

Acknowledgements

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Abstract

Because of medical advances in treatment, the lifespan of patients with sickle cell disease (SCD) has extended well into adulthood. As a result, healthcare transition (HCT), the process of moving from pediatric to adult care, has emerged as an important developmental period for adolescents and young adults (AYAs) with SCD. Self-management is a transition readiness factor incorporated in many transition programs and is factored into multiple SCD care theories. As part of a larger project, this pilot study examined factors associated with transition readiness using the 10 domains of the TRxANSITION Scale: Type of Chronic Health Condition, Rx (Treatment and Medications), Adherence to Medication, Nutrition, Self-Management, Issues of Reproduction, Trade/School, Insurance, Ongoing Support, and New Health Care Providers. In an existing dataset of 29 African American AYAs with SCD, a cross-sectional descriptive design and regression analysis was used to determine significant transition factors. Of the 10 domains, Self-Management (67%) and Insurance (73%) accounted for the highest amount of variance within the Total Transition Score at a significance of $<.01$. Results support the importance of self-management in AYAs' transition readiness while also implicating targets for interventions to address this need. Due to the emphasis of self-care on the transition process, this project includes personal reflections regarding the transition from student nurse to new graduate nurse.

Introduction

During my summer practicum in nursing school, I worked as an extern in an outpatient infusion clinic. In addition to providing infusion therapy to a variety of chronic diseases, the clinic also served as the Sickle Cell Day Hospital, in which patients with sickle cell disease (SCD) were admitted to receive pain medication or hydration therapy. Prior to this job position, I had never encountered the SCD patient population. I was familiar with their symptoms and

disease pathology, but I wasn't exposed to their daily life experiences that were complicated by the disease. As I interacted with patients, many shared negative recollections of their adolescence and expressed nostalgia for their childhood. Because of these repeated accounts I asked myself: what is growing up with sickle cell disease like? In addition to asking my nurse preceptor about this issue, I looked at the current literature about the healthcare transition (HCT) from pediatric to adult care in patients with SCD. Eventually, I connected with a university expert that led many different types of research studies focused on SCD. Due to my interest in the transition process, I decided to pursue an honors research project regarding transition readiness for adolescents and young adults (AYAs). The purpose of this paper is to explore transition readiness factors and to share my own personal reflections on readiness for transition as a new graduate nurse.

Literature Review

Sickle cell disease (SCD) is a group of blood disorders characterized by the presence of abnormal hemoglobin S (Edwards et al., 2005). There are several different forms of SCD, but the presence of hemoglobin SS, commonly referred to as sickle cell anemia, is the most common and severe type of the disease (NIH, 2016). The abnormal hemoglobin causes red blood cells to change from a round shape to a sickle shape due to dehydration, infection, or periods of stress. As a result of sickling, the lifespan of red blood cells shorten, occlusions in blood vessels form, and tissue lacks adequate oxygen perfusion; over time, chronic hypoxia leads to acute manifestations of SCD such as vaso-occlusive crises, acute chest syndrome, aplastic crises, and pain crises (Hockenberry & Wilson, 2015). According to the Center of Disease Control, there are approximately 100,000 Americans living with SCD, and 1 out of 365 African American births will have a type of SCD (2015). Moreover, in a population estimate conducted in 2011, approximately between 2500 and 4999 individuals live with SCD in North Carolina (Hassell,

2011). In the 1970s, it was considered primarily a disease of childhood as the average life expectancy of SCD was younger than 20 years (Lanzkron, Carroll, Haywood, 2013). Currently, the average life expectancy extends into the mid to late 40s because of medical advancements that include increased newborn screening programs, penicillin prophylaxis, and pneumococcal vaccinations (Hamideh & Alvarez, 2013).

