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Improving Depression Screenings for Adults Living With HIV/AIDS Through Education and Training

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Abstract

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MSN, University of Southern Mississippi, 2014

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Project Submitted in Partial Fulfillment

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Abstract

People living with HIV/AIDS (PLWHA) are 4 times more likely to have a diagnosis of depression than persons without HIV. The specific problem at a rural clinic in a southern region of the United States, was a lack of continuity in the Patient Health Questionnaire 9 (PHQ-9) screening procedures that made sure that PLWHA were screened, identified, and referred. Early identification and treatment can help patients cope with barriers that affect health outcomes. The purpose and goal of this project was to develop and implement an evidence-based depression screening protocol to improve clinical staff practices and adherence to the PHQ-9 guidelines thereby increasing the number of PLWHA who were diagnosed and treated for depression. The Iowa model of evidenced-based practice served as a guide for this project. An interdisciplinary team was assembled to develop protocols and staff training. This project compared clinic staff knowledge on depression through pre and posttests. Upon completion of staff training, the pretest had a $M = 78.33$ and $SD = 11.146$ and the posttest a $M = 99.17$ and a $SD = 2.887$. Results of a paired t test confirmed a statistically significant increase in knowledge with $p < .000$. Over a 4-week period, depression screenings at the study site went from 10% to 100%. Data showed that positive social change was realized when PLWHA began to get depression treatment because of proper screening, early interventions, and depression management. Although the project is designed for the PLWHA in the rural clinic, other primary care providers may find that an evidenced-based practice protocol can be useful to improve PHQ-9 depression-screening practices for patients in other clinical areas.

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Dedication

To my husband and children, who have been so compassionate, understanding, and most of all supportive throughout this DNP program. Thank you!

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I would like to thank Dr. Linda Matheson for her ongoing support and guidance that I am forever indebted to. Thank you, Dr. Gross and Dr. Nixon, for not only being my committee members but also for your recommendations. It is greatly appreciated.

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Section 1: Overview of the Evidenced-Based Project

Introduction

According to the World Health Organization (WHO, 2015), approximately 350 million people of all ages experience depression worldwide. Depression can affect anyone and is considered the leading cause of disability among people living with human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) (Chan et al., 2015). In the primary care setting, the prevalence of depression ranges from 5-13% (O'Conner, Whitlock, Beil, & Gaynes, 2009), while the prevalence of depression in people living with HIV and AIDS (PLWHA) is 20% to 30% (Edwards et al., 2014). Patients who have a diagnosis of HIV and AIDS are 4-times more likely to have a diagnosis of depression than persons without HIV (Chan et al., 2015; Skalski et al., 2015; Spiers, Asmal, & Seedat, 2013).

Depression has been linked to poorer adherence to antiretrovirals and is often unrecognizable by health care providers (Edwards et al., 2014). Depression is a serious factor in PLWHA, and with early prevention, patients are better able to cope with their disease and other barriers that affect health outcomes (Kennard et al., 2014). The U. S. Preventative Services Task Force (USPSTF) recommends yearly depression screenings for patients who are 18 and older in the primary care setting to identify early diagnosis of depression (USPSTF, 2015). According to the USPSTF guidelines, these patients should be accurately diagnosed, treated, and provided follow-up care for depression. Failure to recognize depression in PLWHA may endanger the patient and the community and has

been linked to “high risk behaviors, poor health outcomes, low medication adherence, and reduced quality of life” (Gay, Kottorp, Lerdal, & Lee, 2016, p. 1).

The number of PLWHA is on the rise in the southern states, and the Centers for Disease Control and Prevention (CDC, 2014) estimated that 44% of the southern states have PLWHA, with the southern states representing only 37% of the United States. This is of particular concern at a rural clinic located in a southern region of the United States. Only 10% of the patients who were enrolled in the clinic’s HIV and AIDS program had depression screenings recorded in the electronic health record (EHR). Thus, approximately 630 of these PLWHA patients had fallen through the cracks in terms of identification and treatment for depression. According to one of the physicians at the clinic, depression screenings and identification of depression were not being completed or entered into the EHR by the clinic staff. Registered nurses (RNs), master’s social workers (MSWs), and licensed practical nurses (LPN) are expected to complete the screening and enter it into the EHR; however, there were no policies or procedures in place to enforce the completion of these screenings on all PLWHA (Director, personal communication, June 13, 2016).

Although depression screenings had been available for use for several years at the rural clinic, there were no policies or procedures that provided guidance to ensure that all patients were appropriately screened, identified, and treated. The director of the PLWHA program stated that, “although there was not a policy in place that explains how and when to screen, education was previously provided to clinic staff on the use of the Patient Health Questionnaire Nine (PHQ-9) screening tool”. There had been a large turnover in

clinic staff over the last 6-months, but the amount of completed depression screenings were down before the staff turnover occurred (Director, personal communication, June 13, 2016). As a result, the gap in practice was that many of the PLWHA were not being properly screened or identified for depression by clinic staff.

The screening method that was available in the EHR system was the PHQ-9 tool. The PHQ-9 is a multipurpose instrument for screening, diagnosing, monitoring, and measuring the severity of depression as it incorporates data from the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-IV*; Kroenke, Spitzer, & Williams, 2001). Positive social change was realized when clinic staff were properly educated and trained to effectively implement, maintain, and communicate PHQ-9 depression screening results. To bridge the gap in practice, the development of an evidenced-based practice (EBP) policy and procedure was necessary to ensure that all patients were properly screened, identified, and referred for further evaluation and treatment by the provider.

Problem Statement

The project site was a rural clinic located in a southern region of the United States and is the second largest HIV and AIDS clinic in its state. The rural clinic receives funding from the federal government as well as local agencies throughout the state. This program has been in operation for more than 15 years, focusing on the needs of the small community and surrounding areas for HIV and AIDS services. Through data analysis, the rural clinic found that only 10% of the depression screenings were completed on over 700 HIV and AIDS patients, with only 5% actively being treated with antidepressants. The evidence was alarming, as the research showed that 20% to 30% of HIV and AIDS

patients are depressed (Edwards et al., 2014). Thus only 3.5% of their current patients were being treated with antidepressants, which was enough to convince the physicians that something needed to be done to address this problem.

The overriding problem at this rural clinic was the widespread lack of proper PHQ-9 depression screening, which lead to unidentified, undiagnosed, and untreated depression amongst PLWHA. Depression is a serious factor in PLWHA, and with early prevention, patients are better able to cope with their disease and other barriers that affect health outcomes (Kennard et al., 2014). These patients should be accurately diagnosed, treated, and provided follow-up care for depression. As such, this was a health practice issue, which warranted further investigation.

The specific problem of this project was a lack of continuity in the PHQ-9 screening procedures to ensure that all PLWHA were properly screened, identified, and referred for further evaluation and treatment by the physician. There were no set guidelines or protocols currently in use at the practicum site, and documentation of the depression screenings in EHR were often incomplete. Consequently, many patients did not get early treatment for depression or proper follow-up.

