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The Impact of Staff Education on Nurses and Medical Assistants' Knowledge of HIV Prevention and Screening

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Walden University

College of Nursing

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Eurekia Denise Samuel

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the review committee have been made.

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Walden University
2021

Abstract

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Prevention and Screening

by

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MS, Alcorn State University, 2007

BS, University of Mississippi, 2000

Project Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Nursing Practice

Walden University

May 2021

Abstract

In some U.S. ambulatory clinics, limited time is available for patient education during primary care, which is a barrier to increasing the recommended annual screening for HIV of persons with risk factors between the ages of 13 and 64. One solution to removing this barrier is the expansion of the role of frontline staff so that patient education, particularly in the areas of secondary prevention and routine testing, can occur at the beginning of the visit during initial checking in and assessments. At the project site, a rural ambulatory clinic in the southern United States, however, the frontline staff lacked knowledge related to primary and secondary prevention, including the importance of routine testing. The purpose of this project was to educate the site's 20 frontline staff about HIV risk factors and prevention. The practice-focused question addressed whether a HIV education module for nurses and medical assistants would increase the knowledge of HIV Prevention and Screening. The framework for this project was Malcom Knowles's adult learning theory. The theory postulates that learning takes place once one is motivated to learn and that learning can take place through one's lived experience. The project involved a staff education intervention utilizing the Centers for Disease Control and Prevention's Let's Stop HIV Together Initiative. The participants were administered a pre/post-test. The data was analyzed using a paired-sample t-test. The results indicated that knowledge increased among the learners. The findings from this project could provide guidance that nursing leaders can use to revise staff education related to HIV testing and other screening programs. Potential implications for positive social change include improved patient care in ambulatory clinics and reduced HIV transmission rates.

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Dedication

I would like to dedicate my doctoral project to my mother, Carolyn F. Copeland. I truly appreciate all of your sacrifices throughout my career. You have always been there from beginning to end. And to my husband, John, thank you so much for all of your love and support.

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Section 1: Nature of the Project

Introduction

The Human Immunodeficiency Virus (HIV) weakens the immune system by destroying healthy cells that could otherwise be used to fight disease and infection (Centers for Disease Control and Prevention [CDC], 2019a). The transmission of HIV occurs through contaminated blood and body fluids. Certain groups of people are more likely to transmit the disease due to certain risk behaviors and their geographic location (CDC, 2019b). Population groups with increased HIV transmission include men who have sex with men, commercial sex workers, and those who are intravenous drug users. Today, there is no effective cure for HIV. However, patients have experienced better health outcomes and improved quality of life when they receive HIV care.

Epidemiological and demographic data have revealed that the HIV/AIDS epidemic in the United States is more prevalent in the Deep South¹ (Reif et al., 2017). More African Americans (29%) reside in the Deep South compared to other Southern states and the nation as a whole (Reif et al., 2017). Reif et al. (2017) indicated that from 2008-2016, the incidence of HIV was consistently higher in the Deep South and the majority of new cases were among African Americans residing there. Furthermore, in 2016, more than half of African Americans diagnosed with HIV lived in the Deep South.

¹ Alabama, Georgia, Mississippi, Louisiana, North and South Carolina, Tennessee, and Texas

The Deep South has the highest rates of poverty, unemployment, and uninsured residents, risk factors that are thought to impede HIV prevention and treatment efforts, in the United States (Reif et al., 2017). Additionally, those residing in the Deep South often have poor health outcomes related to a lack of or limited access to health care. Individuals living in poverty often experience inequitable access to health care; thus, they often do not receive health education, which prevents them from participating in preventive services (Reif et al., 2014). Those in the Deep South often have higher rates of STDs, such as gonorrhea and chlamydia, which are a risk factor for HIV transmission. Mental illness and substance abuse are additional risk factors for the transmission of HIV. Stigma related to HIV/AIDS has been identified as a barrier to screening and treatment (Reif et al, 2017).

Researchers have found that African Americans are disproportionately affected by HIV compared to other racial minority/ethnic groups (CDC, 2016). HIV-positive African Americans often experience barriers to care, which leads to poor compliance and poor engagement related to treatment and prevention. Due to barriers to quality health care, HIV care for African Americans has often been broken and disjointed. Barriers African Americans experience contribute to poor linkage to care and low uptake of antiretroviral therapy, and this often leads to poor clinical outcomes (Freeman et al., 2017). Factors that impede care and increase disparities among African Americans include gender, social class, race/ethnicity, and socioeconomic status (Groos et al., 2018).

Additionally, African Americans encounter structural and institutional racism that influences their healthcare decisions and behaviors. The effects of structural racism

experienced by African Americans have led to a sense of distrust as it relates to their health care providers. In addition, the effects of structural racism have often led to African American patients living with HIV being excluded from the decision-making process regarding their health (Groos et al., 2018). There is a need to provide all patients, regardless of race or ethnicity, with access to quality, affordable health care, including access to HIV patient education.

In community health, HIV testing is fundamental to HIV prevention (Arya et al., 2018). Patients can know their HIV status earlier due to routine testing, and this can enable individuals to become engaged in their care earlier and achieve better health outcomes. Early detection means that patients can begin their antiretroviral therapy treatment to decrease their viral load thus decreasing transmission within the community by 90% (Arya et al., 2018). Researchers have found that patients want and expect routine testing as part of their health care (Arya et al., 2018). The CDC (2020) recommends that all individuals with risk factors between the ages of 13-64 be screened at least annually as a part of a wellness exam. However, health care providers have often been reluctant to offer testing as part of a patient's annual health visit. Some health care providers believe that offering HIV testing may insult patients (Arya et al., 2018).

Primary care providers may lack the knowledge about HIV testing guidelines. In a study conducted by Dandachi et al. (2018), the researchers found that only 58% of medical residents were aware of HIV testing guidelines. Additionally, 68% had ordered 10 or fewer HIV tests in a 6-month period. However, provider recommendation is one of the most consistent predictors of health screenings (Hudson et al., 2012; Jih et al., 2018).

Hudson et al. (2012) found that patients who received a provider recommendation for colorectal cancer screening were more likely to adhere to their recommendation.

Additionally, a lack the time to discuss health promotion activities may be one reason a provider may not recommend HIV screening (Equils et al., 2019).

One way to increase HIV testing knowledge may be to begin educating patients early, with patient education starting at the first point of contact within the healthcare system. In the local facility that served as the location for this project, CMAs and LPNs are the first to meet patients at their clinic visits. Researchers have found that medical assistants in an expanded role can step in and meet the patient's need (Chapman & Blash, 2017). Therefore, if frontline staff begin the patient education process, the primary provider and patient will be able to concur on the need for HIV testing in a shorter period of time (Arya et al., 2018).

