Latinx, or White, non-Hispanic/ Latinx; p=0.009), and age (30.8% with an age range of 55-64 years old; p=0.009). ***Limitations: Limitations included self-reporting and generalizability as the study was conducted in only one primary care practice in a large Northeastern acute care facility. ***Conclusions and Recommendations*:** The EBP research supports substance use screening for early identification and treatment, including brief interventions. Further recommendations include a review of organizational healthcare policies related to substance use screening and treatment, examining the efficacy of substance use treatments by clinical and non-clinical trained staff members, and future research studies on COVID-19-related stressors and the initiation or worsening of substance use in these individuals.

Keywords: Substance Use, Opioid, Alcohol, COVID-19, i-PARIHS, Substance Use Screening

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Implementing Substance Use Screening in Adult Primary Care During COVID-19

Substance use, misuse, and abuse are global and local public health problems that negatively impact individuals, families, and entire communities. During the height of the COVID-19 pandemic, substance abuse further increased because of social isolation, physical distress, stress, and anxiety (Farhoudian et al., 2020; Jemberie et al., 2020; Kim & Aslam, 2020).

"Prevention is better than cure," so goes the adage. Preventing substance use disorders through identification and referrals for treatment can significantly impact the public health crisis, and identifying substance use, misuse, or abuse is the first step (Wu et al., 2019). Along with screening for substance use, referrals to, and engagement in treatment have proven effective in preventing opioid and alcohol use disorders, opioid overdoses, and deaths (Setodji et al., 2018; Wu et al., 2019).

The problem of substance abuse was the focus of this evidence-based practice (EBP) research. This EBP research aimed to address the substance use crisis and support the prevention of related opioid overdoses, deaths, and co-morbidities through the use of screening. The PICOT question was: In the adult primary care patient population, does implementation of the evidence-based substance use questionnaire, Single Item Screening Questionnaire (SISQ), compared to the current practice of no screening, influence screening rates and differ by gender, ethnicity, and age in a period of 5 months? An evidence-based single-item screening questionnaire (SISQ) was implemented to identify substance use and abuse. As patients were identified, they were referred for brief intervention of counseling and a continuum of internal or external referrals as needed. In this particular EBP research, substance use, as the practice problem, included its global and local prevalence, significance, financial implications, and current best practices.

Problem Statement

Substance use, misuse, and abuse are global and local problems resulting in significantly high morbidity and mortality rates (Bisaga et al., 2018; Colon-Berezin et al., 2019). According to Wu et al. (2019), identifying substance use, misuse, or abuse is the first step in addressing this public health crisis. In conjunction with screening for substance use, referrals to and engagement in treatment have shown effectiveness in preventing opioid and alcohol use disorders, related opioid overdoses, and deaths (O'Connor et al., 2018; Rosenthal et al., 2018; Wu et al., 2019). Many studies have identified the relationship between patient demographics and the rates of substance use, misuse, and abuse, including the ability to obtain treatment. Additionally, during the height of the COVID-19 pandemic, physical, psychosocial, and societal issues increased substance use and abuse (Kim & Aslam, 2020).

Global and National Perspective on Substance Use

Substance use significantly contributes to the global burden of disease, which impacts the quality of life. Alcohol abuse is one of the leading causes of preventable death resulting in approximately 90,000 deaths annually (Bemker & Ralyea, 2018; Jonas & Garbutt, 2017). Opioid overdoses are among the leading causes of death among Americans under the age of 50 (Davis et al., 2019; Villani et al., 2020). In addition, the offspring of pregnant women have suffered death, disability, and disease resulting from excessive substance use by the mother (Krist et al., 2021). Patients with a previous overdose are at higher risk for a repeat overdose and death, especially those with mental health illnesses such as depression and anxiety (Suffoletto & Zeigler, 2020). The current opioid crisis is due, in part, to the excessive availability of prescription medications (Hayes et al., 2020).

The consequences related to substance abuse, such as cardiovascular diseases, diabetes, respiratory diseases, and psychiatric disorders, increase the risk of contracting COVID-19 (Jemberie et al., 2020). Environmental factors such as housing insecurities, loss of income, negative involvement in the criminal justice system, quarantine mandates leading to social isolation, and unemployment also put patients at increased risk of developing substance abuse and COVID-19 (Farhoudain et al., 2020). According to Mayhugh et al. (2018), high stress levels and poor coping mechanisms were associated with addiction. Otherwise healthy individuals may begin to use substances, and previous users may relapse due to stressful events, such as the COVID-19 pandemic (Farhoudain et al., 2020).

Substance use disorders were also associated with the social determinants of health and decreased life expectancy in the United States (Butkus et al. 2020). Using an equity lens, Sahker et al. (2020) found that Black and Latino patients were less likely to seek substance use treatment, have access to treatment, complete treatment programs, had longer stays in treatment programs, and received fewer referrals to outpatient treatments. However, at the height of the pandemic, the depletion of available resources necessary to combat the disease and the stigma of seeking support also worsened the substance use crisis (Jemberie et al., 2020). This depletion of resources had been particularly harmful to the older adult population, who already experienced limited resources prior to the pandemic (Jemberie et al., 2020).

Additionally, screening for substance use, although recommended as best practice by the U.S. Preventive Services Task Force [USPSTF], is not universal in primary care settings (Edelman & Tetrault, 2019; Knapp & McCabe, 2019; Krist et al., 2020). In a study by Yu et al. (2018), 53.1% of healthcare staff respondents admitted to not utilizing a standardized tool, while 45% admitted to using an outdated instrument that did not address risky use. This was further compounded by the discomfort experienced by some healthcare providers when discussing the topic of substance use, resulting in biases and discussions that are stigmatized, accusatory, or difficult for patients to comprehend (Bemker & Ralyea, 2018; Knapp & McCabe, 2019). Additionally, time constraints, inadequate staffing, and inappropriate resource allocation were significant barriers to providing quality patient care in complex healthcare environments (Zaccagnini & White, 2017).

Local Perspectives on Substance Use

In New York City, the rates of opioid use, hospitalizations, and overdose deaths were found to be higher than the national average (Agency for Healthcare Research and Quality [AHRQ], 2019; City of New York, 2020). Additionally, opioid overdose was the leading cause of preventable deaths in the city in 2020 (City of New York, 2020). Based on a 2019 Community Health Needs Assessment, alcohol-related and drug-related disorders were consecutively ranked as the top two reasons patients engage in care within the healthcare system (One City Health, 2019). A total of 15% of the health system's patient population reported a substance use disorder diagnosis. There were 1.056 million substance use-related encounters in 2019, and approximately 707,000 were in the outpatient setting (One City Health, 2019).

Theory of Translation Science Framework

The integrated-PARIHS (i-PARIHS) translational science framework (Harvey et al., 2018) was developed and updated to facilitate successful implementations, evidence-translation, and produce positive clinical outcomes at the micro and macro-system levels (Harvey et al., 2018). The model consists of four concepts: context, recipient, innovation, and facilitation (Harvey & Kitson, 2016; Harvey et al., 2018). This framework was used in this evidence-based research.

In the i-PARIHS translational science framework, context refers to the system levels impacting the implementation of the practice change (Harvey & Kitson, 2016). In this EBP research, the context was inclusive of inter-relational communication and interprofessional collaboration within the interprofessional team. It includes referrals for intensive treatment at the facility level, social services, and housing and food insecurity support to address the determinants of health. The recipient refers to the targeted person or group impacted by the practice change or intervention (Harvey & Kitson, 2016). As recipients in this EBP research, the nursing staff collaborated with stakeholders, assessed barriers, engaged in care coordination with the interprofessional team for additional support and services, and established and maintained therapeutic relationships with patients using open and effective verbal and non-verbal communication techniques.

The innovation portion of the i-PARIHS framework is defined as the evidence-based practice being implemented (Harvey & Kitson, 2016). Operationalizing innovation required implementing the evidence-based substance use screening tool (SISQ). It also involved developing a workflow for referrals for brief intervention counseling and recommendations to intensive treatment as needed. Finally, in the i-PARIHS translation model, facilitation was essential because it related to the support person or group, processes, or systems needed to implement, sustain, and evaluate the intervention (Elledge et al., 2018; Harvey & Kitson, 2016). For this EBP research, following the i-PARIHS model, the facilitator and EBP research manager ensured that training and education were provided to the nursing staff, that the screening and referral workflows were being followed consistently, ensured that data integrity was maintained, that information was regularly disseminated to all stakeholders, and that plans for sustainability were developed and implemented.

Methodology

EBP Research Design

A quantitative methodology was utilized for the EBP research. The site's Institutional Review Board (IRB) approved the EBP research and determined it was IRB-exempt due to the use of secondary data. The EBP research aimed to implement substance use screening during the COVID-19 pandemic to influence screening rates and referrals for brief substance use counseling over eight weeks. Substance use screening was the independent variable, and the dependent variable was the screening rate. Data collected from the completion of the SISQ substance use screening tool was extrapolated from an electronic health record (EHR) report and was collected by the facility's data analyst stratified to include data related to age, ethnicity, and gender. Each patient who screened positive for substance misuse received a referral for same-day brief intervention counseling. Data collected from an electronic referral report for the counseling was also retrieved from the EHR and numerically counted.

Data analysts from the facility's finance department provided a report from the EHR, which included the number of screenings, referrals for counseling, and demographic data. Pearson's chi-square analysis using crosstabs was performed by a statistician using the Statistical Package for the Social Science (SPSS) software version 28.0.1.1 (15) to determine the statistical significance of gender, age, and ethnicity. For data analysis, the specific measures analyzed included (a) the number of patients who screened positive for substance misuse/ abuse, (b) the number of patients who screened negative for substance misuse/ abuse, (c) gender-specific screening rates, (e) age-specific screening rates, (f) ethnicity-specific screening rates, and (g) referrals for brief intervention counseling.

Setting

The setting for the EBP research was an adult primary care practice in an acute care hospital in the northeastern United States that offers comprehensive primary and specialty care outpatient services. It is an Accountable Care Organization and a safety net hospital with a disproportionate population of undocumented, underserved, and uninsured patients. Additionally, the community surrounding the EBP research site faced significant substance use problems, including using K2, and significant mental health problems. K2 is a man-made, mind-altering synthetic cannabinoid, also known as "spice" or "herbal incense" (National Institute on Drug Abuse, 2019).

Finally, stigmatization was explicitly identified by the patient population and community as a significant obstacle to treatment engagement (One City Health, 2019). The stigma related to substance use treatment was reported to be exceptionally high in patients experiencing housing insecurities (Magwood et al., 2020). Patients are afraid of being stigmatized and being hospitalized for excessive substance use. Their desire to be perceived positively also leads to their refusal to admit to substance use, misuse, and abuse, as well as their limited engagement in treatment. According to Bisaga et al. (2018) and Wu et al. (2019), patient engagement is an essential factor in substance use treatment and the sustainment of abstinence. The onus is on the healthcare provider to elicit answers to substance use-related questions in a non-accusatory manner, to offer available resources, and to intervene only when the patient is ready (Bemker & Ralyea, 2018).

Sampling and Inclusion/Exclusion Criteria

Convenience sampling included all patients who had a scheduled provider visit in the adult medicine practice within the implementation period of five months. Patients with a diagnosis of substance use disorder who were already enrolled in internal or external psychiatric outpatient services were included and received referrals for brief intervention counseling and to their outpatient psychiatric providers for appropriate follow-up as needed. Because the SISQ tool was not available in the EHR for nurse-only visits based on the system build, exclusion criteria were all nurse-only walk-in visits for flu vaccines, completion of vaccine series, medication refills, and form completion.

Instrumentation and Data Collection

The SISQ was identified as a validated screening tool as part of a Screening, Behavioral Intervention, and Referral for Treatment (SBIRT) toolkit (Singh et al., 2017; Wu et al., 2019). The SISQ is a brief questionnaire of two questions that were shown to be effective for use in fast-paced healthcare settings without being burdensome to the clinical staff (McNeely et al., 2015; Seale et al., 2018). It measures unhealthy substance use, which is any risky use in excess of the recommended limits: >5 for men and >4 for women for the SISQ-alcohol and/or 1 or more for the SISQ-drug question (McNeely et al., 2015). The SISQ-alcohol question is stated as, "How many times in the past year have you

had X or more drinks in a day? (X=5 for men, X=4 for women" (McNeely et al., 2015). The SISQ-drug question is asked as, "How many times in the past year have you used an illegal drug or a prescription medication for non-medical reasons" (McNeely et al., 2015)?

The SISQ had previously been tested for validity and reliability. The SISQ-alcohol had a 73.3% sensitivity and 84.7% specificity for unhealthy alcohol use, and the SISQ-drug had a 71.3% sensitivity and 94.3% specificity for unhealthy drug use (McNeely et al., 2015). The sensitivity and specificity percentages were even higher, with a sensitivity of 86.7% for alcohol use disorders and a sensitivity of 85.1% for drug use disorders (McNeely et al., 2015).

The nursing staff administered the SISQ and then documented the intervention in the EHRs appropriate intake field. Both questions took approximately 10 seconds to answer, slightly longer if interpreter services was used for patients with a preferred language other than English. The educational plan included refresher training on the use of the interpreter services for all nursing staff to ensure both questions were asked appropriately and not condensed or skipped. Optimizing the EPIC EHR and using nurse-to-nurse hand-off communication ensured that referrals were received immediately and patients could be seen on time. The trained nurses were co-located and in close proximity to the care teams, which supported the ease of hand-off communication and a shortened lag time between patients. Utilizing verbal hand-off communication and an electronic referral in the EHR ensured that pertinent information was relayed to the intervention nurses, ensuring access to continuity of care while decreasing the risk of harm, especially during transition periods. It also increased patient and family engagement (Galatzan & Carrington, 2018).

Data for completion of the SISQ was abstracted as a report from the EPIC EHR screens. To assure patient anonymity, EHR reports generated by the facility's data analysts had no patient identifiers. Daily random chart reviews ensured compliance with the screening and referral processes. Data was abstracted weekly by the facility's data analyst. The data points included the total number of patients screened for substance use in the adult primary care practice and the number of patients with a positive response: 1 or more for the SISQ-alcohol and/or SISQ-drug question. The total number of referrals was abstracted as a report from the referral work queue, but data specific to the patient's acceptance of the brief intervention referral were manually abstracted through chart review. The researcher completed training on human subject research to ensure all patient safety and data security measures were known and implemented, including that all patient identifiers were removed, and that all data was password protected and stored in encrypted files accessible only by the facility's data analyst and the researcher.

Results and Discussion

The EBP research aimed to implement an evidence-based substance use screening tool, the SISQ, during the COVID-19 pandemic. Screening for substance use utilizing a valid, evidence-based screening tool was found to be a significant requirement in the identification of substance use, misuse, and abuse and to be as effective as other more comprehensive or longer questionnaires (O'Connor et al., 2018; Seale et al., 2018).

Descriptive Data

The population utilized for the EBP research was all patients with a primary care provider visit in the primary care adult practice during the COVID-19 pandemic within five months between November 2020 and April 2021, during the height of the COVID-19 pandemic. Since there was no screening prior to the implementation of the screening tool, SISQ, as it was not required documentation for nursing, no screening data was available. However, after the implementation of the tool, a total of 733 patients were screened for substance use, misuse, and abuse over five months. Also, although multiple visit types were analyzed, the majority of visits where substance use screening was performed were on revisit patients; 57.8% of the total 733 patients were screened during a revisit.

