THE EFFECTS OF AN EDUCATIONAL MODULE ON PROVIDERS' KNOWLEDGE, ATTITUDES, AND FREQUENCY OF SCREENING HIV PATIENTS WITH SUBSTANCE USE DISORDERS

by

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ABSTRACT

TAWANNA LATRICE HAIRSTON. The effects of an educational module on providers' knowledge, attitudes, and frequency of screening HIV patients with substance use disorders. (Under the direction of DR. JUDITH CORNELIUS)

People living with HIV (PLWH) are among the most affected patient populations who suffer with SUDs. Health care providers (HCPs) must be knowledgeable about SUDs and cognizant of their own attitudes towards PLWH who suffer with substance abuse. Additionally, providers must be proactive in identifying HIV patients who are at risk for or actively engage in such high-risk behaviors, through appropriate screening. The purpose of this study was to examine the effects of a SUDs educational intervention on the knowledge, attitudes and screening frequency among HCPs who manage the care of PLWH. The study included pre- and post-test, and six weeks post trainig surveys. Data collection was done via retrospective chart reviews to assess the frequency of substance abuse screenings performed one year prior to the intervention, and again at three months before and after the training. The study sample consisted of 29 HCPs (medical doctors, fellows, pharmacists, nurse practitioners, a physician assistant, and a clinical social worker.

Study results showed that there was a statistically significant increase in provider knowledge from the pre- to post-intervention ($p = 0.000$). There was no statistically significant difference six weeks post intervention ($p = 0.080$). Attitude scores were not statistically significant prior to, immediate post ($p = 0.224$) and six weeks post-intervention ($p = 0.429$). Providers did not show an increase in substance abuse screening frequency three months after the educational session. Additional HCP educational

training is needed to sustain knowledge, improve attitudes, and increase frequency of screenings for substance use disorders among HIV patients.

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CHAPTER 1: NATURE OF THE PROJECT

1.1 Introduction

The increasing prevalence and complexity of substance use in the United States continues to have a significant impact on society. In 2015, 20.8 million people met the diagnostic criteria for substance use disorders (SUDs), with only 2.2 million individuals receiving any type of treatment (Surgeon General's Report on Alcohol, Drugs, and Health, 2016). The Substance Abuse and Mental Health Services Administration (SAMHSA) National Survey on Drug Use and Health (NSDUH) report (2019) estimates that approximately 20.3 million people aged 12 or older had a substance use disorder in the past year. In regards to the cost to the U.S, abuse of tobacco, alcohol and illicit drugs demanded more than $740 billion yearly in expenses related to crime, lost work productivity and health care (National Institute on Drug Abuse [NIDA], 2017). People living with Human Immunodeficiency Virus (PLWH) are amongst the most affected patient populations who suffer with SUDs.

Human Immunodeficiency Virus (HIV) and SUDs have been inextricably linked since the beginning of the epidemic in the 1980s (NIDA, 2018), and even more given the recent opioid crisis that exist today. Substance use poses a significant health challenge for HIV patients in that it promotes actions which increase initial risk of infection with the disease, influences disease progression, and interferes with the effectiveness of treatment. Despite the fact that HIV can affect anyone, the danger of disease is higher in patients who suffer with substance use disorders.

Healthcare providers (HCPs) must not only be knowledgeable about SUDs and their impact, but must also be cognizant of their own beliefs and attitudes towards PLWH

who suffer from a disorder. Additionally, providers must be proactive in identifying, through appropriate screening, those patients who are at risk for or actively engage in such high-risk behaviors and helping them engage in appropriate treatment. Acknowledging that this type of problem exists in their patient population is the first step that HCPs must take in order to successfully combat this ever-growing epidemic.

1.2 Background

Substance use disorders occur when the recurrent use of alcohol and/or drugs cause clinically significant impairment, including health problems, disability, and failure to meet major responsibilities at work, school or home (SAMHSA, 2019). Per the Centers for Disease Control and Prevention (2016), SUDs, common among PLWH, are defined as problematic patterns of using alcohol and other substances such as cocaine, methamphetamine, prescription opioids and heroin (Durvasula & Miller, 2014). A third of the 1.2 million Americans with HIV currently use drugs or binge on alcohol and 24% of them need substance abuse treatment (NIDA, 2015). The CDC (2016) reports that 9% of the 39,782 diagnoses of HIV and 13% of 18,160 AIDS diagnoses were attributed to injection drug use (IDU) in 2016. These statistics represent an upward trend in comparison to the previous year's data in which IDU accounted for 6% of HIV diagnoses and 10% of AIDS diagnoses demonstrating that this epidemic warrants attention (CDC, 2016).

Substance use can have detrimental health consequences for people living with HIV. Individuals who misuse substances are less likely to link to HIV care, to be retained in care and to maintain adequate adherence to antiretroviral treatment (ART) (Campbell, Wolff, Weaver, Jarlais, & Tross, 2018). SUDs can also accelerate disease progression,

worsen AIDS-related mortality among patients who take ART (NIDA 2018), and lead to higher risks of HIV transmission and acquisition through increased risk-taking behaviors such as more sexual partners, less protected sex and sharing of drug paraphernalia (Campbell et al, 2018; Meyer et al., 2013). Medication non-adherence, detectable viral load, depression, anxiety and high-risk sexual behavior (unprotected anal and vaginal sex) were also associated with polydrug use (Mimiaga et al., 2013). As a powerful contributor to HIV, it is critical that substance use be addressed at every level of care in order to prevent such detrimental consequences.

Despite its prevalence and impact, substance use among HIV-infected patients continues to create many challenges for HIV care providers. The progression of HIV disease, low antiretroviral therapy (ART) adherence, complications of comorbid medical and mental health conditions and poorer perceived quality of life are some of the issues that providers are faced with when managing both HIV and SUDs (Dawson-Rose et al., 2017). Additionally, healthcare providers often have negative attitudes towards patients with SUDs and perceive treatment of these individuals as challenging, stressful and sometimes difficult (Van Boekel et al., 2014). With proper education and evaluation of their own attitudes towards PLWH affected by SUDs, providers can eliminate those challenges that affect their overall management of the patient's health care.

Routine screening for SUDs is recommended for HIV-infected patients at two crucial points: at entry to care, and annually (Health Resources and Services Administration [HRSA], 2013). Identifying SUDs in this high-risk patient population is essential to ensure proper treatment and referral and thus prevent worsening HIV disease and improve overall health. Health care providers (HCPs) must be vigilant in

administering screening though the use of screening tools to capture those individuals who are at-risk or actively engage in substance use.

Standardized screening tools, such as the Screening, Brief Intervention, and Referral to Treatment (SBIRT) and Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) are direct ways to recognize of any illicit drug dependence (Graham, Davis, Cook, & Weber, 2016). SBIRT is an evidence-based practice, which provides a platform to guide providers through the appropriate stages of substance use disorder management and thus allow providers to identify, reduce, and prevent problematic use, abuse, and dependence on alcohol and illicit drugs (SAMHSA-HRSA, n.d.). It is a process that must be coupled with a standardized screening tool, such as the ASSIST, in order to properly screen. The ASSIST tool is a validated screening tool that was developed by the World Health Organization (WHO, 2019) to detect and manage substance use related problems in primary and general medical care settings. Use of both tools can assist the provider in working through sensitive topics, like substance use, in a stepwise and flowing manner, which helps the patient feel at ease when discussing their substance use. In addition, these tools can help guide decisions on appropriate treatment interventions.

1.3 Problem Statement

Substance use disorders are just one of the many problems that exist in high-risk populations such as HIV-infected patients. Discussions of substance use are important yet often missed opportunities to improve quality of health care in this patient population. Too many times, dependence upon nurse-generated questions in the electronic health records serves as an avenue to address this issue. Unfortunately, this results in suboptimal

care and missed opportunities to identify problems of addiction that patients may be experiencing. High-quality screening by providers is essential to capture information needed to accurately assess and identify those who suffer from these disorders and guide appropriate referrals to treatment. In order to be able to best perform screenings, brief interventions, and referrals, healthcare providers must continually update their knowledge on SUDs and re-examine their own attitudes and biases.

Substance use disorders and HIV are important population health issues that affects millions of people worldwide. Special populations, such as PLWH, are at disproportionate risk for both overlapping epidemics which can have devastating consequences if not addressed appropriately. The negative outcomes of both diseases are enhanced in PLWH who suffer from SUDs as it impairs the care of HIV. The physical and psychological strain of uncontrolled HIV can reinforce negative coping strategies such as substance use. Decreased ART utilization, lack of adherence and poor virologic suppression are closely linked to drug use and result in worsening of the HIV disease which can ultimately lead to death. Prompt attention to those patients who experience substance-related problems will help prevent such outcomes.

Nearly 50% of PLWH report current or past histories of drug or alcohol use disorders (Durvasula & Miller, 2014). In 2017, statistics showed that amongst PLWH with injection drug use, Whites (45%) accounted for the largest number of new HIV diagnoses followed by Black/African Americans (29%) and Hispanic/Latinos (22%) (CDC, 2017). In 2016, injection drug use contributed to nearly 20% of recorded HIV cases among men and 21% among females (NIDA, 2019). These alarming statistics justify a need for better strategies in screening for SUDs in the HIV patient population.

1.4 Purpose/Significance of the Evidence-Based Project

The purpose of this DNP project was to discover whether an educational module about SUDs, and their impact on PLWH, was effective in improving providers' knowledge on SUDs, their attitudes towards PLWH with SUDs, and increasing the frequency of screening for SUDs in the outpatient HIV clinic population. Approaches to SUDs recognition starts with providers' awareness and knowledge of the problems that exist in their patients. Providing comprehensive substance abuse education on effective screening and treatment models such as SBIRT and ASSIST can help facilitate screening and equip providers with the tools needed to adequately identify and treat with SUDs.

Providers play an important role in identifying individuals with substance use disorders and linking them to the appropriate treatment. Screening with the use of standardized, validated tools such as SBIRT and ASSIST, is one way to help the provider to recognize patients who are at-risk or actively engaging in such behaviors, but effective screening may not always occur. Barriers to screening and brief intervention by HCPs include lack of knowledge, training or expertise treating SUDs, lack of confidence among providers in their own or their clinic's ability to treat SUDs, time constraints and negative attitudes towards people with SUDs (Keurhorst et al., 2017; Ober et al., 2017). Additionally, identification and management of SUDs are challenged by inconsistent assessment, providers' misperceptions about SUDs and patients' willingness to discuss it and lack of accessible treatment resources when SUDs are identified (Campbell, Wolff, Weaver, Jarlais, & Tross, 2018). Increasing provider awareness on the importance of screening for SUDs using validated tools, improving knowledge about SUDs, and assessing providers' attitudes towards PLWH with SUDs are warranted and supports the

significance of implementing an educational module in the Infectious Disease Specialty Clinic that will address these issues.

1.5 Clinical Question

With ID providers in the outpatient setting, what are the effects of a substance abuse educational module on provider's knowledge, attitudes and screening frequency of HIV patients before, after and six weeks after initiation of training?

1.6 Project Objectives and Outcomes

The main objectives of this DNP scholarly project were: 1) to educate providers on the benefits of using validated screening tools to detect SUDs in their patients, 2) to introduce the SBIRT model and discuss how this can work into providers' practices, 3) to examine providers' knowledge and attitudes towards substance use in PLWH and 4) to examine changes in frequency of screening and positive screens in the HIV clinic population. Important outcomes of this project associated with SUDs education include changes in how providers feel towards treating patients with SUDs, improved provider knowledge of SUDs and an increase in appropriated substance abuse screening of patients with HIV who have drug abuse problems.