Problem Statement

The impact of the HIV/AIDS has disproportionately affected the Deep South section of the United States (Gray et al., 2016). In 2011 and again in 2014, African Americans were seven times more likely to be diagnosed with HIV than their non-Hispanic, White counterparts. Based on surveillance data from the CDC, Mississippi ranked 9th in the nation for diagnosed HIV infection and 6th for diagnosed AIDS (Mississippi State Department of Health, 2016, p. 4).

In 2017, the United States recorded 38,739 new HIV diagnoses, 51% of which were diagnosed in the South (CDC, 2018). In Mississippi, the data indicate that the burden of HIV is disproportionately high for men with known risk factors (CDC, 2018.)

Young African American adults between the ages of 20 and 29 represented 43% of the new HIV diagnoses in 2017. As a result, the United States Preventive Services Task Force recommends HIV screening for adolescents and adults aged 15 to 65 years of age (Owens, 2019,).

There is a need for healthcare providers to address this health care disparity. Researchers have attempted to evaluate and understand nurses' knowledge and attitudes toward HIV-infected patients and pertinent risk factors. The research indicates that enhanced curriculum strategies for nurses and nursing assistants would significantly improve the care given to those affected by HIV, suggesting a gap in knowledge among direct care providers who treat those impacted by HIV (Ehsanul Huq et al., 2019). Nurses should also be able to understand pertinent risk factors for those who are at risk for developing the disease and the need for testing (Ehsanul Huq et al., 2019). The problem is that nurses have not generally been provided additional training as it relates to HIV practice and care (Ehsanul Huq et al., 2019).

Nurses and medical assistants are the frontline staff who have the initial patient contact. They are in a unique position to counsel and educate patients. They are the healthcare workers who can begin the patient education process (Chapman & Blash, 2017; Palmer & Midgette, 2010). Studies have shown that education related to prevention is an effective tool in reducing the transmission of HIV. (Ehsanul Huq et al., 2019). The goal of this DNP staff education project was to bridge the gap between knowledge and practice as it relates to HIV prevention.

Purpose

The HIV pandemic has resulted in more responsibilities for the health care workforce worldwide (Okpala et al., 2017). Furthermore, nurses play a decisive role in caring for patients living with HIV and AIDS (Okpala et al., 2017). Clinic staff, which includes support staff, LPNs, and medical assistants, who are the patient's first contact, also need HIV education. These employees are often the frontline staff to begin the conversation of the importance of HIV prevention and screening. The clinical organization for this project underperformed in the quality measure related to HIV testing. Therefore, it was known that a clinical problem existed. Because HIV testing is essential in prevention (Okpala et al., 2017)), frontline medical staff may benefit from in-service activities related to HIV prevention and testing strategies that are evidence-based and contribute to practice. Medical staff generally have limited knowledge related to HIV prevention, and this can impact the care patients receive. There is a need for staff members to be aware and knowledgeable about HIV within their clinical practice (Ehsanul Huq et al., 2019). The goal of this project was to bridge the gap between HIV primary prevention and nurses' knowledge by conducting an HIV prevention course. According to Watson (2019), training must be

- supportive and engaging,
- amenable to identifying those who might otherwise find skills training difficult to engage in,
- holistic in nature,

- built upon quality assurance of the philosophy and a centered approach to skill building,
- evidence-based, and
- inclusive of implementation that builds on relevant data.

The practice-focused question was, Will an HIV education course for nurses and medical assistants increase their knowledge of HIV prevention and screening?

Nature of the Doctoral Project

During my literature review, the evidence supporting the need for this project was found by using Walden University Library's online databases. Online databases included, but were not limited to, CINAHL, Medline, ProQuest, and Cochrane databases. I consulted a Walden librarian to provide additional databases and identify keywords. The DNP project focused on educating nurses and medical assistants on the prevention of HIV. In creating the project, I followed the guidelines stated in the Walden University *Manual for Staff Education* (Walden University, 2019). The *Manual* states that during the planning phase the project developer should obtain a commitment of support from organizational leadership and that content experts should review the educational materials.

Briefly, I used a modified version of the CDC's Let's Stop HIV Together Initiative(2019b). The HIV prevention module was conducted for nurses and medical assistants to enhance their knowledge. The participants completed a pre- and posttest. The participants engaged in a multimedia educational program. The pre- and posttest scores were analyzed using a t-test for dependent groups. The demographics were

reported using descriptive statistics. I reported the results of the project and made them available for senior staff and stakeholders to review. This DNP project was designed to bridge the gap in nurses' knowledge of HIV prevention and testing.

Significance

Health care providers need to continue to provide staff education that equips nursing staff and medical assistants with the necessary knowledge to sustain interventions and strategies aimed at HIV prevention for those at risk and their community.

Furthermore, health care clinicians and scholars know that African American men who have sex with men and those who have sex with women are also at greatest risk for contracting HIV (CDC, 2019b). African American women have been overlooked and are also at great risk for contracting HIV (Reif et al., 2017). HIV disproportionately affects African Americans. Therefore, it is imperative that staff members be educated on preventive strategies and interventions that can be shared with the community at large to help mitigate the transmission of this disease (Ehsanul Huq et al., 2019; Gray et al., 2016).

Nurses have been at the forefront of the HIV and AIDS epidemic since its beginning (American Nurses Association, 2019, para. 2). Nurses understand that patients need significant social support and care management. Additionally, medical assistants also serve as support staff to the health care team and are essential members as well. Medical assistants are essential staff that has had supplementary training in communication and education (Balasa, 2008). The role of the certified medical assistant

(CMA) can be expanded to provide high-quality patient care and can begin the patient education process about the importance of HIV testing.

Summary

Today in the United States, one out of seven individuals do not know their HIV status. Therefore, providers must educate and test as many individuals as they can. African Americans are more at risk for contracting HIV due to risk factors (Owens, 2019). It is important to implement strategies to mitigate the transmission of this chronic disease. Nurses have served on the frontlines of the HIV/AIDS epidemic for years (American Nurses Association, 2019). Furthermore, certified medical assistants also serve as essential health care workers and are needed to help perform crucial clinical tasks (Balasa, 2008). It is important that everyone at risk between the ages of 13 and 64 be screened at least annually for HIV according to the guidelines from the CDC (2019a).