The practice project is relevant to the community and the rural clinic that serves PLWHA. First, it raises awareness of the prevalence of depression amongst PLWHA, and second, it addresses the importance of best practices provided by clinic staff to improve the systematic depression screenings of PLWHA. These screenings were achieved with proper instructions and efficient use of the resources available in the medical setting (Siu & USPSTF, 2016). Even though the screening tool was available for years, both

physicians at the facility confirmed that many of the PLWHA had fallen through the cracks by not being identified and treated for depression, which led to increase risky behavior, nonadherence to medication and appointments, and negative elevations of lab levels (Physician, personal communication, June 16, 2016). Developing and implementing an evidenced-based quality improvement (QI) project helped increase the number of patients who were diagnosed with depression. Additionally, this greatly increased the chances of identifying and treating this patient population.

This doctoral project was significant to the field of nursing in that many health care settings face challenges in developing and properly implementing depression screenings policies (Siu & USPSTF, 2016). Health care professionals are considered change agents for best practices of supportive care for patients experiencing depression. Ultimately, the goal was to improve the care of PLWHA and to educate the population in the recognition of clinical depression associated with the disease. The process for depression screening involved preparing staff, determining screening frequencies, and developing protocols for response and appropriate medical record documentation (Edwards et al., 2014). When nurses and other clinic staff properly conduct, evaluate, and report depression screenings results, the physician can decide whether the patient may benefit from urgent intervention or further specialized mental health evaluations.

Purpose Statement

The purpose of this DNP project was to develop and implement an evidence-based depression screening protocol in a rural clinic to improve clinical staff practices and adherence to the PHQ-9 guidelines. The objective was to develop and implement an

EBP training program that would increase the number of depression screenings completed on PLWHA such that these patients can be properly identified and referred for treatment. Initially, there were no practice protocols established for clinic staff that outlined specifically how PHQ-9 depression screenings should be implemented, managed, or distributed. Uniform practices for PHQ-9 depression screenings were necessary to ensure consistent implementation so that screening results would be provided to the physician.

The development and implementation of an evidenced-based project with protocols and practice procedures for the management and distribution of PHQ-9 screening for depression was developed to bridge the practice gap. Addressing the gap in practice ensured that the knowledge deficit as it related to the PHQ-9 screenings would be negated. The communication gap between the clinic staff and physicians improved, leading to appropriate identification and treatment of HIV patients with depression. The PHQ-9 screening tool was based directly on the 9-diagnostic criteria for major depressive disorder in the *DSM-IV-TR* and *DSM-5* (American Psychiatric Association, 2000, 2013).

The following practice question formed the basis for this project: How does the development and implementation of an EBP protocol for PHQ-9 depression screening at a rural health clinic in a southern region of the United States impact the number of PLWHA screened and identified for depression over a 1-month period?

Nature of the Doctoral Project

The implementation of any project should have a representative from the target population or department that has a say in the decisions that are being made toward that

program. When stakeholders are involved in the process, there is a reduction in overall distrust and fear, an increase in the stakeholders' commitment to the process, and more support generated from stakeholders, as they become advocates for the project (Agency for Healthcare Research and Quality [AHRQ], 2014). Stakeholders at this rural clinic included clinic staff, physicians, director of social services, and other auxiliary staff members such as a receptionist and volunteers.

Initially, I met with clinical staff to gather their valuable input. The purpose of those meetings was to explain the nature of the project and conduct an informal needs assessment. This information was useful for developing educational material and conducting a training session that eventually led to a change in clinic staff PHQ-9 screening practices. These meetings also gave me as the DNP student an opportunity to identify any barriers that existed so that they would be addressed moving forward.

Planning and implementing change can be somewhat difficult. Not everyone will agree with the change, especially if they have been doing things a certain way for some time. This is why it is important to identify any barriers or perceptions based on the projected change to help create positive attitudes moving forward with the change. As I anticipated, the gap in practice was successfully closed after policies and procedures were implemented and clinic staff were able to appropriately assess, identify, score, and document screening results in the EHR while increasing the number of patients identified and treated.

Significance

This doctoral project is significant to nursing practice and has been proven beneficial now that knowledge deficits that existed with the PHQ-9 screening practices have been negated. Eliminating knowledge deficits with appropriate usage of depression screenings served as a stepping-stone towards the use of EBP to properly screen, manage, and communicate information while proactively identifying depressed HIV patients. This project has numerous implications for positive social change for nursing practice. Social change was realized when clinic staff were educated and trained to properly conduct depression screenings that lead to early detection and treatment of depression in PLWHA. Early identification and treatment of depression in PLWHA can greatly improve patient health outcomes. Siu and USPSTF (2016) found evidence that supported clinical improvements in patient outcomes when programs implement depression screenings with adequate support.

Screening alone is not sufficient to improve depression unless this information is properly recorded. To integrate routine screenings with adequate diagnostics, several steps are necessary to provide depression care to PLWHA. Proactive tracking of depression outcomes, systematic follow-up, and care management activities have been shown to improve depression outcomes in depressed adults (Heckman et al., 2011). Positive social change was realized when PLWHA began to receive the appropriate depression care as a result of proper screening, early interventions, and depression management. Although the project was designed for the PLWHA in the local area community clinic, other primary care providers may find the evidenced-based protocol

useful to improve PHQ-9 depression screening practices for patients in other clinical areas.

Definition of Terms

The following are definitions of terms that have been used in this DNP evidenced-based project:

Depression: The National Institute of Mental Health (NIMH, 2016) described depression as several genes acting together with the environment and other factors causing depression, which can be described by some of these feelings: fatigue, decreased energy; feelings of guilt, worthlessness, and helplessness; insomnia, early morning wakefulness, or excessive sleeping; and/or irritability. There are more symptoms of depression but vary from person to person.

Evidenced-based practice (EBP) guidelines: Clinical guidelines that are rigorous and are based on the best research evidence available in that area (Grove et. al., 2013).

Patient Health Questionnaire (PHQ): A multipurpose instrument that aids in monitoring depressive symptoms using simple screening questions and is brief, acceptable, and easy to administer (Kroenke, Spitzer, Williams, & Löwe, 2010).

People living with HIV: People living with HIV have contracted a virus as an infectious disease that attacks the immune system. If it is not treated it can develop into AIDS (Heckman, 2011).

Protocols: EBP protocols are standard guidelines of care throughout medical disciplines that can improve care, clinical effectiveness, decrease risk and improve teamwork (Health Resources and Service Administration, 2015).

Assumptions

The following assumptions are made for this project:

- Many of the clinic staff understood the importance of administering the PHQ-9 depression screenings to HIV and AIDS patients.
- Due to time constraints and lack of policies that mandate screening, clinic staff do not feel compelled to complete depression screenings on each patient.
- Many of the administration believe that an educational training session will ensure that everyone has the same training in the initiation and implementation of the guidelines and protocols that will be adapted by the rural clinic.

Limitations

Some limitations to this DNP project include the following:

- Staff may be resistant to incorporating change, as it may seem like an increase in their workload.
- It may be difficult to convince some of the clinic staff that introducing new policies and guidelines would be both beneficial for clinic staff and patients.
- It may be difficult to overcome clinic staff beliefs that the training session may be too time consuming and irrelevant.