CHAPTER 2: LITERATURE REVIEW

A comprehensive literature review was conducted to identify research related to current screening practices regarding SUDs or substance misuse, providers' knowledge on the importance of substance use and providers' attitudes towards persons who have SUDs. Databases used included PubMed, PsycINFO and Cumulative Index to Nursing and Allied Health Literature (CINAHL). The search included literature published between 2013 to 2019. The keywords used include "HIV," "AIDS," "healthcare provider or professional," "doctor," "screening," "provider attitude," "perceptions," "knowledge," "substance use disorders (SUDs)," " substance abuse," "SBIRT," and "ASSIST,". Titles, abstracts, and citation information were identified through the search strategy. All articles included were peer-reviewed, original research and systematic reviews. The articles were not limited to the United States and some repesented data on a international level. The exclusion criteria were those studies that did not focus on the utilization of SBIRT and ASSIST tools and substance use screening, providers' attitudes and knowledge of SUDs.

The initial database search of the literature yielded 531 citations based on the various search terms. The titles and abstracts were further reviewed and refined with these key terms: "providers' attitudes," "SUD," "screening,"and "healthcare provider" which yielded 18 articles with 13 excluded. "Screening," "SUDs," and "HIV/AIDS" yielded 10 articles with 6 excluded. "SBIRT," "ASSIST," "screening," and "HIV," yielded 25 articles with 21 excluded. "Knowledge," "doctors or healthcare professionals," and "substance abuse," which yielded 53 articles with 49 excluded. An citation review of the reference lists from the retrieved articles was examined. The citation review search yielded 5 articles with 3 excluded. A total of 17 articles were used

for this literature review. Additional information was obtained using a general search of "Substance Use Disorders" on the Centers for Disease Control and Prevention (CDC) Morbidity and Mortality Weekly Report (MMWR); NIDA, and SAMHSA websites.

2.1 Providers' knowledge of SUDs

Healthcare providers (HCPs) play an important role in identifying and addressing unhealthy substance use. Medical knowledge about the health effects of psychoactive substances and facility in discussing substance use is key for HCPs who provide routine medical care (Levy, Seale, & Alford, 2019). Davis and Carr (2016) conducted systematic review of laws in the United States that require continuing medical education (CME) on topics such as pain management, substance use disorders and evidence-based prescribing as a condition of obtaining or renewing licence to practice medicine. The authors found that a majority of states do not require any physicians to receive post-graduate training in evidence-based opioid prescribing, addiction or related topics such as substance use disorders. In addition, they found that a lack of baseline knowledge or medical education preparation to adequately address SUDs or chronic pain are causes and consequences of inappropriate treatment and prescribing.

Dewey, Ghulyan, & Swiggart (2016) conducted an evaluation of a professional development program (PDP) to assess the efficacy and impact of a PDP on physicians' knowledge on proper prescribing, identifying substance abuse, implementing SBIRT and implementing motivational interviewing (MI) with their patients. A sample of 174 physicians and other health care providers (dentists, nurse practitioners, physician assistants) participated in a three-day continuing medical education PDP prescribing controlled prescription drugs. Findings showed that physicians' knowledge scores on the

pre/post assessments increased significantly because of PDP. In addition to professional practice changes because of a PDP, providers also identified and referred more substance abuse patients to treatment.

Ram and Chisolm (2016) review of the literature regarding current insufficiencies in substance abuse training in medical schools found that there was insufficient exposure of this type of training in pre-clinical curricula and during the clinical years. In addition, the subtance abuse training that does exists at medical school is primarily focused on transmitting scientific knowledge with little education regarding attitudes and treatment skills necessary for the care of patients with substance use.

Chichetto et al. (2019) conducted a qualitative study to understand HIV care providers' perception and approaches to managing unhealthy alcohol use in HIV primary care settings. A sample of 14 HIV care providers, consisting of medical doctors, nurse practitioners, physician assistants, medical assistants and clinical administrative staff, participated in semi-structured interviews to elicit discussions on their perceptions and care practices related to alcohol consumption among people living with HIV. One theme identified from the interviews included providers' low confidence in their ability to reduce use due to a lack of formal education or training and resources neccesary to intervene. Inconsistent assessment of alcohol assumption and recommendations regarding unhealthy alcohol use were additional themes derived from the interviews. Providers were able to acknowledge the negative impacts of alcohol use on health outcomes and HIV treatment. Study limitations include a small sample size and possible self-selection bias among the providers. Patient prespectives on alcohol-related issues and harm reduction were not examined.

Gorfinkel et al. (2019) examined the application of structured, self-assessment tools to evaluate differences in knowledge gained by learners who participated in a hospital-based clinical elective on addiction medicine. The elective covered areas of substance use screening opioid use disorders, safe prescribing, signs and symptoms, withdrawal treatment and biology of SUDs. The sample of 168 participants in the study included medical students, residents, addiction medicine fellows and family physicians in practice. Pre- and post-rotation self-assessments were done after the structured elective. The authors found a significant improvement in overall knowledge in addiction medicine immediately after the elective. A limitation of the study was that the use of the self-assessment tool captured only self-perceived competency in a certain area which may not accurately reflect a change in knowledge or behavior.

2.2 Providers' attitudes and perceptions toward SUDs

Healthcare providers (HCPs) are often the first resources for patients that identify as needing help with substance use issues. However, such individuals may be overlooked as a result of the providers' personal perceptions and negative attitudes towards this particular group. Van Boekel et al. (2014) conducted a cross-sectional study to investigate attribution beliefs, emotional reaction and characteristics of healthcare professionals working with patients with SUDs. A sample of 347 HCPs from three different sectors, consisting of general practitioners (GPs), general psychiatry practitioners, and addiction specialists, participated in the study and were asked to complete a series of questionnaires in regards to working with patients with SUDs. The authors found that addiction specialists showed higher preference for working with patients with SUDs compared to general psychiatry practitioners and GPs. Attribution of

personal responsibility and feeling of anger and fear were associated with lower preference scores. Familiarity with substance use problems, higher frequency of working with this patient group and confidence in substance abuse treatment were positively associated with preference to provide care. Social desirability bias was present and positively related to HCPs preference to care for those with SUDs. One limitation of the study was that in the questionnaires, no differentiation was made between patients with alcohol versus drug use problems therefore, it was unknown whether HCPs' preference varied according to substance abuse types.

In another study by Van Boekel et al. (2013), a systematic review of studies was conducted evaluating HCPs attitudes towards patients with SUDs and the consequences of negative attitudes on healthcare delivery for patients in Western countries. The search process yielded 1562 citations, but only 28 articles were included for the review. Findings from the studies showed the HCPs generally had a negative attitude towards patients with SUDs, with perceptions of violence, manipulation and poor motivation as impeding factors in the healthcare delivery of these patients. In addition, HCPs lacked adequate education, training and support structures in working with patients with SUDs, were less involved and exhibited a more task-oriented approach in the delivery of healthcare. A limitation of this systematic review was selection bias. Since only motivated HCPs participated in the primary studies, the quality and results of these studies might have been affected.

Harris et al. (2016), explored the attitudes of primary care physicians (PCPs), nurse practitioners (NPs) and physician assistants (PAs) towards substance use, their perceptions of effectiveness, role responsibility, self-efficacy and current practice

identifying factors which may impact delivery of SBIRT in primary care. A sample of 213 primary care practitioners (physicians, NPs, PAs) were asked to complete surveys collecting information on their attitudes, perceptions and practice regarding SBIRT. Compared to physicians, NPs and PAs felt less responsible for addressing substance use ($p= 0.019$), less comfortable discussing substance use ($p=0.004$), had more negative attitudes towards addressing substance use ($p=0.004$), and were less likely to conduct brief intervention and referral to treatment. Physicians attitudes were more positive, they had a greater perception of role responsibility for addressing substance use and reported higher levels of comfort in discussing substance use. Limitations of the study included selection bias in that the convenience sample of individuals who responded to the survey were more likely to be interested in addressing substance use, have positive attitudes and practice SBIRT more frequently than the general practitioner population.

It is important that healthcare providers be aware of their own attitudes that might ultimately interfere with patient-provider rapport, trust and open communication. In a cross-sectional study, Ray et al. (2013) examined patient and provider characteristics associated with high comfort discussing substance use in HIV primary care clinics. A sample of 413 patients and 44 providers completed surveys on their comfort level in discussing substance use. The researchers found that many of the patients and providers reported high comfort levels. Patients with current problematic alcohol use or drug use were half as likely to report high comfort compared to their non-substance-using peers. Provider-level characteristics were not associated with provider comfort, unlike the types of patients a provider saw was. One limitation of the study is that the relatively small

number of providers limits the power to detect independent associations between provider characteristics and provider comfort.

Campbell et al. (2018), used thematic analysis of qualitative interviews to explore providers' substance use assessment and factors associated with ART initiation. Twenty-five out of 163 HIV primary care providers (PCPs) participated in a study consisting of a brief survey and qualitative interview. Campbell et al. (2018) found that almost all of the providers agreed with guidelines for universal ART initiation despite the presence of SUDs, but identification and management of SUDs was challenged by providers' inconsistent assessments to make a diagnosis of SUD in favor of a diagnosis guided by intuition (e.g., can tell by looking at the patient). Other provider challenges include misperceptions about SUDs, the patient's willingness to discuss it and lack of accessible treatment resources when SUDs were identified. Based on these findings, the authors noted that additional training in principles and practices in addiction and its treatment is needed. Limitations of the study included a lack of generalizability in provider's HIV treatment experience and recruitment challenges such as inaccurate contact information and difficulty making direct contact with the providers.

2.3 SUDs Screening Practices

Screening is the first step in identifying individuals who suffer with SUDs and connecting them to treatment. Loheswaran et al.(2015) conducted a study to assess whether family physicians in Ontario were screening for alcohol, opioid and tobacco use disorders, using validated screening tools and provision of treatment. Only 119 family physicians out of 11,000 completed an online survey consisting of questions related to rates of screening for alcohol, opioid and tobacco use disorders, use of validated tools,

treatment for dependent individuals and the current barriers to the prescription of pharmacotherapies for alcohol, opioid and tobacco dependencies. The authors found that the use of validated screening tools was limited for all three substances. Screening for SUDs among adolescents was much lower than screening among adults. Pharmacotherapy was used more for tobacco dependence than for alcohol and opioid dependence. Findings suggest there is a need for family physicians to integrate screening for SUDs using validated tools into their standard medical practice. The low response rate to the online survey was a limitation of the study and could possibly be explained by a lack of provider interest and awareness on the importance of screening and treatment of SUDs.

In relation to the importance of screening, how and what types of questions may elicit better responses. In one study conducted using audio-recorded encounters between 56 providers and 162 people living with HIV/AIDS and active substance users, Callon et al. (2016) found that providers who asked open-ended questions (i.e., "How's the drinking going?) elicited more accurate disclosure in comparison to closed-ended questions. They also found that many of the providers missed the opportunity to discuss and identify substance use in their patient population by the type of questions asked. The small sample size limited generalizability of the study's finding to evaluate the potential associations between patient, provider race and gender.