Table 1

Visit Types and Frequency of Patients Screened for Substance Use

Visit Type	Frequency	Percentage
Annual	3	0.4
ED F/U	9	1.2
Hospital F/U	14	1.9
New Patient	145	19.8
New Special Pathogens	49	6.7
New Televisit	5	0.7
Revisit	424	57.8
Revisit Special Pathogens	27	3.7
Televisit	57	7.8
Total	733	100

Note. A total of 733 patients were screened during the implementation timeframe. The majority of visit types were revisits (57.8%) followed by new patient visits (19.8%).

Out of the 733 patients screened, 64.4% had a negative screen (n=472), and 35.6% had a positive screen (n=261). All patients with a positive screen were referred to and accepted the brief intervention counseling. Significantly, of the 733 patients screened, more males (n=566) were screened than females (n=167); a total of 77.2% and 22.8%, respectively [p=0.022]. The report provided by the data analyst identified the most frequently reported ethnicity as either Black or White, non-Hispanic, non-Latinx (47.9%) [p=0.001] with an average age range of 55-64 years old (30.8%) [p=0.009].

Table 2

Ethnicity of Screened Patients

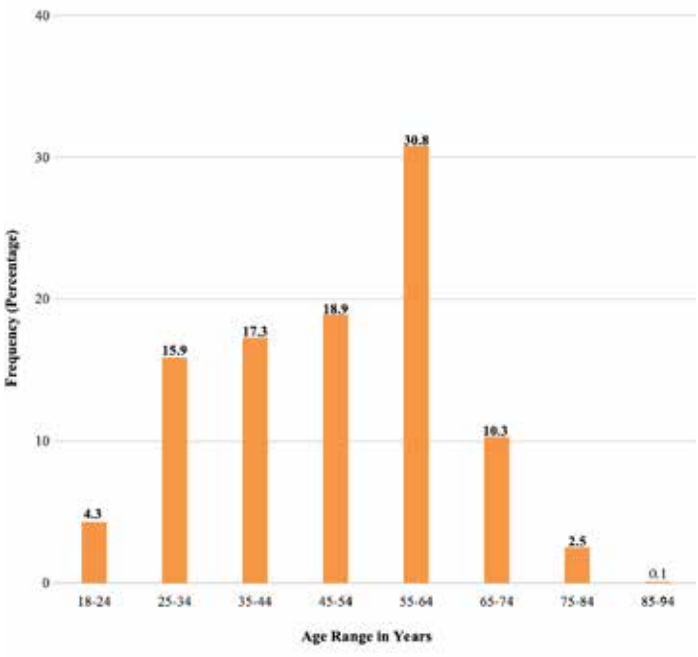
Ethnicity	**Frequency**	**Percentage**
African American or White (Not Hispanic or Latinx)	351	47.9
Hispanic/ Latinx	215	29.4
Asian	1	0.1
Declined/Unknown	166	22.7
Total	733	100

Note. The majority of patients who were screened for substance use were either African American or White, non-Hispanic and non-Latinx patients (47.9%) followed by 29.4% of patients who were Hispanic/Latinx. 22.7% of patients did not have data in the EHR related to ethnicity.

Patients with a risk for, or actual, substance use/ abuse were identified as a result of implementing this EBP research. All patients with a positive screen were referred for brief intervention counseling and attended the same-day counseling session. Baseline referral and acceptance rates for the brief intervention counseling prior to the intervention was 0% as there were no previous screenings, resulting referrals, or counseling sessions for substance use. After the intervention, all 261 patients with a positive screen received brief intervention counseling.

Figure 1

Age Range of Patients Screened for Substance Use



Note: The age range for patients screened was 18 to 94 years. The age with the highest frequency was 55-64 years of age (30.8%) with a total of 227 completed screenings. However, the average age of patients screened was 50 years old.

Out of the 733 patients screened, the age range with the highest frequency was 55-64 years of age (30.8%), with a total of 227 who completed screenings. However, the average age identified was 50 years old.

Discussion

Findings

Prior to the implementation of the EBP research, nursing staff did not screen patients for substance use as it was not required during intake. One of the findings is the essential need for early identification of substance use, misuse, or abuse and to engage patients in treatment with options such as brief intervention counseling. During the implementation period, a total of 733 screenings were completed. The implementation of the SISQ intervention was supported by the i-PARIHS translational science framework concept of innovation underlining the maintenance of intervention fidelity, application of the empirical evidence, and eliciting a sustainable practice change. The need for screening was supported by McNeely et al. (2018) and Wu et al. (2019), who expressed its essential need to become a part of the assessment within the patient's medical health information. Keen et al. (2019) and Rosenthal et al. (2018) showed that a significant increase in the number of patients screened for substance use resulted in an increase in patients identified as having issues related to substance use.

Another finding is the feasibility of using brief standardized screening tools to screen patients for substance use as part of routine screening. This enhances adherence to substance use screening as part of routine intake documentation. McNeely et al. (2018) identified that a perceived lack of time for screening completion was a deterrent to substance use screening. The literature also showed adherence issues related to the time consumed utilizing more time-intensive substance-use screening tools utilizing more time-intensive substance-use screening tools in busy clinical settings in busy clinical settings (O'Connor et al., 2018; Seale et al., 2018). This finding supports the i-PARIHS translational science framework's concepts, which ensured that the screening tool used applies to the busy primary care practice setting. Another related finding is initiating early treatment through referrals for same-day brief intervention counseling. This is supported by the literature, which identified substance use screening and referrals for treatment after screening as a recommendation by the USPSTF (Krist et al., 2020; O'Connor et al., 2018). Nurse-driven behavioral interventions are effective as provider-driven behavioral interventions (Keen et al., 2019).

Finally, relevant findings include the need for comprehensive training, buy-in, and real-time feedback to ensure adherence to the intervention. Rosenthal et al. (2018) supported training to increase the comfort level of the nursing staff in behavioral intervention techniques, especially those often viewed as uncomfortable. Effective training also allows the staff to identify and avoid practices that eliminate stigmatization. This finding also supports the i-PARIHS translational science framework's concepts of recipient and facilitation, ensuring that stakeholders are involved in the EBP research from the planning phase and that adequate resources are available for a successful implementation.

Limitations

One identified limitation is self-reporting because of potential social desirability biases (Kaner, 2018; McNeely et al., 2018). Fear of being stigmatized and a desire to be perceived positively can result in a refusal to admit to substance use. This is often noted in patients with housing issues (Kim et al., 2020; Magwood et al., 2020). However, focusing on preventing stigmatization, such as staff training, can address this limitation in future studies.

Generalizability is another limitation of this EBP research, as it was conducted in only one primary care practice in a large Northeastern acute care facility. Comparing the findings to other research conducted in a similar setting, such as the findings by McNeely et al. (2015), can enhance generalizability. In addition, implementing substance use screening in multiple primary care sites can also enhance generalizability in future studies. However, the EBP research site also integrated behavioral health services, which may decrease generalizability to other sites without integrated services. Ensuring that future studies include this site-specific variable may increase generalizability.

Conclusions and Recommendations

Substance use, misuse, and abuse have far-reaching consequences, negatively impacting patients, nursing practice, healthcare, and society. Early and standardized identification of substance use, misuse, or abuse was implemented using the i-PARIHS translational science framework's concepts of context,

recipient, innovation, and facilitation. The results of this EBP research can improve nursing practice and patient outcomes by addressing substance use as a public health crisis and increasing patient engagement in substance use treatment, especially during the COVID-19 pandemic. Substance use has been linked to high morbidity and mortality rates (Bemker & Ralyea, 2018; Bisaga et al., 2018). One of the implications for healthcare related to this EBP research is the potential to decrease preventable hospitalizations and deaths related to substance misuse and abuse. Another implication is to increase access to resources available for substance use, especially those that decreased due to the pandemic.

Stigmatization is a deterrent to engagement in substance use treatment (One City Health, 2019; Setodji et al., 2018). Substance use treatment has been effective for patients ready to change their substance misuse and abusive behaviors (Mattoo et al., 2018). An implication for nursing and healthcare related to this EBP research is to reduce stigmatization by educating nursing and provider staff on increasing communication, including speaking to patients in their preferred language, enhancing the patient-provider relationship, and engaging patients in early substance use treatment.

Substance misuse and abuse have also been linked to food and housing issues, unhealthy environments, loss of educational opportunities, and job losses (Baffour, 2017; Bemker & Ralyea, 2018). An implication for healthcare, nursing, and society related to this EBP research is to address the social determinants of health linked to substance misuse and abuse. This requires identifying related socio-economic issues and referring patients to internal and external resources. As recommended by the USTSPF, substance use screening is most effective when there are appropriate referral services for positively screened individuals (Krist et al., 2020). Another implication to nursing, healthcare, and society is to increase awareness of the global, state, and local burdens associated with substance use.

Recommendations

Recommendations for nursing include a review of organizational healthcare policies related to substance use screening and treatment, examining the efficacy of substance use treatments by clinical and non-clinical trained staff members, and future research studies on COVID-19-related stressors, long-term effects, and the initiation or worsening of substance use in these individuals. Future research should focus on developing substance use screening protocols, research conducted in multiple sites that correlates essential variables such as stress, illness, and specific social determinants of health, and pre and post examination of the value of screening and treatment. Screening protocols can include referrals for brief interventions by non-provider staff. Research in multiple sites can improve generalizability and can support disease-specific interventions related to the social determinants of health for specific populations and demographics. Finally, research related to the value of screening and treatment can potentially enhance patient experience measures, add to quality of care research, and can support the inclusion and/or expansion of resources in healthcare organizations and local communities.

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American Nurses Association-New York 2022 Conference Abstracts

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This current issue of the Journal of the American Nurses Association-New York (JANANY) includes our first-time ever publication of poster and podium abstracts presented during the 10th Annual Convention of the American Nurses Association-New York (ANA-NY) held on October 29, 2022 in Niagara Falls, New York. The theme for the conference was, "Sowing the Seeds for Nursing's Future." These abstracts reflect translational research, evidence-based clinical projects, leadership initiatives, and evaluation processes that indicate transformative nursing education, practice, and research. The annual conference is an essential component of the work of the ANA-NY and consistent with its mission to "foster high standards of nursing and promote the professional and educational advancement of nurses to improve health care for all."

We are delighted to present this body of scholarly work to our JANANY readers. The publication of the annual conference abstracts within this journal will continue moving forward.

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PODIUM PRESENTATION

Advancing Evidence-Based Practice with a Fellowship Program

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Background: Three doctoral-prepared nurse leaders collaborated to develop a fellowship program to promote clinical nurses' participation in the development, implementation, and analysis of meaningful, evidence-based practice (EBP) projects in the organization to improve patient outcomes. Nurses receive foundational baccalaureate education in EBP and research; however, they may lack confidence in understanding, interpreting, and applying evidence to their clinical practice. Transformational leaders must encourage innovation and contribute to a culture of inquiry in nurses to promote growth in EBP throughout an organization. Structured opportunities and mentorship are needed to promote confidence in clinical nurses to develop in this area. Nurses need further education and mentorship to improve their confidence in engaging in evidence-based practice. **Methods:** Three nursing leaders participated in a series of planning meetings to create an EBP fellowship program in the organization. A hybrid education and mentoring structure was developed to take place over twelve months. Guidelines were developed, and outcomes and mentor conference forms were included to be completed monthly. Program leaders reviewed each application for quality and relevance of the topic, the nurses' motivation to participate, and the ability to maintain the yearlong commitment. All participants were assigned a mentor as they worked through the stages of their EBP project. The theoretical framework used was Bandura's Theory of Self Efficacy. In-person teaching and independent work included the following topics: review of evidence-based practice change and process for literature review, development and importance of the PICOT, searching and critically appraising the evidence, developing an intervention proposal, stakeholder support and approval for intervention, implementing the intervention, evaluating the results, disseminating findings and recommendations for future practice. Participants in the first cohort developed interventions to address standardized incisional care instructions to surgical patients, team building, distress screening of chemo/biotherapy patients in outpatient infusion, the cost of enhanced observation for inpatients, and inappropriate stool samples tested for C. difficile. Participants in the second cohort focused on intentional hourly rounding, a structured ambulation program, assessment of patients undergoing alcohol withdrawal, chest tube dressings, postpartum depression, handwashing, structured huddles, intravenous catheter change frequency, and nurse leader rounding. **Results:** A total of 13 clinical RNs completed the program. EBP projects were implemented in the areas selected by the participants. Participants attended education sessions, met with mentors, conducted literature reviews, developed and implemented their projects, collected and summarized the data, and developed dissemination plans for their findings. Participants completed and submitted hospital institutional review board (IRB) applications as another learning strategy and developed increased confidence in the EBP process. By completing this program, all participants could earn clinical ladder points to advance in their career development. **Conclusion:** Program leaders modeled professionalism for the participants and demonstrated the quality of nursing leadership in this Magnet organization. Nurse leaders can provide opportunities for enhancing self-efficacy through role modeling, mentoring, and education, understanding that evidence-based practice behaviors may improve through improved self-efficacy. The program promoted professional development and high-quality outcomes and continues to be offered as an annual program to encourage EBP in the future.

Keywords: Evidence-Based Practice (EBP), Confidence, Mentorship, Self-efficacy

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PODIUM PRESENTATION

Enhancing the Registered Nurse Care Manager's Role to Improve Care for Patients with Hypertension in an ACO

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Abstract

Background: Accountable Care Organizations (ACOs) work to improve the quality and experiences of care patients receive while reducing healthcare costs wherever possible (Cipriano, 2017). Care management is a key strategy utilized by ACOs to operationalize population health efforts (Agency for Healthcare Research and Quality [AHRQ], 2018). In the local setting, initial population health work for care managers focused on closing gaps in preventive health measures. Care Managers (CMs) varied in the specific disease management interventions they provided for patients due to insufficient standardized approaches to care delivery for subpopulations within the ACO. Unwarranted variation in the delivery of care management threatens care quality and tends to increase the cost of care (DaSilva et al., 2018). **QI Problem Statement**: The purpose of this project was to strengthen registered nurse (RN) CMs' self-confidence in population health by creating a multi-modal population health management program designed to close gaps in care for patients with hypertension (HTN). **Methods**: The design was a practice-based initiative utilizing qualitative and quantitative measures. This team-based program was led by a subgroup of ACO RN CMs (N=5) embedded in seven community-based primary care practices. CMs tracked their use of program components (data stratification, use of team-based interventions, identification of social determinants of health resources) via a standard Excel spreadsheet. Qualitative data from the focus groups of CMs were themed for analysis. Gaps closed for patients with HTN were assessed at the project's conclusion. IRB approval was obtained, and the project was deemed non-human subject research. **Data Presentation:** In six weeks, care managers' mean confidence scores on a 10-point scale improved slightly regarding data stratification [8.2 (1.32) to 8.3 (1.72)], team-based interventions [8.0 (1.27) to 8.4 (1.27)] and the identification of social determinants of health resources [8.3 (1.64) to 8.5 (1.38)]. CMs closed seven (23%) of identified care gaps (n=30). **Discussion and Analysis of Data:** Despite small changes in confidence scores, CMs described the program as supportive and comprehensive and found it helpful in enhancing their confidence in delivering the HTN population health program. While some variation was expected as CMs tailored the program components to their individual patient's illnesses or preferences, the focus groups highlighted that there was still variation in how the program components were considered for use by the CMs. The effectiveness and efficiency of RN CMs can potentially impact the health outcomes of the population served and the financial rewards an ACO receives from value-based contracts. Implementing a standard process for RN CMs to operationalize population health interventions effectively increased confidence in their role in population health and supported them in closing gaps in care for those with HTN. **Conclusions and Recommendations:** Although there were small changes in mean confidence scores from pre- to post-implementation, these data, along with the gaps closed and the reported use of the intervention components and qualitative data, demonstrated effective support for the care managers' work and increased care manager confidence in the work of the population health focus of care management. Additionally, there are opportunities to explore further the tools and strategies utilized in this project to further population health efforts by applying similar approaches in the care of patients living with multiple chronic conditions.