Proper education of health care staff may help to promote safe health practices and behavior. Health professionals are needed to provide patient education to those who are at risk for contracting HIV (Okpala et al., 2017). Therefore, it is essential that clinicians offer health education to help mitigate the transmission of HIV within the community. The purpose of this project was to bridge the gap between HIV primary prevention and nurses' knowledge by conducting an HIV staff education. I developed, implemented, and evaluated an education course using a modified version of the CDC's Let's Stop HIV Together Initiative. The practice-focused question was, Will an HIV education course for nurses and medical assistants increase their knowledge of HIV prevention and screening?

I identified the need for HIV screening education program for healthcare professionals by reviewing peer-reviewed articles found in the CINAHL and other databases. The resulting project addresses the gap in knowledge by increasing the knowledge of frontline clinic workers. It is significant for nurses because it provides the knowledge necessary to educate patients about the importance of HIV screening. In Section 2, I explored the project's theoretical model and relevance to nursing. The local evidence on the relevance of the problem and the roles of the student and project team will be described.

Section 2: Background and Context

Introduction

The practice problem was the lack of knowledge on the necessity of HIV testing among frontline providers at the project site. The purpose of this project was to increase HIV frontline medical staff's knowledge related to strategies to encourage HIV testing. The practice-focused question was, Will an HIV education course for nurses and medical assistants increase their knowledge of HIV prevention and screening?

An estimated 1.1 million people in the United States are living with HIV; of those approximately 21% are unaware of their infection and are not linked to care (Institute of Medicine, 2011). Additionally, about 56,000 individuals contract HIV on an annual basis (CDC, 2019b). With proper education and training, nurses can play a pivotal role in reducing HIV transmission rates across the project state. In Section 2, I described Knowles's adult learning theory, the theory that I used to guide this project, the relevance of HIV education and testing to nursing practice, the local background and context to justify the need for this type of program, and the roles of the DNP student project team.

Concepts, Models, and Theories

Malcolm Knowles's adult learning theory embraces several concepts related to learning. In 1980, Knowles made four assumptions about the characteristics of adult learners (andragogy) that are different from those of child learners (pedagogy; Pappas, 2013). The first assumption is self-concept, meaning one begins to mature in their thought process. The second assumption is experience; as persons mature, they will have various experiences on which to draw from, which is true within the medical community.

Nurses can use their experiences to teach others and to explain situations to their patients as well. The third assumption is readiness to learn, which embodies becoming oriented to tasks and social roles. The fourth assumption is orientation to learning, meaning that one's perspective may shift occasionally during this time. In 1984, Knowles added the fifth assumption, motivation to learn, which is internal as a person matures (Pappas, 2013). See Table 1 for the alignment of these assumptions with the DNP project.

Table 1

Alignment of Adult Learning Theory With Project

Assumptions	Project
Adults have a need to know about learning.	Participants will learn how the staff education directly impacts their role.
Adults have a need to be self-directed.	Participants can understand HIV prevention education based on their assessment of the patient's knowledge.
Adults attach life experience to learning.	The learners will use their own experience with HIV prevention education strategies to engage patients to provide discharge planning.
Adults have a problem-centered orientation.	Learners will understand the problem associated with HIV transmissions and how their actions will help solve the problem.

Malcolm Knowles also concluded that adult learners must be involved in their learning process. Learning is didactic and active. The learning process is inclusive of new processes as well as mistakes (Pappas, 2013). The adult-learning is a problem centered rather than content-centered process. Knowles also contended that as individuals mature his or her self-concept moves from total dependency to one of increasing self-directedness (as cited in Norman, 1999). Furthermore, the individual accumulates vast amounts of experiences to draw from. As the individual matures, they are ready to engage

in more social roles. Adult learners are more problem centered and focused than other learners (Norman, 1999, p. 886).

Russell (2006) stated that health care professionals and patients enter into a teaching and learning relationship when information important to the patient's well-being is necessary. Furthermore, Russell stated that for teaching to be effective, teachers need to know as much as possible about adult learning principles. Goal attainment is very important with adult learning to increase the chances of success. As I previously noted, the major assumptions of Knowles were the need for motivation, experience, engagement, and application of the adult learner. Knowles observed that adult learners learn best when they are motivated to learn. Russell stated that, if successfully guided, health care professionals could be guided by past experiences as well during the teaching and learning process. This theory applies to the staff because they, as CNAs and adult learners participating in clinical education, may benefit from education approaches that are relevant to their job roles and offer practical solutions and examples. See table 1 for an illustration of how the assumptions align to the project. In addition, I considered Knowles's theory when developing the educational module for this DNP project, specifically related to outcomes including staff knowledge level and attitude toward HIV.

Relevance to Nursing Practice

In its 2019 position statement *Prevention and Care for HIV and Related Conditions*, the American Nurses Association stated that nurses should "be prepared to lead interdisciplinary teams, supervising others involved in care coordination" and that "nurses should take a leadership role in the design, implementation, and evaluation of

successful team-based care coordination processes and models for HIV care and prevention” (p. 10). HIV prevention and testing education holds relevance to nursing practice due to the continued incidence of HIV in the United States among African Americans. Nurses play an important role in health promotion and primary disease prevention; thus, they form a very important link in the chain of HIV prevention. This is especially true as primary prevention at the community level is a valued aspect of nursing practice. Because there is no cure for HIV, it is crucial that nurses take a lead in preventing new cases of HIV infection by educating other healthcare workers on the importance of testing (Evans & Dukes, 2018).

In the clinic setting, nurses and medical assistants are the healthcare workers who spend the most time with patients. They provide patient education relevant to self-care and disease management (Butler et al., 2018). Nurses and medical assistants are the patient’s first contact with a healthcare worker; this is where the educational process starts. To be effective, patient education should begin with the first staff member contact and continue through the provider encounter (MacLean, 2010). Providing HIV prevention and testing education to the frontline staff is the first step in educating patients. It is important that nurses engage in HIV education, care, and prevention. Nurses have been on the forefront of the HIV/AIDS epidemic for years (American Nurses Association, 2019). Moreover, access to nursing care is integral to HIV care and prevention, treatment, and care coordination (American Nurses Association, 2019). “Nurses have a pivotal role to play in preventing HIV,” according to the American Nurses Association (2019, p. 2).

The American Nurses Association provides nurses with standards of care that underpin fundamental principles, values, and beliefs. These principles, values, and beliefs support nursing and HIV care. The American Nurses Association states “ANA supports efforts to end the HIV epidemic, recognizing that nursing care is central to achieving HIV treatment and prevention goals. ANA’s updated policies recognizes PrEP as a prevention strategy, supports the use of evidence-based approaches appropriate to key target populations and encourage nursing practice and leadership that promotes culturally competent non-stigmatizing care” (American Nurses Association, 2019, p. 2). Moreover, nursing care is fundamental to attaining HIV treatment and prevention goals. Nurses play essential roles in educating patients about HIV, providing support for treatment adherence, and assisting with navigation of care delivery” (American Nurses Association, 2019, p. 4).

