Self-Efficacy: Nurses’ Perceptions of Caring for Patients Living with Diabetes

Victoria Yaros McCue, PhD, MSN, RN, CPN

ABSTRACT

Background: Diabetes is an epidemic that affects over 415 million people worldwide. In the United States, the number of people diagnosed with diabetes is projected to triple to over 60 million by 2060. With this surge, the number of hospitalizations across the country have significantly increased. Direct care nurses play a vital role in the management of patients living with diabetes. The purpose of this research study was to explore and describe medical-surgical nurses’ perceptions of self-efficacy related to caring for patients living with diabetes. This study's guiding research question was: What are nurses’ perceptions on the influences that impact self-efficacy in caring for patients living with diabetes on a medical-surgical unit?

Methods: Bandura’s Self-Efficacy Theory provided the conceptual framework of this study and guided the development of the interview questions and the analysis of the data. A qualitative descriptive design using a constant comparative analysis method was utilized. A purposive, convenience sampling plan was used to recruit eight medical-surgical nurses from two acute care hospitals in the Southeastern United States.

Results: Four major themes were revealed in this study: (a) educational preparation, (b) biases towards patients, (c) current clinical environment, and (d) patients’ behaviors affect nurses’ emotions. Additionally, six subthemes were identified.

Discussion: This study's results may inform targeted interventions that promote improved self-efficacy among medical-surgical nurses resulting in optimal patient outcomes for people living with diabetes.

Keywords: Diabetes, medical-surgical nursing, patients living with diabetes, inpatient diabetes care, self-efficacy

INTRODUCTION

Diabetes constitutes a growing global public health crisis affecting 415 million people worldwide and is one of the significant causes of disease morbidity and mortality in the United States (Centers for Disease Control and Prevention [CDC], 2019; Rodriguez et al., 2019). Roughly 30 million Americans have diabetes, and the number is expected to soar as approximately 84 million American adults, more than 1 out of 3, have prediabetes, and 90% are not even aware of it (CDC, 2019). By 2060, the number of adults in the United States with diabetes is projected to nearly triple to 60.6 million (Lin et al., 2018).

Direct care nurses are essential in managing patients living with diabetes and must be competent to provide optimal diabetes care (Alotaibi et al., 2016; Carey et al., 2018; Mays, 2015; Modic et al., 2014; Silva-Paraizo et al., 2018). Inadequate knowledge of trends in diabetes management can affect the quality of care hospitalized patients with diabetes receive, resulting in longer lengths of stay and increased readmission rates (Daly et al., 2018). Moreover, this population of patients is at risk of serious complications such as infections, pressure ulcers, falls, and harmful or even deadly hypoglycemia or hyperglycemia fluctuations (Carey et al., 2018). Because of the growing number of
hospitalized patients living with diabetes, direct care nurses must be fully competent to care for this population (Alotaibi et al., 2016; Funnell & Freehill, 2018; Lange & Pearce, 2017; Young, 2011).

Nurses’ Acquisition of Diabetes Knowledge

Alotalbi et al. (2018) purported that knowledge acquisition was perceived by nurses to be impacted by the lack of support in current diabetes education. The competency of newly licensed registered nurses should include applying knowledge and skills acquired in the student role. Similarly, the ongoing competency of registered nurses in all clinical settings must be ensured and documented. The complexity of caring for the patient living with diabetes is related to new medications, treatments, and continually evolving therapies (Funnell & Freehill, 2018; Smith et al., 2019; Stewart, 2019). Nurses from all settings and levels of experience must keep up to date with new guidelines for hospitalized patients living with diabetes (Daly et al., 2018; Funnell & Freehill, 2018; Smith et al., 2019).

Suboptimal Diabetes Care

The self-management of any chronic disease can present challenges for patients and their families. People living with diabetes depend on registered nurses and other healthcare providers to be knowledgeable and confident to provide optimal care. Unfortunately, patients with diabetes are not consistently getting the level of care they need (Alotaibi et al., 2017; Molayagholi et al., 2019; Pichardo-Lowden et al., 2017; Rayman, 2015).

Suboptimal care is a direct result of nurses’ lack of knowledge and confidence in diabetes management (Alotaibi et al., 2016, 2018; James et al., 2016; Lange & Pearce, 2017; Modic et al., 2014; Molayagholi et al., 2019; Pichardo-Lowden et al., 2017; Yacoub et al., 2014). Nurses’ lack of knowledge and confidence in diabetes management is not a new phenomenon and is supported in the literature (Agarwal et al., 2014; Cardwell et al., 2016; Hollis et al., 2014; Silva-Paraito et al., 2018; Rushforth et al., 2016). Nonetheless, there is a scarcity of literature that explores and describes the perceptions of influences that impact diabetes management through the lens of medical surgical direct care nurses.

Self-Efficacy

The concept of self-efficacy was derived from the psychological research of Bandura (1977). Bandura (1977) defined self-efficacy as an individual’s perception of their capabilities and performance levels. According to Bandura (1977), self-efficacy is the most significant construct in predicting behavior change. Self-efficacy affects how a person trusts their own ability to accomplish a task. Mohebi et al. (2013) discovered a direct link between self-efficacy and self-care. Nurses need to understand their self-efficacy regarding their ability to provide optimal care to patients (Hsu & Chen, 2019).