Summary

In Section 1, an overview of the DNP project was presented, which included the following sections: problem statement, purpose statement, nature of the doctoral project,

and significance. The DNP practice question examined how the development and implementation of an EBP protocol for PHQ-9 depression screening at a rural health clinic in a southern region of the United States would impact the number of PLWHA screened and identified for depression over a 1-month period. The creation of an EBP guideline and protocol had implications for positive social change when clinical staff were properly educated and trained to implement and maintain successful depression screenings, diagnosis, and management steaming from outcome data generated with the PHQ-9 tool.

Section 2 continues with a discussion of the background and context of the DNP project, looking specifically at the literature and framework. The headings will include the following: (a) specific literature, (b) general literature, and (c) framework.

Section 2: Review of Literature and Theoretical/Conceptual Framework

Specific Literature

To better address the practice-focused question, a variety of sources of evidence and databases have been researched. These include the following: national guidelines on depression screenings by the American Psychiatric Association, USPSTF, Institute of Medicine, PHQ-9's recommendations, Medline, PubMed, Cochrane, Cumulative Index to Nursing and Allied Health Literature, EBSCO, Science Direct, American Association of Colleges of Nurses, National Guidelines Clearinghouse, and *Journal of the American Medical Association*. These resources provided evidence-based information for this EBP project to improve the standard of care with development and implementation of an evidenced-based depression screening protocol to advance clinical practices and adherence of using the PHQ-9 screening tool (Kroenke, Spitzer, & Williams, 2001).

Approximately 105 articles were reviewed, and information from 27 articles was used for the review of literature. The articles were published between 2000 to present and were selected using inclusion and exclusion criteria. Studies that are listed in the literature review included systematic reviews, journal articles, randomized control trials (RCTs), validations studies, and surveys. Studies or journal articles were excluded if subjects were less than 18 years of age and if the depression recommendations were anything other than those from USPSTF (2015). Key search terms included *depression screenings, PHQ-9, EBP protocols for depression, depression, EBP models or theories,* and *depression guidelines*.

General Literature

Depression is highly prevalent and considered the leading cause of disability worldwide, particularly for people with HIV and AIDS (Kennard et al., 2014). Major depression is described in the *DSM-5* as a patient presenting five or more of the following episodes or symptoms during the same 2-week period and representing a change from previous functioning: (a) depressed mood or (b) loss of interest or pleasure (American Psychiatric Association, 2013). Many times, depression goes unrecognized by health care providers because it is associated with poorer adherence to antiretrovirals. The specific problem of this project was a lack of continuity in the PHQ-9 screening procedures to ensure that all PLWHA were properly screened, identified, and referred for further evaluation and treatment. There were no set guidelines or protocols in place at the practicum site and documentation of the depression screenings in EHR were often incomplete. Three main themes were identified as follows: rationales for diagnosing depression in HIV and AIDS, the use of PHQ-9 screenings on HIV and AIDS patients, and practice protocols and staff training.

Diagnosing Depression

Higher rates of depression have typically been found in PLWHA and can have negative health outcomes if early identification and proper treatment are not implemented (Chaudoir, Norton, Earnshaw, Moneyham, Mugavero, & Hiers, 2012). One of the many rationales for an increase in depression among this population is a lack of social support after testing HIV positive, which has been highly likely to increase depressive symptoms (Kingori, Haile, & Ngatia, 2015). Therefore, it is extremely important to recognize the

symptoms of depressions so that these patients can be treated. Recognizing signs of mental health disorders is not always easy in any patient, especially those with HIV and AIDS. The National Institute for Health and Clinical Excellence and the American Psychiatric Association guidelines suggested that treating depression should not begin until the person has been properly screened and diagnosed (Kocalevent, Hinz, & Brahler, 2013). Early identification and proper treatment can significantly reduce the adverse impact of depression.

Skalski et al. (2015) identified that PLWHA have higher levels of depression than the general population and could have many factors that contribute to their depression. Because of this, it is important to identify these patients so that they can be treated not only for their HIV and AIDS but depression. The authors completed a meta-analysis and found that the prevalence of a major depressive disorder was 2-times higher in PLWHA than individuals who were HIV negative (Skalski et al., 2015), which is alarming. There are many factors that may contribute to depression in a HIV infected person. Depression in patients with HIV has been associated with poorer quality of life, stigmatism, worsening of white blood cells called T-cells, which can progress to AIDS, shorter lifespan, and decreased adherence to medication (Akena, Musisi, Joska, & Stein, 2012; Ickovics et al., 2001; Leserman et al., 2000). Depression can affect more than just a HIV infected person's state of wellbeing; it can affect the person's overall health as well as the course of the disease.

Bess et al. (2013) interviewed 72 providers who treated PLWHA and found that only 31% of the providers stated that they typically screen for depression, while only

12% used a standardized measure. It is important that providers assess a patient's level of depression by utilizing a validated measure. The CDC (2011) expressed that if depression was left untreated, it could potentially raise the cost of health care by indirectly causing other comorbid health conditions such as heart disease, diabetes, and stroke. The USPSTF (2015) stated that early screening for depression with the right resources in place, can allow the depressed patient to get the treatment and follow-up care needed. The NIMH (2016) stated that the earlier the treatment can begin for the depression, the more effective it will be. Some of the most common therapies used to treat depression are medication, psychotherapy, or the combination of the two (NIMH, 2016). The sooner depression is diagnosed in PLWHA, the sooner they can be treated to avoid potential setbacks that have been brought forth by the literature.

PHQ-9 Depression Screening Tool

According to the USPSTF (2013), depression screenings can identify patients early so that they can be treated. National guidelines have recommended that providers use some kind of standardized measure to identify a patient's depression level and screen routinely (Bess et al., 2013). The PHQ-9 is one of the most common tools used to screen for depression. Whenever most providers are questioned about knowing different types of screening tools used, they are most familiar with the PHQ-9 (Bess et al., 2013).

The PHQ-9 is intended to easily apply the *DSM-IV* diagnostic algorithm for depression. It only takes about 2 to 5 minutes to complete the PHQ-9 screening tool and it has a 61% sensitivity and 94% specificity for mood disorders in adults (Maurer & Darnell, 2012). The PHQ-9 can be self-administered or administered through structured

interviews with the 9-questions listed on the questionnaire and a follow-up non-scored question, which assigns weight to the level of function. Patients can rate their symptoms on a 4-point Likert scale indicating how often they have been bothered by the symptom over the past 2 weeks (0 = *not at all*; 1 = *several days*; 2 = *more than half the days*; 3 = *nearly every day*; Maurer & Darnell, 2012).

The PHQ-9 tool allows the clinician to determine if the participant is positive for a depressive disorder and thus promptly refer the patient out for follow-up care. Providers have used this tool widely, and researchers have considered it to be a validated tool. Scores received on the PHQ-9 can range from 0 to 27, with a score of 10 or higher indicating the presence of depression (Cholera et al., 2014). It is important to note that the USPSTF has only recommended screening patients for depression if the proper support staff is in place (Picardi et al., 2016). If the appropriate resources are not in place, it will be difficult to help a newly diagnosed depressed patient.