In chronic illness, the transition from pediatric care to adult care is vital to AYAs' quality and length of life. Healthcare transition (HCT) is defined as the series of processes that require a beginning, middle, and end stage in order to transfer an individual from pediatric care to adult care (Treadwell et al., 2011). Transition in SCD is particularly alarming due to the evidence of negative patient outcomes. In one study, researchers discovered the highest rate of acute care encounters and rehospitalizations in the SCD population occurred within young adults ages 18-31 years (Brousseau et al., 2010). Furthermore, additional research demonstrated the majority of AYAs deaths took place following the transfer to adult care, and the average time of death was approximately 2 years after transition (Quinn et al., 2010). These transition deaths can be attributed to pulmonary hypertension, renal insufficiency, or neurosensory impairments (van Beers et al., 2008). Without a clear transition program, abrupt change occurs resulting in poor patient and parent satisfaction (McPherson, Thaniel, & Minniti, 2009).

Along with the negative outcomes associated with HCT, concerns about the transition process are evident from adolescent, family, and provider perspectives. In a sample of pediatric and adult providers, the majority agreed with the necessity of a SCD transition program; however, 81% of the providers stated no involvement in the transition process (Telfair et al., 2004). Limited involvement of adult providers is worrisome due to the patients' and their families' apprehension of leaving their pediatric care team. In series of interviews, individuals

with SCD stated their transition was terrifying, and one participant shared, "...I don't trust nobody else with my health because they are the ones that been taking care of me since birth..." (Porter et al., 2014). Furthermore, lack of acknowledgement from adult providers regarding pain and general maltreatment were two of the main concerns from transitioning AYAs (Telfair, Myers, & Drezner, 1994).

Because of the critical role HCT has on patient outcomes, there has been much exploration upon methods to improve the process, and self-management has been identified as a key transition factor. Self-management is described as the wide variety of resources that an individual utilizes in order to increase the perception of the ability or the actual ability to manage SCD (Ballas, 2010; Matthie, Jenerette, & McMillan, 2015; Tanabe et al., 2010). The inclusion of self-management in multiple SCD theories acts as evidence to its importance. While a socioecological model establishes self-management as a modifiable variable that impacts health outcomes, self-management affects each component within biopsychosocial model (Mulchan et al., 2016; Crosby, Quinn, & Kalinyak, 2015). Moreover, the curriculum of transition programs consists of self-management exercises such as scheduling their own primary care appointments and gradually increasing responsibility to navigate the healthcare system (Speller-Brown et al., 2015; Andemariam et al., 2014).

In order to assess individual growth in the transition process, many transition programs measure transition readiness, which is characterized by the specific decisions and actions taken to increase self-management of adolescents and their family to initiate, continue, and complete the process (van Staa et al., 2011). While there are multiple transition readiness assessment tools that integrate self-management, there is no standard assessment for transition readiness (Porter et al., 2014; McPherson, Thaniel, & Minniti, 2009; Treadwell et al., 2016). In 2006, Dr. Maria

Ferris and Kristi Bickford founded the Successful Transition to Adulthood with Therapeutics (STARx) Program within the UNC Kidney Center. Along with developing and improving self-management skills in adolescents with chronic kidney disease (CKD), Dr. Ferris and her team of researchers created an instrument to measure transition readiness: the TRxANSITION Scale.

The TRxANSITION Scale provides a non-disease specific measure of transition readiness that verifies patient information in the medical record rather than relying on patient self-report in order to maintain objectivity (Ferris et al., 2012). Utilizing a 32 item questionnaire, the tool assessed ten transition factors: Type of chronic health condition, Medications (Rx), Adherence to medication, Nutrition, Self-Management, Issues of reproduction, Trade/school, Insurance, Ongoing support, and New Health Care Providers (See Appendix B). Because this scale relies on verifiable information available in the medical record, there is a lack of subjectivity, and many members of the healthcare team can easily administer the test.

The literature reveals one theoretical framework, the Theory of Self-care Management for Sickle Cell Disease (SCMSCD) that examined the relationships between vulnerability factors, self-care management resources, and health outcomes (Jenerette & Murdaugh, 2008). A variety of variables contribute to the vulnerability factors and self-care management resources. Age, income, education, and sickle cell crises per year comprise the vulnerability factors while assertiveness, communication skills, self-care actions, and self-efficacy are included in self-care management resources. SCMSCD proposes self-care resources positively mediate the relationship between vulnerability factors and health outcomes and vulnerability factors negatively affect health outcomes (Matthie, Jenerette, & McMillan, 2015).