Self-efficacy and Nursing

A high level of self-efficacy correlates with professional autonomy and the ability to overcome difficult situations with a sense of empowerment (Soudagar et al., 2015). Self-efficacy in nursing has been analyzed in relation to topics such as cancer, chronic illness, education, and cultural competence (Robb, 2012; Voskuil & Robbins, 2015). The lack of diabetes management knowledge correlates with nurses’ perception or confidence in their ability to provide optimal diabetes care (Lange & Pearce, 2017). Lange and Pearce (2017) found a discrepancy between perceived and actual knowledge among nurses related to diabetes knowledge and skills. Though nurses believed they knew a great deal more about diabetes management, the knowledge measurement showed significant deficiencies (Lange & Pearce, 2017). Similarly, Kobo et al. (2019) found school nurses’ perception of diabetes knowledge was higher than actual diabetes knowledge. Conversely, Yacoub et al. (2014) discovered a positive correlation between perceived knowledge and actual diabetes management knowledge among nurses. However, both perceived and actual knowledge of diabetes management were found to be deficient (Yacoub et al., 2014).

Study Purpose

Understanding the perceptions that affect nurses’ self-efficacy is vital in providing competent care (Alavi, 2014). The purpose of this study was to explore and describe medical-surgical nurses’ perception of self-efficacy related to caring for patients living with diabetes. The literature has demonstrated that direct care nurses lack the knowledge and confidence to adequately care for patients living with diabetes.

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METHODS

Design & Setting

A qualitative description using a constant comparative analysis method, as described by Strauss and Corbin (1990), was utilized to collect medical-surgical nurses’ perceptions of the influences that affect their self-efficacy while caring for patients living with diabetes. The setting for the study was two acute care hospitals in the Southeastern United States. The hospitals are not-for-profit, serve the community, and provide numerous services including caring for patients living with diabetes. Participants were recruited from a total of six medical-surgical units, three from each hospital. Data were collected via a Zoom platform.

Sampling Plan

Purposive criterion-i (inclusion) and convenience sampling allowed the Principal Investigator (PI) to explore the perceptions of medical-surgical nurses intentionally. Additionally, employing a convenience strategy strengthened the sampling plan.

Eligibility Criteria

Eligible participants were direct care nurses who worked at least 50% of their time in direct patient care at one of the hospitals where the study took place. Medical-surgical nurses on three inpatient medical-surgical units from each of the hospitals were invited to participate. Medical-surgical units have a high volume of patients living with diabetes. Nurses employed full-time, part-time, and per diem status met inclusion criteria.

Recruitment

Recruitment was a three-step process that first included identifying potential participants, contacting or informing them of the study, and finally obtaining consent to participate in the study (Preston et al., 2016). Recruitment flyers were posted in the employee break rooms on each of the units stating the purpose of the study, design of the study, and the PI contact information. Additionally, the PI used a scripted announcement and verbally announced the study’s purpose, design, and contact information at various hospital meetings. Finally, the PI emailed the recruitment flyer announcing the study and inviting participation.

Theoretical Framework

This research study utilized Bandura’s Self-Efficacy Theory as a framework to explore and describe nurses’ perceptions of influences that impact their self-efficacy in caring for patients living with diabetes. The development of the study’s interview questions, an iterative series of semi-structured, open-ended questions, were based on Bandura’s theoretical framework for self-efficacy (see Table 1). Moreover, Bandura’s theory served as a foundation in the descriptive qualitative data analysis by identifying relevant and related concepts, patterns, and themes.

Protection of Human Subjects

This study was approved by the University’s Institutional Review Board (IRB) where the PI was a student and the healthcare organization’s IRB where the study took place. Participation in this study was entirely voluntary and confidential. Data were collected anonymously; no personal identifying information was requested on the demographic survey. The PI only referred to the participant using a pseudonym selected by the participant.

Data Collection

The current COVID-19 pandemic has changed the way the United States conducts business. Social distancing is one way to mitigate the spread of COVID-19. To protect the safety of potential participants and proceed with the study, face-to-face interviews or Zoom interviews were offered. All participants opted for the Zoom platform. Data were collected over three weeks, from September 28, 2020, to October 16, 2020. The informed consent was reviewed in detail, allowing the participants to ask questions.
Interview Questions

<table>
<thead>
<tr>
<th>Bandura’s Self-Efficacy Sources</th>
<th>Interview Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Outcomes</td>
<td>1. Describe your past experiences caring for patients living with diabetes?</td>
</tr>
<tr>
<td></td>
<td>2. Describe how your nursing education prepared you for caring for patients living with diabetes?</td>
</tr>
<tr>
<td>(Possible follow-up questions):</td>
<td>♦ Why is it difficult to care for this population? Elaborate on the barriers.</td>
</tr>
<tr>
<td></td>
<td>♦ Why do nurses not have the knowledge and/or confidence to care for this population?</td>
</tr>
<tr>
<td></td>
<td>♦ Does confidence in caring for patients living with diabetes come from the number of years working as a med-surg nurse?</td>
</tr>
<tr>
<td>Verbal Persuasion</td>
<td>3. How are you supported on your unit in caring for patients with diabetes?</td>
</tr>
<tr>
<td>Vicarious Experiences</td>
<td>4. Who are the role models in delivering optimal diabetes care on your unit? (Possible follow-up questions):</td>
</tr>
<tr>
<td></td>
<td>♦ Have you learned from them? Do they make you feel confident?</td>
</tr>
<tr>
<td></td>
<td>♦ If so, how and what have you learned?</td>
</tr>
<tr>
<td>Physiological Feedback</td>
<td>5. Describe how you feel when caring for patients with diabetes? (Possible follow-up questions):</td>
</tr>
<tr>
<td></td>
<td>♦ Do you feel nervous?</td>
</tr>
</tbody>
</table>

Data Analysis

The data analysis process was well-defined (see Figure 1). The PI coded each interview manually during the open coding analysis phase once member checking was finalized. Concurrently, the transcripts from each of the interviews were uploaded to NVivo 12 software program. Each of the interviews were coded utilizing the NVivo 12 program and then compared to the manual coding. Moreover, field notes were reviewed for commonalities that could reflect codes. Verbatim quotations were coded with terms close to what the participants said. Direct quotes were utilized to reveal the exact statements and perceptions of the participants. The PI was able to remain consistent in highlighting key codes that described the participants’ perceptions of the influences that impact caring for patients living with diabetes.