Keywords: Accountable Care Organizations, Care Management, Population Health, Hypertension

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PODIUM PRESENTATION

Medication Errors: Does Simulation Training Have an Impact?

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Abstract

Introduction: Medication errors occur daily in hospitals, contributing to patient harm. It is difficult to appreciate the magnitude of this issue as self-reporting is the method to determine if a medication error occurred. According to the National Coordinating Council for Medication Error Reporting and Prevention (NCCMERP), there are nine categories of medication errors. It is essential to educate nurses on what constitutes a medication error, as many are unaware that they have committed a mistake. Frequently near-miss medication errors are often corrected before they reach the patient and, therefore, are not seen as errors and do not get reported. Underreporting medication errors is common; this unsafe practice prohibits system errors from being realized and corrected. Nineteen percent of medication interactions result in an error and may increase morbidity, mortality, and cost (Cross et al., 2017). Annually, medication errors harm over 1,000,000 people, and 200,000 deaths occur from unintentional medical harm (Centers for Disease Control and Prevention [CDC], 2020). High-fidelity simulation training can increase nursing competency, resulting in a reduction of severity of errors and improved patient outcomes (Craig et al., 2021). **Significance to Nursing:** Reporting medication errors provides a safer environment, reduces patient harm, and improves outcomes (Cross et al., 2017). High-fidelity medication simulation improved nurses' awareness of potential errors, increased error reporting, helped track system errors and generated solutions. **EBP Problem Statement:** For registered nurses (RNs) on a step-down unit in a community hospital, does the implementation of a medication administration simulation-based training on medication errors, compared to current practice, impact medication errors in 8-10 weeks? Many nurses are unaware they have committed a mistake due to a knowledge gap. The aim is to impact the identification of medication-related errors and report all medication errors. **Design:** Quality Improvement. **Conceptual Framework**: Translation Model - integrated Promoting Action on Research Implementation in Health Services (i-PARIHS). **Methods:** This project implemented an in-situ high-fidelity simulation-based medication administration training program to reinforce the proper medication administration procedure, recognize errors, and increase reporting of medication errors, especially near-miss errors. **Setting:** White Plains Hospital is a 292-bed not-for-profit, Magnet-accredited acute care community hospital in lower Westchester County, New York. The nursing staff is 100 percent RNs with a BSN or higher degree. **Sampling:** 61 RNs on a 50-bed newly transitioned step-down unit. Inclusion criteria included all permanent staff RNs who work full and part-time. Exclusion criteria include travel nurses, agency nurses, per diem nurses, float pool nurses, and nurses on medical leave during the implementation phase. **Interventions:** 21 high-fidelity medication administration simulations were conducted, including a pre-brief, simulation session, and debrief. The simulation session consisted of a rapid response scenario with chest pain and rapid atrial fibrillation. The provider gave the nurses a series of verbal orders for high-risk medication to treat the patient. Participants completed a questionnaire before, after, and eight weeks after the intervention, collecting data on the nurse's knowledge of what constitutes a medication error, the reporting process, and barriers to reporting. **Data Presentation:** Two-way contingency table analysis to evaluate the hypothesis that the prevalence of less serious medication errors (categories A and B) increases after the intervention. The pre-intervention data showed one near-miss (category B) error. Post-intervention data revealed 40 (categories A & B) reported errors. The prevalence of near-miss medication errors was greater post-intervention, 0.105%. than pre-intervention, 0.0025%, $X^2(1) = 39.69$, $p < .001$. A statistically significant increase in knowledge, $\Lambda = 0.362$, $F(2,59) = 51.89$, $p < .001$, with knowledge being retained after 8 weeks. Post-intervention RNs' medication error reporting increased from 48% to 87%. **Discussion and Data Analysis:** A low number of reported medication errors can give an organization a false sense of safety. The correlation between minimal reported medication errors and a safe hospital environment is inaccurate. Many medication errors go unreported for several reasons, including the perception that the organization will take punitive actions, colleagues may question your competence, the reporting process being unknown or cumbersome, knowledge deficit related to what constitutes a medication error, and the error did not cause any harm, so there is no reason to report the error (Dirik et al., 2018; Vrbnjak et al., 2016). The post-intervention questionnaire reveals an increase in knowledge regarding what constitutes a medication error. Pre-intervention 64% (n=39) of RNs answered that if an order entry error was caught before administration, it is considered an error; after the intervention, 90% (n=55) of RNs responded that it is regarded as an error. Another response to the same question that revealed a disparity pre- and post-intervention was that skipping a dose was considered an error. Pre-intervention 56% (n=34) RNs responded that it is viewed as an error and after 85% (n=52) RNs responded yes, it is an error. After implementing the simulation intervention, 20% (n=12) additional RNs responded that they had previously made an error and did not realize they had based on their new knowledge. The increase in the post-intervention score for incidence of making an error reflects RNs who did not know what constituted a medication error. Based on the results of this project, the simulation intervention had a positive impact on the RNs' clinical practice related to knowledge deficits concerning what constitutes a medication error and the importance of reporting all medication errors. Limitations of this project: only 61 RN participated; they all worked on one step-down unit in a community hospital. **Recommendations:** Replication of this project is recommended for other units throughout the organization. The use of simulation can heighten the awareness of latent safety issues and increase the reporting of all medication errors to track and trend problem areas. This project highlighted a gap between practice and the organizational belief that medication errors were at a minimum due to the institution of several safety mechanisms, and the number of reported errors was low. Further work is needed to improve patient safety related to simulation training in recognizing near-miss medication errors and removing barriers to reporting. **Conclusions and Implications for Nursing Practice:** The implications indicate that reporting medication errors provides a safer environment, reduces patient harm, and improves outcomes. The strengths

of this project demonstrate that there is a knowledge deficit related to what constitutes a medication error, and simulation training has a positive impact on reducing that knowledge gap. Safe medication practices continue to be an area of concern as practice gaps can cause patient harm. Most medication errors are preventable, yet they occur daily (Craig et al., 2021; IOM, 2000; Kuo et al., 2020; Ragau et al., 2018; Raiz et al., 2017; WHO, 2017). Implementing simulation training can increase recognition of medication errors, call attention to system failures, and improve patient safety (Avraham et al., 2021; Craig et al., 2021; Jarvill et al., 2018; Kuo et al., 2020; Martini et al., 2017). Through increased reporting, stakeholders can institute solutions to improve medication administration processes, enhance patient safety outcomes, and make hospitals safer for patients.

Keywords: Medication Errors, Simulation Training, Increase Near-miss Reporting

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PODIUM PRESENTATION

Moving Nurses Forward in Telehealth Environments – Workforce Preparation Strategies for Educators

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Abstract

Background: Whether nurses were ready or not, the COVID-19 pandemic created major shifts in the way care had to be delivered and supported by the use of technology, particularly telehealth technology. Telehealth technologies provide many benefits but also risks in attaining goals and optimal health. Nurses must be prepared to use technology to support practice. However, many educational environments may not prepare nurses to use telehealth strategies prudently. **Contribution to Nursing**: Professional educational organizations have continued to strengthen their calls and statements regarding the importance of telehealth content present in the curriculum. The purpose of this presentation is to present the leadership opportunities in nursing education to move nurses forward in providing care using telehealth in one nursing school's example of addressing telehealth preparation for nurses, specifically nurse practitioner students. Our goal is to prepare graduates at multiple levels that can meet both rural healthcare workforce demands, including use of telehealth technologies. **Theoretical Framework**: Many nursing theories can be used to guide educational strategies, but King's (1981, 1986) Dynamic Interacting Systems Framework and Theory of Goal Attainment is well poised to serve as a foundation for conceptualizing how to incorporate telehealth into nursing curricula for all levels of practice (Fronczek, Rouhana, Kitchin, 2017; Fronczek, 2018; Fronczek & Cowen, 2019; Fronczek, 2022). The telehealth content was guided using King's framework and theory and through feedback from a regional telehealth education consortium of clinical partners throughout New York State. **Program Description and Methods:** The Decker College of Nursing and Health Sciences received a Health Resources and Services Administration (HRSA) Advanced Nurse Education Workforce Grant for the project: "A New Way of Nurse Practitioner Education". One of the multiple embedded elements in this grant was strengthening the current graduate curriculum in the areas of rural health and telehealth content. An online-asynchronous course with a telehealth skills lab was created and implemented in Fall 2020 and Fall 2021 with cohorts ranging from 11-25 students. The didactic portion of the course covered seven major topic areas: Introduction to Telehealth: Principles of Diverse Care; Telehealth Infrastructures; Legal & Security Issues in Telehealth: Providers and Patients; Best Practices for Conducting Telehealth Visits; Telehealth Triage Concepts; Operations, Finance & Quality Improvement Processes in Telehealth; and, Using Telehealth for Care Coordination. **Data Gathering Tools**: Students were given quizzes in each content area and wrote a synthesis paper on designing a telehealth service line for a current practice site. All students also participated in a telehealth skills lab where they conducted a telehealth visit in a telemedicine platform, using a peripheral exam camera and electronic stethoscope with live streaming capability using a pre-defined rubric. **Data Analysis:** 35 students (34 APRN & 1 PT student) completed the course with self-reported increase in knowledge and skills regarding telehealth for nursing practice. All students successfully completed the return demonstration of conducting a telehealth visit with a client. **Discussion and Analysis of Data**: The course is a permanent elective for the Decker College of Nursing and Health Sciences. The approved course is well-poised to meet the curricular calls from professional organizations regarding infusing telehealth content into curriculum. **Conclusions and Recommendations:** King's interacting systems framework and theory of goal attainment provided a solid foundation to develop and implement a course for graduate students. Content in delivering care via telehealth or in virtual care spaces is a curricular gap that must be addressed. Future recommendations include translating course content into a professional development certificate for healthcare providers. It is expected that some components of the course should also be implemented in undergraduate programs.

***Keywords*:** Telehealth Nursing, King's Dynamic Interacting Systems Framework, Theory of Goal Attainment, Nursing Education

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PODIUM PRESENTATION

Exploring Health Disparity and Pressure Injury Among Adult Patients in the Acute Care Setting: A Rapid Review

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Abstract

Background: Hospital acquired pressure injuries (HAPI) continue to be a major patient safety concern affecting 2.5 million patients per year (Agency for Healthcare Research and Quality, 2014). The physiologic risk factors associated with developing a HAPI while hospitalized are well researched and include advanced age, presence of multiple comorbid conditions, poor nutrition, decreased oxygenation and perfusion, and impaired mobility (Athiala et al., 2018; Cox et al., 2018; Delmore et al., 2015; Edsberg et al., 2016; European Pressure Ulcer Advisory Panel et al., 2019). The social contexts (e.g., employment, insurance, education) contributing to pressure injury risk and potential health disparity is not explored in the current evidence, particularly among adult patients admitted to acute care. The overall population demographic is changing as migration increases (Vespa, et al., 2020). With these population shifts, there is an increased risk for marginalization and associated health disparity – relative to pressure injury risk are income, access to care, and disability. Furthermore, as our population changes, healthcare delivery must also change. Identifying these at-risk groups will assist in the developing patient specific prevention measures to improve population health outcomes. This review aims to explore the current state of the science regarding the relationship between health disparity and risk for pressure injury among hospitalized patients and the social and demographic characteristics associated with risk. **Methods:** A rapid review of the literature was performed following the Cochrane rapid review methods recommendations (Garrity et al., 2021). The search was conducted within two databases: PubMed and CINAHL. Keywords searched included: pressure injury, race/ethnicity, acute care, and health disparity. The inclusion criterion was comprised of studies published in the English language, and original research (Garrity et al., 2021). The search was further limited to research published within the last five years. Full text review was conducted by two key stakeholders and data extraction was performed by one reviewer (Garrity et al., 2021). A literature matrix was utilized for data extraction. The review was performed according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Statement (Moher et al., 2015). **Results:** The initial search yielded a total of 223 manuscripts. After title, abstract and full-text review, fourteen studies were included in the final analysis. **Results:** The fourteen resultant articles explored the risk for HAPI amongst several different hospitalized populations in several countries. The research aims of the included studies were not specifically directed at health disparity but, identified risk factors and other measures associated with a hospital admission. Age, gender, marital status, and skin tone were most frequently discussed as sample population descriptors and not associated with a disparity. Multiple physiologic conditions contributing to HAPI risk were also explored in these studies and reflective of previous research. **Discussion:** The factors identified in these studies – age, gender, marital status, and skin tone – are not directly contributing to risk in the sense this study sought out. The lack of current research devoted to health disparities and patient safety outcomes, such as HAPI, is a disparaging factor itself. Age, gender, and marital status are common variables included in population research. Skin tone is less common and more relevant to studies of integumentary risk, such as this. Darker skin tones obscure erythema which is the heralding sign of tissue damage – based on a Caucasian model (Edsberg et al., 2016). African Americans have been shown to have a higher incidence of and develop more pressure injuries at later stages in previous studies (Seibert et al., 2020) which can be contributed to the lack of visualizing erythema and implementing a prevention plan. **Conclusion:** This rapid review included research exploring pressure injury and risk in varying patient populations in acute care. The included articles did not focus on a potential disparity related to pressure injury risk therefore uncovering a gap in the science. Advancing this science and identifying at risk populations, age aware and skin tone specific pressure injury prevention interventions can be developed to provide equitable care and reduce disparity among these populations.

Keywords: Pressure injury, Pressure Ulcer, Health Disparity, Health Outcomes

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PODIUM PRESENTATION

Moral Distress Among Oncology Nurses: A Comparison Study

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Abstract

Background: Moral distress (MD) is a concept first introduced by Jameton in 1984. Most descriptions of MD agree that it occurs when a practitioner knows the correct and ethical course of action but cannot carry it out due to barriers and obstacles. Hamric et al. (2012) explained the characteristics of MD as frustration, anger, guilt, physical manifestations, and anxiety due to the constant threat to a person's moral integrity. MD among nurses stems from barriers to expressing concerns in a way where they feel their voice is heard. MD is also one of the leading causes of costly nurse turnover and leaving the profession. Little research is devoted to the occurrence of MD among oncology nurses, more specifically, those who work in the ambulatory and inpatient settings. The focus of this current research is on MD among oncology nurses in the acute care and ambulatory setting during the COVID-19 pandemic and how this compares to studies prior to the pandemic. **Methods:** A cross-sectional design utilizing the Moral Distress Survey–Revised (MDS-R) was conducted in 2018 and again in 2021 in an acute care cancer center. Inclusion criteria included employment as a registered nurse, working at least 0.5 full-time equivalents in direct patient care. Results were analyzed using a multivariate general linear model. Items were scored in two dimensions: how often the situation arises (frequency) and how disturbing the situation is when it occurs (intensity). **Results:** 100 (43% of eligible) RNs participated in 2018 and 163 (40% of eligible) in 2021. In the 2018 study, only inpatient nurses were included. It was noted that the highest scores for MD were for those with 11-20 years of experience and nurses 40-49 years old. One-third of the nurses considered leaving their position due to moral distress, and of this third, 94% of them logged moderate to high moral distress. In the 2021 study, both inpatient and ambulatory care nurses were surveyed. Inpatient nurses' composite score for moral distress was over twice that of the ambulatory care nurses. Strong correlations were noted between nurses considering leaving their position due to being witness to the provision of false hope and prolonging death. Specifically, nurses reported being disturbed by carrying out orders for what they considered unnecessary tests and treatments, which made them strongly consider leaving their positions. Nurses also reported that they often witness patient care suffer due to lack of provider continuity, which makes them want to leave their jobs, but they do not. A correlation was also noted between nurses with a higher degree and bearing witness to providers offering false hope. **Conclusion:** The findings of the 2021 study identify that there are differences in overall MD experienced by inpatient and ambulatory oncology nurses, with inpatient scoring more than twice that of ambulatory nurses. Limitations include the 2018 study was conducted before a global pandemic which contributed heavily to the 2021 results. The nursing environment varied and may have impacted the results. The sample consisted of oncology nurses, which can limit the generalizability of the study. Understanding how oncology nurses experience MD and the triggering situations, as well as the differences across care settings, will allow for tailored approaches to alleviate the consequences of prolonged moral distress. Identifying morally distressing situations and increasing awareness can aid in the reduction of the long-term, compounding effects of repeated distressing events. Acknowledging the phenomenon also gives voice to those who feel powerless and will decrease the number of nurses leaving the profession due to MD.