HIV health care providers have the opportunity to identify and intervene with patients who otherwise would be unlikely to access specialty treatment for substance use, however few studies have explored screening for substance use as a part of HIV primary care (Dawson-Rose et al., 2015). Dawson-Rose et al. (2015) examined patterns and

severity of substance use through two different screening and assessments at a large, urban HIV clinic in San Francisco, California. A sample of 168 clinic patients were enrolled and screened for substance use with the ASSIST and urine samples. Findings from this study showed 66% of the study sample reported using tobacco or other non-prescribed substances and 40% reported moderate or high-risk alcohol use. Differences in gender and race were observed. For example, African Americans had higher rates of high-risk cocaine use in comparison to Whites/Anglo-Americans with high rates of high-risk amphetamine and inhalant use.

Hitch et al. (2019) conducted a review of the literature examining substance use screening approaches among PLWH in HIV clinic settings. Twenty-one peer reviewed articles were included in the review. The authors reported that there was limited data on the implementation and evaluation of substance use screening practices within HIV care settings. In addition, the use of validated substance use screening measures or incorporation of other substance use screening approaches (e.g., use of urine drug testing) within routine HIV care practice was also limited. Based on these findings, Hitch et al. (2019) suggested that HIV care providers consider potential models to optimally screen and treat individuals with SUDs.

2.4 SBIRT Model and ASSIST Tool

Effective methods to detect SUDs, as well as referrals to treatment programs, can make a large impact on HIV patient outcomes. Graham et al. (2016) conducted a study to describe six years (2008-2013) of existing SBIRT data obtained from a Colorado clinic and to describe how an SBIRT intervention was integrated in an outpatient clinic. Findings from 1616 SBIRT evaluations showed that 37-49% of encounters per year were

notable for tobacco use, 8-21% for alcohol use, 6-16% for marijuana use, 3-9% for amphetamine use and 0-2% for opioid use. The ASSIST tool was used to score patients as low, moderate or high risk for abuse related to tobacco, alcohol and other substances. The average ASSIST scores during this study time period were in the moderate risk range for all substances. One limitation of the study was the inability to identify cause and effect relationships or confirm trends with the data.

Pflanz-Sinclair et al. (2018) presented a qualitative study introducing substance misuse screening using the SBIRT model in primary care in Abu Dhabi. Qualitative interviews were conducted with PCPs at two clinics to explore their perceptions, experiences and attitudes towards substance use mismanagement. Eleven physicians were trained on SBIRT and then invited to discuss their experiences on training and implementation of SBIRT. Findings from this study revealed that physicians demonstrated positive attitudes towards approaching and managing substance misuse through SBIRT. Physicians also expressed satisfaction with SBIRT and were willing to adopt SBIRT into practice.

In a study by Ward et al. (2015), the authors explored whether a brief motivational intervention (BMI) was effective in decreasing substance misuse and reducing aggression and HIV risk behaviors, such as having multiple sex partners, sexually transmitted infections, injection drug use and having unprotected sex. Participants were randomized to either BMI or no intervention. Substance use was assessed using ASSIST, aggression was assessed using the Expression Scale, and HIV risk through assessing for risk behaviors. Findings from the study showed that those who received the BMI were more likely to reduce their alcohol use. Those who reduced

substance misuse (whether as an effect of the intervention or not) also reduced aggression but did not reduce HIV risk behaviors.

To estimate changes in the substance use behaviors of patients, Aldridge et al. (2017) compared pre-SBIRT substance use with substance use 6 months after receipt of SBIRT services. A sample of 17,575 patients participated in the study. Patients receiving SBIRT services showed large and statistically significant ($p<0.01$) decreases of substance use by 6 months. Alcohol use was lowered by 35.6%, heavy drinking by 43.4% and illicit drug use by 75.8%. One limitation of this study was that the study design did not support causal conclusions and estimated decreases in substance use were due to a set of confounders and natural substance use patterns that may have been unrelated to any SBIRT intervention.

2.5 Theoretical Framework

The theoretical framework selected for this project is Lewin's Three-Step Change Theory. The basis of this model is to identify factors that can impede change from occurring, forces that oppose change called restraining forces and forces that promote or drive change referred to as driving forces (Sutherland, 2013). The change theory consists of three stages-unfreezing, movement (change), and refreezing. In the unfreezing stage, the task is to unfreeze the status quo and prepare those who will participate in or be affected by the change. Also during this phase, ongoing communication with stakeholders will help identify any driving and restraining forces that could potentially be barriers to project implementation.

There are many behaviors which need to "unfreeze" within the HIV clinic that is the setting for this study. First, there is no standardized substance abuse screening tool

utilized to assess high-risk behaviors in the HIV clinic patient population. Within the electronic medical record, there are limited assessment questions that ask about drug use that are often administered by nurses pre-intake and are not based on validated screening. As a part of the unfreezing stage, meetings with the ID Section Chief and clinic manager took place to get a general consensus of their views on the screening process currently in place to evaluate drug use. In addition, providers were educated on SUDs in HIV patients to gather insight into their perceptions about using SBIRT and ASSIST tools in the clinic.

Driving forces that helped the project move forward included: support or buy-in from the ID department faculty, possible clinic-wide support and adoption of new substance abuse screening tools, and potential collaboration with outside agencies and treatment facilities as referral resources. There were both systemic and individual barriers that can be restraining forces in HIV clinics. Individual barriers include provider bias and attitudes, lack of provider knowledge and questions on skill capacity to deliver SBIRT and ASSIST tools, comfort level in discussing substance use with patients and providers' lack of being convinced that implementing a screening tool will have any effect on the treatment outcomes. Systemic barriers included busy clinic schedules and time constraints.

In the second stage of Lewin's change theory, movement or change occurs (Longest, 2015). In this stage, the project coordinator provided an educational session on 1) epidemiology of SUDs in HIV patients, 2) importance of SUDs screening, 3) how validated tools can help to detect and track problematic use, and 4) on the use of the SBIRT and ASSIST tools.

The third stage of Lewin's change theory is refreezing which involves incorporating the change into the routines of those carrying out the implementation (Longest, 2015). In the outpatient HIV clinic setting, the plan is to incorporate the SBIRT and ASSIST tools as a part of the electronic medical record, replacing the current assessment questionnaire for the HIV clinic at project completion. Ongoing discussions with providers and staff took place addressing any problems or challenges encountered and successes realized. The Drug and Drug Users' Problems Perceptions Questionnaire (DDPPQ) and Substance Use Disorders Knowledge Survey was administered post-training to assess for any changes in provider's responses.

CHAPTER 3: PROJECT DESIGN

3.1 Methodology

This quality improvement project consisted of an educational intervention for Infectious Diseases providers that focused on substance abuse, administration of pre and post-education surveys and questionnaires to assess providers' knowledge of SUDs and attitudes towards working with patients who have SUDs. A retrospective chart review was conducted to assess changes in screening frequency and identification of those HIV clinic patients who have positive substance abuse screens in addition to needing an intervention. The study was approved by the Institutional Review Board (IRB) of Wake Forest Baptist Health.

3.2 Setting

This project was implemented at an outpatient Infectious Diseases Specialty Clinic (IDSC) located in Winston-Salem, North Carolina. The clinic treats all types of infectious diseases, making it one of the largest infectious disease clinics in North Carolina. The Ryan White HIV clinic, a specialty clinic within the IDSC, provides services for over 2000 active HIV patients giving providers access to a high-risk patient population that is potentially affected by substance use disorders (SUDs).

3.3 Population

The sample population for the study included the ID providers and consisted of 29 participants who work as infectious disease /HIV specialists at WFBH. The ID provider make-up was comprised of 20 medical doctors, two nurse practitioners, one physician assistant, five clinical pharmacists, and one clinical social worker. Each providers'

expertise ranged from Hepatitis C management, epidemiology, HIV care and recently, opioid abuse treatment. A convenience sampling method was used to select providers, applying appropriate inclusion and exclusion criteria.

3.4 Inclusion Criteria

The inclusion criteria were that providers must have an ID background area of expertise, manage the care of HIV patients and be willing to participate in the DNP project. No specific age, gender or race was required although these demographics were used as a part of the knowledge survey.

3.5 Exclusion Criteria

Exclusion criteria includes providers with no ID background or HIV expertise, not directly involved in HIV patient care and part-time ID providers only involved in research.

3.6 Measurement Tools

Three measurement tools were used to assess the three aspects of SUD care that the educational module hopes to impact: provider knowledge, provider attitudes, and provider action. The first of these tools is the SUDs knowledge survey was used to assess the participants' knowledge of the overall care of patients that use illegal drugs. The original survey was published by Beletsky et al. (2006) and recently adapted by Dr. Candice McNeil, Associate Professor in the WFBH IDSC, to assess provider's knowledge and prescribing practices of Naloxone. Cronbach alpha scores of the original survey's composite scales are 0.51 (attitudes), 0.65 (subjective norms), 0.54 (perceived control). The knowledge survey was further adapted by the DNP student to gain a broader assessment of provider knowledge regarding SUDs. Modifications were

performed with additional questions developed by the DNP student. The survey consisted of 25 questions consisting of open-ended and structured responses (Likert scale). The first six background questions addressed demographics of the participants (age, gender, race/ethnicity, profession, years of experience, highest degree obtained). The remaining structured-response questions were answered using the following: 1) 5-point rating (never, rarely, sometimes, often, always); 2) 3-point rating (true, false, I don't know); and 3) open-ended responses. Items on the SUDs Knowledge survey addressed more of the subjective norms (coefficient alpha 0.65) than attitudes and perceived control scales in comparison to the original survey. For this study sample, the Cronbach alpha scores for the SUDs Knowledge survey were 0.79 (care of patients with SUDs) with inter-rater correlation 0.511 (0.293-0.618) and 0.72 (general knowledge of SUDs) with inter-rater correlation 0.104 (-0.628-0.849). Permission to adapt the original survey was granted by the original authors, Dr. Leo Beletsky and Dr. Scott Burris.

In order to assess physician attitudes, a second tool the DDPPQ, developed by Watson, Maclaren, Shaw and Nolan (2003), was adapted and used to measure ID providers' attitudes towards substance use in the HIV clinic population (see appendix 1). The DDPPQ is a universally available, validated tool that was originally developed to measure mental health professionals' attitudes towards working with drug users and has since been used to ascertain the training requirements of staff who work with drug users and evaluate the impact of education programs on staff's attitudes. The DDPPQ is a 22-item scale that addresses five subscales related to role adequacy, role support, job satisfaction, role-specific self-esteem and role legitimacy regarding the staff's work with patients with SUDs. The 22 items are rated on a 7-point Likert scale with 1 corresponding

to “strongly agree” and 7 to “strongly disagree.” The scores are tallied upon completion with low scores denoting positive attitudes and high scores associated with negative attitudes. The minimum possible score is 22 and maximum is 154. The developers reported satisfactory test-retest reliability and internal consistency (Cronbach’s alpha = 0.87). Construct and content validity were assessed and confirmed by factor analysis Watson, Maclaren, & Kerr, 2007). Notably, there is free online access to the DDPPQ.

The third method to assess physician action measured by frequency of screening and number of positive screens was a retrospective chart review that was conducted to collect data on the screening frequency and number of positive screens for substance use in the ID clinic. Annual substance abuse screening is one of the performance measures and clinics are required to report results to the HIV/AIDS Bureau which regulates federally funded HIV clinics. For this reason, the data was collected by a data analyst who assisted in providing data at one year prior to the educational intervention and three months before and after the session.

3.7 Intervention

The primary intervention employed to change current practice and improve substance use screening practices at the IDSC is the development of a SUDs educational module that educated providers on SUDs and its impact in HIV patients, various types of substances used, the benefits of screening, treatment and the use of validated screening tools to detect SUDs in their patients. An example of the SBIRT and ASSIST tools shown. In addition, participants were provided with resource cards that contained names and phone numbers of local drug treatment and rehabilitation agencies available for referral needs.