Over the past 30 years, HIV has changed from a chronic, life-limiting disease to a more chronic, long-term condition (Watson, 2019). Therefore, healthcare providers who provide care to HIV patients must be able to provide supportive care and manage acute illness and palliative care if needed (Watson, 2019). Health care professionals must develop skills related to preventive health and health promotion as it relates to living a healthy lifestyle and teach these skills to their patients (Watson, 2019). Health care professionals must teach patients self-care and self-management skills to improve their health outcomes.

Interventions are needed to reduce lifestyle risk factors (Watson, 2019). It is essential that health care professionals assess certain risk factors as they relate to HIV

exposure, such as the number of sex partners, sexual orientation and whether or not condoms are used. Furthermore, other comorbidities, such as diabetes, hypertension, and hyperlipidemia, may perhaps complicate an already challenging health situation (Watson, 2019). Health care professionals can focus on substantive lifestyle modification/interventions such as diet, weight management, smoking, alcohol, recreational drug use, exercise, and fitness (Watson, 2019). The health care team must also encourage effective self-management such as safe-sex practices, medication compliance, information-sharing, and shared-decision-making action planning (Watson, 2019).

Patients who are tested and later diagnosed with HIV will require life-long management (Watson, 2019). Health care professionals, through teaching effective evidence-based interventions, can empower patients. These interventions may enable these patients to have confidence in their skills and knowledge to manage their health better (Watson, 2019). Nurses can have a significant impact on the health outcomes of their patients.

The HIV Prevention Trial Network 052 was a Phase III, two-arm, randomized controlled, multicenter trial that sought to determine whether antiretroviral therapy (ART) could prevent sexual transmission of HIV-1 in HIV-serodiscordant couples (HIV Prevention Trial Network, 2020). The trial enrolled 1,763 serodiscordant couples where one partner was HIV positive and the other was not, at 13 sites in nine countries (HIV Prevention Trial Network, 2020). Results from the study showed that there had been no HIV transmission in these couples when the HIV positive partner had viral suppression.

Viral suppression is an integral part of living a quality life once diagnosed with HIV. It starts with testing and is linked to care. HIV testing is an integral part of improving the health status of a community.

HIV and AIDS have had a global impact. Some researchers contend that inadequate care due to limited knowledge and discrimination due to negative attitude of nurses will adversely affect the fight against the pandemic (Okpala et al., 2017). In their descriptive study, Okpala et al. (2017) sought to determine knowledge and attitude of nurses caring for patients with HIV and AIDS. The descriptive survey design was administered on a Likert questionnaire scale to 240 nurses. The study revealed that there was a significant relationship between nurses and their attitudes towards the care of HIV/AIDS patients. The authors suggest the need for more in-service trainings on HIV/AIDS for nurses to improve their knowledge and positive attitudes towards people living with HIV and AIDS.

The care for HIV patients has changed over the years from managing poor prognosis to managing those with complex health needs (Croston, 2016). Nursing staff with limited knowledge in the area of HIV can impact the care that patients receive. Researchers have stated that there is an increasing need for all nurses to be aware and knowledgeable about HIV within clinical practice (Ehsanul Huq et al., 2019).

According to Boakye and Mavhandu-Mudzusi (2019), research shows a lack of knowledge and skills related to HIV and AIDS among health care workers involved in patient care (p. 1). The authors suggested that special knowledge and skill are a prerequisite when caring for patients with HIV or known risk factors (Boakye &

Mavhandu-Mudzusi). These researchers conducted a cross-sectional study among 247 nurses at five selected health facilities by means of a structured, self-administered questionnaires. The purpose of the study was to assess the nurses' knowledge, attitude, and practices towards patients with HIV and AIDS. The results were satisfactory regarding HIV and AIDS knowledge; however, the nursing staff still held misconceptions about HIV transmissions. Some nursing staff had held negative attitudes and fears related to contracting the virus when caring for HIV patients and discussing compliance among these patients. The researchers reported the need for continuous in-service training of nurses with a focus on improving HIV care, preventions strategies, and AIDS care to promote knowledge and correct misconceptions (Boakye & Mavhandu-Mudzusi, 2019).

Croston (2016) pointed out that within nursing curricula there is no standardization education related to HIV testing or care being delivered. Traditionally, HIV care has been taught within clinical practice. Often nurses are trained by a nurse specialist to offer patient-centered care to those at risk for HIV and those living with HIV. Croston proposed the utilization of simulation-based education to bridge the gap between theory and practice. Through simulation in a safe environment, nurses could be provided ability to facilitate decision-making skills related to patient care. Enhancing the education and training that nurses receives one step toward improving patient outcomes for those at risk for HIV infection.

Nurses are often called upon to provide complex care to these patients; however, Frain (2017) found that HIV/AIDS education has decreased in most nursing schools and undergraduate students receive minimal education about HIV/AIDS. Frain used a

pretest/posttest design to assess the knowledge and attitudes of 29 graduating nursing students. Prior to the intervention, 29% of nursing students reported feeling unprepared to care for patients with HIV. The nursing students then completed a 6-week course. The results revealed that 54% of the student nurses felt “totally prepared” and 46% felt "somewhat prepared" to care for patients living with HIV (p. 5). Frain suggested that a small addition to the curriculum results in an improvement in the student’s attitude and knowledge.

The role of the medical assistant has expanded over the years. Providing quality care has become a challenge for many health professionals and practice managers (Balasa, 2008). Medical assistants are trained support staff who has matriculated through a curriculum inclusive of basic principles of psychology, medical law and ethics, communication, medical asepsis, diagnostic testing, and patient care. Additionally, medical assistants are trained in obtaining vital signs, venipuncture, principles of basic pharmacology maintaining health records, and obtaining patient history (Balasa, 2008). All CMAs are credentialed under the American Association of Medical Assistants and are required to complete a certification program (Balasa, 2008). As a result, CMAs serve in a defined role to support other members of the health care team.

CMAs’ responsibilities have expanded within the clinical and ambulatory care setting (Balasa, 2008). The CMA has the unique ability to communicate with a variety of patients in many different clinical settings. Certified medical assistants have additional training in “recognizing and responding to verbal and nonverbal communication” (Balasa, 2008, p. 2). Therefore, they are “uniquely qualified to speak

the patient's language" (Balasa, 2008, p. 2). The CMA can also serve as a communication liaison between the patient and health care provider (Balasa, 2008).