Keywords: Moral Distress, Oncology, Nursing

IRB Approval: The study was approved through an expedited review by the Roswell Park Comprehensive Cancer Center IRB (#I 37216).

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PODIUM PRESENTATION

Gamification to Increase Oncologic Emergency Nursing Knowledge

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Abstract

Background: As a comprehensive cancer center, Nurse Residents often report anxiety and lack of confidence when coping with managing acute changes in the complex oncology population. A key goal of the Nurse Residency program is to provide Nurse Residents with clinical knowledge and critical thinking skills, so they feel better equipped to manage oncologic emergencies. **Research Question:** Do Nurse Residents self-report improved self-confidence, knowledge, and scope and judgement in oncologic emergency management post participation in an oncology escape room? **Methods:** In a 12-month nurse residency program, all Nurse Resident program participants received an anonymous paper self-evaluation post module via a Likert scale and free text comments. Data was collected by program facilitators and evaluated for trends. Two escape rooms were created to review two common oncologic emergencies; tumor lysis syndrome and disseminated intravascular coagulation. Nurse Residents had 30 minutes to work as a team against another team to perform various tasks, including patient assessment, lab interpretation, using SBAR to call a provider, as well as initiate a rapid response. Teams who did not successfully "save" their patient by the 30-minute mark performed a mock code on their patient. Learning outcomes for the escape rooms included the following: discuss the management of oncologic emergencies during nurse residency workshop; and interpret nursing policies and procedures related to critical oncologic emergencies and critically apply the information during nurse residency simulations. **Results:** As of September 2022, 107 Nurse Residents completed escape rooms since 2018. Self-evaluation data were reviewed by program facilitators. Self-evaluations completed by Nurse Residents consistently showed an increase in self-confidence, knowledge, and scope and judgement in oncologic emergency management. **Discussion:** Nurse Residents continue to report a lack of clinical skills and confidence due to the pandemic, and changes to nursing curriculum and experiences**.** To fulfill the needs of adult learners, serious games should be considered as integral tools in developing meaningful curriculum to enhance the learning experience (Maheu-Cadotte et al., 2022). Examples of serious games include topics such as escape rooms, quizzes, and technology "to include elements of competition and time restriction" (Min, et al., 2022). Gamification incentives learners to use critical thinking skills and appeals to younger generations such as those enrolling in nurse residency programs (Brull, et.al., 2017). **Conclusion:** The incorporation of fun, interactive escape rooms helped to ease tension around a stressful topic and showed that the use of games within Nurse Residency programs can be effective learning tools. Recommendations for future evaluations of gamification in oncology nursing include the use of pre- and post- surveys and tests to identify knowledge improvement on an individual basis and incorporating the use of online evaluation tools. Limitations to this project include the use of paper evaluation tools which were not always filled out by participants.

Keywords: Nurse Residency, Critical Thinking, Oncology, Gamification

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PODIUM PRESENTATION

Nurses Transforming our Future by Preserving the Planet and Financial Resources in a Hospital Environment

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Abstract

Background: Nurses play a crucial role in reducing the environmental impact within healthcare facilities. The improper disposal of medical and pharmaceutical waste has a negative impact on our planet and hospitals' financial resources. A proactive bedside nurse leader initiated a pilot program to address this issue and preserve our planet while optimizing hospital finances. Following approval from the hospital-wide Nursing Shared Governance Committee and nursing leadership, a new committee was formed with hospital key players that looked into improving the proper disposal of regulated medical waste and pharmaceutical waste. The committee was called Waste Watchers, and the tagline was: When We Reduce, We All Gain, Through Education and Associate Engagement, We Strive to Preserve Our Planet and Financial Resources. **Significance:** Nurses can be powerful change agents within these institutions by advocating for the proper disposal of medical and pharmaceutical waste to decrease their carbon footprint and preserve our planet. Additionally, supporting efficient linen usage and reducing supply waste further contributes to a positive environmental and financial impact. Improper disposal of regulated medical and pharmaceutical waste, linen efficiency, and reduced supply waste are global problems. **Method:** A pilot project was designed to create positive waste management and resource utilization changes. Key areas included: (a) education to improve proper disposal of regulated medical and pharmaceutical waste in 2021; (b) linen efficiency improvements and strategies to decrease supply waste education; (c) data collection to compare linen cost and waste disposal cost from previous years following education on units for one year. Florence Nightingale's Environmental Theory supported this project. A patient's environment can have a positive or negative effect on their health. Nurses strive to meet patients' basic needs through the control of the environment for individuals, families, and communities, both local and global. The United Nations Sustainable Development Goals (SDGs) offered shared goals for peace prosperity, and sustainability with a call for urgent actions by all countries, both devolved and developing. Six medical units, an emergency room, and an ICU, were provided with a mini-education session. The house engineer provided the baseline and post-intervention comparison of the regulated medical and pharmacy waste cost, and the manager of environmental services provided a baseline and post-intervention compassion on the cost of linen. Data collection is ongoing. **Discussion**: The hospital engineer and environmental services manager found it difficult to have true data because of the COVID-19 pandemic in 2021. There was an increase in agency staff who did not know our policies on proper waste disposal of regulated medical waste and pharmacy waste. There was an increase in overall supplies during the pandemic. **Conclusion**: Nursing leadership and the Shared Governance Committee decided to continue the Waste Watcher Committee and provide education about the proper disposal of regulated medical waste, pharmacy waste, linen efficiency, and how to reduce supply waste, with the addition of planetary health education. An education plan is being developed for all new hires. There are ongoing audits of sharp bins, pharmacy waste bins, and linen efficiency. The program was expanded to include the recycling of cardboard and batteries. Efforts continue to identify ways to quantify the potential benefits of implementing the proposed changes, which may include cost savings, waste reduction, and environmental impact.

Keywords: Healthcare Sustainability, Waste Management, Bedside Nurse Leader

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PODIUM PRESENTATION

Survive and Thrive: Innovations in Online Nursing Education

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Abstract

Introduction: While online learning has played an increasing role in nursing education over the past decade, the change to remote and online learning experienced by traditional baccalaureate nursing programs throughout New York and the nation during the acute COVID-19 pandemic was unprecedented. The abrupt pivot to fully remote learning in the Spring of 2020 created both challenges and opportunities. Defining learning outcomes and measuring student understanding and engagement in this changed didactic structure was crucial. This presentation provides an overview of changes initiated within our nursing program in response to the pandemic, as we successfully moved from a traditional in-person classroom to a remote online format. Curriculum changes were made utilizing scholarly research and student input to create classes that integrated nursing content, caring pedagogy, and knowledge construction. Lessons learned during the pandemic allowed the creation of course content that incorporated events unfolding in real-time, such as social determinants of health, racial inequities, and the important role of public health in society. **Significance to Nursing:** The COVID-19 pandemic significantly changed the landscape of healthcare, nursing, and nursing education. Lessons learned over the past several years will continue to shape nursing education and practice for generations to come. Nurse educators were tasked with a sudden pivot to exclusively online learning in the spring of 2020. This presentation identifies challenges the pandemic brought to nursing education and explains successful academic innovations to overcome them and prepare future nurses for practice. By advocating for nursing students, nurse educators have played an important role in guiding their students through a once-in-a-generation global crisis. **QI Problem Statement:** Faced with an abrupt pivot to all remote learning in the setting of the COVID-19 pandemic, what pedagogical strategies would nurse educators utilize to maintain engagement and achieve student learning outcomes? **Theoretical/ Conceptual Framework:** Those discussed in this presentation included Cognitive, Affective, and Psychomotor learning domains (O'Neil et al., 2020), Bloom's Taxonomy, Guided Constructivist Learning Theory (Keating & DeBoor, 2022), and Academic Caring Pedagogy (Christopher et al., 2020). **Discussion:** Nurse educators needed to consider cognitive, affective, and psychomotor learning domains when moving content from an in-person to a remote structure. Having a variety of learning modalities, including lectures, small group discussions, flipped classrooms, interactive games, and online whiteboard activities, facilitated student understanding and application. The use of Guided Constructivist theory was particularly effective during the Covid-19 pandemic because it allowed students to build on their existing knowledge and find meaning in what they were experiencing. In response to heightened levels of student stress and anxiety during the COVID-19 pandemic, the use of Jean Watson's caring pedagogy encouraged nurse educators to create culturally responsive and structurally accessible remote classroom environments that fostered a sense of safety and enhanced learning. Examples such as online caring spaces and office hours involved students in the learning process and also gave them opportunities to feel heard and connected with their professors. Utilizing a variety of pedagogical strategies, effective nurse educators were able to maintain student engagement despite the abrupt move to an all-remote format and achieve student learning outcomes at all levels of Bloom's Taxonomy. **Conclusions and Recommendations:** The COVID-19 pandemic presented both challenges and opportunities for nurse educators. In the face of a global health crisis, it was essential to continue to prepare nursing students for professional practice. Some of the most important lessons learned during this challenging time included the importance of utilizing a variety of teaching modalities, embracing new technologies, and including both caring and equity pedagogy in the classroom to enhance learning and engagement. Through the use of these strategies, effective nursing education programs can produce graduates with evidence and competency-based skills and a foundation of cultural competence that will enable them to survive and thrive as they take on the health challenges of the future.

Keywords: COVID-19, nursing student engagement, remote learning, cultural competence, caring pedagogy

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PODIUM PRESENTATION

Cultural Intelligence and the Future Nursing Workforce

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Abstract

Introduction: Nurses need to critically look at how they relate to the populations they serve. The American Nurses Association Code of Ethics states that nurses: "are expected to be aware of their own cultural identifications in order to control their personal biases that may interfere with the therapeutic relationship. Self-awareness involves not only examining one's culture but also examining perceptions and assumptions about the client's culture... nurses should possess knowledge and understanding how oppression, racism, discrimination and stereotyping affect them personally and in their work. This allows nurses to acknowledge their own biased attitudes, beliefs, and feelings. Many students grow up in very isolated environments and lack exposure to people who are different from them. **Significance to Nursing:** Students in the health professions need the tools to identify and adequately empower patients from various cultures. Small changes in how they interact with patients can make a big difference. **Problem Statement:** What impact does a global medical outreach trip have on students' understanding of trauma-informed care and cultural humility? **Type of Research:** Qualitative study. **Methods**: Three faculty members and twelve undergraduate students from three different disciplines (nursing, pre-physician assistant, and occupational therapy) participated in the medical outreach trip to Athens, Greece. This trip involved visiting a refugee camp and a maternity clinic, conducting art workshops with refugee children, hearing about the refugees' experiences fleeing from their countries, teaching about family planning, and providing first aid kits and instructions to families in their homes. All students who participated in the medical outreach trip were invited to participate in the study. Following the trip, in-depth interviews were conducted with the students to review the potential impact of the trip on their practice. Two nurse researchers conducted individual interviews with the students to understand their experiences in working with refugees. **Data Presentation:** The data analysis showed that the trip "… was an eye-opening experience" for the students. It gave them a different perspective on global health. They felt a stronger commitment to learning more about cultural humility and trauma-informed care. **Discussion and Analysis of Data:** Before this trip, students said they had little to no understanding of cultural humility. However, after their experience in Greece, students voiced a greater awareness of the importance of cultural humility in their practice. They also verbalized the importance of incorporating trauma-informed care into their practice settings. **Conclusions and Recommendations:** Educators and nursing students need to develop cultural humility. The lessons from this trip have broader implications for how we prepare and teach health professionals to care for populations across our nation and the globe. Service-learning trips, both global and domestic, give nursing students the opportunity to see a world outside of their comfort zones and build civic responsibility (Markaki, 2021). This enriches their understanding of themselves and the world around them (Sedgwick & Atthill, 2020). Cultural humility needs to be embedded in our nursing curriculum and fostered throughout a nurse's professional journey. This can impact the care they provide to the patient and in turn, impact patient outcomes.

***Keywords*:** Cultural Humility, Global Health, Nursing Students, Trauma-Informed Care

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POSTER PRESENTATION

COVID 19- Uncharted Waters. Unknown Impact of the Storm. Who Will Navigate the Ship? Nurses of Course!

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Abstract

Background: Spring 2020 changed the focused for our hospitals, counties, state and nation. The realization, a virus was spreading rapidly across the world, had the potential to reach pandemic portions. Regional leaders convened to strategize the best approach to the impending crisis. One of the strategies was a COVID 19 Hotline. Two nursing directors were challenged to create a call center. Their objectives were to provide a hotline for the public where a live person would answer their calls and respond to their fear, confusion, lack of information, and lack of guidance around COVID 19. The hotline was established for an 18-county area, with accessibility seven days a week. The hotline was staffed by registered nurses, nursing students, retired nurses, and other health care professionals across the organization. **Methods:** Key staff were engaged from across the organization, from Telecommunications, Information Technology, Media Relations, and Human Resources to develop the infrastructure needed for a call center. Hospital staff were canvassed to seek interest in volunteering. Credible information through the CDC, local infection control experts, county resources was reviewed, compiled, distributed and updated continuously due to the evolving guidance. Resources for the general public were identified across the region including symptom identification, and management, when to seek medical care, mitigate transmission, quarantine explanation, emotional support for those experiencing anxiety, pregnancy and lactation questions, impact on pets, PPE donations, transportation needs to testing sites, and, testing for the homebound. Data was shared daily with the public health epidemiologists, Incident Command, county DOH's, CDC and the county executive. Numerous iterations of this hotline have occurred including COVID results notification and referral to infusion clinic. The hotline evolved into the COVID Hotline and Vaccination line when the host organization's role as a regional vaccine hub for NYS ensued. Staff provided information on vaccine sites, eligibility, adverse reactions, and referral to High-Risk Vaccine Clinic. **Results:** To date over 100,000 calls managed by the hotline staff. Included on staff are 19 dedicated RN staff many of whom were retired but interested in contributing during this crisis. Many callers did not realize the seriousness of their symptoms and the nurses had to, call 911, refer to mental health professionals, assist older adults register for a vaccine, obtain vaccine card replacements, reschedule vaccine appointments and provide effacey and safety information. Other responsibilities included counseling patients on how to, avoid the spread of the virus, persistent positive results, negative result when symptomatic, and antibody infusion. Data on adverse vaccine reactions has been collected and reported to the CDC. **Conclusion:** By hiring nurses to work the hotline, the skill set allowed many callers to be managed at home and deferred from unnecessary emergency department utilization. This impacted the entire healthcare system and filled a critical need in the community. As nurses the staff had an ability to adapt to the changing tides and pivot successfully through these unprecedent stormy "seas".