To develop the educational module, the literature review of evidence-based practices regarding concepts of SUDs was implemented. This information served as the foundation for the module. The module, developed by the project coordinator, along with an 8-item questionnaire was sent to content experts for revision and feedback. The final draft of the module was formatted to a Power Point presentation presented to the ID providers. The following steps describe the implementation of the SUD educational training session:

1. A meeting with the Section Chief of the ID department and Clinic Director, was arranged to discuss all aspects of the project with permission for implementation in the IDSC.
2. Once approval was received, a request for participation in the project was made to the ID providers via email announcement. All participants were asked to sign an informed consent to participate.
3. Once all participants consented to participate, the training session date was established.
4. Two hours were allotted for the training session. Prior to the training, for the first 15 minutes, the SUDs knowledge survey and DDPPQ questionnaire was given. The SUDs knowledge survey was created using by the project coordinator and the DDPPQ was adapted from an online source.
5. After completion of survey and questionnaire, the training on SUDs, screening and the use of SBIRT process and ASSIST tools was provided by the project lead. Ten minutes were allotted for questions, and discussion post training.

6. The SUDs knowledge survey and DDPPQ was administered following the training session. Time allotted for completion was 10-15 minutes.
7. The SUDs knowledge survey and DDPPQ was administered via email in six weeks after the training session.

To measure screening frequency in the ID clinic, a chart review was done with the assistance of a data analyst. Data was collected from November 1, 2018 to November 1, 2019. Additional data was collected three months prior to the intervention (August/September/October 2019) and again three months after implementation (December 2019/January/February 2020).

3.8 Data Collection

Data collection for this project involved several different methods. These methods include a 24-item SUDs knowledge survey, the DDPPQ questionnaire and a retrospective chart review. This data was collected pre-, post- and six weeks post educational training. The data focused on SUDs in the HIV population, the importance of screening using a validated screening tool (ASSIST), and how to combine these skills using the SBIRT process.

3.9 Data Analysis Plan

Statistical analysis was completed using the IBM SPSS statistical software package, version 26. Participant demographics were described using descriptive statistics, including standard deviation, means, percentages and frequency. The quantitative SUDs Knowledge pre- and post-survey was analyzed using the Wilcoxon signed-ranked test. A paired-samples t-test was used to analyze the DDPPQ pre- and post-questionnaire. To assess changes in screening frequencies, a table was developed highlighting the number

of patients screened, the number of patients not screened, and the number of positive screens with a plan showing treatment or if an intervention was needed. This table was modified based on data collected and provided by the data analyst. A chi-square test was used to assess for differences in the proportion of patients screened in the three months before and after the educational module.

3.10 Project Analysis

A Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis was conducted to highlight elements in each of the four categories that could affect the sustainability of the DNP project. One of the most important strengths of the project was the buy-in of the ID providers participating in the study. This allowed for culturally competent care provided by trained professionals who were motivated to help those patients who are at-risk patients for or have SUDs. Weaknesses that were encountered included clinic time constraints, initial low provider participation in the study, and scheduling conflicts in arranging the educational training session. Opportunities are external factors that are likely to help the project coordinator succeed. Examples of these factors included establishing relationships and partnerships with local drug rehabilitation centers, and integration of SBIRT/ASSIST tools into electronic medical record (EMR). Finally, threats are those uncontrollable external factors that could have placed the project at risk, such as increased demands on providers, providers' negative attitudes towards working with HIV patients who deal with drug abuse, and lack of referral services for treatment of uninsured HIV patients. Figure 3.1 highlights the SWOTs analysis.

3.11 Fiscal Impact

The resources needed to complete this project included a computer to use for presentation of the educational module in Power Point format, copy paper for printing the two surveys (assessing provider knowledge and attitudes), resource cards (helpful hints) and flyers announcing the training session. Money needed for refreshments and lunch provided for the participating staff came from the project budget. A conference room was reserved for the training that was two hours long. No travel time was needed for the project lead.

Support needed to help with successful project implementation included stakeholder buy-in from the Section Chief of the Infectious Disease (ID) Department, the Clinic Director, ID providers and the clinic staff in the outpatient ID clinic setting (clinical manager, nurses, CMAs, patient navigators, clinical social worker, pharmacists).

Strengths	**Weaknesses**
• Highly educated, competent and culturally diverse providers with HIV expertise • Setting: Ryan White (RW) HIV clinic overseeing >2000 active HIV patients • Multidisciplinary team consisting of providers, clinical social worker, pharmacists, patient navigators, psychologists. • Evidence-based approach in implementing screening tools for identifying HIV patients with SUDs or at risk for substance abuse	• Financial aspects-no RW grant funding needed to support future project ideas • Reliability and trust from patients when new screening process implemented • Poor provider participation • Time constraints in clinic to administer screening tools (SBIRT/ASSIST)
Opportunities	**Threats**
• Develop partnerships with local drug rehabilitation centers as referral services for those patients identified as needing treatment. • Establish a multidisciplinary team consisting of primary care provider, ID specialty, mental health provider to provide continuity of care for affected patients • Implementation of SBIRT/ASSIST into the electronic medical record • Future funding from Ryan White grant	• Increase demands on provider to do screening due to time constraints in clinic. • Loss of key staff-providers due to loss of interest • Lack of referral to treatment due to patients without insurance • Negative attitudes of providers preventing screening and referral to treatment

Figure 3.1. SWOT analysis

CHAPTER 4: PROJECT RESULTS

4.1 Introduction

The purpose of this project was to discover whether an educational module about SUDs, and their impact on PLWH, was effective in improving providers' knowledge of SUDs, changing their attitudes towards working with PLWH who have SUDs, and increasing the frequency of screening for substance abuse in our outpatient HIV clinic population. In this study, I hypothesized that providers would gain knowledge on how SUDs affect PLWH after the training. I also hypothesized that providers' attitudes towards the treatment of PLWH would show improvement with an increase in the frequency of screening for substance abuse.

An educational training session on SUDs was conducted on November 14, 2019, at an outpatient infectious diseases (ID) clinic in Winston-Salem, North Carolina. This session consisted of a Power Point presentation on SUDs, and a pre- and post-SUDs knowledge survey and DDPPQ questionnaire. Both the survey and questionnaire were administered six weeks after the SUDs training took place. A retrospective chart review was conducted one year prior to the date of the SUD training session to capture data on how often patients were screened for SUDs and had an intervention (i.e. brief intervention or referral to treatment). Additional data from the chart review was obtained three months prior to and after the session.

4.2 Sample Size and Demographic Information

A total of 30 study participants provided informed consent for participation in the study, but one participant was excluded since they did not submit the pre- or post-training SUDs Knowledge survey and DDPPQ. The remaining sample was 29 participants. Ethnic

composition of the sample consisted primarily of White, non-Hispanics at 58.6% (*n*=17), followed by African Americans at 13.8% (*n*=4), Hispanics 6.9% (*n*=2), and other ethnicities 20.6% (*n*=6). Two participants (6.9%) responded as "other" race or ethnicity. There were slightly more females (51.7%) than males (44.8%). The age of the participants ranged from 29 to 69 years old, with an average age of 43.8 ± 12.02 years. The sample consisted primarily of medical doctors (*n*=20), nurse practitioners/physician assistants (*n*=3), pharmacists (*n*=5), a clinical social worker (*n*=1), and one participant who did not provide this information (*n*=1). The participants primarily held doctoral degrees (65.5%, *n*=19) had a Doctor of Medicine degree, (20.7%, *n*=6) had a Doctor of Pharmacy degree, (3.4%, n=1) a Doctor of Nursing Practice, (3.4%, n=1), a Master of Social Work (3.4%, *n*=1) and a Master's of Science in Nursing degree (3.4%, n=1). The years of experience ranged from six months to 39 years with an average of 12.12 ± 10.88. Profession was further categorized as those providers who had greater than five years of experience (69%, *n*=20). This variable was used to identify the proportion of medical doctors, nurse practitioners and physician assistant responses to questions on the SUDs Knowledge survey pre-training only. Table 4.1 represents the demographic information of the participants.

Table 4.1

Demographic Information (N=29)

Demographics of Participants	N=29	%
Age		
18-24 years old	0	0
25-34 years old	9	31
35-44 years old	5	17.2
45-54 years old	7	24.1
55-64 years old	2	6.9

65 years and older	2	6.9
No response	4	13.8
Gender		
Male	13	44.8
Female	15	51.7
No Answer	1	3.4
Race/Ethnicity		
White, non-Hispanic	17	58.6
Black/African American	4	13.8
Hispanic	2	6.9
Cuban	1	3.4
Indian	1	3.4
Asian	2	6.9
Other	2	6.9
Profession		
Medical Doctor	20	69
Nurse Practitioner/Physician Assistant	3	10.3
Pharmacist	5	17.2
Clinical Social Worker	1	3.4
Degree		
Doctor of Medicine	19	65.5
Doctor of Pharmacy	6	20.7
Doctor of Nursing Practice	1	3.4
Master of Social Work	1	3.4
Master of Science in Nursing	1	3.4
No response	1	3.4
Years of Experience		
Less than 1 year	3	10.3
1-5 years	7	24.1
6-10 years	5	17.2
11-15 years	5	17.2
16-20 years	4	13.8
More than 20 years	5	17.2

4.3 SUDs Knowledge Survey

Once the informed consent was signed, all participants were asked to complete the SUDs Knowledge survey which examined general knowledge about substance abuse.

The survey consisted of 25 questions. In review of the responses, it was felt that three of the items, Q15, Q19, and Q21, should be removed for the following reasons:

- Question 15, "Overdose-related deaths from illicit drugs are higher than those from prescription drugs" had an answer that was true considered as false.
- Question 19, "Illicit drug use is a criminal activity rather than a medical issue" was an opinion question. The choices for this question were "true," false", or "I don't know." Some participants responded by writing in the word "both."
- Question 21, "Annual substance abuse screening is a performance measure required by the HIV/AIDS Bureau" was removed due to the most recent HIV/AIDS Bureau guidelines recommending SUD screening at new intake visits. For our ID clinic, substance abuse screening is done on an annual basis and is to be reassessed at each visit if problems are identified.

The first set of questions of the survey (Q1-Q7) focused on the care of patients that use illegal drugs. Responses to these questions included "never," "rarely," "sometimes," "often," and "always." Regarding problematic drug use, 44.8% (*n*=14) of providers reported that they often discussed this issue when they first met the patient and 24.1% (*n*=7) reported they "always" discussed problematic drug use with their patient. Providers who stated that they "rarely" or "sometimes" conversed about drug use was 3.4 % (n=1) and 27.6% (*n*=8). Post-training responses included 42.3% (*n*=11) of providers that "often" discussed problematic drug use, 24.1 % (*n*=11) who "always" discussed drug issues and "rarely" addressed this problem was 3.4% (*n*=1). Of the total providers, 43.8% (*n*=20) with greater than five years of experience often addressed problematic drug use. When asked about the percentage of injection drug users (IDUs) that the

provider sees, 44.8% (*n*=13) reported <10%, 31.0% (n=9) was 10-30%, 3.4% (*n*=1) 30-50%, and 20.7% (n=6) answered, "I don't know." Of the eight participants who provided six-weeks post-training responses, 17.2% (n=5) while the remaining 10.3% (n=3) reported that they addressed these issues sometimes.