Both the SCMSCD theory and the TRxANSITION Scale are closely related despite the disease-specific focus in SCMSCD theory. The SCMSCD theory describes self-care

management in SCD, and the TRxANSITION Scale details several factors that impact a pediatric patient's transition of any chronic disease to adult care. However, the SCMSCD theory supports the domains utilized the assessment tool. The Adherence domain measures how often a patient takes their medications, which would be characterized as self-care ability under the self-management resources in SCMSCD. Additionally, the Trade domain also matches with the vulnerability factor of unemployment. Self-management is the largest domain within the TRxANSITION Scale, and the questions align with many of the self-management resources stated in SCMSCD. Some notable exceptions that are included in the SCMSCD theory but not the TRxANSITION Scale are sickle cell crises per year, assertiveness, coping behaviors, and social support. Through analysis of these two evidence-based initiatives, it is clear that the TRxANSITION Scale is applicable to patients with SCD.

Pilot Study

Due to the emphasis in the literature on self-management as a transition readiness factor, I hypothesized the domain of Self-Management would be the highest contributor to the Total Transition Score within the TRxANSITION Scale. Utilizing the data gathered by the TRxANSITION Scale, I examined the data to identify and compare factors that affect transition success. The TRxANSITION Scale is a widely used transition measure in other chronic diseases, but there is little published evidence of its use in SCD. Due to the lack of SCD studies in the STARx program, and the absence of a standard tool in SCD transition readiness, this research study will benefit individuals with SCD and aid researchers as they continue to improve clinical practice guidelines.

Methods

This descriptive correlational study examines the factors used in a standardized HCT readiness measurement (TRxANSITION Scale) that attributed to the variance of the total transition scores of AYAs. The data in this study was gathered through a secondary analysis in which the parent study examined longitudinal HCT measurements from AYAs with a variety of chronic conditions.

Initially, I was expecting to receive longitudinal data, but the available scores were mostly cross-sectional observations. Upon further assessment of the data, it was clear the self-management scores of the sample were low relative to the other subdomains. I wondered if self-management as a variable impacted the total transition scores. To frame this question, I hypothesized the self-management scores attributed to more of the variance in the total transition scores compared to the other TRxANSITION Scale variables. Next, I consulted with the statistician of STARx research team to create an appropriate statistical model to test my hypothesis. While we examined the relationship between self-management, number of guardians at home, and the total transition score in the first statistical model proposed, we added the additional TRxANSITION Scale variables to create a better result comparison. However, at the statistician's counsel, certain domains of the TRxANSITION scale were removed as they had no impact on the outcome.

Setting

Scores were accrued through completion of the TRxANSITION Scale by AYAs seen at a tertiary medical center in the Southeastern USA from 2006 to 2015. The measure was administered by members of each patient's healthcare team.

Sample

The sample included 29 unique pediatric patients whose ages at time of the test administration ranged from 12 to 19 years. Transition measurement was conducted between 2008-2014 in this data set. The measure was given following a routine checkup or an inpatient hospitalization. Adolescents were excluded from the study if their legal guardians were not present to provide consent and complete the survey.

Study Variables

The following variables were recorded through the TRxANSITION scale: age, sex, race, number of guardians at home, type of current health insurance, primary diagnosis, and age of diagnosis. Age was calculated by subtracting the patient's time of test administration and date of birth. The TRxANSITION Scale assessed HCT readiness in child-focused clinics or self-management in adult-focused clinics. Unlike other tools, this 10-domain, provider-verified tool verifies medical knowledge rather than solely relying on self-report and maintains satisfactory validity and reliability. The scale measures 10 variables of transition factors: the Type of Chronic Health Condition, Rx (Medications), Adherence, Nutrition, Self-Management, Issues of reproduction, Trade/School, Insurance, Ongoing support, and New Health Care Providers. While some domains included several questions, a few only had one question. Each question is scored 1.0 (correct), 0.5 (non-specific), or 0 (does not know). To calculate the total transition score, sum of all the section totals were collected, and divided by the total amount of questions. The Total Transition Score ranges from 0 to 10. Increased transition scores indicate increased transition readiness.