In the next phase of axial coding, the PI made connections among the similarities from the open coding analysis. Additionally, the application of word-counts in NVivo 12 was utilized to ensure no codes or categories were missed. NVivo 12 added value in organizing the data. However, NVivo 12 is a tool used to facilitate the development of codes, but the program does not analyze the codes for the development of themes.
Finally, the PI employed selective coding analysis to identify and choose the core categories by analytically relating them to other categories. During this process, the PI reviewed open and axial coding analysis to ensure all possible codes and categories were revealed.

**Trustworthiness of Study**

The rigor or trustworthiness of a study refers to the degree of confidence in the data, interpretation, and methods utilized to guarantee the quality of the study (Polit & Beck, 2017). Criteria for shaping the trustworthiness of qualitative research were introduced by Lincoln and Guba (1985), replacing terminologies such as rigor, reliability, validity, and generalizability with credibility, dependability, and confirmability. The PI increased the credibility of the research study by employing the strategy of member checking. Member checking involved the PI returning the verbatim transcript to the participants to review and verify for accuracy. Method triangulation involves utilizing various methods of data collection on the inquiry under investigation (Polit & Beck, 2017). Multiple data collection methods were used by the PI, which included interviews via Zoom, audio recordings of the interviews, and field notes taken during the interviews. Dependability in qualitative research refers to data reliability over time and different conditions (Ellis, 2019). The PI provided a detailed outline and explanation of the proposed study design, setting, sampling plan, implementation, data collection, and data analysis. The PI ensured the dependability of the study by describing the changes within the setting of the study and how this might have influenced data collection (Ellis, 2018). Confirmability is the capacity to control research bias and maintain objectivity in a research study (Polit & Beck, 2017). The PI ensured confirmability by providing a trajectory of how the data was collected and what interpretations were made. Furthermore, bracketing is the process of identifying and mitigating personal or professional experiences, biases, and preconceived notions about the research topic (Polit & Beck, 2017). Several months prior to receiving IRB approval, the PI started a reflexive journal. The PI continued the reflexive journal throughout the data collection, data analysis, and conclusion of the study.
RESULTS

Demographic Data of Participants

Data saturation was reached with a final sample size of eight participants as perceptions of the medical-surgical nurses were consistently similar, and no new information was attained (Polit & Beck, 2017). Demographic data were collected (see Table 2). Overall, the nurses who participated in the study were a heterogeneous group.

### Table 2

Demographic Information of Participants (N=8)

<table>
<thead>
<tr>
<th>Demographic questions</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 - 30 years old</td>
<td>3</td>
<td>38%</td>
</tr>
<tr>
<td>31 - 40 years old</td>
<td>1</td>
<td>13%</td>
</tr>
<tr>
<td>41 - 50 years old</td>
<td>4</td>
<td>50%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>8</td>
<td>100%</td>
</tr>
<tr>
<td>Years of experience as a registered nurse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 3 years</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>4 - 10 years</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>11 - 20 years</td>
<td>3</td>
<td>38%</td>
</tr>
<tr>
<td>21+ years</td>
<td>1</td>
<td>13%</td>
</tr>
<tr>
<td>Years of experience working on a medical-surgical unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 3 years</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>4 - 10 years</td>
<td>3</td>
<td>38%</td>
</tr>
<tr>
<td>11 - 20 years</td>
<td>3</td>
<td>38%</td>
</tr>
<tr>
<td>Highest educational degree obtained</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADN</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>BSN</td>
<td>4</td>
<td>50%</td>
</tr>
<tr>
<td>MSN (Family Nurse Practitioner)</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>Certification in medical-surgical nursing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>75%</td>
</tr>
<tr>
<td>Specialized training in diabetes management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>100%</td>
</tr>
</tbody>
</table>

Themes

Four major themes emerged from the participants in this study. Within the four major themes, six subthemes were revealed. The four major themes that encompassed medical-surgical nurses’ perceptions on the influences that affect self-efficacy in caring for patients living with diabetes were as follows: (a) educational preparation, (b) biases towards patients, (c) current clinical environment, and (d) patients’ behavior...
affect nurses’ emotions. The six subthemes identified were: (a) hands-on experience, (b) nursing curriculum, (c) patient knowledge gap, (d) patient compliance, (e) valuing organizational support, and (f) increasing demands. A summary of the major themes and subthemes was constructed (see Table 3).

**Theme One: Educational Preparation**

Preparing nursing students in today’s complex healthcare system is not an easy undertaking. All eight participants described some level of insufficient preparation in their undergraduate nursing programs. Maria described being a newly graduate nurse and “lacking the confidence” she needed to care for patients living with diabetes. Similarly, Heather conveyed, “there is no way out of [nursing] school that I could say I could have worked confidently on a diabetic floor.” The deficiency of confidence as a newly graduate registered nurse echoed with Molly as she explained, “my confidence seemed to get better as time went on.”

In discussing their perceptions about the nursing curriculum and their experiences in nursing schools, participants expressed a scarcity of hands-on training and didactics that were too basic and general. As Heather explained, “they give you the basics, but until you walk it, live it, see it, and do it…there’s so much more to it than what they teach you in nursing school.” Additionally, most participants recommended that more clinical hours caring for patients living with diabetes would have prepared them to care for this population as a new graduate registered nurse. Hands-on experience and nursing curriculum were two subthemes that emerged from educational preparation.