Medical assistants can have a significant impact on patient interaction and overall time spent with patient (Balasa, 2008). Medical assistants are often part of the health care team that consists of a physician, nurse practitioner, and a physician assistant. In their role, the medical assistant can serve as a health coach. A health coach can be a health care staff member who receives additional training and education in health promotion and disease management. (Balasa, 2008). Under the supervision of the clinician, they can perform patient education and after the visit, they can ensure that the patient understands the information received during the visit. (Balasa, 2008). CMAs are in an ideal position to start the patient education process.

Chapman and Blash (2016) interviewed 173 healthcare professionals on the medical assistants' tasks, duties, and assignments. Each interview lasted approximately 1 hour. One theme that arose was the medical assistant's role as a health coach. The authors found that medical assistants were better able to gain the trust of and communicate with the patient. Working as a health coach, they could help patients set and achieve self-management goals. Due to their interpersonal and cultural skills, they were a good source to provide patient education (Chapman & Blash, 2016). Using medical assistants to begin the process of HIV testing education can assist with the meeting the clinic's HIV testing benchmark.

The United States Preventive Task Force (2019) recommended that providers counsel patients about steps that can reduce preventable diseases at every medical visit.

However, this is a time-consuming activity. Health care providers often cite limited time as a barrier in the delivery of preventive education and counseling (Equils et al., 2019).

Medical assistants provide essential support to the health care team. Palmer & Midgette (2010) sought to examine the role medical assistants play as member of the health care team as it relates to patient education and counseling (Palmer & Midgette, 2010). The study involved 402 medical assistants who were mailed questionnaires. The questionnaire assessed the attitudes and practices about counseling, educating patients on cancer prevention and control topics (Palmer & Midgette, 2010).

Palmer and Midgette's (2010) study revealed that 97% of medical assistants believed they can be effective in educating patients and that 84% of the respondents believed that patient education saved lives. The findings revealed that medical assistants were engaging patients in education topics such as nutrition, diet, exercise, and cancer prevention. The medical assistants reported extensive training related to diet, nutrition, and exercise. The study findings revealed that medical assistants had received trainings on cancer prevention, but the numbers were relatively low. However, medical assistants are capable of patient education once they received the needed skill and knowledge. The study concluded that support staff can be essential to providing patient education.

Local Background and Context

Based on 2014 surveillance data from the CDC, Mississippi was ranked 9th in the nation for diagnosed HIV infection and 6th for diagnosed AIDS (MSDH, 2016, p. 4). That same year Mississippi State Department of Health(MSDH) found African Americans were 7 times more likely the rate than Whites and 2 times more likely than

Hispanics to be diagnosed with HIV infections. Mississippi's population is 2.976 million with 58.59% white, 37.67% African American, 1.34% two or more races, and 0.96% other races (MSDH, 2016). Mississippi has the highest level of poverty in the U.S. and ranks among the lowest for healthcare quality, access to care, and education obtainment.

Federally Qualified Health Centers (FQHCs) receive funding from the government to help improve health care services for those marginalized and disenfranchised communities. Communities that are serviced by federally funded health care centers often care for those persons who are underinsured or uninsured. Furthermore, even with limited funding, these agencies are still expected to perform and meet U.S. Department of Health and Human Services quality standards. FQHCs are on the frontline for the management of chronic disease prevention and health promotion. The project FQHC is located in a large urban community in Southeast Mississippi. It serves as a safety net and provides primary care to individuals and families. The clinic offers primary care, behavioral health services, obstetrics/gynecology, and pediatric care. The community health center offers reproductive health, STD testing, HIV, Hepatitis screening. It has a multidisciplinary approach to care. The clinic sees approximately 23,000 patients a year.

The providers offer linkage-to-care for those that are HIV positive through the primary care services. Moreover, the clinic offers preexposure prophylaxis (PrEP) therapy to those who are at high risk. The clinic has one RN, five LPNs, and 11 medical assistants. Additionally, the clinic has seven board-certified physicians, five board-

certified family nurse practitioners, one licensed clinical/family master's level counselor, and two licensed master's level social workers.

This FQHC mostly serves African Americans but is open to all races and ethnicities. The institutional mission states that the facility is dedicated to improving healthcare access and eliminating health disparities within communities by providing access to quality primary and tertiary healthcare services in an environment that preserves human dignity and cultural sensitivity. The institutional values focus on providing high-quality, affordable health care to the communities being served. The vision is to foster a positive work environment and sustains its communities through collaborative relationships with other organizations.

FQHCs' clinical quality measures are reported to the Health Resources & Services Administration (HRSA) every year in February. One quality measure is HIV screening. The clinical goal for this measure is 70%. The 2019 HIV clinical measure fell below 50%. The data extrapolated from NextGen electronic medical record system demonstrates that 2,031 patients have qualified for HIV screenings. However, only 290 (14%) patients have been screened thus far; 1,741 patients have not been screened; hence, staff are not meeting the goal. Therefore, there is a need to improve this clinical measure for this facility. This project aims to improve this measure through the education of clinical staff. It is feasible to accomplish this project in this setting because the community health center is a FQHC that serves as a safety net for the local community.

Role of the DNP Student

The Doctor of Nursing Practice prepares the student to be engaged in leadership and advanced practice roles (Edwards et al., 2018). The DNP-prepared professional should "enhance health outcomes and seek to optimize quality in healthcare delivery" (p. 2) as well as be able to design, implement and evaluate clinical programs that can influence health policy and bridge the gap between research and practice. Moreover, the DNP prepared professional can also affect evidence-based practice and change through research utilizing grounded theory and health promotion models.

I served in a leadership role during this project and was responsible for the planning, implementation, and evaluation of the education project. I also served as a facilitator and content expert as an HIV prevention certified provider for the staff education project. I obtained this certification through an educational program offered by the CDC. As an HIV prevention certified provider, I completed 5 hours of additional training related to prevention strategies and antiretroviral care given online by the CDC. The DNP project took place at an FDHC that reports annual clinical data to the U.S. Department of Health and Human Services.

Role of the Project Team

An expert panel was identified to review the proposed education project and knowledge survey. The project team included the clinical services/quality improvement physician and one nurse practitioner who serves as the population coordinator for the FQHC. The physician served as the lead content expert at the facility. She reviewed the education program and pre- and postquestionnaires. The nurse practitioner served as a

content expert and provided feed-back on the education material, the pre/post questions, and the evaluation process.

The clinical services/quality services physician also served as a superuser for the site's NextGen Electronic Health Record platform. Therefore, she provided the number of patients who had currently been screened for HIV. The staff members that were the audience for this education project are the LPNs and CMAs. They are the first to encounter patients and will begin the HIV testing education.