Results

Sample Characteristics

The sample was comprised of thirty-one total observations among twenty-nine unique pediatric patients. Two pediatric patients recorded two longitudinal assessments and were included in the sample. Eighteen individuals (62%) had public insurance while ten (56%) had private, and one responded as self-pay. Sex was almost split even as fourteen (48%) identified as male and fifteen (52%) as female. All twenty-nine unique patients were African-American. Eleven (61%) claimed as having one guardian at home. Moreover, six individuals (21%) had two guardians, and one had three guardians. The remaining eleven (38%) did not disclose this information. Five individuals (17%) were not diagnosed at birth while the other twenty-five (86%) were.

Hypothesis Testing

Complete data results are found in Appendix A. Total transition scores ranged from 2.66 to 8.50 with a mean of 6.74. Average self-management domain scores were 0.340, and the next lowest domain score (0.427) was New Providers. The statistical model accounted for 96.6% of the total transition score variance. Semi-partial R-squared indicates that about 67% of the variance in total transition self-management scores explain score after accounting for other predictors. While the variable of insurance had the highest computed semi-partial R-squared (73%), self-management produced second highest semi-partial R squared value. The next three largest TRxANSITION scale domain semi-partial R squared value was New Healthcare Providers (22.1%), Adherence to medications (14.4%), and Ongoing Support (10.1%). The linear model and unadjusted R-squared are known to overestimate model goodness-of-fit, particularly in small samples. To avoid drawing inferences from an overfitted model, AIC, BIC, and the

adjusted R-squared statistic were used to conduct model selection. The remaining variables in this new model were Insurance, Self-management, Number of guardians, Age, and Ongoing support. The correlation between Self-Management scores and Total Transition Score was 0.658 while the Insurance and Total Transition score correlation was 0.660. The data suggests these measures of transition are not equal in their contributors to transition success ($F[14,5] = 10.14, p < .01$).

Discussion

The results support the inclusion of self-management improvement in transition readiness programs and implicate increased emphasis on these skills among AYAs (Speller-Brown et al., 2015; Andemariam et al., 2014). The high percent of attribution to the total transition score's variance contributes to the belief that self-management is a first line treatment for patients with SCD and must be addressed to increase transition success (Matthie et al., 2016). Moreover, the SCMSCD theory was supported through this pilot study as it proposes self-management resources positively affect health outcomes (Jenerette & Murdaugh, 2008). The TRxANSITION Scale's subdomain of Self-Management most relates to the concept of self-efficacy and self-care ability. The former measures the ability to achieve a desired health outcome (*Do you usually remember to take your medicines on your own?*) while the latter refers to performing behaviors that maintain or improve health status and quality of life (*Do you usually perform your medical procedures yourself?*). Although the statistical model states the subdomain of Insurance was the largest contributor to total transition score variance, the questions (*How can you get healthcare coverage for yourself as an adult?*) relates to the healthcare navigation skills, which is characterized as another self-management skill under the SCMSCD theory (Jenerette & Murdaugh, 2008). Both subdomains of Self-Management and Insurance have high degree of

modifiability because an individual can improve their self-perception and actual ability of these skills based on previous research (Tanabe et al., 2010; Crosby, Quinn, & Kalinyak, 2015; Matthie et al., 2015).

In addition, this research project's results are supported by personal accounts of patients with SCD. For example, a life review of middle-aged individuals revealed the self-management skill of assertiveness as it recalled as a trait needed to communicate needs with providers in the future. In the same study, they described the importance of identifying their personal self-care activities at an early age in order to transition successfully (Jenerette & Lauderdale, 2008).

AYAs also expressed the need to receive disease and transition information within early adolescences to usher healthcare navigation experience (Porter et al., 2014). Despite methods to increase self-management in transition programs, there are areas that are not addressed. A series of interviews recalled the challenge of balancing self-efficacy and care-seeking actions during late adolescence (Matthie et al., 2016). Although self-management can prevent complications of the disease, too much reinforcement of self-management may confuse patients with SCD to not utilize healthcare resources, which further puts the patients at risk for negative patient outcomes.