**Hands-on Experience**

Clinical hours for nursing students are vital in preparing them to experience real-world scenarios in the healthcare setting (Jamshidi et al., 2016). However, most participants expressed that clinical time was insufficient, especially with patients living with diabetes. Maria felt she did not get anything out of her clinical hours surrounding diabetes management, and it was not until they started working on a medical-surgical unit that they got the hands-on experience needed to be a competent nurse. As Krystal explained and further validated,

> When I went to clinicals, we had patients who were diabetic, but there is a different mentality from doing clinicals and working in the field because right from [the beginning] you go, and you help other nurses working…as a clinical student you just kind of help and you leave and forget about it…it doesn’t stick.

Most of the participants conveyed that the dearth of clinical experience related to diabetes management during nursing school and learning for them did not occur until they had hands-on experience working with this population. As Jessie shared, “I think I learned most of my [nursing] practice hands-on…one thing is the book, but another thing is the real-life scenarios that we encounter every day.”

<table>
<thead>
<tr>
<th>Themes</th>
<th>Subthemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Educational preparation</td>
<td>1a. Hands-on experience</td>
</tr>
<tr>
<td>1b. Nursing curriculum</td>
<td></td>
</tr>
<tr>
<td>2. Biases towards patients</td>
<td>2a. Patient knowledge gap</td>
</tr>
<tr>
<td>2b. Patient compliance</td>
<td></td>
</tr>
<tr>
<td>3. Current clinical environment</td>
<td>3a. Valuing organizational support</td>
</tr>
<tr>
<td>3b. Increasing demands</td>
<td></td>
</tr>
<tr>
<td>4. Patients’ behaviors affect nurses’ emotions</td>
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**Nursing Curriculum**

Several participants expressed how it was not until they started working as a nurse that they realized every patient with diabetes is different and the other aspects to consider when caring for them. All participants conveyed that they felt the education they received in nursing school was too basic and deficient in preparing them to care for this population. Participants, such as Molly, felt they did not get the “big picture” regarding diabetes management, resulting from a lack of educational preparation. The pathophysiology of diabetes is a complex undertaking, and one participant described a lack of educational preparation. Jane proposed “nursing schools should focus on pathophysiology of diabetes, and not just the basics.” Jane further explained,

> I’ve seen nursing students, they are on the floor...when we talk about what causes diabetes, where it comes from, they are not clear where it is coming from, and if you are a nurse, you must know where everything comes from, you have to understand the whole picture of diabetes.

Furthermore, Sally shared what they learned in their undergraduate program was inadequate and left her missing the “tools” she needed to be a confident nurse. As Sally described,

> In nursing school we had the basics and not enough application...the [education provided did not] give you enough tools to take care of this population...it is not the same when you went to school [compared to] when you have to face this kind of population.

The absence of “tools” that the participants spoke of also included their weakness in problem-solving skills. All eight participants described insufficient preparation surrounding diabetes management in their nursing courses.

**Theme Two: Biases towards Patients**

From their experiences caring for patients living with diabetes, the participants communicated strong viewpoints of patients’ lack of education and noncompliance. Molly asserted “that some patients do want to learn” and described a situation where the patient did not know anything about diabetes and had been living with the disease for some time. Insufficient knowledge and noncompliance were communicated as negative biases that hindered their ability to care for this population. Bias denotes the attitudes or stereotypes that alter our understanding, actions, and judgments in a conscious or unconscious manner (Penzias, 2016). Unconscious attitudes that trigger unintentional discriminatory behavior are defined as implicit bias (Narayan, 2019). Alternatively, explicit bias refers to the attitudes and beliefs individuals have about a person or group on a conscious level (Salles et al., 2019). As Sally communicated,

> In terms of the patient, they’re not compliant...so we get repetitive patients. They are losing their toes, so those non-compliant people keep coming back [and] I know sometimes our education doesn’t work...but as nurses, we do our best...[talking about a patient] and sometimes we nurses are like okay, if he doesn't care what we are doing.

Participants conveyed both implicit and explicit biases directed at this population. Patient knowledge gap and patient compliance were two subthemes that emerged from the participants' biases regarding patients living with diabetes.

**Patient Knowledge Gap**

When people living with diabetes are not knowledgeable about their disease, their well-being is in jeopardy. All participants described how patients living with diabetes seem to lack knowledge surrounding diabetes self-care. Jane elaborated on her perceptions and discussed that

> The level of education of the patient makes it difficult to care for this population...because the nurse is well prepared to educate the patient but if the patient does not have enough or adequate level of education about diabetes, you know, they will not follow our recommendations or our education.

In agreement, Maria shared that “despite her efforts to teach, most of this population does not listen and does not want to learn.” The same disappointment seemed to resonate with Krystal as she explained, as they [patients with diabetes] leave the hospital, she sees them come back, and they are still not educated about their disease.”

Several participants described possible barriers that people with diabetes have, such as lack of resources in the community, language barriers, culture barriers, financial limitations, low health literacy, and age. Jessie felt that elderly patients
know they have diabetes, but they are “not knowledgeable” in the sense that they do not know how to eat properly and make wise choices. Moreover, all participants expressed frustration that a patient who is not knowledgeable makes their job harder. Heather portrayed her frustration: “they don’t comprehend what we are teaching...you can lecture them over and over then the family member brings them five snicker bars and you tell them, you can't eat that.”