Chen, Huang, Chang, and Chung (2006) analyzed the sample of 3,417 Chinese American participants for depression to determine the usage of the PHQ-9 in a community health clinic and primary care setting. Patients were given the PHQ-9 screening tool at their routine visit. Approximately 973 participants tested positive with the Patient Health Questionnaire-2 (PHQ-2), then a PHQ-9 was completed. Chen et al. determined that the PHQ-2 and PHQ-9 were reliable tools to utilize in the primary care setting to determine a patient's level of depression as well as a guide for treatment. Using the PHQ-9 screening tool is very convenient and cost efficient. Spitzer, Williams, Kroenke, and colleagues have already listed a scoring system and recommendations that

are easily followed by professionals and nonprofessional alike (Kroenke, Spitzer, & Williams, 2001).

Using validated screening tools is important and has been recommended by national guidelines. Schumacher et al. (2013) completed a longitudinal observational cohort study among patients in the UAB 1917 Clinic Cohort. The study used a prospective observational, quasi-experimental design. The patients completed the PHQ-9 screenings at visits every 4 to 6 months. Findings suggested that there were significant benefits in access to depression treatment and resulting decrease in depression scores after integrating routine depression assessments for the outpatient HIV clinic (Schumacher et al., 2013). The USPSTF (2015) recommended depression screenings yearly, but every 3 months if a patient is being treated for depression. The literature made it clear that the more health care professionals assess and treat depression, the more likely the patient's depression screening score will come down. This could lead to improve health outcomes and increased quality of life (Primeau, Avellaneda, Musselman, St. Jean, & Illa, 2013).

The PHQ-9 is a well-known effective screening tool that has no cost associated with its use. Most companies are no longer printing this tool, but have shifted everything to the EHR for ease of use. Bajracharya, Summers, Amataya, and DeBlieck (2016) found that incorporating the screening tool into the EHR greatly improved depression screening rates. Entering the screening tool into EHR also provides for continuity of care between all providers so that patients will not fall through the cracks. The PHQ-9 depression-screening tool is copyrighted by Pfizer Inc., and is available for public use. According to

the literature, the PHQ-9 has proven to be a great resource to use when identifying depression.

Practice Protocols and Staff Training

The literature has shown that staff training on protocols and guidelines could prove both beneficial for staff by increasing their knowledge and patients by identifying their depression early and initiating treatment. Davison, Karantzas, Mellor, McCabe, and Mrkic (2013) found that staff training alone did not increase depression referrals, but staff training along with protocols and guidelines led to a tremendous increase of the number of patients who were found to be depressed. The implementation of a depression screening protocol to help identify patients with depression is not a new idea. In fact, Bajracharya et al. (2016) found that screening for depression followed by an effective treatment plan in primary care plays an important part in depression management. An evidence-based approach is necessary when establishing protocols and guidelines with a training program in order to increase the number of depression screenings being completed and the number of patients who are identified for depression. To improve patient health outcomes and manage depression, the implementation of protocols, guidelines, and staff training can be beneficial not only to staff, but the patients.

Training programs, curriculums, and protocols on depression can prove to be very beneficial to clinic staff by providing guidance on the implementation of treatment for depression in patients. McCabe, Karantzas, Mrkic, Mellor, and Davison (2013) completed a RCT on 107 professional staff who performed depression screenings on approximately 216 individuals from a residential facility. Approximately 34 staff were in

the training-only group and completed a six session training program, 35 staff were in the training-plus-screening protocol group, and 38 staff were assigned to a waitlist control group (McCabe et al., 2013). The training program used was the Beyondblue Depression Training that consisted of five modules over a period of 5 weeks in 2-hour sessions with an additional training session for older staff members. The training provided information on the prevalence of depression and the impact that it has on the older population (McCabe et al., 2013). The staff where taught how to recognize depression and how to utilize psychological depression screening instruments and complete checklist and paper trail for the staffers to write down actions taken to address any depression noted in the residents every 3 months. McCabe et al. found that protocols should be developed to assist staffers in detecting, referring, and monitoring depression.

Protocols can be an effective measure in providing a step-by-step approach to guide clinic staff's implementation of depression screenings and treatment regimens. A federally qualified health center implemented a protocol aimed at increasing awareness of depression and reducing barriers to treatment for their Hispanic patients (Sanchez, Eghaneyan, & Trivedi, 2016). Sanchez et al. (2016) stated that the Depression Screening and Education Options to Reduce Barriers to Treatment implemented universal screenings of depression with one of the first steps of the process being to train staff on the use and interpretation of the PHQ-9 and how the iPad application worked. The PHQ-9 tool was used and was self-reported on an iPad with the results going to the depression educator, primary care physician, and designated clinic staff at the completion of the screening (Sanchez et al., 2016). The protocol allowed the staff to implement the

depression screening while the nurse triaged the patient; therefore, the physician knew the results before seeing the patient. If it was determined that a patient had a positive depression screening, the practice protocols would be implemented at that visit and the proper course of treatment could be prescribed (Sanchez et al., 2016). The initiation of practice protocols provides a step-by-step guide as to what is needed and eliminates patients potentially falling through the cracks after identification of depression. Utilizing iPads or EHRs automatically stores the data in the patient's chart so that the provider is aware of the patient's depression status before laying eyes on the patient.

Upon the adoption of any change, such as protocols or guidelines, it is important to provide adequate educational training to staff to ensure proper implementation of the changes taking place. According to Arbuckle et al. (2013), a step-by-step approach was used in a psychiatric clinic when developing their curriculum to identify, effectively treat, and revise treatment plans using measurement-based care. The residents were educated through didactic training and would also implement a QI project initiating the PHQ-9 to screen patients for depression for the next year. The measurement-based care curriculum began with three 1-hour interactive sessions that described the evidence of the validated tool used for depression screenings, interactive group discussions, and establishing a QI plans (Arbuckle et al., 2013). After implementation of the QI plan, each month time was set aside to remind residents of the goals set and to follow up on progress. Six months after the initiation of the curriculum and QI project, depression screenings went from 4% to 92% (Arbuckle et al., 2013). Logistic regression in any given month showed that residents were 1.6 times more likely to use the PHQ-9 for screening ($p = 0.0004$) and

monitoring ($p = 0.0002$), in comparison to the previous month (Arbuckle et al., 2013). Arbuckle et al. noted that a didactic curriculum or an educational intervention with a QI project was effective in improving depression screenings with a validated screening tool. A program that provides training for staff on the initiation of protocols and guidelines such as this can be life for many HIV and AIDS patients who will receive proper diagnosis and treatment for depression.

Framework

The Iowa model of EBP (Doody & Doody, 2014) served as a guide for this project. It helped in the adaptation of EBP protocols and guidelines for depression screenings in PLWHA, clinic staff training in the administration, scoring, and communication of the PHQ-9 depression screenings. Emphasis was placed on including the entire organization or stakeholders as well as evidenced-based research in making decisions regarding changes to the practice (Dentje, 2015).