Because self-management scores were low compared to other transition factors, it is important to consider barriers that may have inhibited the participants' responses. According to the SCMSCD theory, social support is one element within self-management resources. Although a network of friends and family assists AYAs cope with their illness, navigating relationship dynamics can cause adverse outcomes on self-management and, ultimately, transition readiness. Individuals with SCD recall difficulty maintaining peer relationships and reported spending less time with friends due to disease complications (Matthie et al., 2016). In addition, AYAs desire to live a "normal" life, which prevents further discussion upon SCD within the community.

Therefore, there may be perceived and actual barriers to accessing support from peers (Mulchan et al., 2016). Moreover, while the SCMSCD theory suggests familial involvement increases self-management, there is unclear evidence on whether parental overprotection inhibits opportunities to improve self-efficacy (Jenerette & Lauderdale, 2008; Jenerette & Valrie, 2010).

Another contributor to poor self-management scores may be attributed to neurological complications present within the sample. Studies have indicated cerebrovascular accidents (CVAs) are present in approximately 10% of under AYAs under twenty years-old while silent cerebral infarcts (SCIs) occur at a rate of 17% between children ages six and sixteen (Pegelow et al., 2002). Even in SCIs, evidence reveals gaps in cognitive and academic performance: decreased reading skills, math skills, verbal IQ scores, and performance IQ scores (Wang et al., 2001). These deficits continue into the transition process and limit the ability to gain self-management skills, which increase the likelihood of unsuccessful transition (Abel et al., 2015).

Health-related stigma, or the extension of social judgment and disqualification based on illness, has been evident within the SCD population and threatens individuals' ability to self-manage (Weiss, Ramakrishna, & Somma, 2006). In a cross sectional study, 70% of AYAs stated perceiving moderate to high levels of stigma during their hospitalizations; moreover, the results implicated an inverse relationship between stigma and quality of life (Adeyemo et al., 2015). Individuals with SCD are at risk of receiving health-related stigma in the ED as both providers and nurses reveal high levels of negative perceptions on SCD compared to other illnesses (Shapiro et al., 1997; Freiermuth et al., 2014). Because the utilization of ED is the highest among transitioning AYAs, this age group is especially at risk for stigmatization (Brousseau et al., 2010). In addition to stigma influencing the decisions of healthcare team, AYAs reported

refusing to engage in self-care activities such as adherence to medications when they perceived stigma (Haywood et al., 2014).

Implications to Clinical Practice

Because SCD affects the whole spectrum of health within individuals, the inclusion of a diverse healthcare team must be utilized in the transition process. The Association of Pediatric Hematology/Oncology Nurses (APHON) and the American Society of Pediatric Hematology Oncology (ASPHO) recommend beginning formal transition process discussion at the age of 12 between the patient, parents, and providers in order to gradually integrate an adult model of care (Bryant, Porter, & Sobota, 2015). In addition to preliminary conversations, the American Journal of Hematology (AJH) calls for biannual assessments of patients' self-efficacy, quality of life, and attitudes to their transitions as well as creating an annual checklist of healthcare skills, social support, and independent living goals (Treadwell et al., 2011). At the time of transfer to adult care, DeBaun and Telfair (2012) found evaluating past, present, and potential health problems with the AYA and the new adult provider increases the familiarity of the AYA with the new system and decreases the unnecessary repetition of diagnostic tests, which in turn, decreases healthcare cost and personal frustration.

To increase self-management skills, novel interventions must be implemented to address the AYA population. In the past, the use of an educational CD-ROM game displayed improvements in knowledge and perceived self-care ability (Yoon & Godwin, 2007). However, the ubiquitous nature of smartphones and the Internet prompted development of an app called iManage (Crosby et al., 2016). Researchers found the prototype was rated as feasible and beneficial by AYA due to the catering to each individual's needs. Because the concept of self-management is broad, a single assessment or intervention is unlikely to apply to every patient.