Patient Compliance

The participants’ frustrations were evident as they described the majority of patients admitted to the hospital and their medical-surgical units as non-compliant when it comes to diabetes self-care. All participants communicated that patients who were unable to control or maintain blood glucose levels within a normal range adversely influenced how they cared for this population. Molly described how some patients try to eat correctly, but a scarcity of education and resources may perhaps be what obstructs them from being compliant. Nonetheless, participants displayed biases surrounding noncompliant patients. Maria generalized patients living with diabetes as a “common thing to see, [as] we call them frequent fliers...they always come in with a lot of issues with their blood sugar high...and it seems to me it has just gotten progressively worse.” Maria further explained that “these patients” do not change their lifestyle as far as what they are eating. The re-occurrence of patients living with diabetes returning to the hospital was a negative perception and appeared to echo with other participants.

Jones-Burkes (2020) highlighted the correlation between implicit bias and healthcare disparities. The participants felt strongly about their experiences caring for patients with diabetes. As Jessie shared why it was so difficult to care for this population, she said,

From what I do see, a lot of them are non-compliant; in my experience...sometimes you explain to them...you are on a diabetic diet, you can only have this, and you know at home they eat whatever they want.

Overwhelmingly, the participants believed the patients they cared for with diabetes were lacking the education required to care for themselves and were deficient in self-care; thus, making them “non-compliant patients.”

Theme Three: Current Clinical Environment

A healthy work environment for nurses is essential if nurses are to lead the way in improving health care (American Nurses Association [ANA], 2021). According to the participants, the current clinical environment influences how they can confidently care for this population. The participants expressed how both positive and negative influences factor into the care they provide. All participants described organizational support as a positive influence, whereas increasing clinical demands placed on them were described as a negative influence. Valuing organizational support and increasing demands were the two subthemes that emerged from the current clinical environment theme.

Valuing Organizational Support

The participants described the support they received on their medical-surgical units from a variety of individuals. All participants discussed the importance of having a Certified Diabetes Educator (CDE) that they could reach out to for guidance and education for them and for their patients. The CDEs working in the clinical environment provide education and support in diabetes management for both patients and nurses (Massey, 2019). Jane explained, “this hospital is the only place that I have seen a diabetic educator she is amazing, and I have to say that she will not overlook any detail with our diabetic patients...[she is] always on top of it.” Heather asserted, “the positive support I received from the CDE helped me build my confidence to care for the diabetics on the unit.” Before the CDE was employed on her unit, Maria discussed how the nurses “did not know about how Lantus [long-acting insulin] worked with patients at nighttime.” All participants expressed how having a CDE was a valuable support to them and their patients. Maria described how the CDE keeps all the nurses up to date with new diabetes medications and treatments.

Besides the support the CDE provides to the nurses, the participants reported they were fortunate to have other nurses and other disciplines on their unit that served as role models that were extremely helpful. Several participants described the support they received to care for this population from their clinical educators, nurse practitioners, registered dieticians, pharmacy colleagues, and unit supervisors. Krystal conveyed that the dietitians are always available to “talk to the patients if [she is] unsure about the
kind of diet they need to be on.” Nurse practitioners and unit clinical educators also served as a tremendous support to the participants. Heather shared she never felt she was alone as she could always reach out to the nurse practitioner if the CDE was not available. The organization’s support for nurses caring for patients living with diabetes was evident and described as invaluable to the participants. Molly discussed whenever she feels overwhelmed, she can count on her unit clinical educator to be there for her, and when it comes to questions regarding her patients living with diabetes, “she is always there to answer any questions.” All participants confirmed that despite the busy work environment, having support from other healthcare personnel had a positive influence on their perception of organizational support.

**Increasing Demands**

Increased nurse-to-patient ratios for direct care nurses can negatively affect patient safety and patient outcomes (Muller de Magalhaes et al., 2017). The participants described how they had observed an increase in the number of patients with diabetes on their medical-surgical units. Maria explained how the incidence of patients living with diabetes on her unit has “dramatically increased” over the past several years. Additionally, she noted that on her medical-surgical unit she might have “up to six patients at any given time and all patients are diabetic which takes extra time to competently care for them and when you have so many there just does not seem to be enough time.” Similarly, Krystal conveyed that when she first started, she knew she would be caring for patients living with diabetes, but “now my assignment today I have six patients lately four out of the six are diabetic patients.”

Caring for patients with diabetes takes time, and increasing the number in a nurse’s assignment hampers their ability to care for their population efficiently. Additionally, Sally explained, “it’s a lot…sometimes we get all five of our patients with diabetes…I would say 60 to 75 percent of the population we see are diabetics.” Molly elaborated and confirmed,

I get more diabetics than ever before… I used to get, last year, maybe two to three diabetic patients, and now I get at least four out of my six…having that extra sixth patient [with diabetes] means I have to run for each meal…I am on the run trying to get everything done.

**Theme Four: Patients’ Behaviors Affect Nurses’ Emotions**

The participants were asked to describe how they felt when caring for patients living with diabetes on their medical-surgical unit. Bandura (1994) emphasized that people rely on their emotional states in judging their capabilities, which can lead to interpreting their stress reactions as a sign of weakness to poor performance.

Remarkably, all participants conveyed how their emotions were determined on how compliant the patient was. In other words, if the patient was doing well in their self-care and understood their disease process, the participant was happy or satisfied. Conversely, if the patient was non-compliant and not knowledgeable about their disease process, the participant expressed feelings of sorrow. Most participants emphasized feelings of being sad. Other descriptions of their feelings were nervous, depressed, and anxious. Maria shared,

It's kind of like emotional for me… you try to make the best out of it, and you try to teach as much as you can, not just to them, but also to the family…but it does kind of feel like a losing battle because you see them come in, over and over again.

The frustration in the way Maria described her feelings were similar to Sally who conveyed,

It makes me really sad when you see that he [the patient] already has one leg, foot gone and that he is to lose another one… so, we see a lot of these kinds of patients that makes me really sad, to be honest with you.