The following steps of the Iowa model of EBP (Appendix A) were needed to effectively incorporate this model into a practice change:

1. Identify the problem
2. Formation of a team
3. Evidence retrieval
4. Grading the evidence
5. Developing EBP standard
6. Implementing the EBP change
7. Evaluation

According to Dentje (2015), the first step of the Iowa model was to identify the problem or select the topic that needed to be changed. In the case of this project, the problem or topic that needed to be changed was the continuity in the PHQ-9 screening procedures to ensure that all PLWHA were properly screened, identified, and referred for further evaluation and treatment by the physician. A practice question was formulated using the population, intervention, comparison, and outcome (PICO) model that guided practice change. The second thing that was done was the formation of a team. The team was formed and consisted of nurses, social workers, physicians, volunteers, front office staff and the DNP student. The evidence was gathered and analyzed using an EBP grading scale by the National Clearinghouse Guidelines, which rated the levels of evidence and assigned grades to the recommendation (AHRQ, 2015). Next, the team evaluated the evidence to see if it met the projects needs moving forward. The sixth step was used to develop and implement an EBP depression screening protocol and guideline to improve clinical staff practices and adherence to the PHQ-9 guidelines, and develop an evidenced-based staff training session to increase the number of depression screenings completed on PLWHA. Pre- and posttest were given concerning the PHQ-9 screenings to clinical staff that initiated the screenings. The final step in this EBP project was the evaluation of all the steps initiated.

Role of the DNP Student

Depression in the HIV and AIDS population is very near and dear to my heart. One of the first jobs I had was working as a registered nurse in case management with the HIV population. I discovered that this population was at a disadvantage with the

stigmatization of the disease that it not only challenged them physically, but mentally they were depressed. Many years ago depression screening tools were not commonly used. In fact, at my job site, there was little known about tools such as the PHQ-9 being readily available to identify depression in those patients. Typical questions about depression were asked to determine if a patient was depressed or not. Often patients would deny that they were depressed or they would simply refuse treatment. There have been so many advances in technology with the utilization of the PHQ-9 tool and the recommendations that have been set forth. Patients who have HIV and AIDS are typically more depressed than the average patient. Making sure that every patient gets screened for depression and protocols implemented will increase the number of patients getting identified and treated.

I was responsible for leading the interdisciplinary team, helping with the development of protocols and educational training while making sure all timelines and goals were being met. Another responsibility of mine was to be the administrator of the pre- and posttest, learning styles test, and the actual grading and scoring of the tests. After this information was gathered, it was up to me to accurately report the findings to the interdisciplinary team so that the appropriate educational training could be designed.

Summary

In recognition of diagnosing and treating depression in primary care settings, the purpose of this DNP project is two fold. First, to address the practice focused question of how the development and implementation of an EBP protocol and guideline for PHQ-9 depression screening at a rural health clinic impact the number of PLWHA screened and

identified for depression over a 1-month period; and second, to develop and implement a staff training that would increase the number of depression screenings completed on PLWHA. Section 2 included discussion of the background and context of the DNP project, looking specifically at the specific literature, general literature, and framework. Section 3 will continue with a discussion that will include the following: (a) project design/methods, (b) population and sampling, (c) data collection, (d) data analysis, and (e) project evaluation plan.

Section 3: Design and Methodology

Introduction

This section will introduce the approach and rationale for clinical guidelines for administering the PHQ-9, development of the depression screening protocol, and staff training to increase staff education while also increasing the number of PLWHA being identified and treated for depression. Staff knowledge and learning styles were tested to create a training program about the implementation of the PHQ-9 screening tool and protocols that would be implemented after completion of the 2-hour training program. This section will also explain the comprehensive approach to how the information was gathered, processed, and analyzed with the help of the interdisciplinary team. Also, the level of satisfaction that the clinic staff had with the training provided on PHQ-9 screenings, implementation, and protocols will also be evaluated.

Project Design and Methods

The DNP project was framed using the Iowa model of EBP (Doody & Doody, 2014). An interdisciplinary team was assembled to collaborate and share ideas regarding the DNP project. One of the first things completed was the development of a depression practice protocol concerning the implementation of depression screenings, diagnosing, and treatment. Meetings were held daily for 2-hours Monday through Friday for 1-week, for a total of 10 hours to develop a staff training session. The interdisciplinary team was composed of the following members: a RN, a LPN, social worker, medical provider, volunteer, administrator, two clinical therapy experts from outside of the organization with expertise in mental illness, and me.

Next, I had a meeting with clinic staff to initiate two tests that would be instrumental in developing the staff training. A 10-question pre-test and a 16-question learning styles test were given to staff who tested patients for depression (Appendix C; http://vark-learn.com/the-vark-questionnaire/). A pre-test, testing the clinic staff's knowledge on depression, was also given to see what was already known about depression before the staff training was developed, and a post-test was given after the training was completed (Appendix C) to see what was learned. Clinic staff took approximately 5-minutes or less to complete this 10-question pre-test. All participants were asked to write their name at the top right hand corner of the test and drop the completed test into the box marked confidential. This step guided the approach of the training.

After completion of the pre-test, another important component that was considered was the learning styles of all clinic staff who were participating in the staff training. Clinic staff who would test patients for depression had to complete a learning styles preference assessment test known as Visual, Auditory, Read-Write, and Kinesthetic (VARK; http://vark-learn.com/the-vark-questionnaire/). The tool only took about 5-minutes to complete and was done after the completion of the pre-test. All participants were asked to put their name at the top right hand corner of the test and drop the completed test into the box marked confidential. This step guided the approach of the training as well. Permission was obtained from Mr. Neil Fleming, copyright holder. This learning style tool is structured specifically to improve learning and teaching (Fleming & Mills, 1992). To successfully collect and interpret data, the VARK assessment tool was

used to determine each participant's learning style and preference. The assessment tool was a 16-question multiple-choice survey (http://vark-learn.com/the-vark-questionnaire/). A learning style can be visual, auditory, read-write, kinesthetic, or a combination of either, which is known as a multimodal learner (Leite, Svinick, & Shi, 2010). The VARK data were recorded in the VARK software system online.

The interdisciplinary team reviewed the participants' learning preferences and developed a learning-centered training program that would take less than 2-hours to complete. I had already decided that the training should not take longer than 2-hours, but consulted with the two clinical therapy experts who have a combined total experience of more than 50 years in mental health and have experience in developing training programs.

At the end of the training program, a post-test on depression knowledge was administered (Appendix C). Upon completion of the training program, clinic staff had to pass a one-on-one check-off with both clinical therapists and receive a score of at least 95% before implementing depression screenings and practice protocols on patients. The therapists looked at if and how the staff completed the PHQ-9 depression screening, whether it was scored correctly, if the information was logged in EHR, and if they followed the protocol and guidelines associated with the score. When all criteria were met, each staff member received a certificate stating that they had completed the mandatory PHQ-9 training program and protocol implementation. There were not any clinic staff who did not pass the training program, so the implementation of practice protocols and PHQ-9 screenings were able to start immediately.