Summary

The practice problem identified was the need to increase the knowledge of frontline staff members related to HIV education and testing. To accomplish this goal, I used Knowles's adult learning theory. A tenet of the adult learning theory is that learning occurs when one is self-motivated to learn. The staff education project took place at a FQHC.

The FQHC did not meet the quality measure related to HIV testing. Therefore, the purpose of this project was to provide health care workers with HIV education to better serve at risk patients. Programs are needed to improve the quality of care delivered to those persons living with HIV (Feylssa, Lockwood, Woldie, & Munn, 2019).

Section 3 restates the practice problem and purpose of this project. The practice-focused question is presented. The sources of evidence and collection of evidence are described. The literature that supports the need for this project is discussed and the module components are illustrated. The education course, data collection method, and data analysis was also explored as it relates to the practice-focused question.

Section 3: Collection and Analysis of Evidence

Introduction

HIV testing is an essential strategy to combating this chronic illness. Moreover, increased HIV testing can allow individuals to better understand their HIV status. Early detection also enables individuals to undertake care and start on antiretroviral therapy to enhance their quality of life (Koenig et al., 2017). The focus of HIV prevention should be increased knowledge and awareness related to prevention.

HIV transmission in the U.S. South is a major public health concern that must be addressed. The CDC (2019) reported that in 2014, the Deep South had the highest number of individuals diagnosed with HIV (18,087). The Deep South consistently has the highest mortality rate among people diagnosed with HIV, researchers have found (Reif et al., 2017). In addition, the Deep South receives less funding for persons living with HIV than the United States overall (Reif et al., 2017). The FQHC is an urban clinic that services those who are often disenfranchised and marginalized. The community clinic has its HIV benchmark set forth by the U. S. Department of Health and Human Services. The current goal for HIV testing is 70% for the clinic. Therefore, there is a need for HIV prevention and care in the Deep South to meet the national HIV/AIDS strategy goals. In Section 3, I restated the practice-focused question. The sources of evidence compel the need for HIV prevention and intervention strategies. As I discussed, I analyzed this information to contribute to the current body of knowledge.

Practice-Focused Question

The purpose of this DNP project was to provide staff education on promoting effective strategies related to HIV testing and prevention. The practice-focused question was, Will an HIV education course for nurses and medical assistants increase their knowledge of HIV prevention and screening? I explored whether an HIV-related testing education utilizing an HIV approved curriculum for all nurses and medical assistants improves the staff knowledge related to HIV testing. Moreover, if health care staff understand integral strategies related to HIV testing and prevention then one could hope to see positive outcomes.

Sources of Evidence

I reviewed the literature to assess the need to increase HIV educational strategies among healthcare workers as a measure to improve HIV testing. The sources of evidence came from the following online databases: CINAHL, ProQuest, Medline, EBSCOhost, and Google Scholar. Additionally, data were obtained and evaluated from online governmental agencies. The keywords used for this search were *HIV*, *HIV/AIDS*, *HIV testing*, *HIV strategies*, and *education*. The literature spanned a time frame of 5 years, from 2014-2019. The literature review was expansive and yielded over 100 primary sources of literature. After a review of the abstracts, 14 articles were selected for this review.

Participants

The clinic staff of LPNs and medical assistants were the primary participants. There are five LPNs and 11 medical assistants who participated in the education course.

These participants were selected because they are the nurses and support staff at the FQHC facility. They are the first contact patients have with the healthcare providers and they are the ones who begin the educational process on preventive care.

Procedures

The participants of the staff education project were the LPNs and the medical assistants. The educational activity took place over an 8-week period that encompassed the development, implementation, and evaluation of the project. The first 2 weeks were dedicated to the development of the multimedia presentation. Next, over a period of 3 weeks, I engaged in the implementation of the project. During this phase, the educational project took place at different times to ensure that all participants received training. The evaluation phase took place over a 3-week period. It was during this time that all data was analyzed.

Twenty participants participated in the project. The participants completed a questionnaire to assess their baseline knowledge of prevention strategies. The assessment had 10 multiple-choice questions and took about 10 minutes to complete. See Appendix for the exact questions. The staff then engaged in an online video and multimedia course on HIV prevention. This activity was conducted over a 2-day period. For those who missed the first session, make-up sessions were given two more times over a 2-week period to ensure all participants attended. The participants were given a posttest following the 2-week period. The participants were given their test scores at the end of the training session so that they could evaluate their own knowledge. The data was then entered into a database, deidentified, and kept in a secure location. The clinical

services/quality improvement physician who oversaw this activity and I evaluated the data results. See Table 2 for the teaching plan.

I obtained the material for this educational project from the CDC's (2019a) Let's Stop HIV Together Initiative. This course was in response to the HHS strategic plan *The Ending the HIV Epidemic: A Plan for American Initiative*. The goal is to reduce new HIV infections by 75% by 2025 and 90% by 2030. The Ending the HIV Epidemic plan pursues scientific advances related to prevention, diagnosis, treatment, and response. The first phase of the program embraces technology, HIV prevention, and treatment efforts. The Let's Stop HIV Together Initiative emerged from the Ending the HIV Epidemic initiative (CDC, 2019a).

Table 1

Overview of Staff Education Project

Objective	Content	Teaching method	Evaluation
To increase the knowledge of nurses and medical assistants related to HIV prevention strategies	Review Data from State and National Levels	Power Point Video Case Study	Pre and Post Test Summative Evaluation
To increase routine testing rates by February 2022	HIV Content <ul style="list-style-type: none"> • Transmission • Prevention <ul style="list-style-type: none"> ○ (Condoms, PrEP, Syringe Usage for IV Drug Users) 		
To improve HIV observation and data managing within the organization	<ul style="list-style-type: none"> • Testing 		

Protections

This staff development project was approved by the Quality Improvement Committee at the FQHC approved this staff development project. The participants were the healthcare workers with initial patient contact. The course facilitator provided the participants with an information sheet that explained the purpose of the course and that all testing materials would be kept confidential and would be destroyed once the data were entered in the SPSS, the data analysis program. The participants were given an identification number to use for both pre- and posttests. The list with participant names and numbers was kept in a locked and secure location. Once the testing was completed and the data entered into SPSS, I shredded the list and all tests. I completed the CITI training for the protection of human subjects and did not engage in any project activities prior to receiving Walden University's Institutional Review Board approval 03-09-21-0661541.

Analysis and Synthesis

The goal of the DNP project was to increase the knowledge of the frontline medical staff on the importance of HIV screening. After participants completed the course, I matched the pre/posttest results by participant and completed data entry and analysis of the data using SPSS statistical software program. Following data entry, the tests were destroyed. A descriptive analysis was conducted to describe the participants and a dependent t-test to determine a change in knowledge.