The same feelings of sadness echoed with Krystal who explained,

It depends on those patients who are elderly who have diabetes, it kind of makes me feel a little sad because they've gotten to a point where they are, you know, no matter what they eat, how little or what kinds of foods they eat their sugars are so out of control…it is heartbreaking, it’s so sad.

In contrast, when patients were doing well and displayed optimal self-care diabetes management, participants described positive emotions. Jessie noted,
As long as I can have an impact, or hopefully make a difference in their lifestyle condition, it makes me feel confident and makes me feel good…I guess you sometimes get discouraged when you see you’re trying different things or giving them different options and they [patients] just want to continue to eat what they want, but when they understand and try, I am happy.

Nurses want their patients to do well and stay healthy after they leave the hospital. Jane professed, “I feel proud of my patient that is compliant and knows about their illness.” Emotions play a vital role in the caring process. The participants confirmed that positive emotions are formed when nurses feel that care has met its objectives, and conversely, negative emotions arise when those objectives are not met.

DISCUSSION

Overall, medical-surgical nurses’ self-efficacy is deficient, as expressed by their perceptions of the influences that impact how they care for patients living with diabetes. According to Bandura (1977, 1994), four sources determine perceived self-efficacy: performance accomplishments or enactive mastery experiences, vicarious experiences, verbal persuasion, and physiological states or emotional arousal. Bandura (1977) defined self-efficacy as an individuals’ perception of their capabilities to produce different levels of performance. Self-confidence is a broad term that refers to an individual’s belief in their personal worth. In contrast, self-efficacy refers to beliefs an individual has regarding performing specific tasks (Nirmala, 2017), such as caring for patients living with diabetes. Notably, the study’s findings align with the four sources that determine perceived self-efficacy as defined by Bandura (1977) (see Figure 2).

Integration of the Findings with Previous Literature

The overarching purpose of this study was to explore and describe medical-surgical nurses’ perceptions of self-efficacy related to caring for patients living with diabetes. No previous studies that explored medical-surgical nurses’ perceptions of self-efficacy regarding caring for patients...
living with diabetes were found in the literature; however, other relevant and related studies are included for comparison.

**Educational Preparation**

The Institute of Medicine (IOM, 2011) challenged Schools of Nursing (SON) to evaluate current curricula and develop new approaches that prepare nurses to deliver high-quality care in the 21st century. In this study, participants described not feeling adequately prepared to competently care for patients living with diabetes. The perceptions of inadequate preparation went beyond the didactic coursework and included a desire for more hands-on or clinical hours specifically with this population.

The healthcare system today is complex and fluid. Schools of Nursing have relied on traditional curricula, making it challenging to keep up with the changing healthcare environment (Neville-Norton & Cantwell, 2019; Phillips et al., 2019). Nonetheless, there remains a gap between the education of nurses and the nature of contemporary nursing practice in today’s clinical settings (Benner et al., 2010; Yancey, 2015). Resembling the finding from this study, Zamanzadeh et al. (2015) found that new graduate registered nurses described feeling overall inadequately prepared to work in the clinical setting. The medical-surgical nurses who participated in this study described how self-efficacy only grew with years of experience working with patients living with diabetes. The insufficient diabetes management knowledge correlates with the nurses’ perception of self-efficacy in their ability to provide optimal diabetes care (Lange & Pearce, 2017).

**Biases towards Patients**

In the same respect that nurses have an ethical and legal responsibility to maintain professional competency (ANA, 2019), nurses should strive to be nonjudgmental when caring for patients. Unfortunately, preconceived ideas or biases do occur. Biases can be negative or positive, but negative biases, whether they are implicit or explicit, can affect our behaviors and decisions in a conscious or unconscious manner (Wright-Brown, 2020). Consequently, these biases can negatively impact patient outcomes (Gatewood et al., 2019).

The participants in this study described negative biases towards patients living with diabetes. All participants conveyed patients’ insufficiency of education and noncompliance as negative observations that hindered their care of this population. Nurses play an integral role in a patient’s well-being. When negative biases interfere, the nurse will feel a loss of control, resulting in decreased self-efficacy. Unfortunately, biases from healthcare providers such as physicians and nurses can contribute to health care disparities (Narayan, 2019). Additionally, Edgoose et al. (2019) asserted that a higher level of bias towards a group or individual could decrease empathy and inequality in patient care.

**Current Clinical Environment**

Nurses want to feel supported in the clinical environment in which they work. Support from the healthcare organization is vital for nurses to provide competent, safe care. The level of commitment from healthcare organizations to ensure proper and continuing diabetes education varies from organization to organization (Yu et al., 2018). The participants in this study communicated that organizational support was a positive influence that gave them the self-efficacy to care for patients living with diabetes; whereas, increasing clinical demands placed on them was a negative influence. The participants described key individuals that provided support in the form of role models and verbal encouragement.

All participants reported the CDE was instrumental in supporting them and improved self-efficacy in caring for this population. A CDE is a health professional, such as a registered nurse, certified in educating, supporting, and promoting self-management of diabetes (Massey, 2019). Wilson et al. (2019) found when hospitals invested in a professional nurse who was either a clinical diabetes nurse specialist or CDE, nurses’ knowledge regarding diabetes significantly improved. Additionally, health outcomes such as decreased readmission rates and improved hypoglycemic outcomes were reported (Wilson et al., 2019).