None of the required HIV clinic staff obtained less than 95% on the check-offs; therefore, no one was required to repeat the training or role-playing with the two experts. After completion of the training, all clinic staff involved where monitored weekly for their progress in the PHQ-9 depression screening implementation and protocols by way of data analysis through EHR. This will be an ongoing QI project for the organization.

After 2-weeks of implementation of the project, an evaluation was given to all clinic staff who participated in the training program. Each participant completed a 14-itemized question satisfaction survey (Appendix D) that was developed by me and evaluated by my preceptor and three doctorate-prepared investigators, using a 5-point Likert type rating scale from *strongly agree* = 1 to *strongly disagree* = 5. The next step in this project was the collection of data on a weekly basis for 1-month. Data were collected from the EHR looking specifically at each of the clinic staff who participated in the training and whether they completed depression screenings and implemented practice protocols on PLWHA. This was done for 1-month and information was turned into the director, who would be implementing an occurrence system for those who did not comply with the QI project.

Population and Sampling

The participants in this project were the clinic staff who would administer the PHQ-9 directly to HIV and AIDS patients at the rural clinic in a southern region of the United States. Participation was mandatory for all HIV direct care workers. Participants in this project were women and varied from ages 21 to greater than 53. Inclusion criteria for this project were that the clinic staff must be an employee of the rural clinic, have

direct contact with HIV and AIDS patients, and be capable of administering the PHQ-9 screening tool.

Data Collection

Data were collected weekly to monitor how many patients were screened for depression using the PHQ-9 tool and if the protocol were used. This information did not show the patient's name, but only the name of the person who completed the screenings and how many patients they completed it on. Clinic staff kept a log of the patients who they screened only using the first and last initial and whether or not they were positive or negative for depression. This was done only as a backup plan for data collection due to the high incidences of computer system outages.

Instrument

The instruments used in this project were a 10-question pre- and post-test that tested the clinic staff's knowledge on depression (Appendix C). A 16-question learning styles preference test by VARK, were used to determine the clinic staffs learning styles (http://vark-learn.com/the-vark-questionnaire/), and a 14-question satisfaction survey (Appendix D) was completed 2-weeks after the initiation of the depression screening protocol (Appendix F).

Reliability and Validity of Instruments

Determining the reliability and validity of any instrument used in research can be very crucial to any project. If neither the reliability nor validity of the instrument has been studied, proven, determined, or utilized, this could limit the credibility of the project.

Many of the instruments used in this project have had both the reliability and validity tested and determined.

Yamey (2006) has given open access to his questionnaire on testing knowledge on depression. At the end of the test, the answers with references are provided to explain the rationale for each answer. The reliability and validity could not be determined at this time. However, I decided to move forward with the depression knowledge questionnaire (Appendix C) due to the exhaustive research analysis behind each question as well as over 12,500 downloads by individuals conducting research.

The reliability and validity of the VARK questionnaire has been tested, and Leite et al., found that the correlated trait-correlated method model was the best fit to the VARK scores and found support for its validity. A confirmatory factor analysis was used, and the reliability estimates for the scores of the VARK subscales were 0.85, 0.82, 0.84, and 0.77 for Visual, Aural, Read/write and Kinesthetic subscales, respectively (Leite et al., 2010), which are considered within range (Fleming & Mills, 1992). This is a very popular learning styles tool as it is used in many nursing programs throughout the country to determine student's learning styles.

A 14-question satisfaction survey (Appendix D) was created by me and was evaluated by my preceptor and three doctorate-prepared investigators who had experience in developing surveys. The content experts validated the satisfaction survey items. These individuals were not involved in data collection and analysis of the project. They have reviewed a draft of the questionnaire for clarity, appropriateness of the content, format,

and style. This survey was developed using a 5-point Likert type rating scale from *strongly agree* = 1 to *strongly disagree* = 5.

Protection of Human Subjects

Permission to move forward with this project was granted by Walden University's Institutional Review Board approval number 05-25-17-0553271 and the Ethics Committee at the rural clinic.

Data Analysis

All data collected were analyzed and reported descriptively with *t* tests. Descriptive statistics were used to compare pre- and post-test depression knowledge, satisfaction surveys, and weekly depression screenings in EHR following protocol. That is, all data was described and summarized in ways that are meaningful and useful. Statistical Product and Service Solutions (SPSS) 23.0 software was used for analyzing the evidence and for generating the appropriate tables and charts. After approval from the Institutional Review Board, data collection began in preparation for the development of practice protocols, guidelines, and staff training.

Sustainability

The director and physicians have bought into the idea of the need to effectively screen PLWHA for depression. They also believe that the development and implementation of EBP protocols and guidelines, along with a training program for the staff, will be instrumental in detecting depression early and getting patients the treatment that is needed. To ensure that this project is sustainable after I am no longer at the practicum site, the director has implemented an occurrence system that will count against

the staff if they are caught not using depression screening guidelines and protocols. The occurrences gained could negatively affect the staff's yearly evaluations, pay raise, and could ultimately lead to termination.

Project Evaluation Plan

At the end of each week, data analysis was conducted by way of EHR, looking specifically at how many depression screenings had been implemented, entered into EHR, scored, and protocols followed. If these screenings were not completed, management would implement an already established system that penalizes employees based on their performance. I only evaluated these practices for 1 month, and the organization has continued this project as an ongoing QI project for their organization.

Summary

In summary, adoption and implementation of a practice protocol for PHQ-9 depression screening would help better organize the quality of patient-centered care into the existing primary health care delivery system. Using screening protocols, the clinical staff and providers were able to identify depression symptoms earlier and more accurately, thereby improving patient outcomes. Implementing protocols has led to a decrease in the progression of depression and afforded nurse management the opportunity to potentially impact the quality of life for the population of PLWHA.

Section 4: Discussion and Implications

Introduction

The purpose of this DNP project was to develop and implement an evidenced-based depression screening protocol and training program in a rural clinic to improve clinical staff practices and adherence to the PHQ-9 guidelines. Developing and implementing such practices increased the number of depression screenings completed on PLWHA such that these patients were properly identified and referred for treatment. It has been proven that uniform practices for PHQ-9 depression screening protocols and training were necessary to ensure consistent implementation of completion of depression screenings among clinic staff.

Discussion of Findings

After receiving approval from Walden University Institutional Review Board, the project commenced with a meeting between the interdisciplinary team and me. I explained the goal of the project and spoke in detail regarding the instruments that would be used to help in the development of protocols, training, and how to initiate the PHQ-9 depression screenings tool. Members of the interdisciplinary team were selected by the director of the program or volunteered. The interdisciplinary team was composed of five staff members and four other individuals who worked outside of the health clinic. The individuals selected from outside of the clinic were familiar with the services that the organization provided and were contractors who frequently treated the organization's patients for mental health services. It took 10-hours in a period of 1-week to develop an evidenced-based depression screening protocol (Appendix F) and staff training

(Appendices B and E). During this week, it was decided that the staff members should complete a pre-test on their knowledge of depression and learning styles test to see what type of learners were in the group.