Individuals who were interviewed described self-awareness and emotional support as a major player in their self-management practice (Tanabe et al., 2010). A literature review found that spirituality coping skills were associated with fewer hospital admissions; therefore, assessing the AYA's beliefs should be included in the healthcare team's considerations (Clayton-Jones & Haglund, 2016).

Upon review of AYAs with SCD, researchers identified transition as a concern that patients, their parents, and their siblings shared; as a result, researchers recommend utilizing the unique role of siblings by including them in assessments of transition readiness and giving them information in order to assist the AYA with SCD. (Porter et al., 2014). Another social-support centric intervention is the Stanford Chronic Disease Self-Management Program (CDSMP). This program utilizes a community setting in which participants interact together in order to learn more about their disease process; one study that followed this intervention found participants reported increased problem solving skills and action planning (Crosby et al., 2016).

Conclusion

The transition of AYAs with SCD from pediatric care into adult care proves to be challenging due to the barriers in self-management improvement. To the author's knowledge, this is the first study to utilize and to analyze the TRxANSITION Scale within an SCD-specific patient population. Recognizing transition readiness factors improves clinical outcomes and allows for individualized transition plans for AYAs and their families. Furthermore, the transition process has been described as a learning experience for AYAs, in which reflection on their disease process and life is often mandated (Labore et al., 2015). To improve readiness for transition, the healthcare team must recognize self-management as a method to gain control over the patient's illness and initiate interventions to address self-management.

Self-Reflection Introduction

This section of the paper describes my own personal reflections regarding the research experience, nursing school, and the transition from a student to a new graduate nurse. Initially, I intended to reflect solely on my experience in working with the STARx research team, but after reading the personal accounts of AYAs with SCD, my interest extended into a broader sense of transition. Journaling and self-reflection have been activities that individuals shared as being helpful during the transition process. Through these reflections and recommendations, I hope my experiences can be helpful to fellow nursing students, future nursing students, and those in the nursing school with the power to influence or change undergraduate curriculum.

Research Experience and Nursing Education

I'll be honest: I knew almost nothing about nursing research at the beginning of nursing school. My image of research included watching test tubes in a lab and examining microbes under a microscope. It was quite the surprise when our professor instructed us to read evidence-based practice articles within my first semester of nursing school. I thought these types of assignments would be periodic, but they became staples of the curriculum. As I pursued this honors research project, I began to appreciate the purpose of research, and I had the opportunity to utilize some of the skills I learned during nursing school.

For those unfamiliar with research or questioning its importance, here's an example that was shared in a N588 Nursing Leadership class. Suppose you worked in an oncology floor. You're used to taking increased precautions needed for chemotherapy administration. You don't think much of it until one of your nursing assistants cleans up emesis from a patient without the

standard chemotherapy precautions. Because NAs aren't as trained as heavily in safety precautions as nurses, you wonder, "How much workplace exposure to chemotherapy agents is present in nursing assistants?" After conducting some of your own research, you bring it up to the nurse manager hoping to receive a simple response. However when you leave, surprise! You're now assigned to take part of a QI project on the unit. Over the next couple of months, you review the literature. You learn a lot, yet there's another piece missing: collaboration with a team. You attend meetings with representatives of other professions, and you slowly getting more and more passionate about the subject. One of the members recognizes your work, and asks you to be part of research study.

As you can see in the example, research can range from unit improvements to national initiatives. Research is vital to bedside nurses as its purpose improves and forms clinical practices. By bringing up clinical questions and staying informed with current practice guidelines, nurses can advocate effectively. The foundation of nursing research is critical to all types of nursing: intellectual curiosity and the drive to improve practice. The opportunity to conduct my own research clarified the importance of research and made me consider advancing into the research field. The personal account above displays how research should be explained to nursing students in order to capture its practical applications.

One aspect of nursing research I've come to appreciate is the importance of interdisciplinary teamwork. The STARx research team is composed of a variety of health professions: physicians, nurses, statisticians, psychologists, and public health. Even within these professions, there was a wide range of experience. While some have been working together for a long time, a significant amount was current students, and some of the most active were undergraduates. The diversity within this research team allowed for multiple perspectives to be

considered. In addition, expertise was often supplied when there was a gap in the project. Often times discussions spurred improvements in the methodology or led to research questions that could fuel another study.