The second set of questions pertained to general knowledge of SUDs (8-24). In reference to preventing drug relapse, 26.89% (*n*=26) of the providers knew that patients with SUDs would need ongoing treatment with 96.1% (n=25) responding the same on the post-test and 24.1% *(n*=7) at the six-week interval. One statement, "Marijuana is the most frequently used illicit drug," was answered correctly by the overall majority of providers on the pre-test (89.7%, *n*=26), post-test (96.1%, *n*=25), and (24.1%, *n*=7). Again, 100% (n=20) of those providers with greater that five years of experience answered correctly. Providers were aware of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria for SUDs as identified by the correct responses for that particular question, pre-test 34.5% (*n*=10), post-test, 46.2% (*n*=12) and six-weeks post training 10.3% (*n*=3). Only 43.5% (n=8) of providers with greater than five years of experience answered this question correctly. Table 4.2 represents the percentage of correct responses for each item on the SUDs Knowledge survey.

Each item in the second set of questions was assigned a score of one except for opened-ended questions. Responses to opened-ended questions were reviewed for common themes noted by participant's answers. For example, providers were asked: "*Name a legal opiate replacement therapy that substitute a therapeutic controlled substance for heroin?"* Pre-training responses included suboxone (82.8%, *n*=24); methadone (82.8%, *n*=24); naltrexone (17.2%, *n*=5); no answer (10.3%, *n*=3). Post-

training responses were suboxone (80.8%, *n*=21); methadone (84.6%, *n*=22); naltrexone (11.5%, *n*=3); no answer provided (3.8%, *n*=10). Responses at six weeks were suboxone (13.8%, *n*=4); methadone (6.9%, *n*=2), naltrexone (3.4%, *n*=1); and no answer (3.4%, *n*=1).

The total score that could be achieved on the survey was 22. The scores ranged from 9-21 prior to the training, 11-22 after the session, and 6-22 six weeks after the training. The low scores noted were due to a lack of responses on certain items on the survey. Twenty-nine participants (*n*=29) completed the survey prior to the training session and 26 completed the survey post-training. Eight participants (*n*=8) completed the six weeks post-training survey. Questions that were answered correctly are demonstrated in table 4.2.

Table 4.2

Questions with correct responses on SUDs Knowledge Survey

Questions from SUDs Knowledge Survey	Pre-Test N=29	Post-Test N=26	Post-Test (6-weeks) N=8
Item Number	N (% of correct answers)	N (% of correct answers)	N (% of correct answers)
8	26 (89.7%)	25 (96.1%)	7 (87.5%)
9	26 (89.7%)	25 (96.1%)	7 (87.5%)

10	27 (93.1%)	26 (100%)	8 (100%)
11	10 (34.4%)	19 (73.1%)	5 (62.5%)
12	26 (89.7%)	26 (100%)	8 (100%)
13	10 (34.5%)	12 (46.2%)	3 (37.5%)
14	5 (17.2%)	19 (73.1%)	7 (87.5%)
17	26 (89.7%)	23 (88.5%)	7 (87.5%)
18	15 (51.7%)	23 (88.5%)	6 (75%)
20	24 (82.8%)	24 (92.3%)	7 (87.5%)
23a	27 (93.1%)	26 (100%)	8 (100%)
23b	20 (69%)	25(96.1%)	7 (87.5%)
23c	23 (79.3%)	25 (96.1%)	8 (100%)
23d	21 (72.4%)	24 (92.3%)	8 (100%)
24a	23 (79.3%)	25 (96.1%)	8 (100%)
24b	19 (65.5%)	25 (96.1%)	6 (75%)
24c	17 (58.6%)	25 (96.1%)	7 (87.5%)
24d	15 (51.7%)	24 (92.3%)	7 (87.5%)
24e	25 (86.2%)	26 (100%)	7 (87.5%)
24f	26 (89.7%)	25 (96.1%)	7 (87.5%)
24g	14 (48.3%)	24 (92.3%)	7 (87.5%)
24h	22 (84.6%)	22 (84.6%)	7 (87.5%)

*Questions 15, 19, 21-excluded,

*Questions 16, 22-Open-ended questions

Statistical analysis was performed to answer the clinical questions and to evaluate the effect of the educational intervention on provider's knowledge of SUDs in PLWHA. Pre-, post-, and six-weeks post-intervention scores were assessed for normality. Incomplete data was excluded from analysis, which included participants who did submit a SUDs Knowledge survey at the three time points.

The distribution of the average pre-intervention SUDs knowledge scores were evaluated using the Kolmogorov-Smirnov test and found to be normally distributed ($p=0.200$, $df = 29$) with a mean of 15.79 ± 3.48 (95% CI = 14.47, 17.11). The distribution of the average post-intervention SUDs knowledge scores were not normally distributed (K-S test, $p = 0.000$, $df = 26$) with a mean of 19.96 ± 2.13 (95% CI=19.10, 20.82). The distribution of the mean knowledge scores at six-weeks post-training were not normally distributed (K-S test, $p=0.000$, $df = 8$) with a mean of 18.87 ± 5.25 (95% CI=14.48, 23.26). The *p*-value was set at the alpha level of 0.05. Figures 4.1, 4.2 and 4.3 represents the frequency distribution of all three scores.

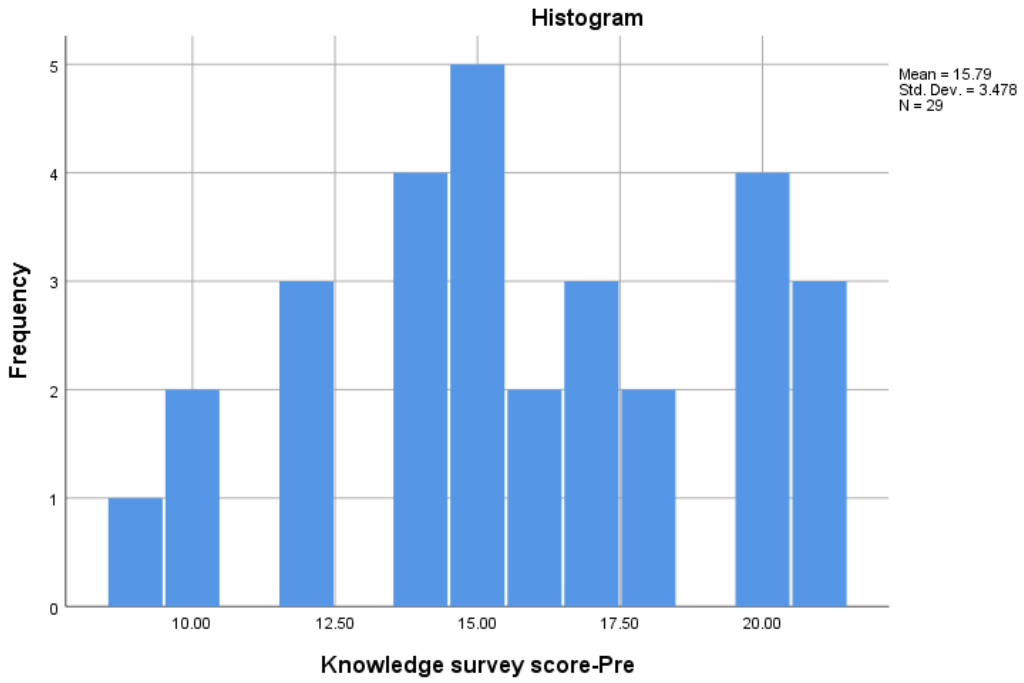

Figure 4.1. Frequency distribution of Knowledge survey scores pre-intervention

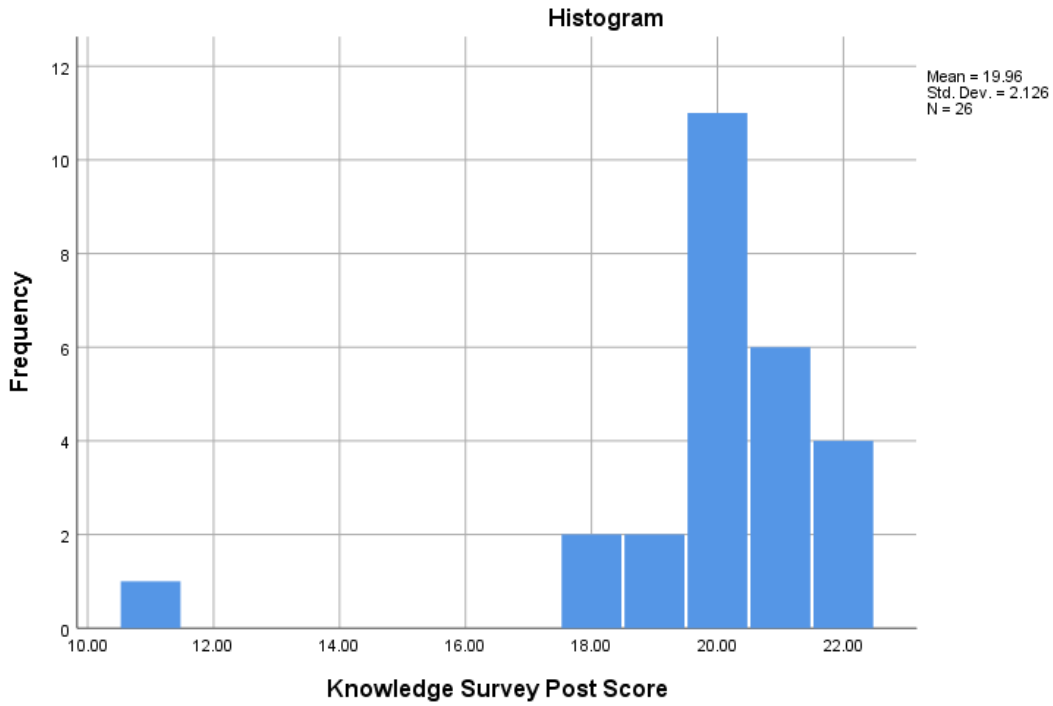

Figure 4.2. Frequency distribution of Knowledge survey scores post-intervention

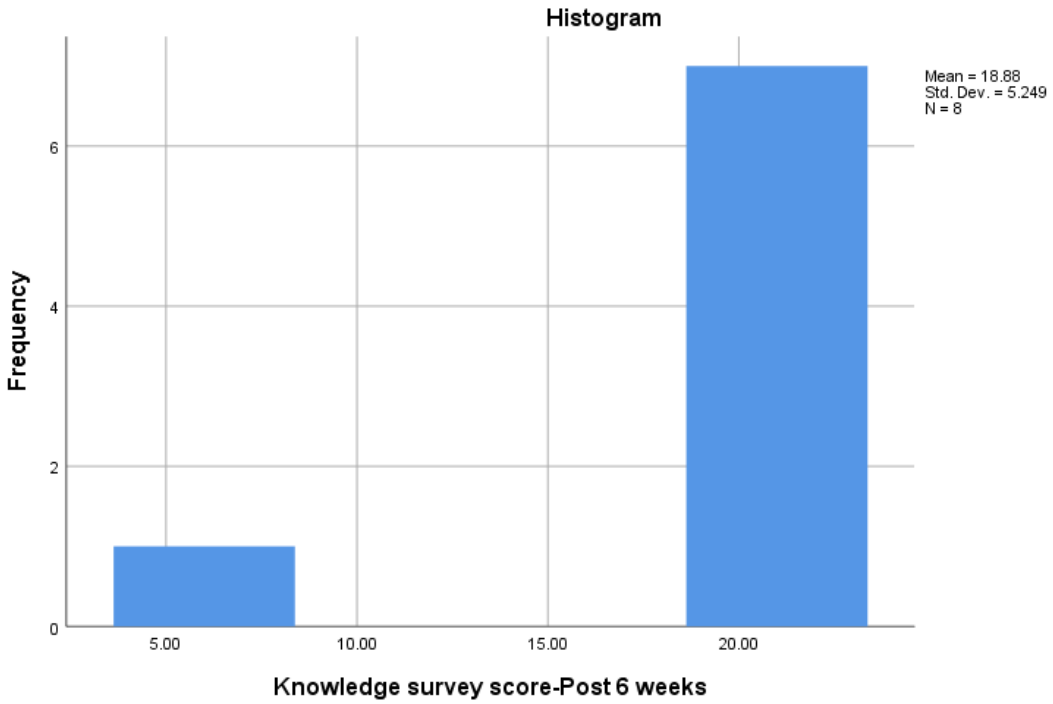

Figure 4.3. Frequency distribution of Knowledge survey scores six weeks post-intervention