Because there was extensive discussion on how to conduct the staff training, the interdisciplinary team decided with a unanimous vote to utilize the instruction sheet provided by Pfizer with the screening tool (Appendices B and E) and train the staff according to their learning styles. The instruction sheet provided a detailed explanation as well as a step-by-step approach on the initiation of the PHQ-9 tool. The team voted that I would teach the training and provide every staff member with a personal copy that they could reflect on if they had questions.

After meeting with the interdisciplinary team on the first day, I discussed the project with the staff. It was at this meeting the pretest (Appendix C), testing the staff's knowledge of depression, was given. At this very same meeting, a learning styles test (http://vark-learn.com/the-vark-questionnaire/) was given to see what types of learners were amongst the staff. Each test took approximately 5 to 7 minutes to complete. After completion of the two instruments by the staff, I collected and scored the responses. The results were discussed at the next interdisciplinary team meeting the following day.

The pre-test results noted that out of 12-staff members, two scored 60% with a cumulative percent of 16.7%, two scored 70% with a cumulative percent of 16.7%, four scored 80% with a cumulative percent of 33.3%, and four scored 90% with a cumulative percent of 33.3% (Table 1). The learning styles test showed that 50% of the clinic staff were auditory learners, while the other 50% were visual learners (Table 2). The

information gathered from the pre-test and learning styles test was used to develop a staff-training program that was centered on the PHQ-9 screening tool (Appendix B), instruction sheet (Appendix E), pretest (Appendix C), and protocol (Appendix F). Because the staff was 50% visual and 50% audio, it was decided that I would present an oral presentation using a projector and handouts as visual aids to discuss the screening tool, pre-test, instruction sheet, and depression screening protocol.

Table 1

Frequency Table of Pretest

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	60	2	16.7	16.7
	70	2	16.7	16.7
	80	4	33.3	33.3
	90	4	33.3	33.3
	Total	12	100.0	100.0

Table 2

Learning Styles Test

VARK					
	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Auditory	6	50.0	50.0	50.0
	Visual	6	50.0	50.0	100.0
	Total	12	100.0	100.0	

The staff training took approximately 2-hours for the presentation, post-test, questions, and face-to-face check-offs. Copies of all information discussed in the training session were provided to each staff member for future reference. Upon completion of the staff training, a post-test of depression knowledge was given with one clinic staff member scoring 90% with a $f = 8.3\%$, while the other 11 scored 100% with a $f = 91.7\%$ (Table 3).

Table 3

Frequency Table Posttest

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	90	1	8.3	8.3
	100	11	91.7	91.7
	Total	12	100.0	100.0

Statistical data were analyzed utilizing SPSS 23.0 software. This product was used for analyzing the evidence and for generating the appropriate tables and charts. A pre-test given on knowledge of depression showed that the $M = 78.33$ and the $SD = 11.146$, and the post-test showed that the $M = 99.167$ and the $SD = 2.887$. Paired t test demonstrated that there was a statistical significance in depression knowledge gained by clinic staff with a score of $p < .0000$ (Tables 4 and 5). The pre- and post-test comparison chart (Figure 1) shows a dramatic increase in the number of clinic staff who benefited from teaching the depression knowledge screenings test.

Table 4

One Sample Statistics t Test

	N	Mean	Std. Deviation	Std. Error Mean
Pre-test	12	78.33	11.146	3.218
Post-test	12	99.17	2.887	.833

Table 5

One Sample Test t Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Pre-test	24.345	11	.000	78.333	71.25	85.42
Post-test	119.000	11	.000	99.167	97.33	101.00

Note. The significance threshold was set at .05
Pre-test and post-test = $p < .0000$ and significant at $p < .05$

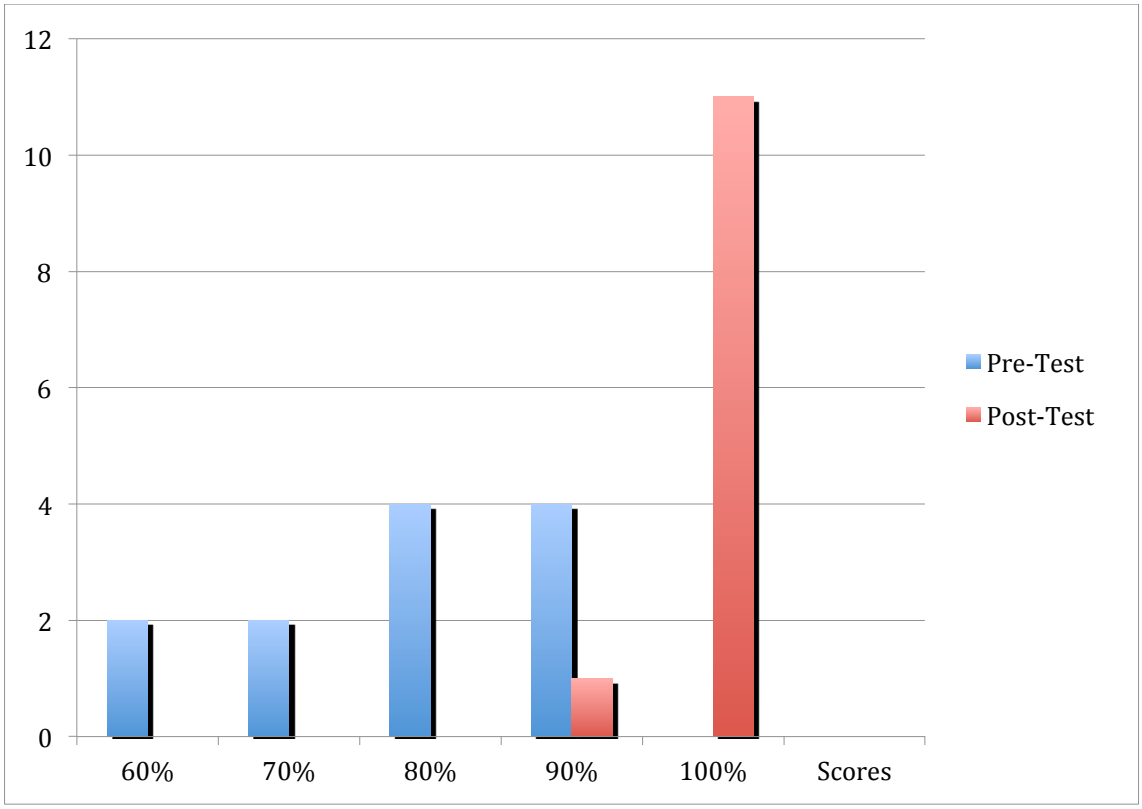

Figure 1. Pre-test and post-test comparison

Immediately after the clinic staff successfully completed all requirements on their face-to-face check-offs with the two therapists, they were cleared to start screening HIV patients for depression and implementing practice protocols. Two weeks into the depression screenings and protocol implementation, a 16-question questionnaire was administered to all clinic staff who participated in the staff training (Appendix D). The survey showed that, although the clinic staff had experience with the screening tool, they did not have a level of comfort using it. One hundred percent of staff strongly agreed that the staff training on the PHQ-9 depression screening tool and protocols were beneficial and allowed them to better understand the screening process and would recommend the training for all new employees.