An increase in the number of patients with diabetes in participants' patient assignments was described as a negative influence that impeded the nurses' ability to care for patients living with diabetes confidently. The increased ratio of patients living with diabetes added to the participants’ daily workload was described as additional stress to the everyday work environment that was out of their control. Bandura’s performance accomplishments demonstrate once again a strong correlation to the participants’ feelings of loss of control of their clinical environment (Bandura,
A healthy clinical environment is vital to a nurse’s well-being. According to Holland et al. (2019), increased workloads have a harmful influence on nurses’ wellness and turnover. Healthcare organizations that prioritize nursing work environments have less burnout and lower turnover rates (Esposito et al., 2020).

Patients’ Behaviors Affect Nurses’ Emotions

The participants described either a positive or a negative emotion towards patients living with diabetes based on the status of the patients’ compliance. Bandura (1994) shared that people rely on their emotional states in judging their capabilities, which can lead to interpreting their stress reactions as a sign of weakness to poor performance. Brundisini et al. (2015) found providers’ perspectives on non-adherence and the patients’ view on how to improve adherence differ. Providers do not always understand the barriers that patients living with diabetes might have. Health beliefs about diabetes are connected to social or cultural understandings about the body and can affect compliance (Brundisini et al., 2015). Conversely, nurses need to recognize cultural differences and how a patient’s cultural beliefs can shape their diabetes self-management. These differences can lead to misunderstandings that spark emotional responses by nurses, resulting in lowering a nurse’s belief to care for the patient competently.

Study Limitations

The selection of the two hospitals was a limitation to the study as nurses from other geographic locations may experience different observations that influence inpatient diabetes management. Additionally, the two hospitals experienced a tremendous number of COVID-19 positive cases, and nurses, especially medical-surgical nurses, caring for COVID-19 patients, were overwhelmed. Nurses at both hospitals are accustomed to participating in research. Nevertheless, participating in research was not a priority for countless nurses. The time it took to recruit participants was longer than expected; however, it continued until saturation was reached.

RECOMMENDATIONS

The study findings generated new knowledge surrounding self-efficacy and nurses’ perceptions of caring for patients living with diabetes. The findings of this study served as a foundation for the following recommendations for nursing education and nursing practice.

Recommendations for Nursing Education

The National League for Nursing (NLN, 2018) believes in the importance of positioning nurse educator preparation at the forefront of educational reform to advance the nation’s health. Benner et al. (2010) asserted that new nurses need to be trained to practice safely, competently, and compassionately. Both the American Association of Colleges of Nursing (AACN, 2021) and the NLN (2016) have emphasized the need to establish best practices in formal pedagogical preparation. Nursing academia should ensure the nursing curriculum will prepare students to practice competently within the growing and changing healthcare system today (IOM, 2011). Patient outcomes are directly related to the level of care delivered by nurses (Recio-Saucedo et al., 2018). Coster et al. (2018) purported that well-educated nurses can decrease the threat of patient mortality. Ensuring nursing students are prepared to provide competent care is essential in building self-efficacy and protecting patients from negative outcomes. The AACN (2021) recommends that a re-evaluation of traditional approaches to clinical nursing education is needed. The AACN (2021) further highlighted that SON must foster new clinical training models in collaboration with healthcare delivery sites other than the traditional hospital settings. The recommendations from the AACN (2021) are in direct line with Benner et al. (2010) by understanding the clinical experience must be relevant for the student to flourish.

Curriculum Design, Evaluation, and Delivery

One prominent finding in this study was that each participant described their undergraduate nursing program as not preparing them proficiently to care for patients living with diabetes. The paucity of knowledge and hands-on experience was echoed as a common theme among the participants. Schools of Nursing need to conduct an immediate assessment of their current curriculum regarding diabetes management. Moreover, SON should evaluate other nursing programs, implement evidence-based teaching strategies, and conduct robust research to ensure students are proficiently prepared to care for patients living with diabetes.

Most nursing programs based their original curriculum on the Tyler Model, in which the
educator imposes experiences of content and subject matter on students, in sequenced, measurable objectives (Crow & Bailey, 2015). Traditional models such as Tyler’s curriculum model might have been useful decades ago, but in today’s undergraduate programs, faculty need to consider the optimal model to serve both the SON and the students. Crow and Bailey (2015) believed to better serve nontraditional students who struggle, nursing faculty must find pedagogical spaces within and beyond the accountability and accrediting mandates that shape nursing programs.

**Concept-based Curriculum and Simulation-based Learning**

Each generation brings unique perspectives and talents, and even though faculty and students traditionally come from different age groups, nursing students can include Millennials, Gen X/Yers, and Baby Boomers (Weingarten & Weingarten, 2013). According to Hart (2017), most of the nursing students currently are considered millennial learners. However, educators should understand the best way all students learn. Onyura et al. (2016) noted that educators need to examine other knowledge resources, including understanding themselves, their learners, and an awareness of the support from their institution. Magorian (2013) recommended that nursing educators must utilize data to evaluate and assess the need for curriculum change, reduce redundancy of content, and increase their students' clinical reasoning ability through concept-based curriculum. Implementation of a concept-based curriculum in nursing education can be valuable if students are empowered to become more active in the learning process by teaching with interactive learning techniques such as simulation-based learning (Hart, 2017).

All participants expressed that more simulation with patients living with diabetes would have assisted in building their self-efficacy in providing optimal care. This important finding solidifies the need for SON to reevaluate the current curriculum surrounding simulation-based learning and focus on inpatient diabetes management. Schools of nursing can develop their simulation-based nursing education by joining a national organization that shares advanced simulation-based pedagogy.

**Mitigating Bias**

A key finding in this study was the biases the participants expressed towards patients living with diabetes. When nurses exhibit any bias towards a patient or group of patients, the consequences can be damaging (Narayan, 2019). Implicit or explicit biases can influence how a patient is treated and the level of care they receive (FitzGerald & Hurst, 2017). Nurses establish a trusting relationship with patients and families by upholding the values and ethics of the nursing profession (Milton, 2018). However, nurses’ ethical principles can be diminished when biases play into the manner patients are viewed due to their disease.