A Wilcoxon Signed-Rank Test was conducted to assess the effectiveness of the educational intervention to improve providers' knowledge of SUDs. This test revealed a statistically significant increase in the participants' knowledge scores following the educational intervention (z = -4.172, p = 0.000) with a large effect size (r = 0.56). The median score on the SUDs Knowledge survey increased from pre-intervention (*Md* =15) to post- intervention (*Md* =20). There was no statistically significant difference in the providers' knowledge scores six weeks after the educational session (z = -1.752, p = 0.080) with a medium effect size (r = 0.28). The median knowledge scores showed improvement from pre-test (*Md* = 15) to final post-test (*Md* = 20.5). A Wilcoxon Signed-Rank Test also revealed that there was no significant difference between the participants'

knowledge scores post-intervention and at six-weeks following the training (z = -.426, p = 0.670, r = 0.07). The median knowledge score demonstrated no change from post-test (*Md* = 20.0) to the six-week post-test (*Md* = 20.5).

4.4. Drug and Drug Users Problems Perceptions Questionnaire (DDPPQ)

The DDPPQ was used to assess the study participants' attitudes towards working with patients with substance abuse. The 22-item scale adapted in this study was scaled psychometrically using a 7-point Likert scale with 1 corresponding to "strongly agree" and 7 to "strongly disagree." The scores were tallied upon completion with low scores denoting positive attitudes and high scores associated with negative attitudes. Questions 15-18 were worded negatively; therefore reverse scoring was used. The minimum possible score was 22 with a maximum of 154. Pre-training scores ranged from 32-105 (*n*=29). Post-training responses ranged from 39-84 (n=10). For this study, the attitude score range was divided into three categories for analysis to facilitate interpretation of results. Positive attitudes were defined by a score of 22-65, neutral, 66-109 and negative 110-154. Pre-intervention, sixteen participants (55.2%) had overall positive attitudes towards working with patients who are drug users prior to the training and 13 providers (44.8%) were identified as having neutral attitudes. Of those providers who returned the questionnaire immediately post-intervention, six participants (60%) DDPPQ scores were reflective of positive attitudes and four participants (40%) had neutral attitudes. Six weeks following the training session, a total of seven participants submitted their questionnaire. Four providers' (57.1%) score indicated positive attitudes, two providers' (28.6%) attitudes were neutral and one provider (14.3%) was identified as having a negative attitude with a score of 144.

Statistical analysis was performed to answer the clinical question and to evaluate the effect of the educational intervention on provider's attitudes towards working with PLWHA who have SUDs. Pre- and post-intervention scores were assessed for normality. Table 4.4 represents the test of normality for the pre-, post-, and six-weeks post DDPPQ scores. Figures 4.4, 4.5, and 4.6 show the frequency distribution of all three scores.

The distribution of the average pre-intervention DDPPQ scores were evaluated using the Kolmogorov-Smirnov test and found to be normally distributed (p=0.200, df=29) with a mean of 66.21 ± 18.00 (95% CI=59.35, 73.05). The distribution of the average post-intervention DDPPQ scores were also normally distributed (K-S test, p=0.200, df=10) with a mean of 58.60 ± 14.50 (95% CI=48.22, 68.97). The distribution of the average six-weeks post-intervention DDPPQ scores were found to be normally distributed (K-S test, p=0.139, df=7) with a mean of 63.14 ± 39.20 (95% CI=26.88, 99.39). The *p*-value was set at the alpha level of 0.05.

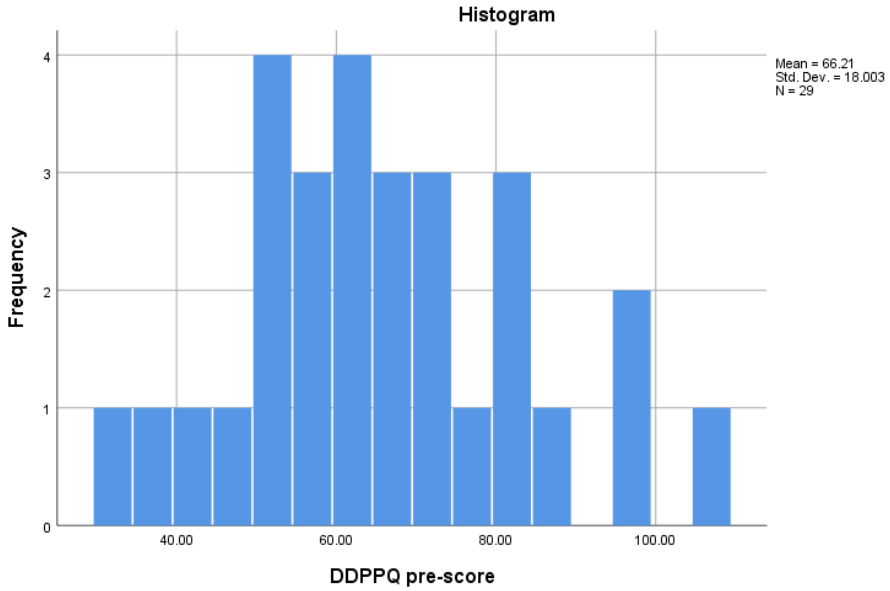

Figure 4.4. Frequency distribution of DDPPQ scores pre-intervention

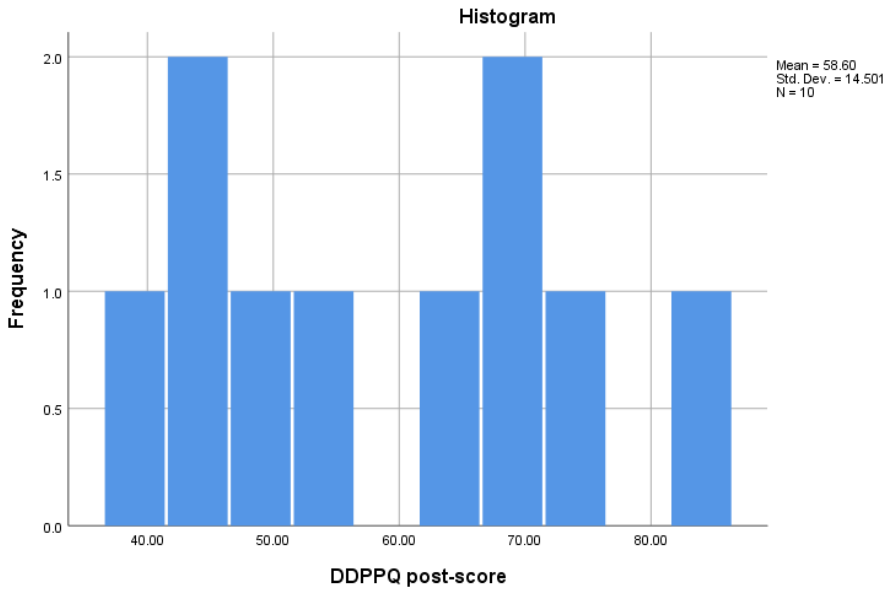

Figure 4.5. Frequency distribution of DDPPQ scores post-intervention

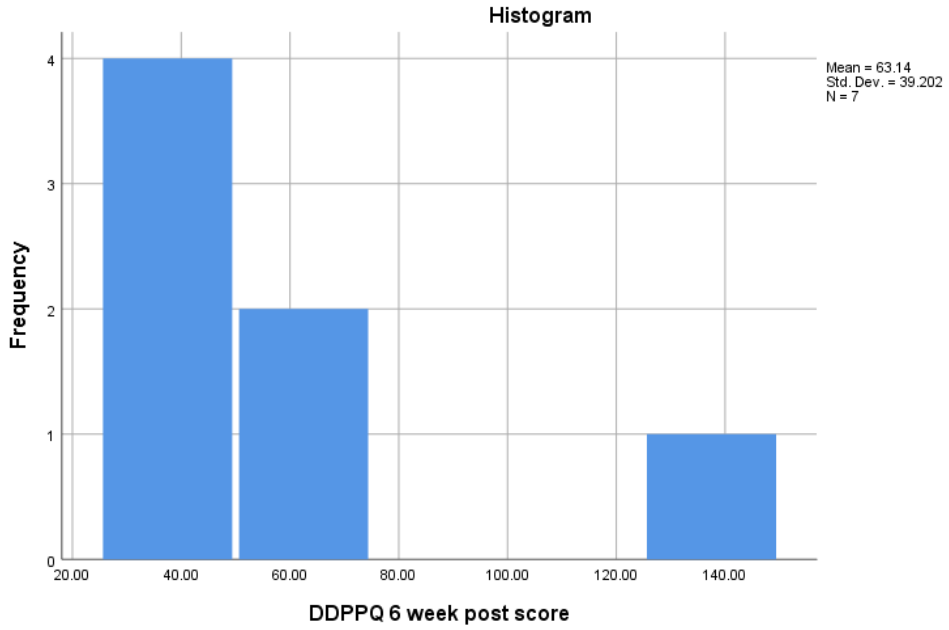

Figure 4.6. Frequency distribution of DDPPQ scores pre and six weeks post-intervention

A paired-samples *t*-test was conducted to evaluate the impact of the educational intervention on ID providers' DDPPQ scores. There was no statistically significant difference in the DDPPQ scores prior to the training ($M = 66.21$, $SD = 18.00$), and after the training session ($M = 58.60$, $SD = 14.50$), $t\ (9) = 1.307$, $p = 0.224$ (two-tailed). The mean change in DDPPQ scores was 9.70 with a 95% CI ranging from -7.09 to 26.49. The eta-squared statistic (0.16) indicated a large effect size. There was no statistically significant difference in the DDPPQ scores prior to the training ($M = 75.71$, $SD = 16.16$), and six-weeks after the training session ($M = 63.14$, $SD = 39.20$), $t\ (6) = 0.847$, $p = 0.429$ (two-tailed). The mean change in DDPPQ scores was 12.57 with a 95% CI ranging from -23.73 to 48.87. The eta-squared statistic (0.22) indicated a large effect size.

4.5 Retrospective Chart Review

A retrospective chart review was conducted to examine the frequency of substance abuse screening in our HIV clinic patient population. This was further differentiated into the number of patients who either received screening or not, and the number of positive screens for patients who had an intervention with a plan or those who did not need an intervention at one year, three months prior to and after the educational session three months later. A chi-square test was performed to assess the association between screening frequencies at the pre- and post-intervention time periods. Analysis showed that there was a statistically significant difference in the proportion of patients screened at three months prior to the educational training compared to those screened three months later $X^2\ (1, N=1652) = 28.89$, $p<.0001$. Table 4.3 represents the screening frequency of patients seen within the periods mentioned earlier. Table 4.4 represents the number of patients screened who either had an intervention or treatment plan and those

who did not need an intervention. Table 4.5 represents chi-square analysis of screening frequency at pre- and post-intervention time periods.