Summary

Due to advances in health care, people living with HIV and those at risk for HIV can live long productive lives. This will require a broader range of health care services to meet their unique needs (Marshall et al., 2017, p. 1337). Therefore, health care staff must be cognizant of strategies to prevent HIV transmission. Moreover, healthcare staff must be knowledgeable of potential barriers because stigma and discrimination could impact the care received and ultimately affect patient outcomes (Marshall et al., 2017). Also, health care staff must understand the factors that can affect access to treatment and prevention. The American Nurses Association (2019) has stated that nurses are vital and essential to HIV treatment and prevention. CMAs serve alongside nurses and offer essential patient services. CMAs have expanded roles and are able to communicate and engage with the patient to enhance patient education (Balasa, 2008). The staff education project incorporated the CDC's Let's Stop HIV Together Campaign. In Section 4, I discussed the findings and conclusions of the DNP educational project. The strengths and limitations of the project were explored, and recommendations were made.

Section 4: Findings and Recommendations

Introduction

The review of literature suggests that there is a gap in knowledge among nurses and medical assistants on HIV prevention and screening. The goal of this staff education project was to bridge the gap between primary prevention and nurses' knowledge by conducting an HIV prevention training. The practice-focused question was, Will an HIV education course for nurses and medical assistants increase their knowledge of HIV prevention and screening? The purpose of the project was to provide education to frontline medical on the importance of HIV prevention and screening.

The staff education project took place via Zoom due to the COVID-19 pandemic. I sent participants a Zoom invitation for the staff education by email along with a link to a Google Form that contained links to the demographics and pre- and posttests. The staff education session was conducted with 20 participants. The participants were asked to complete the demographic survey and the pretest prior to the staff education. The staff were educated using the CDC's Let's Stop HIV Together Initiative.

The participants received education related to the percentage of HIV in the South. The HIV risk factors for this population include high-risk sexual behavior, poverty, and low educational attainment (CDC, 2020). The participants were educated on the CDC's recommendation of annual HIV testing for those with risk factors between the ages of 13-64 years of age. The education project covered HIV transmission and the use of antiretroviral medications. The education also covered prevention strategies such as promoting HIV testing, condom use, and abstinence. The participants engaged in a case

study and a multimedia video. Following the educational session, the participants took a posttest.

Findings and Implications

After matching the data to the participants, I analyzed data using SPSS 27.

Descriptive statistics were conducted to describe the participants' characteristics, and a paired-sample t-test was performed to determine any changes in test scores.

Table 2

Participant Characteristics

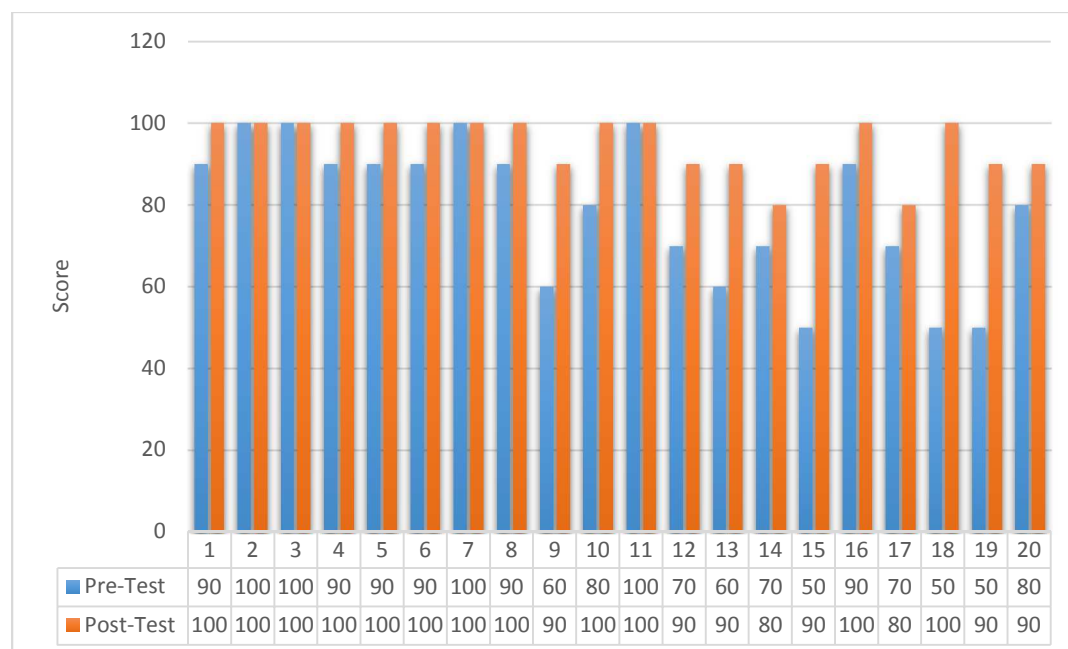
Characteristic	<i>N</i>	%
Age (years)		
20-30	13	65
31-40	5	25
41-50	2	10
Race		
Black	17	85
White	3	15
Gender		
Female	18	90
Male	2	10
Discipline		
BHS	1	5
CMA	11	55
LPN	5	25
NP	1	5
RN	1	5
SW	1	5
Years of practice		
0-5	14	70
6-10	4	20
11-15	1	5
20+	1	5

Note. BHS = behavioral health specialist; CMA = certified medical assistant; NP = nurse practitioner; SW = social worker.

Following the education meeting, four participants had perfect scores on both tests; thus, there was no change in their scores. Five participants increased their test scores by 30% or more. I surmised that those who had a noteworthy increase in their test scores worked in specialty areas and therefore had a limited need to address HIV testing when compared to those who worked in primary care. The remaining participants had an increase of at least 20% (see Figure 1). This increase indicates that there was a good comprehension of HIV facts and risk factors.

Figure 1

Pre- and Posttest Results



I conducted a paired-sample t-test to evaluate the impact of the intervention on the participants' HIV knowledge test scores. There was a statistically significant increase in knowledge between the pretest ($M = 79$, $SD = 17.7$) and the posttest ($M = 95$, $SD = 6.9$), $p < 0.00$ (two-tailed). The mean increase in scores was 16 with a 95% confidence interval

ranging from 9.14 to 22.86. These values indicate that knowledge increased for most of the participants. Even those participants with perfect test scores appeared to find the information beneficial as a result of their attendance.