According to Gatewood et al. (2019), nursing education does not adequately address bias that nursing students might possess, especially implicit bias. Despite diversity and cultural competency being at the forefront of the Essentials of Baccalaureate Education for Professional Nursing Practice (AACN, 2008), SON struggle to effectively teach these competencies. Conversely, when participants discussed their perceptions of people living with diabetes, they all referred to the population as “diabetics.” The American Diabetes Association (2017) has called for a patient-centered communication style that avoids labeling people with their disease. Awareness is the first step. However, through preparatory and interactive evidence-based activities, nursing students can become aware and understand the impact biases may have on patients and their care.

**Recommendations for Nursing Practice**

Nursing practice must evolve to deliver the needed level of quality care, especially for patients living with diabetes (Sullivan, 2018). The IOM (2011) has recommended that healthcare organizations ensure direct care nurses are current with the newest knowledge surrounding diabetes management to practice to the full extent of their education and training. Nurses must feel supported in the clinical setting to increase self-efficacy, thus, delivering optimal care. Organizational support is necessary if nurses are to feel confident and to allow them to provide high-quality care (Nikitara et al., 2019).

**Supporting Nurses**

Healthcare organizations can support clinical nurses in several ways. Participants expressed the value of being supported in the clinical setting. Support received from a CDE, a clinical educator,
or a nurse practitioner by the participants in this study was highlighted. However, one prominent view expressed by several participants was the valuable role the CDE played in supporting both the patients and nurses. Interestingly, one participant had worked at several other hospitals and had never had the experience of a CDE employed as part of the healthcare team. The CDE assisted in building the participants’ self-efficacy, which improved their perception to care for this population. Additionally, CDEs educate the nurses and other healthcare team members on the most up-to-date medications and therapies for diabetes management. Hence, organizational investments, such as employing a CDE, could contribute to improved patient outcomes. Healthcare organizations can also support nurses by offering educational opportunities such as continuing education classes, webinars, and conferences.

At each of the two hospitals where the study took place, a full-time CDE is employed. However, it takes a team of healthcare professionals to care for patients living with diabetes. One participant expressed how other healthcare professionals, such as the clinical dietitians were always available to talk with the patients regarding their diet. Healthcare organizations need to understand just employing a CDE is not enough to care for this population successfully. As the participants highlighted, if the CDE was not available, they could reach out to a clinical educator, supervisor, nurse practitioner, or leader for the support they needed.

Mitigating Clinical Practice Demands

Healthcare has become progressively more complicated and is perceived by many patients as impersonal and highly complex (Flagg, 2015). Nurses face many challenges with increasing responsibilities. All participants discussed increasing workload demands surrounding patients living with diabetes. The findings of this study highlighted the need for healthcare organizations to evaluate current processes utilized in daily patient assignments in the clinical inpatient setting. Specifically, organizations should examine the number of patients living with diabetes and ensure this patient population is not the majority of a given assignment.

Another way healthcare organizations support nurses is to ensure a current and relevant Nursing Professional Practice Model (NPPM) is in place. It is vital for nurses of all levels, principally direct care nurses, to understand the components of their NPPM and how they use it as a guide in their daily practice (Winter, 2016). The essence of the NPPM is a commitment to quality and exemplary practice. A NPPM model should be built on the foundation of shared governance to achieve optimal outcomes. Furthermore, an environment fostering collaborative care and teamwork is emphasized to facilitate seamless care transitions.

Health Literacy

Some participants communicated insufficient health literacy as a possible barrier to justify this population’s deficiency in education regarding diabetes self-care management. Healthcare organizations must reach outside the hospital’s traditional walls and better engage with the community they serve (Woods, 2016). Williams et al. (2020) highlighted that health literacy is the degree to which a person can obtain, access, and understand basic health information and services needed to make appropriate healthcare decisions. One of Healthy People 2030 goals is to increase health literacy so people can easily understand and act on health information (Office of Disease Prevention and Health Promotion, 2021). Low health literacy levels can lead to poor patient outcomes and are associated with higher mortality rates (Greene et al., 2019).

Nurses need to view the patient as an individual and tailor education according to the patient’s level of education and health literacy. Healthcare organizations should promote health literacy and how it plays a fundamental role in how nurses deliver care and educate patients. The first crucial step is to bring awareness to the problem of health literacy. Organizations can partner with local community leaders and help drive efforts to improve health literacy deficiencies. Additionally, workshops and continuing education classes should be offered within the organization for all healthcare professionals.

CONCLUSION

Direct care nurses are a vital component in the management of patients living with diabetes and must be competent to provide optimal diabetes care. This study was significant as it described nurses’ perceptions of the influences that affected self-efficacy in caring for patients living with diabetes. The findings can be utilized to implement interventions that will improve self-efficacy among medical-surgical nurses resulting in optimal patient outcomes. As a result of
conducting this study, additional research is recommended that explores the effectiveness of an evidence-based curriculum surrounding diabetes management. Furthermore, examining the predictors of health literacy, compliance, and patient outcomes among people living with diabetes would generate new knowledge surrounding the phenomenon of diabetes care and optimistically enrich the lives of people living with diabetes.

**DECLARATION OF INTEREST**

The author reports no conflicts of interest. The author alone is responsible for the content and writing of the paper.

**AUTHOR**

Victoria Yaros McCue, PhD, MSN, RN, CPN
Lead Nurse Scientist, Baptist Health South Florida, Miami, FL, US. Correspondence regarding this paper can be directed at: VictoriaMc@baptisthealth.net

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