Table 4.3

Screening Frequency of HIV patients

	Screening Frequency		
	Yes (# of patients)	No (# of patients)	Total (# of patients)
One-year Pre-Training (October 2018-October 2019)	820	832	1652
Pre-Training (August 2019-October 2019)	394	560	954
Post-Training (December 2019-February 2019)	198	498	696

Table 4.4

Positive Screens Needing an Intervention and Intervention with a Plan

Intervention/Treatment		
Number of Patients	Needed Intervention	Had Intervention w/plan
One-year Pre-Education Screening (n=748)	72	13
Pre-Education Screening (n=694)	48	0

Post-Education (n=198)	12	0

*Intervention: Counseling, Motivational Interviewing, Referral to treatment

Table 4.5

Chi-square analysis of screening frequency at Pre- and Post-intervention

	Screening: Yes	Screening: No	Row Totals
3-months Pre-intervention	394 (342.28) [7.81]	560 (611.72) [4.37]	954
3-months Post-Intervention	198 (249.72) [10.71]	498 (446.28) [5.99]	696
Column Totals	**592**	**1058**	**1650**

$x^2 = 28.89$

P-value = 0.0001

The result is statistically significant at $p < .05$.

4.6 Discussion of Results

This study sought to improve variables related to SUDs education. The primary outcomes of the study were: 1) increase providers' knowledge of SUDs in PLWHA, 2) assess the change in providers' attitudes towards working with patients who use drugs, and 3) increase the frequency of substance abuse screening in our HIV clinic population.

Increasing Provider's Knowledge

The educational training session provided information on various topics pertaining to SUDs to include the types of common drugs used and their route of administration, the effects of drug use on HIV disease and the importance of screening. Pre and post-test scores from the SUDs Knowledge survey demonstrated that providers gained knowledge after the SUDs educational training. The Wilcoxon signed-ranks test also showed that an educational intervention did elicit a statistically significant change in pre- and post-SUDs Knowledge scores ($Z=-3.897$, $p=0.000$). Similar to findings in the literature, providers who participated in any type of addiction medicine training, showed a significant improvement in knowledge post-training (Dewey, Ghulyan and Swiggart, 2016; Gorfinkel et al., 2019).

The percentage of correct responses to Item 17 on the survey decreased slightly from pre- to post-intervention. This question asked study participants to provide individual-level risk factors that contributed to SUDs. There were three providers who did not provide an answer on the posttest, which could explain the change from 89.7% (pre-training) to 88.5% (post-training) as noted in Table 4.2. Of note, these participants were in attendance throughout the entire presentation. Common themes derived from the open-ended questions concluded that providers were aware of legal opiate replacement therapies used for heroin use, the risk factors contributing to SUDs, highlighting many social determinants of health and the screening tools that can be used to assess for substance use. Addressing social determinants of health in relation to why patients engage in addiction behavior is important as substance use is strongly influenced by interpersonal, household, and community dynamics (Hager, Blue, Zhang, & Palombi, 2019). One area

that providers lacked knowledge in was the DSM-5 criteria for SUDs, which highlights behaviors those patients who are having drug abuse issues exhibit. Resource cards and handouts on this information was provided for the participants to take with them at the end of the session. In sum, providers showed that even with common knowledge of SUDs, a refresher course was needed to identify many problems that challenge our HIV patient population.

Changing Providers' Attitudes

Pre and post-training DDPPQ scores demonstrated that participants generally had positive attitudes towards working with PLWH who had SUDs. A paired-samples t-test to compare the mean pre- and post-intervention scores showed that there was no statistical difference in the DDPPQ scores after an educational intervention. In a similar study by Harris et al. (2016), physicians' attitudes were found to be more positive in addressing substance use with their patients, and reported higher levels of comfort in discussing substance use in comparison to their colleagues in the study (i.e. NPs, and PAs). Contrary to other research by Van Boekel et al. (2014), HCPs generally had negative attitudes towards patients with SUDs with perceptions of violence, manipulation and poor motivation as impeding factors in the overall healthcare management of these patients.

Less participants returned their questionnaire immediately following and six-weeks after the education session, therefore the sample size used for the paired samples-t-test was 19 cases less than in the pre-intervention arm. Surprisingly, one providers' attitude score six weeks post-intervention was identified as having a negative attitude where this was not the finding previously. For the ID providers, working with the HIV

population and having the awareness of the substance issues that exists may have contributed to why there was no significant change in their attitudes. This is also a possible indication that more education and reinforcement of the importance of the SUDs training is needed in order to see a change in provider's attitudes over time.

Increasing Screening Frequency

Approximately 2500 or more patients are seen in the infectious disease outpatient clinic annually. Providers demonstrated screening of patients (n=1652) within a one-year period prior to the training session. A significant number of patients were not screened three months prior to (n=560) and three months after the intervention (n=498). There are several possible explanations for high numbers such as: provider time constraints, especially if the patient is new to the clinic, the patient having no history of substance abuse, deferment of the discussion about their substance use, if identified, due to providers' comfort level (new training doctor/fellow), limited SUDs training and the lack of validated screening tools and treatment resources. Barriers to screening aforementioned are similar to findings in previous research on provider's substance abuse screening practices (Callon et al., 2016; Hitch et al., 2019; Loheswaran et al., 2015). Additionally, individual-level and systems-level barriers to screening include time and workflow pressures, difficulty accessing addiction treatment and lack of clinical knowledge and training (McNeely, et al., 2018). Post-intervention screens were decreased, and this could be due to the period of data collection, which was around the Christmas and New Year's holidays. Many of the providers were on vacation; therefore, less patients were seen at that time.

Patients that were identified as having an intervention with a plan were noted in table 4.8. Interventions included counseling, motivational interviewing or referral to treatment. As part of the training, providers were educated on the SBIRT model and ASSIST tool, which could be used for more appropriate screening of the HIV clinic patients for SUDs. SBIRT has been shown to be effective in reducing alcohol consumption and consequences in unhealthy drinkers in primary care, emergency department and HIV clinic settings (Chander et al., 2016; Ward et al., 2015).

The results of this study highlight the importance of awareness of SUDs in PLWH. Post-training submission of both the survey and questionnaire were much lower than expected. Given that these were sent to providers' during the Christmas and New Year's holidays, many of the providers did not complete them until after the holidays. Despite the many challenges faced with implementation of this project, participation and support from the Infectious Diseases (ID) staff was well received based on the positive feedback from providers after the educational session.

Application of Lewin's Three-Step Change Theory

The Lewin's Three-Step Change Theory was used as the theoretical framework for this scholarly project. Lewin theorized that, in order to move through the stages of change successfully, there needs to be a comprehensive action plan to engage those experiencing the transition (Berl et al., 2015). This project served as the action plan to not only get providers to think about ways that can improve SUDs screening in the clinic, but to prepare for those changes needed in order to capture those patients with high-risk addictive behaviors. Resistant to change was a concern initially, but feedback provided after the session proved that many of the providers were open to the implementation of

the use of the SBIRT model and ASSIST tool as a pilot study (unfreezing the status quo). The fact that there was no significant change in providers' attitudes after the training session may represent the lack of movement from the unfreezing stage and that more education may be needed in order to see a difference in attitude changes. An improvement in providers' knowledge of SUDs though an educational intervention can be applicable in the freezing or changing stage but must continually updated in order to assess for effectiveness of the education. HIV providers agree that having resources and improving their skills would enhance their abilities to provide care to those patients with SUDs (Montague et al., 2015). This theory can be used to guide the adoption of and application of screening protocols into the electronic medical record. Finally, evaluating the successes and failures of new clinic changes in the refreezing stage, is key to the sustainability of the clinic changes.

CHAPTER 5: SIGNIFICANCE

Substance abuse is a growing health problem and epidemic that is affecting many individuals today. With its' negative impact on overall health, SUDs can exacerbate chronic medical conditions that patients may have, which leads to increased morbidity and mortality. Because substance abuse is misunderstood, it is essential that health care providers (HCPs) are knowledgeable of the significant challenges that SUDs pose for PLWH to avoid having negative attitudes.

Patients with HIV have significantly higher rates of SUDs than those without HIV (Muhrer, 2019). Screening for high-risk behaviors in this patient population is critical in decreasing the incidence of poor HIV outcomes because of drug use. This project aimed to enhance providers' knowledge of SUDs, while examining their attitudes towards working with PLWH who use drugs. In addition, this project also examined the frequency of substance abuse screening in the ID clinic to identify those patients who engage in drug use and if they receive treatment.

5.1 Project Strengths

Overall, the project's implementation was successful. One of the strengths of the project was the ID providers' interest and willingness to participate in the study, despite their busy schedules. Another strength was the support of the ID department in accommodating the training session in lieu of the monthly faculty meeting. Given that substance abuse is a struggle for many of our patients daily, the staff reported that this project was needed to give some insight as to how we handle cases where patients need drug rehabilitation.

5.2 Project Challenges and Limitations

Although project implementation was successful, there were many challenges that were faced with this study. One challenge included provider and DNP student schedule conflicts when arranging a time and date to conduct the educational session. Low provider response to participation in the study initially was a challenge, despite multiple emails and incentives (i.e. lunch provisions) advertised for the training session. Data analysis was a major challenge for the DNP student and the project due to limited statistician's availability in the department.

One limitation of the study was a decrease in provider responses to the post-surveys and questionnaires that were due six weeks after the educational intervention, so retention of participants was a challenge longitudinally. Only 7 out of 29 providers returned their forms. This posed a problem for most providers due to the holidays. The due date was extended for two additional weeks to give the providers ample time to complete and return the surveys and questionnaires. Unfortunately, this did not generate any additional forms. The intervention focused on a convenience sample of ID providers. Although findings from this study cannot be generalized to other clinics, the knowledge gained from this project can be transferred to other similar outpatient ID clinics, if applicable.

5.3 Implications for Clinical Practice

Identification of SUDs in HIV patients requires knowledgeable providers who are willing participants in taking care of these patients. In order to be effective in providing care to such a high-risk patient population, education is needed. Providers should have

annual training on SUDs and treatment, especially amidst the opioid crisis that is affecting the United States and globally today. Health care providers often receive little training in the treatment of substance use disorders (SUDs) which poses a significant public health concern and ultimately causes people afflicted with SUDs to receive inadequate care (Pedersen & Sayette, 2020). In addition to training requirements, having the appropriate screening tools on hand will assist and serve as guidance in getting the care that is needed for treatment. This would entail the use of the SBIRT model coupled with the ASSIST tools, which are validated methods uses to screen for SUDs. Re-examining providers' willingness to consider change in the ID clinic is another implication for clinical practice that could afford the opportunity to collaborate with other clinics and outside agencies who would otherwise not see our patients for treatment due to being uninsured.

5.4 Implications for Future Research

There are more studies needed on the use of SBIRT use and its integration in HIV clinics. There were limited studies found on HIV providers' attitudes toward working with PLWHA with SUDs. Many of the studies reviewed were related to primary care clinics and the emergency room. Understanding the importance of substance abuse screening leads to increase prevention of worsening HIV disease and other comorbid conditions. The feasibility of implementing the SBIRT model into the electronic health record could be one way to approach screening frequency of substance use in PLWH. Sustainability of this project to further expand the training to other outpatient clinics would facilitate a multidisciplinary approach in providing care to those who see our HIV patients.