Keywords: COVID 19, COVID 19 Hotline, Pandemic Resource, COVID 19 Vaccine, COVID 19 and Retired Nurses

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POSTER PRESENTATION

Economic Impact of COVID-19 Pandemic on Nurses: Quantitative and Qualitative Models Reveal Implications for Advocacy and Policy

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Abstract

Background: Nurses at the frontline of the COVID-19 health care response were impacted in many ways by this pandemic. Physical, psycho-social, and professional effects have been reported (American Nurses Foundation, 2022; Berg et. al., 2022). Some nurses experienced economic crises related to COVID-19 as well (Millenbach, et. al., 2021). Critical events such as a pandemic have far-reaching effects on the health care workforce, including nurses. While physical, emotional and professional repercussions of COVID-19 were reported, the pandemic's affect on nurses' economic well-being rarely appeared in literature. Understanding the impact of an event such as a pandemic includes its financial influence. Increased understanding may facilitate actions to proactively mitigate economic crisis for nurses who may be vulnerable in an emergency such as a pandemic. **Research Question**: What were characteristics of practicing nurses who sought emergency aid from Nurses House, Inc. due to economic crisis associated with COVID-19? How did these nurses respond to financial support provided by Nurses House, Inc.? **Methods:** A retrospective descriptive study was conducted by members of the New York State Center for Nursing using quantitative and qualitative data collection methods. Information included on the applications submitted to Nurses House, Inc. for COVID-19 emergency grants was abstracted and aggregated for the quantitative component. Responses of gratitude from the grantees were analyzed using content analysis by nurse experts for the qualitative component of the study. Watson's Theory of Caring (Watson, 2007) motivated this study, to consider how nurses care for nurses when a crisis occurs. Applications had been self-initiated for the Nurses House, Inc. COVID-19 emergency fund. A total of 2,484 nurses out of 2,800 who applied for emergency funding met the grant criteria. Applications were de-identified and their data provided the study sample for quantitative analyses. Of those, 99 sent personal notes of gratitude which provided a qualitative. Applications for the emergency grant elicited basic information about demographics, employment, income, and nature of household. A copy of current nurse license, recent paystub, and reason they were temporarily unable to work were requested. E-mails, thank you cards, or personal notes were sent to Nurses House, Inc. **Results:** Most grantees were RNs (68%), female (88%), mean age of 42, employed full time, working in acute care (49.6%) or long term or rehabilitation (24.7%). Most frequent reason for being unable to work was testing positive for COVID-19 themselves (78%), while another 16% were under mandated quarantine. The greatest portion of grantees reported a weekly salary range of $1,000- $1,499; a mean weekly income of $1241 computed to an annual salary of $62,400. Ranging from 1 to 6, 60% indicated household size of 3 or more persons. Logistic regressions analyzed demographics with reason for applying for the grant, suggesting statistically significant association among age across all three reasons, household size and caring for a family member with COVID, gender (female) with being positive for COVID-19 and under work related mandated quarantine, and full-time employment associated with being positive for COVID-19. Content analysis produced five themes among received gratitude notes. These included gratitude to Nurses House, Inc. for the emergency grant, general appreciation and intent to pay-it-forward, reflection on how COVID affected them and their family, what their economic uncertainty entailed, and finally feelings of caring. While the grantees' average salary was comparable to nurses' reported annual salary (Smiley, et.al.,2019), some nurses, especially those who were primary bread-winners with family responsibilities, experienced financial crisis when COVID-19 resulted in loss of income due to testing positive, being quarantined, or having to take care of a family member. Despite economic concerns, the grantees shared positive appreciation for the grant. **Conclusion:** Some nurses, essential providers in emergencies, are economically vulnerable. While appreciative of some financial support, a more sustainable financial safety net is needed. Advocacy for policy is needed to protect the nurse workforce economically in disasters.

Keywords: COVID-19, Economic Impact, Nurses

IRB Approval: The study was deemed exempt by the Niagara University Institutional Review Board dated November 18, 2020.

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POSTER PRESENTATION

Listening with HEART: Nurse Coaching and How Patients Benefit

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Abstract

Introduction: The role of the nurse coach provides guidance towards health goals, encourage healthy lifestyle, raise awareness of preventative care, disease management, and implements integrative measures, when possible. **Purpose:** The goal of this presentation was to assist patients gain a better understanding of their needs and goals and help facilitate positive lifestyle changes. The nurse coach seeks to be fully present for their patient and listen using HEART, the 5th component of the Integrative Nurse Coach Leadership Model (INCLM). **Design:** A case study was used to demonstrate the positive results for a patient when using HEART. This involves **H**ealing, the process of the whole system leading towards integration and balance; **E**nergy, when the patient becomes aware of their own energy field and allows the unveiling of many layers of the individual; **A**wareness, referring to the mindfulness in the present moment in order to assist in achieving inner balance and harmony; **R**esiliency, are the individual's physical-mental and spiritual elements; and, **T**ransformation, the continual changing and evolution of the individual. **Case Study**: **Healing -** my patient required assistance with transition to a new doctor. His personal, social, and mental health needs were reviewed, and options for social support were explored. **Energy -** via nurse coaching my patient realized the importance of social support for his own happiness, such as returning to church, energizing his spirit, inner wellbeing and gaining a sense of belonging. **Awareness -** over time a safe and trusting environment developed, empowering my patient to set his own goals. **Resiliency -** my patient reflected on his physical and mental needs, realized he wanted to further his mental and spiritual support. For him, the church provided support and opportunities for volunteer work. **Transformation** - he continued to improve on his "I can" attitude providing more purpose in his life. **Conclusion:** Listening with HEART does not require nurses to have completed the nurse coach course or formal training. However, being aware and fully present with a patient-listening approach to their story may eventually lead to addressing the patient's true needs and goals.

Keywords: Listening. Coaching, Positive Changes

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POSTER PRESENTATION

Utilizing a Mentorship Approach to Address the Underrepresentation of Ethnic Minorities in Senior Nursing Leadership

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Abstract

Background: Embracing diversity within nursing leadership is crucial for fostering innovation and creativity and serves as a cornerstone for progress in healthcare. The Future of Nursing 2020-2030 report highlights the importance of diversity in building a dynamic and inclusive workforce. Therefore, it becomes essential for healthcare organizations, especially their senior leadership, to exemplify diversity in its true essence. Research consistently shows that diverse leadership positively impacts patient outcomes and reduces health disparities. By having leadership that mirrors the diverse demographics of the patient population, healthcare institutions can enhance cultural competence and tailor care to meet the unique needs of all individuals.Utilizing a mentorship approach can be a significant strategy in addressing the persistent underrepresentation of ethnic minorities in senior nursing leadership roles. By creating mentorship programs specifically designed to support the career development of minority nurses, healthcare organizations can actively eliminate systemic barriers and make a more inclusive leadership pipeline. We aimed to establish a four-month mentorship program that empowered mid-level minority nurse leaders seeking career progression. The program provided participants with practical tools to navigate their professional journeys effectively. The program objectives were: (a) enhance participants' perception of self-efficacy, fostering confidence in their abilities to excel in leadership roles; (b) prepare participants for executive positions by enhancing their readiness and aptitude for higher leadership responsibilities; (c) cultivate a conducive environment for career development and progression towards senior leadership roles within the healthcare sector; and (d) facilitate networking opportunities to broaden participants' connections and enhance their visibility within the healthcare system, opening doors for future career opportunities. **Methods:** This project offered a comprehensive mentorship program that combines evidence-based group workshops, personalized one-on-one mentorship, reflective journaling, and insightful survey evaluations. The program spanned four months and included monthly seminars, each lasting four hours, designed around specific themes, including self-efficacy, negotiation and collaboration, leadership paradigms, and quality of life/success. A baseline pre-assessment was conducted with 16 participants at the program's start, followed by a post-assessment at the end of the four-month journey. Each monthly workshop was carefully planned and led by the project lead and a distinguished guest. This collaborative approach ensured a dynamic and enriching learning environment augmented by real-world insights and experiences. **Results:** The participants took the Leadership Efficacy Questionnaire, which had 22 questions, twice. They completed it once before starting the Quality Improvement program and again after completing it. At the beginning of the program, 56% (n=9) of the participants reported moderate confidence levels, while 44% (n=7) were fully confident. However, after finishing the program, a significant change was observed. Only 13% (n=2) of the participants remained moderately confident, while 87% (n=13) reported being fully confident. Overall, there was a noticeable increase in scores across all categories, indicating that targeted mentoring programs are effective in nurturing and enhancing leaders' self-efficacy. These findings highlight the significant impact of structured mentorship initiatives in empowering individuals to realize their leadership potential and thrive in their professional careers. **Conclusion:** Much research has been done in recent years into the need for more diversity in healthcare. Despite this, minorities are still underrepresented, especially in leadership positions. The program demonstrated that formal mentoring can help nurse leaders from diverse backgrounds feel more confident and prepared for career advancement. The participants received new skills needed to succeed in their careers. A leadership mentorship program is a positive step towards creating a more inclusive and diverse healthcare leadership community.

Keywords: Mentorship, Diversity, Leadership, Equity, Inclusion

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POSTER PRESENTATION

LGBTQ+ Inclusion in Nursing Education

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Abstract

Background: Direct patient care within the nursing field involves numerous demographics of individuals daily and the lesbian, gay, bisexual, transgender, and queer (LGBTQ+) community is one of the many various populations that nurses serve. This community faces high rates of discrimination in the healthcare field, resulting in healthcare avoidance and health disparities. Very little time is allotted to LGBTQ+ care and education in undergraduate nursing curricula throughout the United States, and nursing faculty have inadequate knowledge of LGBTQ+ healthcare issues. Not only has this led to a lack of nursing research on the topic, but it has also created a knowledge gap in the clinical nursing setting that increases the risk of health disparities among the LGBTQ+ community. This project's purpose was to address the gap in LGBTQ+ research in nursing, investigate current cultural competence regarding the LGBTQ+ community, and determine the importance of integrating LGBTQ+ healthcare education. **Method:** To begin increasing LGBTQ+ content within nursing programs, we surveyed the undergraduate faculty at a private institution. This allowed us to determine what knowledge gaps existed within the faculty and their comfort level regarding the population. Participants included currently enrolled nursing students at or above the introductory nursing courses who received an anonymous and confidential one-time online survey through Google Forms that contained demographic information, Likert scale questions, and open-response questions. A simple statistical analysis using Google Forms and Google Sheets was used to analyze the survey data, and each section of the survey broke down the results. **Results**: Demographically, 60% of the participants stated they felt comfortable caring for LGBTQ+ patients in the clinical setting, and 92% stated it was important for them to know their patients' gender identity or sexuality. The Likert Scale data showed 76% of participants reported having the skills to provide respectful care to LGBTQ+ patients, but only 32% reported an awareness of resources or organizations available to LGBTQ+ patients. The open response data showed that 80% of participants had minimal LGBTQ+ content coverage in their nursing courses. **Conclusions:** The survey results concluded that the knowledge and opinions of those teaching content in the nursing program are limited to the care of the LGBTQ+ community. Continuing education with other nursing programs, hospitals, and the greater community will allow for a more extensive knowledge base within healthcare and thus decrease the health disparities this community faces. This project is sowing the seeds for the future of nursing by increasing LGBTQ+ inclusion education, which will allow future nurses to be better equipped to care for these individuals in all areas of nursing practice.

Keywords: LGBTQ+, nursing, knowledge, education, health disparities

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POSTER PRESENTATION

Building a Journal Club in a Burn ICU

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Abstract

Background: Critical care nurses are instrumental in providing expert care to those critically ill or injured; therefore, nurses must stay current and use evidence-based care to improve patient outcomes. Professional nursing conferences and Continuing Education Unit (CEU) courses offer up-to-date information based on evidence-based research. Informal conversations with the staff disclosed low professional nursing organization membership and professional nursing conferences, prompting a survey to assess the need for a journal club. Journal clubs have numerous purposes, including, but not limited to, skills development, clinical inquiry, and critical appraisal. These skills are essential features of a proficient clinician and empower nurses to apply and incorporate essential elements toward patient-centered care. Journal clubs are important to nursing as they promote up-to-date clinical knowledge. Journal clubs also create a culture of inquiry, promote reflective practice, and disseminate current information into practice, which bridges evidence-based research and improvement in clinical practice. The quality improvement problem statement was, "Will a Journal club increase exposure to up-to-date, evidence-based information, and critical appraisal of literature to enhance clinical practice skills?" **Method:** This was a quality improvement project to engage and empower registered professional nurses with the knowledge and aptitude to expand on critical appraisal skills to foster professional growth, elevate the practice, and encourage the use of research findings into practice. The data was collected in a Burn/Surgical Intensive Care Unit (B/SICU). All registered nurses on staff in the B/SICU were given a survey. The questionnaire consisted of six questions reflective of membership in a professional nursing organization, annual attendance of professional nursing conferences, attendance of any continuing education courses activity this year, awareness of evidence-based practice, applicability of evidence-based practice in the B/SICU and years as a registered professional nurse which ranged from 0-5 years, 5-10 years and greater than ten years. The information received during the survey identified the need to incorporate and encourage an activity that will create a culture of inquiry, enhance critical appraisal skills, provide an understanding of evidence-based research, and promote up-to-date clinical knowledge to guide clinical practice. The design meeting was held monthly via Zoom and in person. The first sessions provided an overview of the Journal Club and a review of how to choose and review the research article relevant to the current area of practice. **Results:** The data collected indicated that forty percent of the staff were members of a professional organization, and twenty-two percent attended nursing conferences annually; however, fifty-three percent attended continuing education courses, and one hundred percent were aware of evidence-based practice and its applicability to the B/SICU. The data also showed that fifty-three percent of the unit's staff had more than ten years of nursing experience, nineteen percent had between five to ten years of nursing experience, and twenty-eight percent had zero to five years of nursing experience. This data highlighted the need to create a culture of inquiry and reflective practice among B/SICU registered professional nurses. The information collected and reviewed suggested that initiating a Journal Club could enhance collaboration, create reflection on current practice, generate ideas, and consider quality and safety when providing care to the critically ill. An empowered nurse can yield substantial benefits, thereby improving outcomes. **Conclusion:** Although the Journal Club was agreed upon by the staff, meeting attendance remains low; this was attributed to summer vacations, patient acuity, staff shortage, and the day of the week. To boost attendance, meeting advertisements were placed on the unit's electronic visibility board, flyers were posted in several locations on the unit, and email reminders were sent out. Strategies to improve attendance included support from senior leaders, changing the day to meet, and invitations to other disciplines. Though we have encountered some setbacks with the journal club, we will strategize to keep our nurses up to date with current research and clinical knowledge. When evidence-based research is incorporated into practice, it engages and empowers nurses' patient care, and outcomes improve. Further plans to change the title from Journal Club to Monthly Educational Sessions are being considered to boost participation and attendance.