To further explore interprofessional collaboration, I worked closely with a biostatistician PhD student. Due to my lack of knowledge regarding measuring or analyzing data, I met with him to review my own observations throughout the project. I felt that I learned the most when we discussed the project using the data. Instead of him telling me what I should be measuring, he asked me many questions to further my thinking. I believe this basis of understanding the basics of statistics is critical to my development as a possible researcher in the future. Although each discipline has their own strengths, members of a team cannot be effective if there is not a mutual understanding of the material.

As I went through this experience, I began to reflect on how nursing research opportunities differed from other health professions. It is challenging for a prospective nursing student to get involved in research. There's not much room available in course scheduling to take a research class and fulfill the prerequisites for nursing school admission. While biology or public health undergraduates often are encouraged to join a research team due to major requirements or employment opportunities there is little short-term benefit for nursing students. Compared to other disciplines, the nursing major doesn't integrate research until the graduate level.

Recommendations

The following are several recommendations I have for peers and course instructors due to my experiences throughout this honors research project. In addition to improving research skills, I believe these initiatives are critical for the development of a new graduate nurse.

Recognize quality improvement projects in clinicals

To add more practical applications of research in nursing school, I believe students should be cognizant of quality improvement projects during their clinical shifts. While it would be challenging to notice these initiatives during the first couple of rotations, a senior completing their capstone should be aware of the evidence-based practice trends in the unit.

Conduct honors research project

Ignoring my own bias, but I believe conducting your own honors research project is the best way to be immersed into the research field as an undergraduate. Even if you are curious about research, I highly recommend pursuing this project as I learned so many things from this experience.

Integration of interdisciplinary teamwork in classes or simulations

Because teamwork is crucial for any future job, collaborating and engaging students of other professions should be integrated in nursing school education. We're taught only within the nursing perspective, but not the experiences of physicians, social workers, physical therapists, and others. Many students expressed fear and uncertainty when they first interacted with professions especially with non-nursing professions. Senior capstone clinicals allow for increased interdisciplinary communication, but I wish had more practice beforehand. Through classes or simulations, we can learn techniques such as SBAR and CUS to facilitate communication that can navigate future difficult situations.

Increased opportunities for undergraduate research

There are scarce opportunities for undergraduate nursing student immersion into the research field. Both on the general campus and within the nursing school, there aren't enough resources for a student to join a research team or to pursue a clinical question. Although research

is part of the curriculum, it is difficult to understand the practical work nurse researchers conduct as we cannot collaborate with interdisciplinary research teams during class. I believe the nursing school should continue investing in programs such as the Hillman Scholar Programs and usher new research initiatives to involve undergraduate nursing students.

New Graduate Transition

The topic of transitioning into a new role has been on my mind lately. Prior to this year, I hadn't thought about transitioning much at all because I've been so focused on accomplishing one task to the next. Even when I was first accepted into Carolina as high school senior, I didn't think about this process. Yet this honors research project made me appreciate the processes within transition. Transition isn't made up of concrete stages, but instead the progression of perceptions, decisions, and actions. Throughout nursing school, we're told about the reality of nurse burnout or new graduate disillusionment, and actions to avoid these outcomes. It's important to emphasize these are learned skills. While it is simple to be cognizant about the next step, the challenge is to anticipate problems and prepare solutions for them. In order to keep myself mindful about this change from student to nurse, I wanted to create a similar assessment tool like the TRxANSITION Scale to measure my own ability to transition. By complying components I'd be remiss to ignore, conceptually, I created the REMISS Scale.

The REMISS Scale includes the following subdomains: Relationships, Evidence-Based Practice, Mindfulness, Independence/Initiative, Self-Care, and Spirituality. I intend to utilize this assessment tool every other week during my first year of employment. As I progress from orientation to the next couple of months, I expect my transition readiness to increase similar to AYAs with SCD increasing their own readiness during a transition program. Unlike the

TRxANSITION Scale, the measurements are completely subjective, and there is no real score - just reflections.