Recommendations

The data from the study could be used to improve organizational policies related to staff education and training. At the organizational level, health care leaders could use the data to enhance staff training to include health promotion and strategies to improve the health outcomes of those living with HIV. The increase in staff education and training may lead to a more knowledgeable workforce. Improving the knowledge of frontline nursing staff may enhance patient outcomes as well.

I administered a summative evaluation at the end of the staff education project. The participants were asked to identify a key strategy they learned in the session and/or would implement in their practice. At the conclusion of the project, the participants were sent an evaluation. The results of the evaluation revealed that the participants had an increase in knowledge and would implement these new strategies in their practice. The participants found that the HIV education project was informative and enlightening. The participants indicated some key next steps that would be integral in helping to decrease the transmission of HIV and/or strategies learned. Participants reported outcomes included the need to “screen the patient as young as 13 years old with risk factors” and “to begin HIV health education strategies as young as 13 as a preventive measure.” These responses signify that participants understood the need to educate and screen those patients who meet the CDC guidelines. The participants indicated that the education

project was informative and beneficial. They realized that effective communication is essential and stated they should engage in more open dialogue with their patients. One participant stated that “as a first line of contact, it is important to build a trusting relationship with the patient.” Another frontline staff participant reported “being more open to discuss prevention and sexual health.” Overall, the staff education project was successful. The students indicated that they learned about various prevention strategies, risk factors, and antiretroviral medication.

Contributions of the Doctoral Project Team

The clinical services/quality improvement person served as lead content expert. The physician reviewed the question items for the pre- and posttest. The content utilized for the training education was retrieved from the CDC’s Let’s Stop HIV Together Initiative. After reviewing the content, the physician approved it. The nurse practitioner served in the role of content expert and provided feedback on the education material and pre- and posttest. The staff education was project was conducted with 20 participants. It is my hope that subsequently, this educational course could extend to other members of the interdisciplinary team such as nurse practitioners, social workers, and behavioral health therapists.

Strengths and Limitations of the Project

The strengths of the project include the small number of participants. This offered the participants a more intimate setting. During the meeting, each participant was able to engage and have open dialogue during the discussion/question and answer session.

Likewise, the virtual platform (Zoom) offered each participant the flexibility needed to participate.

A small number of participants can also be a limitation. This could lead to a misinterpretation of the findings and inconclusive results that can affect the ability to apply the findings to other organizations. However, these potential limitations demonstrate the need to collect more data on staff education projects in order to develop better programs that include strategies to improve the health outcomes of those living with HIV. Another limitation was the lack of diversity. In future programs, it is recommended to enroll a more diverse group of health care professionals. It is essential and beneficial to have a diverse perspective on health topics that can be seen as chronic diseases. It is my hope that the results from this project could be used to foster more training programs aimed at reducing stigma and other barriers to HIV care and patient access among community health centers.

Section 5: Dissemination Plan

Introduction

Improving the knowledge base of nurses and medical assistants as it relates to HIV may improve patients' access to high-quality health care. Furthermore, it is my goal to seek to disseminate the information from this project to help improve the lives of all Mississippians. At the institutional/organizational level, I disseminated the data to the executive leadership team. The data demonstrated that more staff education was needed. The staff were receptive to the learning activities. The data can be used to reshape future staff education and trainings. The executive leadership team could use the baseline data to incorporate more training to licensed personnel such as social workers, licensed clinical psychologists, and other members of the health care team. Also, at the institutional/organizational level, leadership could use the data to expand resources offered to patients and the community. For example, the FQHC where the project took place does not have a Ryan White Fund, a program administrated by HRSA. The results from this project could be used as baseline data for senior management to consider expanding services to become a Ryan White clinic. With Ryan White funding, patients could continue to access free HIV testing, preexposure and postexposure medication, antiretroviral medication assistance, counseling/support services, and lab services. In addition, funding from this source could encourage health care providers to seek new innovative strategies to help meet the needs of their patients.

At the state level, my goal is to disseminate the data to the Community Health Center Association of Mississippi, which helps to govern local FQHCs. The results from

the project can be used to further demonstrate the need for more Ryan White programs within community health centers. Public health officials could use project data to seek additional grant funding to improve access to care for those with HIV. It could also be used to affect policy change around education and training of support staff as it relates to HIV prevention and education. Equipped with the project findings, the clinic leadership can advocate for grant funding to improve education and training for those frontline workers at community health clinics.

The project findings revealed that nurses and medical assistants developed and enhanced their baseline knowledge of HIV prevention strategies. An increase in knowledge as it relates to HIV among nurses and medical assistants may help health care leaders to improve prevention strategies and other health promotion approaches. It is my hope that public health officials could use these baseline data to develop additional programs aimed at reducing the stigma associated with HIV that is a barrier to care for Mississippi patients.

Analysis of Self

During the course of this project, I have engaged in the intertwined roles of practitioner, scholar, and project manager. As a practitioner, my focus was on ensuring that the data received could be utilized to improve patient care outcomes. Moreover, I sought to ensure that the data could be used to expand services and enhance quality care to many patients. In my role as a scholar, I was able to recognize a clinical problem, perform the necessary research, and offer a solution in a clearly organized and consistent

manner. The role of the project manager allowed me to contribute to the development, implementation, and evaluation of this project.

Summary

The overarching purpose of this project was to increase the knowledge of nurses and medical assistants. I hope that the data from this project serves as a catalyst for the development of other HIV programs for patients who suffer from other chronic health conditions such as diabetes and hypertension. I have a passion for quality improvement programs. My goal is to find new strategies to improve the lives of underserved, marginalized, and disenfranchised patients of Mississippi. It is essential that all health care providers join in the cause to improve the lives of the patients they serve.

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Appendix: Pre/post Test Questions

1. AIDS can reduce the body's natural protection True or False
2. AIDS can damage the brain True or False
3. AIDS is an infectious disease caused by a virus True or False
4. Pre-exposure medication (PrEP) reduces the risk of getting HIV from sex by 99% when taken as prescribed True or False
5. Viral load is the amount of HIV in the blood of someone who has HIV True or False
6. PrEP is an HIV prevention medication that is given once a day. If taken correctly it can make the viral load undetectable which means the virus cannot be transmitted to others. True or False
7. HIV is transmitted through saliva, tears and sweat True or False
8. HIV is transmitted through breast milk, rectal and vaginal fluids True or False
9. As a health care worker, some prevention strategies, I can discuss with my patients are: wearing condoms when sexually active, and taking pre-exposure prophylaxis medication (PrEP). True or False
10. As a health care worker, some prevention strategies, I can discuss with my patients are: don't have sex if you are high, use new needles if you are an IV drug user, and recommend HIV testing at a local clinic. True or False