5.5 Summary

In summary, the results of the study indicated that substance abuse education contributed to improved providers' knowledge of SUDs among PLWHA in our clinic. The utilization of this educational intervention was associated with the improved mean scores of the pre-and post-test surveys. Providers' attitudes did not show any change as identified by no significant difference in the mean scores on the DDPPQ. Due to multiple factors contributing to screening frequency, there was still a significant number of patients that were not screened prior to and after training. The providers showed that even with common knowledge of SUDs, a refresher course may be needed to identify many problems that challenge our HIV patient population.

5.6 Recommendations

Per the HIV/AIDS Bureau, substance abuse screening should take place at the initial patient visit. For the outpatient ID clinic, screening at each visit would help identify those high-risk patients who would otherwise not get treated for problematic drug use. One recommendation to attain this goal is to establish clinic protocols that require providers to perform screening at every visit. Another recommendation would be to implement the SBIRT model in the ID clinic. Currently there is no standardized, validated tool used for screening. A final recommendation would be to conduct refresher training on SUDs for providers annually to highlight and discuss any new guidelines pertaining to SUDs as well as get feedback on the screening process once it is implemented.

Conclusions

Substance use can have deleterious health consequences for PLWHA. Providers' awareness of high-risk behaviors in their patients is critical in addressing an epidemic that has affected many today. Failure to diagnose and address SUDs can have a tremendous impact on the individual, family and the health care industry (Dewey et al., 2016).

Quality improvement projects such as this can be instrumental in identifying a problem in practice and working with providers to make a change. Addressing providers' knowledge of SUDs, their attitudes towards working with PLWHA with drug abuse and screening frequency was the goal to be achieved in this project with plans to extend this project in the near future. Although there were challenges met during the implementation of this project, overall success was realized by the ID department.

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APPENDIX A

DRUGS AND DRUG USERS' PROBLEMS PERCEPTIONS QUESTIONNAIRE (VALIDATED VERSION)

To which professional group do you belong?

Doctor ☐ Clinical Psychologist ☐ Occupational therapist ☐ Community-based Nurse ☐ Hospital-based Nurse ☐ Other (please specify) ☐ _____

Please indicate your current grade. _____ **What is your clinical specialty?** _____ **How long have you held this post?** _____

Please indicate how much you agree or disagree with each of the following statements about working with people who use licit or illicit drugs in a non-therapeutic way.

Please circle one number for each question.	Strongly agree						Strongly disagree
1. I feel I have a working knowledge of drugs and drug related problems.	1	2	3	4	5	6	7
2. I feel I know enough about the causes of drug problems to carry out my role when working with drug users.	1	2	3	4	5	6	7
3. I feel I know enough about the physical effects of drug use to carry out my role when working with drug users.	1	2	3	4	5	6	7
4. I feel I know enough about the psychological effects of drugs to carry out my role when working with drug users	1	2	3	4	5	6	7
5. I feel I know enough about the factors which put people at risk of developing drug problems to carry out my role when working with drug users.	1	2	3	4	5	6	7
6. I feel I know how to counsel drug users over the long term.	1	2	3	4	5	6	7
7. I feel I can appropriately advise my patients/clients about drugs and their effects.	1	2	3	4	5	6	7

Please circle one number for each question.	Strongly agree						Strongly disagree
8. I feel I have the right to ask patients/clients questions about their drug use when necessary.	1	2	3	4	5	6	7
9. I feel that my patients/clients believe I have the right to ask them questions about drug use when necessary.	1	2	3	4	5	6	7
10. I feel I have the right to ask a patient for any information that is relevant to their drug problems.	1	2	3	4	5	6	7
11. If I felt the need when working with drug users I could easily find someone with whom I could discuss any personal difficulties that I might encounter.	1	2	3	4	5	6	7
12. If I felt the need when working with drug users I could easily find someone who would help me clarify my professional responsibilities.	1	2	3	4	5	6	7
13. If I felt the need I could easily find someone who would be able to help me formulate the best approach to a drug user.	1	2	3	4	5	6	7
14. I want to work with drug users.	1	2	3	4	5	6	7
15. I feel that there is little I can do to help drug users.	1	2	3	4	5	6	7
16. In general, I have less respect for drug users than for most other patients/clients I work with.	1	2	3	4	5	6	7
17. I feel I do not have much to be proud of when working with drug users.	1	2	3	4	5	6	7
18. At times I feel I am no good at all with drug users.	1	2	3	4	5	6	7
19. On the whole, I am satisfied with the way I work with drug users.	1	2	3	4	5	6	7
20. In general, one can get satisfaction from working with drug users.	1	2	3	4	5	6	7
21. In general, it is rewarding to work with drug users.	1	2	3	4	5	6	7
22. In general, I feel I can understand drug users.	1	2	3	4	5	6	7

APPENDIX B

Survey Number

_____

Substance Use Disorders Knowledge Survey

As a part of my doctoral study at the University of North Carolina at Charlotte, I am conducting research on **"The Effects of an Educational Module on Providers' Knowledge, Attitudes, and Care of HIV Patients with Substance Use Disorders (SUDs)."** I request your kind co-operation in providing information and answering the questions below. Upon completion of the training session, you will be asked to complete this survey again. Your responses will help develop general findings and conclusions specific to this research. Any personal information that you provide will be held confidential.

Participant Information

What is your age? _____

What is your gender?

- ☐ Male
- ☐ Female
- ☐ Prefer not to answer

What is your race/ethnicity?

- ☐ White, non-Hispanic
- ☐ Black, non-Hispanic
- ☐ Hispanic
- ☐ Asian
- ☐ Other _____
- ☐ Prefer not to answer

What is your profession?

- ☐ MD
- ☐ Fellow
- ☐ Nurse Practitioner

- ☐ Physician Assistant
- ☐ Other (please specify) _____

What is your highest degree obtained? _____

How many of years of experience do you have in treating patients living with HIV?
_____

I.Caring for patients that use illegal drugs

1. When you meet a patient for the first time, do you raise the issues of problematic drug use?

- ☐ Never
- ☐ Rarely
- ☐ Sometimes
- ☐ Often
- ☐ Always

2. On routine follow-up, do you raise the issues of problematic drug use?

- ☐ Never
- ☐ Rarely
- ☐ Sometimes
- ☐ Often
- ☐ Always

3. In addition to asking patients about drug use in general, do you ask your patient specifically if they have used certain individual illegal drugs? (e.g. marijuana, cocaine, or heroin)?

- ☐ Never
- ☐ Rarely
- ☐ Sometimes
- ☐ Often
- ☐ Always

4. If a patient report use of a specific illegal drug such as marijuana, cocaine, or heroin, how often do you ask about their mode of use of that substance (e.g. inhaled, smoked, injected, etc.)?

- ☐ Never
- ☐ Rarely
- ☐ Sometimes
- ☐ Often
- ☐ Always

5. What high-risk HIV behaviors have your patients, living with HIV, reported that are related to illicit drug use in the last 1-2 years? (Select all that apply)

- ☐ ”booty” stimulants
- ☐ needle-sharing
- ☐ condomless sex (anal, oral, vaginal) while under the influence of illicit drug use
- ☐ multiple sex partners while under the influence of illicit drug use

6. What percentage of injection drug users (IDUs) do you have as patients?

- ☐ <10%
- ☐ 10-30%
- ☐ 30-50%
- ☐ I don’t have a clue
- ☐ None

7. What percentage of your patients suffer from substance use disorders involving cocaine, heroin, methamphetamines used through any route (i.e snorted, smoked, injected or other)?

- ☐ <10%
- ☐ 10-30%
- ☐ 30-50%
- ☐ I don't have a clue
- ☐ None

II.General knowledge about SUDs

8. Patients with SUDs will need ongoing treatment to prevent relapse.

- ☐ True
- ☐ False
- ☐ I don't know

9. Marijuana is the most frequently used illicit drug.

- ☐ True
- ☐ False
- ☐ I don't know

10. Substance use/misuse is a risk factor and consequence of Intimate Partner Violence (IPV).

- ☐ True
- ☐ False
- ☐ I don't know

11. Alcohol overdose deaths are higher among women ages 35-64, than among men in the same age group.

- ☐ True
- ☐ False

12. Past misuse of prescription opioids is the strongest risk factor for starting heroin use, especially among people who became dependent upon or abused prescription opioids in the past year.

- ☐ True
- ☐ False

13. Which of the following is not a criterion of diagnosis for DSM-5 Substance Use Disorders?

- ☐ Cravings to use the substance
- ☐ Persistent attempts or efforts made to cut down or control substance use
- ☐ Failure to fulfill role obligations at school, work or home
- ☐ Continued important social, occupational or recreational activities in order to get more drugs
- ☐ Continued use, even when it causes problems in relationships

14. Studies show that every dollar spent on substance use disorder treatment saves_____ in health care costs.

- ☐ $ 2.00
- ☐ $ 4.00
- ☐ $ 10.00
- ☐ I don't know

15. Overdose-related deaths from illicit drugs are higher than those from prescription drugs.

- ☐ True
- ☐ False
- ☐ I don't know

16. What legal opiate replacement therapies that substitute a therapeutic controlled substance for heroin use are you aware of and that may be available locally?

_____
__

_____
__

17. An individual's vulnerability to substance use/misuse may be partly predicted by their community, caregiver/family, and individual-level risk factors. Name 3 risk factors that you think might contribute to SUDs.

_____

_

_____

_

18. People living with HIV who use substances are less likely to take antiretroviral therapy (ART) as prescribed due to side effects from drug interactions.

- ☐ True
- ☐ False
- ☐ I don't know

19. Illicit drug use is a criminal activity rather than a medical issue.

- ☐ True
- ☐ False
- ☐ I don't know

20. Drinking alcohol and ingesting, smoking, or inhaling drugs are all associated with increased risk for HIV.

- ☐ True
- ☐ False
- ☐ I don't know

III.Screening for SUDs

21. Annual substance abuse screening is a performance measure required by the HIV/AIDS Bureau.

- ☐ True
- ☐ False
- ☐ I don't know

22. Are you aware of any screening tools that can be used to assess for substance use in your patient population? If so, please name them below:

_____
__

_____
__

IV.Referral to treatment

23. What do you think we do for those patients who are identified with SUDs?

a. Provide drug treatment programs phone numbers and addresses

☐ Yes

☐ No

☐ I don't know

b. Help the patient through the process of gaining admission to a drug-treatment program by directly calling the facility and helping them get an appointment?

☐ Yes
☐ No
☐ I don't know

c. Connect the patient with a social worker or social service agency?

☐ Yes
☐ No
☐ I don't know

d. Counseled on safe injection practices?

- ☐ Yes
- ☐ No
- ☐ I don't know

24. Which of the following facilities are you familiar with that are available for drug rehabilitation in the city?

a. Acute in-patient detoxification

- ☐ Yes
- ☐ No
- ☐ I don't know

b. Outpatient detoxification

- ☐ Yes
- ☐ No
- ☐ I don't know

c. Residential treatment with medication assistance

- ☐ Yes
- ☐ No
- ☐ I don't know

d. Residential treatment without medication assistance

- ☐ Yes
- ☐ No
- ☐ I don't know

e. 12-step Narcotics anonymous and Alcohol Anonymous

- ☐ Yes
- ☐ No
- ☐ I don't know

f. Methadone maintenance

- ☐ Yes
- ☐ No
- ☐ I don't know

g. Needle exchange programs

- ☐ Yes
- ☐ No
- ☐ I don't know

h. Free Naloxone kits

- ☐ Yes
- ☐ No
- ☐ I don't know

Thank you for your participation!