Keywords: Journal Club, Critical Care, Quality Improvement, Continuing Education

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POSTER PRESENTATION

Nourishing the Clinical Chasm

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Abstract

Background: Competent nursing graduates are vital in the delivery of effective healthcare. It is crucial for academic faculty to cultivate transformative education in nursing, specifically at the advanced graduate level. A thorough examination of the nursing workforce was released by the Institute of Medicine (IOM) in 2010 (IOM, 2011), representing a significant milestone for healthcare. The report was designed to serve as a framework for changes in the profession with recommendations directed to a multitude of entities, including educational institutions. It is imperative that nursing faculty critically reflect on curriculum content and process. Now more than ever, the healthcare delivery system is heavily taxed. New nursing graduates are not fully prepared due to a gap in nursing practice and a lack in clinical judgment. Baccalaureate-prepared nurses with the impetus to achieve higher level of education, particularly a Master of Science (MS) in Nursing Education, are in a pivotal role to act as change agents. It is the responsibility of academia to ready this elite subset of nurses to take on leadership initiatives to change behavior within the healthcare system. By fostering reflective practice, supporting analysis of resources (personal and professional), and imparting knowledge to nurture components of intrinsic motivation, advanced level nurses are positioned to support graduate nurses to think critically and use evidence to make clinical decisions aligned with best practice. **Methods:** This project is the result of a compilation of key documents related to nursing education and promoting clinical judgement. **Results:** Nurse Educators are our nation's future undergraduate clinical faculty and the forefront of nurse residency programs. They are a leading force for decreasing nurse turnover rates and improving quality of care. Faculty are in a position to operationalize the model for facilitation of transformative learning in nursing education, research, and practice. To support emerging nurse educators in maximizing intellectual and personal potential, professors must create innovative assignments to guide them through critical reflection and discourse of the baccalaureate graduate assumptions. In turn, the nurse educator will impart meaningful engagement and afford their mentees opportunity to challenge their knowledge, and critically think by *reflecting in action* and *reflecting on action*. Strengths and areas in need of development will inform the relationship between clinical judgment and evidence-based practice. This will have a direct positive impact on the current national calamity. A psychological experiment by Karl Duncker, a Gestalt Psychologist, was demonstrated by Dan Pink during a TED Talk in 2009 (Pink, 2009). The "candle problem", a test of creative problem solving, measured the influence of *functional fixedness* on a participant's problem-solving ability. The experiment revealed that incentivization increases stress levels, dulls thinking and blocks creativity. In a NY-based institution of higher education, this is the basis of a novel project in the MS in Nursing Education Program. Students are challenged to critique the "candle problem" relative to the lack of preparation for practice of nurse graduates; appraisal of AACN's "The Essentials: Core Competencies for Professional Nursing Education" (2021) complements this analysis. Components of intrinsic motivation are explored: autonomy, mastery, and purpose with robust emphasis on expanded awareness through self-reflection. Lastly, alignment of learning theories creates an enriched experience leading to a paradigm shift in nursing education. The need for competent nursing graduates is prevalent and vital for effective healthcare. Their knowledge, skills, and clinical judgment directly impact patient health outcomes. Clinical decision making and critical thinking skills are paramount to the future of nursing practice and the overall healthcare system. With transformative education at the graduate level that goes way beyond rote learning, and as a community dedicated to the profession of nursing, we can develop effective leaders that perform as change agents and impact the future of healthcare. Adaptation and fostering of unique teaching methods will trickle down from academia to bedside and help alleviate some of the strains in today's current healthcare challenges, including reduced turnover rates within the hospital settings. Now more than ever, the healthcare delivery system is heavily taxed. New nursing graduates are not fully prepared due to a gap in nursing practice and a lack in clinical judgment. **Conclusion:** Integration of assignments at the upper graduate level of academia for future nurse educators-ones that challenge functional fixedness, engage critical thinking, and explore motivation- are crucial to incorporate into curriculum. By fostering transformative learning in upper level nursing education, faculty can deeply impact the healthcare system.

Keywords: Curriculum, Higher Education, Critical Thinking, Intrinsic Motivation

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POSTER PRESENTATION

The Impact of Caring for COVID-19 Patients on Compassion and Burnout

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Abstract

Background: The nursing profession is widely recognized as a stressful profession where nurses, as caring professionals, provide care and support when individuals are facing anguish. Burnout and compassion fatigue (CF) are prevalent in healthcare, especially within the nursing profession, and are detrimental to nurses' professional quality of life. The COVID-19 pandemic heightened stress in the workplace for healthcare providers. There was overwhelming workload and exhaustion. compassion fatigue is high among healthcare workers who work under these conditions. Compassion fatigue is linked to situations where caregivers believe their actions will not make a difference. During the COVID-19 pandemic, this was unfortunately the situation often when many patients once admitted did not survive. The aim of this quantitative study was to evaluate the impact caring for COVID-19 patients has on the Compassion Satisfaction (CS) and compassion fatigue of nursing staff. **Methods:** The theoretical framework that guided this study was Jean Watson's Theory of Human Caring. Watson's Human Caring Theory stresses the importance of self-care and nurses must care for themselves before they can care for others. The setting for this study was both a tertiary, non-magnet hospital and a community, magnet hospital on Long Island, New York. Purposive sampling was done as the potential subjects were the Registered Nurses who provide patient care at the facilities. The Professional Quality of Life Scale (ProQOL) version 5 was the measurement tool utilized. The ProQOL measures CS and CF of those in a helping profession. CS is defined as the pleasure obtained from doing work well. CF is work related stress and secondary exposure to very stressful situations. Professional quality of life is the balance between CS and CF. **Results:** At both hospitals, CS and CF were found to be moderate among the nurses. Burnout was noted to be significantly higher at the community hospital. Burnout was rated as moderate at the community hospital and low at the tertiary hospital. **Conclusion:** It is of interesting note that burnout was higher at the community hospital since it is also a Magnet designated hospital. However, the participants at the community hospital reported to be younger, less experienced, and reported more often to work in the Emergency Department, a high stress area; all of which are factors impacting burnout.

Keywords: Compassion, Burnout, COVID-19 Pandemic

IRB Approval: This study received exempt approval (IRB #21-0446) from the Northwell Health Institutional Review Board.

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POSTER PRESENTATION

On the Road Again – Meeting Nurses Where They Live

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Abstract

Significance to Nursing: Promoting evidence-based clinical education to staff nurses in a cost-effective manner. Best practices based on the evidence promote positive patient outcomes. Regulatory agencies require nurses to remain up to date with standards and demonstrate competency in their area of practice. Clinical educators encounter many obstacles in the delivery of education. COVID-19 affected how and where education is delivered because formal classroom training was eliminated, and units followed strict infection control guidelines. Emerging from the last wave, a new obstacle that has arisen is the increasing patient acuity combined with the complex nurse skill mix. Factor in hospital's focus on cost savings and it is harder than ever to conduct formal classroom training. **EBP Statement:** To find an effective and efficient way to deliver evidence-based clinical education without adding costs related to overtime. **Methods:** A literature review was conducted to explore the delivery methods of hospital nursing education. The team chose to use a modified in-service model that included hands-on components. An education cart was arranged with equipment for demonstration, and poster boards were created. The posters contained QR codes for the registered nurses to use as resources for the material. This allowed the team to move throughout the facility and go to the staff to deliver education. Each unit had one week designated for education, with both nursing shifts being captured. A pre and post-test were used to gauge knowledge and comfort. **Data Presentation:** Four medical-surgical units were included in the project. The average years of experience for the registered nurses were determined to be as follows: less than 1 year – 35.6%, 1-2 years – 13.7%, 2-5 years – 20.5%, 5-10 years – 19.2%, 10-15 years – 5.5%, and more than 15 years – 5.5%. Knowledge and comfort levels for caring for patients with four devices were measured pre-and post-surgery using a Likert scale. The level of comfort for 3/4 topics increased. The comfort and knowledge about the care of patients with implanted ports remained the same. Knowledge scores were as follows: Unit 2 had an average increase of 9%, Unit 5 had an average increase of 15%, Unit 6 had an average increase of 12%, and ESSU had an average increase of 8%. The literature emphasizes the importance of promoting and maintaining clinical competence, especially in a newer workforce. The increases in the posttest scores were all positive and showed some learning did occur during the education. **Conclusions and Recommendations:** This model was effective in achieving the goal of efficient, effective, and low-cost education. The only associated costs were the materials used in the hands-on demonstrations and posterboard creation. The design of the cart and posterboards allowed the clinical professional development staff to move throughout the facility with ease. The use of QR codes to enhance the presentations had no associated costs but added another resource for the staff. The mobile skills fair was well received by the staff. There were some obstacles in meeting the staff where they live. Participation and support were lower than expected. The skills fair was also content-heavy. We conclude that this method of taking the education to the nurses is a modification to methods that have been used in the past. Education does not have to be elaborate and complicated. Simple approaches can have a big impact. Sometimes, things that are old become new again.

Keywords: Education, Evidence-Based Practice, Competency

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POSTER PRESENTATION

Reducing CAUTIs Through the Use of a Nurse Driven Protocol

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Abstract

Background: Indwelling urinary catheters account for up to 70% of healthcare-acquired urinary tract infections. CAUTIs (catheter associated urinary tract infections) are responsible for increasing average length of stay, patient discomfort, and mortality. There are several methods that can be used to help decrease these rates, such as additional education or early removal. Implementing a nurse-driven removal protocol can be effective in reducing the rate of urinary tract infections and total catheter days. A nurse driven removal protocol involves identifying patients with inappropriate use of indwelling catheters advocating for early removal, as well as continuing education on care and maintenance. **Significance**: CAUTIs are considered to be the largest source of bacteremia in hospitalized patients, with nearly 25% of hospitalized patients having an indwelling catheter at some point during their admission (Oman et al., 2012). One of the most effective infection prevention strategies is to avoid placement of unnecessary indwelling catheters. This presentation examines the effect of utilizing a nurse-driven early catheter removal protocol on the rates of CAUTIs. Specific interventions that were studied include focused education, daily checklists, catheter removal rounds, and increased use of bladder scans. **QI Problem Statement**:In adult patients with indwelling urinary catheters, is the use of a nurse driven removal protocol, compared to no removal protocol, result in decreased CAUTIs? **Methods**: A literature review was conducted on ten articles regarding nurse-driven early catheter removal protocols using a CASP online checklist. Articles were selected based on the title or abstract having one of the search terms included. Sample sizes from the studies ranged from 80 (Schneider, 2012) to 418 (Hutton et al., 2018). All ten studies had a quality rating of either A or B, and level I or II. Two studies were RCTs (Hutton et al., 2018 & Dirico, 2013), three studies were quality improvement projects (Schneider, 2012; Thomas, 2016; & Oman et al., 2012), four were cohort studies (Campbell et al., 2020; Uberoi et al., 2013; Elpern et al., 2019; & Shadle et al., 2021) and one was a quasi-experimental study (Menegueti et al., 2019). Inclusion criteria included peer reviewed articles/journals, randomized controlled trials, studies on adults, and studies between 2011 to 2021. Specific interventions studied in the articles include focused education, daily checklists, catheter removal rounds, and increased use of bladder scans. **Results**: Using a bundled approach was most effective in reducing CAUTI rates. One study conducted over a three-year period found a reduction of 35% in catheter use and overall CAUTI rates after implementing a bedside reminder tool, educational campaigns, and a protocol outlining specific care after catheter removal (Shadle et al., 2021). Another study found that the combination of education and early catheter removal decreased rates of catheter associated infections by 30%. The impact of an infection prevention program targeted to reduce catheter associated urinary tract infections saved one institution over $34,000 each year. Fewer CAUTIs occurred following the interventions, as well as overall treatment costs and decreased medically unnecessary usage. **Conclusion**: It is vital that nurses advocate early on for removal of urinary catheters for non-medical purposes in order to effectively reduce rates of preventable infection. Providing continued education on proper sterile technique and maintenance will help new and seasoned nurses alike to reduce infection rates. Reduced rates of hospital acquired CAUTIs result in thousands of dollars saved, decreased patient mortality, and reduced length of stay.

Keywords: Urinary Catheter, infection, nurse protocol, infection prevention

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POSTER PRESENTATION

Implementation of the Re-Engineered Discharge Toolkit to Reduce Readmissions for Post Stroke Patients

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Abstract

Background: Readmission rates in a healthcare organization affect the quality of care, financial reimbursement, and patient satisfaction. Stroke and other cardiovascular diseases are among the eight national practice problems contributing to the Global burden of disease affecting the United States. Discharge planning, such as stroke prevention, is a significant issue for healthcare and nursing. Patient education and communication on disease management and discharge follow-up are vital for transitions in care. Reducing hospital readmissions improves the quality of care, patient experience, and provider interaction. This DNP quality improvement project aimed to improve the quality of stroke discharges through the Reengineered Discharge (RED) Toolkit to impact 30-day readmission rates and secondary outcomes to improve patient satisfaction and patient education on diagnosis and prevention. The RED toolkit personalized hospital discharges for stroke patients using stroke literacy, follow-up compliance, and medication resources. Nursing addressed gaps in transitions of care with a systematic approach to meet stroke outcomes. The quality improvement problem statement was "For adult stroke patients on the step-down unit, does the implementation of the Re-Engineered Discharge (RED) Toolkit, compared to current practice, impact 30-day readmission rates in 10-14 weeks?" The Promoting Action on Research Implementation in Health Sciences (i-PARIHS) with four key constructs: facilitation, innovation, alignment, and recipients guided this quality improvement project. **Methods:** The i-PARIHS model was used to implement the RED toolkit; using internal facilitators on the unit was key. The plan ensured the information provided by the nurses to ensure all elements of education on diagnosis, comorbidities, medication, and follow-up care, including post-discharge phone calls and written discharge plans were standardized. RNs used teach-back and visual aids when reviewing personalized discharge plans. Thirty-day readmission rates were measured pre- and post-intervention. The setting was a 292-bed community hospital primary stroke center with dedicated 52-bed stroke units. The population was current stroke patients on the stroke step-down unit and new admissions. The inclusion criteria were all adult patients 18 years and older diagnosed with a stroke, rule-out stroke, transient ischemic attack, or hemorrhagic stroke admitted to the floor. All patients had a primary or secondary diagnosis of stroke or stroke-related illness. Five patients a day were eligible to participate by diagnosis. The anticipated number of participants was approximately 20-30 patients in 8-10 weeks. The exclusion criteria were all patients with a non-stroke diagnosis. The patients reflected diverse diagnoses, co-morbidities, and healthcare needs in the stroke unit. Formative evaluations using an adherence checklist were completed in real time, and retrospective chart audits were performed for baseline data. Patients 18 or older with a primary or secondary diagnosis of stroke were included in the implementation. Thirty-day readmission rates were measured at baseline and post-intervention. An IRB review found that this project did not meet the definition of human subject research, as the data were not being collected for an investigation designed to develop or contribute to generalizable knowledge. **Results:** A two-way contingency table analysis evaluated the hypothesis that 30-day readmissions decreased after RED implementation. Readmissions were 8.4% at baseline and 5.8 % post-implementation, which showed a reduction of 2.6% over ten weeks. Patient satisfaction yielded an 11% increase in positive responses related to discharge instructions. **Discussion and Analysis of Data:** The RED toolkit elements that were factored in the most included a stroke plan of care, stroke education, medication reconciliation, neurology consult, follow-up appointments, written discharge summaries, and telephone follow-up. An independent t-test was used to evaluate both baseline and post-readmission rates. The findings of this project suggested focusing on comorbidities related to stroke risk factors for the age group 65 years and older could help reduce adverse outcomes. The project's strengths revealed that a systematic discharge checklist contributed to positive patient outcomes and reduced readmissions. Only two patients returned out of the potential 30 stroke patients. This suggested that any slight improvement in current processes could help move the needle in the right direction. Another strength of the project was that it promised feasibility and implementation fidelity by adding to the RED toolkit support. There are some limitations to the quality improvement project. First, these findings are from a single hospital and one unit. The sample was diverse but small based on those admissions for the implementation period and the time frame for data collection. Second, some patient risk factors, especially social determinants, may differ from those for which they were readmitted or avoided. Third, multiple initiatives focused on discharge calls and medication reconciliation may have influenced the results positively, not just the RED toolkit. **Conclusions:** The RED toolkit has shown positive results in effective discharge planning to reduce hospital readmissions. Patient education, medication reconciliation, and transitional care services were the focal points in the discharge process. Reviewing significant findings from this project found that increased patient education on diagnosis and risk factors, medication use, and follow-up prepares patients for their quality-of-life changes. The RED toolkit is a systematic approach to discharge planning. Reduction of hospital readmissions improves patient satisfaction and quality outcomes.