Relationships

Relationships are at the core of nursing. From partnering with patients to managing professional relationships, the ability to manage relationships is key for successful nurses especially new graduates. Thanks to my experience in clinical shifts and research, I've seen how positive work relationships foster collaboration and ultimately, improve patient safety. At the same time, negative relationships with peers or nurse managers can result in conflict, inhibited teamwork, and lateral violence. It is crucial for new graduates to be aware of their surrounding workplace relationships. In the my future nursing research, I intend to maintain relationships with peers and nurse managers as well as to take opportunities to positively affect team dynamics and conflict.

Evidence-Based Practice

This subdomain refers to staying updated on current standards of nursing practice. While I don't expect to search databases every weekend, I want to keep myself informed about the latest trends in nursing or recent nursing related news. I began this research project due to my own intellectual curiosity. This value is important to maintain as the ability to question nursing interventions is the basis of improving patient care. Through constant inquiries on my own practice or observations, I can be a vital asset to quality improvement projects. To improve this transition factor, I will continue to question nursing standards, stay connected to professional organizations, and eventually, participate in quality improvement projects.

Mindfulness

One of my main takeaways from reviewing self-management literature was the need for mindfulness. In my own opinion, it is very easy to embrace mindlessness. We're accustomed to multitasking such as reading a book while exercising or talking on the phone while driving. This same phenomenon can be attributed in nursing practice, in which some nurses don't question nursing guidelines or fail to consider the circumstances of patients. A subset of mindfulness is self-awareness. Many participants with SCD that were interviewed stated the importance of self-awareness within their daily lives. Through journaling or meditating, patients reported increased confidence, self-management ability, and more positive outcomes. I've noticed the reflection activities throughout nursing school have helped me grow as they allow us to recognize our own biases and experiences. Because I want to gain perspective through this transition process, I intend to journal at least once a week.

Independence/Initiative

Perhaps the most difficult transition skill for a new graduate nurse to gain is independence. Similar to nursing school, the orientation to a new job requires supervision from a nurse preceptor. While some individuals may crave freedom from constant evaluation, some also fear independence due to lack of confidence. This decreased self-perception may inhibit new graduates to initiate important nursing interventions such as advocacy. Moreover, lack of confidence causes new graduates to be dependent on their preceptor. As I begin my job, I will take steps to increase my confidence, which will in turn facilitate independence and initiative taking in the future.

Self-Care

Whether it's managing stress from school assignments or work, self-care must be integrated to anyone's routine. Work related stress may be attributed to new situations, lack of experience, or managing large patient loads. Due to the important role nurses play onto patient care, nurses are at risk for handling the associated stressors. Through my experience with working with SCD patients, often times a main barrier to self-care is not recognizing the signs and symptoms of stress. In fact, often times prophylactic self-care is needed to avoid an explosion of stress. In addition to being cognizant of this issue, I plan to maintain my current hobbies to self-care, and I will try to find new methods to manage job stress during my orientation.

Spirituality

Every individual has his or her own definition of spirituality, and mine is having a sense of purpose in the greater context of humanity. When I first came into nursing school, my vision was to help people as much as possible, and through these experiences within the past couple of years, I embolden and refined this vision. Working with a passionate research team and reading about the challenging facing AYAs with SCD reinforced why I wanted to become a nurse. I recognize there will be challenges in the future in which I won't enjoy my work or even resent pursuing this field. Therefore, the need to be spiritual throughout the next couple of years is critical for my development. Similar to the journaling activity, I will create a positive reminders box. Each time an interaction, patient, or experience reinforces or reminds me of why I wanted to become a nurse, I will document it and place it into the box. Then, whenever I have doubts about my nursing practice, I can revisit the box to remember my purpose.

Conclusion

Transition is an ongoing process that everyone will experience in their lifetime. Through my research in SCD transition, I gained more insight and perspective regarding my own transition as a new graduate nurse. Because the first couple of years following graduate is critical for our occupational development, I created the REMISS scale, and I recommend peers to be cognizant of these transition factors. The REMISS scale can assist new graduates as they face unfamiliar challenges. Nursing burnout not only affects us, but it negatively impacts our workplace environment and our patients.

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