***Keywords*:** RED toolkit, Readmission rates, Patient education, Discharge Planning, Stroke

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POSTER PRESENTATION

Assessment of Empathy in Nurses Participating in the Critical Care Advanced Pathway Program

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Abstract

Background: The Critical Care Advanced Pathway Program (CCAP) is a formal education and clinical support program designed to facilitate the transition to intensive care nursing for experienced clinical nurses. This innovative program aims to create a pathway for progressive clinical advancement, stimulate critical thinking and clinical knowledge, and support the participants' clinical practice and professional development. This program consists of a 12-16 week clinical and didactic approach from a medical-surgical to the intensive care environment. The researchers, who are also program developers and instructors, have postulated that along with clinical expertise, empathy in inpatient care is a required attribute of the critical care practitioner as opposed to sympathy, which is feelings of pity and sorry for someone else's misfortune. Empathy for inpatient care is... "A cognitive attribute that involves an ability to understand the patient's pain, suffering, and perspective combined with a capability to communicate this understanding and an intention to help". The investigators wished to evaluate if the CCAP program provided education appropriate for novice critical care nurses and engendered empathy in their transition to critical care practice. Critical thinking must be balanced with empathy towards enhancing patient and family experience through anticipation and maximization of patient/family/provider collaboration. IRB approval was acquired. The null hypothesis was that there would be no change in empathy pre/post CCAP program. **Methods:** This study adopted the use of the Jefferson Scale of Empathy to identify the empathy that CCAP engenders. The Jefferson Scale of empathy is a validated, 20-item scale that is designed to measure empathy in physicians and other practicing healthcare professionals (HP-version), medical students (S-version), and other healthcare professional students (HPS-version). The endpoint was a change in empathy score as measured by the Jefferson Scale of Empathy (Physicians and Health Care Professions CCAP participants pre-program and then again after three months). The end of three months was identified as the appropriate time for a post-survey as the CCAP participants had been assimilated into their new critical care patient environment. Nine Clinical Nurses participated. **Results:** The one-tail, paired T-test was completed (excel) with alpha =0.05 for comparing means. The average pre-intervention score was computed (M=121.1, SD=11.5). The post-test results dropped slightly (M=117.5, SD=7.9), t (16) =3, p=0.084. We noticed that the empathy scores trended slightly lower during the post-survey. Discussion with CCAP participants informed that their focus was now on patient physical care and the equipment needed to provide that care. In addition, the participants had become task oriented. **Conclusions**: Presently, empathy has been looked upon as an elective and presents as a quantitative variable. Its inclusion should be embedded in the program itself coupled with increased hands-on access to patients or simulation. Education on engendering empathy in health professionals must begin and be prioritized during the early training phase. Patient/Clinician distancing has been de rigueur traditionally. However, it is of the utmost importance that the CCAP program and all other nursing education modules be continually assessed for role-playing, participation, and reflection toward the development and maintenance of empathy.

***Keywords*:** Empathy, CCAP, Nursing

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POSTER PRESENTATION

The Impact of Telephonic Nurse Visits to Reduce Heart Failure Readmissions: An Integrative Review

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Abstract

Background: Heart Failure (HF) affects approximately 6.2 million adults in the United States (CDC, 2020) and 26 million people worldwide (Savarese & Lund, 2017). HF is also the most frequent cause of readmissions for Medicare patients (Gupta et al., 2018) and places a burden on patients, healthcare workers, and healthcare institutions (Ziaeian & Fonarow, 2016). The purpose of this integrative review was to examine recent literature and integrate the findings to determine the impact of a telephonic nurse visit program in reducing 30-day readmissions for HF patients. **Significance**: HF is a complex clinical syndrome characterized by inadequate cardiac output (Savarese & Lund, 2017). This chronic disease is significant in elderly patients because of its pathophysiology and related risk factors such as diabetes, hypertension, coronary artery disease, and obesity (CDC, 2020). Complications related to HF, disease progression, and complexity require routine and continuous treatment adjustments post-discharge to lower morbidity and mortality and reduce overall health care costs (Hobbs et al., 2016). The associated healthcare cost for managing HF is approximately $30.7 billion (CDC, 2020). The average cost of managing a patient with HF in the hospital in 2018 was $12,894 (Phelps & Sutton, 2018). This cost is significantly higher when compared to the cost of managing HF at home. With the advent of the Hospital Value-Based Purchasing (VBP) Program by the Centers for Medicare and Medicaid Services (CMS), acute-care hospitals are held accountable for readmission rates and they are impacted financially (CMS, 2017). The 30-day HF mortality rate is an important quality measure for the VBP program. As a result, hospitals across the country are highly motivated to reduce HF readmission and mortality rates. **Research Problem Statement**: In HF patients aged 65 years or older and discharged from the hospital, what is the effect of telephonic nurse visits on 30-day readmission rates? **Conceptual Framework:** The Diffusion of Innovation (DOI) theory (Rogers, 2010) is an applicable translation science model to enhance telephonic nursing management for heart failure patients. Being innovative refers to new ideas, thoughts, practices, products, services, and devices used by an individual or group. (Lien & Jiang, 2017). The DOI theory is therefore applicable in that the technology intervention of interest is an innovation that can transform health needs specifically for HF patients. Diffusion, the second part of DOI theory, is how these innovative ideas are put into practice, implemented in varied settings for the different patient populations (Lien & Jiang, 2017). This component of DOI is applied to this integrative review in that its ultimate aim is to provide a recommended plan for translation of evidence into practice. The following six steps summarize the process of the telephonic nurse visit interventions which occur over 30-days: (1) contact the patient telephonically and enroll the patient in the 30-day telephonic nurse visit program within 24-72 hours post-hospital discharge using the electronic health record and patient portal; (2) assess the patient's health status, understand the disease process of heart failure, and develop patient goals; (3) determine if the patient is receiving and adhering to recommended medical care, including medications and follow-up appointments; (4) provide health coaching and education using a heart failure stoplight tool to teach the patient about heart failure, self-care management, symptoms and, lifestyle behavioral changes utilizing the teach-back method; (5) assess the patient's response to recommended treatment and progress toward health coaching goals, and communicate with the medical provider if symptoms worsen or there is a significant change in condition; and, (6) track the patient's clinical and functional status weekly and graduate the patient from the program after 30 days. **Methods:** A systematic search was conducted using four online nursing databases: CINAHL, Cochrane Library, ProQuest Nursing, and PubMed. Included studies were peer-reviewed, written in English and published between 2016-2021.Excluded studies were those that addressed HF readmission from an in-patient, home care, or ambulatory care, and focused solely on the pharmacological and medical management of HF. A total of 16 peer-reviewed articles were selected. Findings were organized and synthesized into three themes: (1) technology to manage HF; (2) multidisciplinary/ multi-pronged approach to manage HF; and, (3) nurse's role in patient education to manager HF. **Results:** The literature review revealed a significant trend in the use of technology in the management of HF. Multiple findings support the use of technology such as remote patient monitoring, structured telephonic nurse visits, and patient-centered virtual visits to reduce hospital readmissions and improve quality of care. Nurses play an integral role in providing patient education, and nursing interventions are enhanced with the use of technology and a multi-disciplinary approach. **Discussion and Analysis of Data**: DNP-prepared nurses can use technology, nursing education, and a multidisciplinary approach to help manage the chronic disease of heart failure within the community. Reducing HF readmission decreases the burden that HF places on patients, hospitals, and healthcare workers worldwide and in the United States. Telephonic nursing interventions can improve clinical practice and patient outcomes by addressing such community and socioeconomic issues that patients face when discharged from the hospital. Some of these telephonic interventions are disease management coaching, heart failure patient education, medication adherence, and connecting heart failure patients to community resources and their primary care provider before their symptoms exacerbate. Nurses could use teach-back telephonically to help guide self-management activities with the HF patient. **Conclusions and Recommendations**: Telephonic nurse visits were found to be effective interventions in reducing readmission for heart failure patients. This review could be used to formulate initiatives that reduce 30-day readmissions for heart failure patients. The intervention of a telephonic nurse visit program is recommended to improve nursing practice and patient outcomes by providing a seamless care management transition of patients from the hospital to the community. This intervention ad-

dresses the challenges that heart failure patients face in the out-patient setting and the 30-day telephonic nurse program can be used as an interventional plan in multiple healthcare settings. Nurses should also use the DOI model as the framework for adopting to change projects that can improve heart failure management in the community.

Keywords: Heart Failure, Readmissions, Telephonic Nurse Visits

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POSTER PRESENTATION

Improving Barcode Scanning of Blood Products: A Quality Improvement Initiative

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Abstract

Background: The blood administration process is not infallible; however, the frequency of avoidable transfusion fatalities attributable to misidentification of the blood product can be averted using barcode technology. This quality improvement initiative describes our efforts to enhance the workflow efficiency of the blood administration process by the registered nurse (RN). We utilized a multi-pronged approach to identify and implement solutions to improve the accuracy of blood product scanning by the RN. This project aimed to enhance barcode scanning compliance for blood products, thereby ensuring accurate verification before administration thus, improving patient safety. Inadequate barcode scanning during the administration of blood products can compromise patient safety. By involving front-line nurses and considering nursing workflow, we were able to develop enhanced strategies for minimizing barcode scanning errors. Employing a Plan-Do-Check-Act (PDCA) cycle for improvement facilitated an efficient testing of changes. The inability to accurately scan barcodes on blood products can lead to an increased risk of misadministration. **Methods:** This quality improvement project utilized the PDCA improvement cycle to address blood product scanning in a 495-bed hospital in New York City. This comprehensive approach allowed the group to plan, execute, assess, and refine efforts methodically, leading to successful outcomes. The plan component of this project comprised initiating interprofessional meetings in late 2020 with representatives from the blood bank, nursing, and quality improvement & informatics. This initiative created a nursing practice alert to heighten awareness of appropriate scanning techniques, reviewed barcode-scanning results for 2020, and evaluated data by unit/department. While reviewing the initial barcode scanning compliance data noted that the anesthesia department was 100% compliant after shadowing the anesthesiologists and determining that their workflow was the same as RNs. The "do" consisted of consulting with the scanner equipment vendor (Derive) and manufacturer (Zebra Technologies) to discuss potential root causes. This allowed for the determination that the QR code to recalibrate scanners was incorrect. This led to recalibrated scanners on the cardiac critical care unit (CSICU/CCU) using the new QR code. In checking the barcoding data post-intervention on the CSICU/CCU, it was found that there was an improvement in barcode scanning compliance after one week of pilot testing. This led to acting by recalibrating the scanners on all the units and replacing the calibration cards on all workstations on wheels. **Results:** The trial was conducted on the CSICU/CCU as this unit administers the most blood products (approximately 25% of the total transfusions annually) in the hospital. Before the intervention on this unit, blood scanning compliance varied from 70% - 93%. The solution was trialed in April 2021, and in May 2021, the unit increased to 100% compliance. In comparison to the January 2021 results, this was a 43% increase. With the success of the pilot unit, new calibration cards were distributed to other units. Scanning compliance increased overall from 69% in January 2021 to 96% in May 2021, a 33% increase. In 2022, the scanning of blood products continued to demonstrate the success of the PDCA initiative. We found a slight decrease in compliance in February 2022 and can attribute that to a drift in practice. **Conclusion:** Patient safety is at risk when barcode scanning errors occur during the administration of blood products. By engaging front-line nurses and carefully considering nursing workflow, we were able to develop improved strategies to mitigate these errors. Implementing the PDCA cycle for improvement allowed us to test changes, leading to effective solutions systematically. Collaboration with the vendor and manufacturer of the scanner technology was crucial in identifying and rectifying the issue. We discovered that the QR code used for our scanners was incorrect. The significant increase in compliance with barcode scanning of blood bags following scanner recalibration was a notable achievement, replicated at another facility within the Mount Sinai Health System. Recognizing the patient safety and financial implications of barcode scanning errors, we remain committed to regularly reviewing scanning results to ensure sustained improvement. This quality improvement initiative underscores the significance of collaborating with relevant stakeholders to address clinically relevant processes effectively. Utilizing the PDCA Cycle to enhance barcode scanning of blood products and address end-user needs proved pivotal in the success of this project. Improving the efficiency of nursing workflow and ensuring the replicability of the solution are imperative steps toward optimizing safe blood administration practices.

Keywords: barcode scanning, blood administration, blood products, PDCA, patient safety

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POSTER PRESENTATION

Master's Entry to Practice: An Efficient Pathway to Grow the Nursing Profession in NYS

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Abstract

Background: According to a recent study, New York State (NYS) will need almost 40,000 additional Registered Nurses (RNs) by 2030 (Juraschek et al., 2019). With this projection and the current exhausted state of the nursing profession as a side effect of the COVID-19 pandemic, the time is now to design efficient, seamless pathways to recruit adults into the nursing profession.
St. Bonaventure University opened the School of Health Professions in 2016 as part of a strategic vision for the university and community at large. As a strategic initiative of the nursing department and a method to grow degree programs within the school, the Master's Entry to Practice (MEP) nursing program was designed. The MEP program, only the second of its kind in NYS, is an efficient pathway for non-nursing baccalaureate graduates to join the nursing profession at the master's level. This pathway meets the BS in 10 legislation, signed into law in 2017, while providing a pathway that does not require backtracking to earn an additional undergraduate degree (New York State Education Department Office of the Professions, n.d.). The MEP program is evaluated by following a robust systematic evaluation process each term, annually, and after the graduation of each cohort. Program outcomes include data on student completion rates, NCLEX-RN first time pass rates, employment rates, and overall quality and student satisfaction. Data is collected through course evaluations, course assignment achievement scores, and surveys. **Discussion:** Infused with interprofessional education, technological advancements via Apple products, and emotional intelligence, this six semester, 71 credit year-round nursing program will prepare students to sit at the table with fellow graduate prepared healthcare professionals. After careful planning and two market studies, the MEP program features cutting-edge curriculum such as a stand-alone critical care course where students earn Advanced Cardiac Life Support (ACLS) and Pediatric Emergency Assessment, Recognition and Stabilization (PEARS) certificates. **Conclusion:** Emotional intelligence, originally coined by Daniel Goleman in 1998, served as the organizing framework of the program ensuring that all graduates learn how to build resilience and combat healthcare burnout. Within the program's 720 clinical hours, students will spend time in both inpatient and outpatient clinical roles while developing a quality improvement project to hand-off to an agency preceptor with full implementation and evaluation guidelines.

Keywords: Pre-licensure Graduate Nursing, Nursing Education

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POSTER PRESENTATION

"What are these medications for?" Medication Education Cards to Enhance Patient Safety, Quality of Care, and Patient Experience

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Abstract

Background: Patients and caregivers are often not adequately informed about new medications. In the health care system, patients are presented with a multitude of resources regarding their medication regimens and treatment plans. Nurses and other providers usually provide these resources to encourage patients to participate actively in their care. However, patients may be intimidated by the plethora of information available in these resources. Researchers have found that health information focused on individual needs increased patients' understanding of their health needs, improved their health literacy, supported self-management, and promoted health outcomes for adults with chronic illnesses. Nurses must also find ways to educate patients effectively so they are not overloaded with information. One-on-one education with patients allowed them to ask questions, discuss concerns, and clarify misconceptions before they were discharged home. Teach-back is a proven teaching and learning strategy that improves the quality of care. In clinical practice, teach-back provides a low-cost, effective technique that can be used to enhance structured, simple education to achieve positive outcomes in communication at the patient-clinician interface. Teach-back also ensures that healthcare professionals educate patients and caregivers in a way they understand to improve efficacy with new medications. This method allows healthcare professionals to assess patients' understanding and re-educate or modify teaching strategies if comprehension is not verbalized or demonstrated. This quality improvement initiative aimed to assess the effectiveness of medication education cards as a tool for nurses to provide education on medication side effects and as a resource for patients to receive education. The guiding PICOT question was, "In adult patients on a Med-Surg unit, will implementing Medication Education Cards improve patient understanding of medication side effects?" **Method**: Implementation began with an information session with the Collaborative Care Council (CCC) to engage all disciplines. Weekly team meetings followed, which included ongoing communication with all levels of staff. Medication education cards were created in collaboration with our pharmacists as an alternative resource to help nurses effectively communicate with patients about their medication side effects and to improve patient outcomes and experience. Several staff meetings were held with all staff shifts to communicate the initiative's aim and to provide specific guidelines for using the medication cards. The medication education cards were given to patients in the medical-surgical unit. During the hospital stay, nurses used 'the teach-back method to educate patients on their medications. Cards were provided to patients on admission; additional cards were added together bounded by 'rings' as needed. All RNs on the unit participated in the program. Nurse managers and quality RNs performed daily chart reviews for patient education documentation. **Results:** Implementing medication education cards in the unit improved patients' understanding of medication side effects. After the initial three months of implementation, HCHAPS scores via the Press Ganey Survey for the first quarter of 2021 showed that 53% of patients reported receiving adequate communication about medications, and 74 % reported improved communication with nurses. Introducing Medication Education Cards to our patients helped improve their understanding of medication side effects compared to current education resources. **Conclusion:** The use of Medication Education Cards to involve patient and family engagement in communication about appropriate medication use, the frequency and type of medication-related adverse events, and the presence of medication adherence can ultimately improve patient safety, quality of care, and patient experience. The teach-back method allows nurses to educate patients and families on new medications to improve understanding of their health needs. Nurses play a major role in communicating medication uses and side effects to patients and families, which can ultimately improve patient safety.

Keywords: Patient Education, Teach-Back, Medication education cards

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POSTER PRESENTATION

Prevention of Hospital-Acquired Pressure Injuries: More than turn and Position every two Hours

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Abstract

Background: Hospital-acquired pressure injuries (HAPIs) are localized damage to the skin and underlying tissues because of compression, shear forces, or a combination of both over bony prominences of the body during an inpatient hospital stay. HAPIs are preventable with interventions from nurses, and as a result, they are considered a nursing quality indicator. It is estimated that the cost of HAPIs in the United States could exceed $26.8 billion, and about 59% of these costs are disproportionately attributable to a small rate of Stages 3 and 4 full-thickness wounds, which occupy clinicians' time and hospital resources. There is an urgent need to engage nursing staff caring for patients in risk assessments and implementing strategies to reduce pressure injuries. As our population ages, nurses should be knowledgeable about the specialized needs of the elderly. Nurses Improving Care for Health System Elders (NICHE) provide evidence-based best practices for the care of hospitalized older adults. The population on our medical-surgical unit, which is NICHE designated, are older adults. These patients can be vulnerable and are at greater risk of functional decline both during and after hospitalization, and therefore, the risk for the development of HAPIs may be high. This quality improvement initiative aimed to develop a program where nursing staff can better manage the needs of older hospitalized patients. The goal was to reduce HAPI prevalence in admitted patients with a key focus on education and implementing evidence-based practice. **Methods:** This quality improvement initiative occurred in the 36-bed NICHE-designated unit. Since our community hospital does not have a wound care RN, we utilized resources such as the wound care specialist at our tertiary hospital and physical therapists who are wound care certified to provide education and hands-on training to all our RNs and PCAs. Using a multi-disciplinary approach, nurses collaborated with physicians, physical therapists, and dietitians during daily interdisciplinary rounds to discuss the care plan of patients at risk of developing pressure injuries. A nurse-led pressure injury committee was established to implement best practices to reduce pressure injuries among our patients. Monthly skin prevalence and quality chart reviews were held to assess at-risk patients for the presence or progression of pressure injuries. Wednesday was established as 'skin day' and skin champions were established with definitive roles. To become a skin champion (RN, PCA, PT), one must participate in an 8-hour wound care training program or be certified at one of our tertiary sites. RN champions serve as a resource to staff in the assessment, staging, measurement & documentation of pressure injuries, provide ongoing skin care instructions and product updates to peers, and discuss patients with pressure injuries during interdisciplinary rounds (IDR) for appropriate plan of care such as nutrition, mobility and provide ongoing education to patients and families. All champions (RN, PCA, PT) participate in prevalence studies, skin rounds on 'skin day,' observe the number of pads on beds, diaper use, moisture barrier, as well as ensure patients are moved/turned & repositioned every two hours. Ongoing education to patients and families was done as appropriate and documented by the RN daily. **Results:** The trial was conducted on the CSICU/CCU as this unit administers the most blood products (approximately 25% of the total transfusions annually) in the hospital. Before the intervention on this unit, blood scanning compliance varied from 70% - 93%. The solution was trialed in April 2021, and in May 2021, the unit increased to 100% compliance. In comparison to the January 2021 results, this was a 43% increase. With the success of the pilot unit, new calibration cards were distributed to other units. Scanning compliance increased overall from 69% in January 2021 to 96% in May 2021, a 33% increase. In 2022, the scanning of blood products continued to demonstrate the success of the PDCA initiative. We found a slight decrease in compliance in February 2022 and can attribute that to a drift in practice. **Conclusion:** Program evaluation involved monthly meetings with the team. Each member of the team provided ongoing feedback on the process. Data collection included a monthly review of two-year prevalence studies on the NICHE-designated unit. Since January 2020, there has been a 67% decrease in HAPI. Caring for the elderly needs to be specific to their needs. For patient outcomes, nurses must be educated on preventing HAPI. Providing nurses with the knowledge base and hands-on skills can be beneficial in managing and preventing pressure injuries. This may include discussion of patients at risk for skin breakdown during IDR, the use of a standardized risk assessment tool, RNs performing skin assessment every shift, and implementation of interventions to prevent or, if needed, treat HAPI, as this is of the utmost importance for positive patient outcomes. The goal is to sustain a healing therapeutic environment for patients, promoting the highest quality outcomes. In addition, standardizing specific interventions for pressure injury prevention promoted staff accountability, patient safety, and improved outcomes.

Keywords: Pressure Injury, NICHE, Elder Care

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POSTER PRESENTATION

Using PICC Line Covers to Improve Clinical Outcomes and Reduce PICC Line Migrations

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Abstract

Background: The Mayo Clinic partnered with Care+Wear to see if using Care+Wear PICC line covers could improve clinical outcomes and reduce PICC line migrations. Historically, stockinettes have been used to protect PICC line placements. They are uncomfortable to wear and can be difficult to clean and remove for site access. Not only can this cause the patient emotional distress, but it can also amplify complications with the PICC line itself, such as a dislodgement or blood infection. Historically, treatment has focused on function, even though stockinettes are unsightly, uncomfortable, and a low-quality solution. Utilizing input from patients, clinicians, and designers, Care+Wear created a soft, antimicrobial, and breathable PICC line cover to replace the traditional stockinette. Focused on patient empowerment, the patented Care+Wear PICC line cover restores a sense of normalcy, dignity, and comfort. Its key design features simultaneously improve product performance, including the signature mesh window, which allows breathability and easy, visible access to the site for simple monitoring. The goal is to enable nurses to spend time in other areas rather than dealing with dislodgements and infections. The purpose was to utilize data to find these enhanced solutions. The goal was to figure out whether a Care+Wear PICC line cover could help reduce PICC line migrations and improve clinical outcomes. **Methods:** In the informative abstract, we found some pretty incredible insights. **Results:** Using three years of actual patient data from the Mayo Clinic, the team found that giving patients (inpatient and ambulatory) a PICC line cover after placement reduced line migrations by 78%! Catheter reductions were dislodged in 18% of cases in 2018 and down to 3.9% in 2020. In using the Care+Wear PICC line covers, the Mayo Clinic saw an increased ROI of over 4200% from dislodgement savings alone! **Conclusion:** Using the data from the study, it became clear that the Care+Wear PICC line covers help reduce PICC line migrations and improve clinical outcomes while having a strong ROI.

Keywords: CLABSI Reduction, Infection Control, PICC Lines and Dislodgements.

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POSTER PRESENTATION

A Multidisciplinary Approach to Reducing In-dwelling Urinary Catheter use in Medical-Surgical Units During the COVID-19 Pandemic

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Abstract

Introduction: Hospital Acquired Infection (HAI) prevention has been a primary focus of the patients' hospital stays. Catheter Associated Urinary Tract Infections (CAUTI) are one of the most common types of HAI which can cause multiple complications in vulnerable patients (Werneburg, 2022). This study's purpose was to create a multidisciplinary approach to combat CAUTIs by evaluating the use of indwelling urinary catheters with. The goal is to reduce catheter use, reduce CAUTI incidence, and decrease the standardized infection ratio (SIR). **Significance:** The Center for Disease Control (CDC) estimates that 15% to 25 % of hospitalized patients have an order to insert an indwelling urinary catheter; the risk of infection increases with extended indwelling urinary catheter use. The CDC also reports that the cost of treating a CAUTI may vary between $876 - to $10,197, or on average, $13,793, depending on the level of care. Consequences may include lower patient satisfaction, extended length of stay, and increased morbidity and mortality. **EBP Problem Statement (PICO):** In hospitalized patients with indwelling urinary catheters, does a multidisciplinary approach to CAUTI prevention reduce use of indwelling catheters and standardized infection ratio (SIR) as compared to current practice? **Methods:** Gauron and Bigand (2021) discussed numerous strategies to support the creation of a team-led approach that can yield favorable outcomes. Our implementation began with an information session for the administrative team to engage site leadership and involve clinical champions. A partnership with nursing education allowed the team to share CAUTI prevention web-based education modules annually with the nursing staff. A risk assessment was conducted on all medical-surgical units to identify the need for bladder scanners and alternate external devices, i.e., external male and female catheters. During this time, a protocol was created and developed for use of the bladder scanner. Daily discussions about the catheter's necessity were conducted during interdisciplinary rounds and among the nurse leaders during the throughput meeting. Weekly chart audits were completed by the champions, which included a review of the documentation bundle within the electronic health record, maintenance of the catheter, and education of the nursing staff. Weekly 'foley rounds' were conducted with key stakeholders, including the chief hospitalist, program director of infection prevention, and nurse manager. Strict adherence to bladder scan protocol and intermittent catheterization were enforced. **Data Presentation:** At the end of 2020, the CAUTI SIR on the medical-surgical units was 2.02, with 4 CAUTI incidents noted throughout the community hospital. By the end of 2021, the CAUTI SIR was 0.813, with 2 CAUTI incidents. This was a 50% decrease despite the wave of the COVID-19 pandemic. **Discussion:** The multidisciplinary team was charged with CAUTI prevention using teamwork and evidence-based strategies. Our multidisciplinary approach included leadership buy-in, financial commitment for bladder scanners, daily patient assessment, and follow-up at interdisciplinary rounds. It also included collaboration with the nursing education department, sharing the bladder scanner protocol with team members and materials management to ensure that all supplies (external catheters, ultrasound gel, cleaning supplies) were readily available. Success was also attributed to nurse leaders who facilitated throughput discussions with the staff regarding the relevance of the project. As a result, we were able to decrease our SIR by 60%. **Conclusion & Recommendation:** Using multidisciplinary approach and collaboration proved to be effective in our CAUTI prevention efforts.

Keywords: CAUTI Prevention, Infection Control, Multidisciplinary, Urinary Tract Infections

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POSTER PRESENTATION

Integrative Review: Substance Use Screening and Treatment Referrals

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Abstract

Introduction: Substance use is a global and local problem resulting in significantly high rates of morbidity and mortality (Feuerstein-Simon et al., 2022). In New York City, overdose is the leading cause of preventable deaths (City of New York, 2022). The purpose of this integrative review is to analyze and critique evidence that addresses the substance use crisis. **Significance to Nursing:** Addressing substance use and abuse has the potential to increase awareness and decrease preventable hospitalizations and deaths related to substance misuse and abuse. Additionally, educating staff and engaging patients in treatment supports the reduction of stigma, increasing the likelihood of beginning and completing treatment. Finally, addressing social determinants of health is supported by identifying related issues and referring patients to available internal and external resources as needed. **Clinical Question:** In the adult primary care patient population, does implementation of the evidence-based substance use Single Item Screening Questionnaire (SISQ), compared to current practice of no screening, influence referral rates for brief substance use counseling by trained nursing staff in a period of 8-10 weeks? **Theoretical Framework:** The i-PARIHS translational science framework was used to support the evidence translation process. The i-PARIHS translational science framework includes the following concepts: context (systems), recipient (individuals or groups), innovation (the evidence-based intervention), and facilitation (the researcher or project manager) (Harvey et al., 2016). **Methodology:** Multiple electronic databases were accessed to review 15 peer-reviewed and evidence-based journal articles. Reviewed articles included in this integrative review were quantitative, qualitative, quasi-experimental, and quality improvement research. The Johns Hopkins evidence appraisal tool was used to critique the evidence. **Discussion and Data Analysis:** Varying methods of substance use screening and documentation were noted in the review, i.e., those found in practice settings, electronic health records (EHRs) and paper documentation, structured and unstructured EHR fields. Some problems were identified, e.g., use of outdated tools, and missed screening or referrals. Barriers to the sustainability of substance use screening and referrals to treatment include lack of funding, lack of time for training, and tools that involve long completion times. **Conclusions and Recommendations:** Research evidence support substance use screening and substance use treatment, including the utilization of brief intervention counseling. Utilizing a brief questionnaire is effective for use in busy workplace settings. The overall quality ratings based on the Johns Hopkins evidence appraisal tool show good to high quality. Other recommendations include a review of organizational healthcare policies related to substance use screening, equitable access to substance use and abuse treatment, and examining the efficacy of substance use treatments by professionally-trained staff.

***Keywords*:** Substance Use Screening, Substance Abuse, Brief Intervention Counseling

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