Descriptive statistics were completed showing that the clinic staff participants were an average age of 46 years old and all female. Although this study did not identify the cumulative scores or practice protocols implemented for depressed patients, it did look at the number of depression screenings completed by staff and compared them to the number of patients seen. Whenever a depression screening is completed, it is clinic policy that the depression screening protocol is followed with an intervention based on the patient's cumulative score. The health clinic only provided the number of patients seen, screened, and depressed, not the cumulative test scores of the PHQ-9 screening or the interventions used. The director did mention that the depression screenings completed in the 4-week launch of this project allowed the clinic staff to identify several patients who were depressed and implement practice protocols.

The descriptive statistics revealed that in Week 1 of patient screenings, eight patients were seen and eight patients were screened with five depressed. Week 2 showed that seven patients were seen and seven patients were screened with four depressed. On Week 3, ten patients were seen and ten patients were screened with six depressed. The fourth and final week of data collection for this DNP project showed that nine patients were seen and nine patients were screened with five depressed (Table 6).

Table 6

Descriptive Statistics

	N	Mean	Std. Deviation
Gender	12	2.00	.000
Age	12	46.58	7.051
Pre-test	12	78.33	11.146
Post-test	12	99.17	2.887
VARK	12	1.50	.522
WK1Patients	8	3.13	1.126
Wk1Screens	8	3.13	1.126
Depressed	5		
Wk2Patients	7	3.00	1.155
Wk2Patients	7	3.00	1.155
Depressed	4		
Wk3Patients	10	3.11	1.269
Wk3Screens	10	3.11	1.269
Depressed	6		
Wk4Screens	9	3.11	1.269
WK4Patients	9	3.11	1.269
Depressed	5		

Note. N = number

Implications

The implications of the staff training and the implementation of an EBP protocol supported the evidence that, with the completion of clinic staff training incorporating depression screening protocols more patients were identified and treated for depression. The depression screenings went from 10% screening rate to 900% screening at this rural clinic, with 100% compliance from clinic staff in 4-weeks while utilizing the practice protocols to initiate treatment of referral. Data were retrieved from the EHR and compared with previous depression screening results from the previous year. In addition, the findings correlated with the literature that staff training and initiation of practice protocols and guidelines proved beneficial for staff by increasing knowledge, identifying more patients who are depressed, and initiating treatment options (Davison et al., 2013). Depression is a serious factor that affects PLWHA, and therefore implementation of staff training on knowledge of depression, PHQ-9 screenings, and practice protocols equips staff to handle guidelines that have been laid out by the USPSTF (2015) to accurately diagnose, treat, and provide care for depressed patients.

This DNP project has significant implications for positive social change within the health care setting. Social change was realized at this rural clinic when clinic staff were properly educated and trained on conducting depression screenings and implementing EBP protocols for depression. Positive social change was realized for clinic staff and PLWHA as well as the community because these patients were diagnosed and treated for depression, which ultimately will lead to improved health outcomes.

Project Strengths and Limitations

Key strengths in this project were the reliability and validity of the instruments used. Other strengths in this project included an interdisciplinary team that consisted of employees of the organization who understood the needs of the clinic staff and the patient population. Another strength was that all data were retrievable in the EHR by the director of the rural clinic to determine the patients cumulative score, protocol followed, and if treatment was initiated on the patient. Perhaps, one of the biggest strengths of this DNP project was the willingness of the clinic staff to embrace change and want to improve the care that was being provided to PLWHA. This was a QI project that will continue to move forward long after the completion of this my project to better serve the patient population and will be evaluated monthly by the director of the department.

There were a few limitations of this DNP project. One of the limitations of this project was the amount of time used to collect data. Four weeks for the DNP project data collection period was not enough time to ensure consistency of screenings and identification of patients with depression. The second limitation of the project was that I did not have access to the PHQ-9 screening cumulative scores to determine how low or high patients scored on the depression tool, or what specific protocols were followed. The next limitation was that there was no information provided as to how the providers responded or addressed positive depression screenings. The final limitation was possible fear from clinic staff for not completing the depression screenings and being penalized. Although data were only collected for 4-weeks, it will continue to be monitored on a

monthly basis, but will serve no purpose for this project to see whether or not consistent screenings and protocols are being followed.

Recommendations

This project has shown that with effective training of clinic staff and the implementation of evidenced-based depression screening protocols, that not only will the organization benefit from increased depression screenings but the patients will also benefit from improved health outcomes (NIMH, 2016). By improving the patient's health outcomes, it decreases the overall cost that the clinic will incur due to noncompliance and nonadherence to the HIV medication regimens, subsequently decreasing patients' risk of developing an infection or getting sick (Nurse, personal communication, May 11, 2017). Identifying patients who are depressed benefits the clinic financially by decreasing the amount of money needed for sick visits. It is my recommendation that the clinic staff training on knowledge of depression and PHQ-9 screenings be implemented for all clinic staff employed by the clinic and who work with PLWHA. If all clinic staff who work directly with this population are trained, it can be assumed that consistent depression screenings will be completed, ultimately identifying patients early and getting them the treatment that they need.

Summary

The data showed a statistical significant difference in knowledge of depression when clinic staff where properly trained and educated on depression, PHQ-9 tool, and EBP protocols. The findings support the need for educating clinic staff on depression, the PHQ-9 screening tool, and evidenced-based depression screenings protocols because of

the impact it had with improving screening, identifying, and treating patients earlier for depression. With consistent training for clinic staff, depression screenings improved by 900% within a 4-week period therefore, answering the following practice question; How does the development and implementation of a practice protocol for PHQ-9 depression screening at a rural health clinic in a southern region of the United States impact the number of PLWHA screened and identified for depression over a 1-month period?

This project can be used in other areas of health care that screen and treat depressed patients. Depression is a diagnosis that can affect any patient with many types of diseases. Therefore, the data that were collected for this rural health clinic can be translatable into other areas of health care practices.

Section 5: Dissemination Plan

Dissemination

The results of the DNP project where disseminated to the director, interdisciplinary team, and clinic staff. I delivered a 15-minute oral presentation at a morning staff meeting. A visual aid was provided of the descriptive statistics with an explanation of the study's significance to the rural clinic's practice. After completion of the presentation, an opportunity was given for questions and feedback. There were not any questions, but a positive response as to how the training helped clinic staff become better able to screen, identify, and get patients treatment.

Another audience for this project might be any HIV and AIDS clinic that need to initiate or reevaluate training, guidelines, or protocols related to depression. Screening in itself is not enough; there must be appropriate guidelines or protocols in place that ensure all depressed patients receive treatment. The primary health care setting would be a great venue because the USPSTF (2015) guidelines has recommended screening patients who are 18 years and older for depression. This project is significant to nursing in that many facilities such as primary care settings face challenges with the development and implementation of depression screening policies (Siu & USPSTF, 2016). Therefore, teaching this information in nursing school would be beneficial for nursing students so that they may have some familiarity with depression and depression screenings tools.

Analysis of Self

The DNP project provided much needed self-confidence and the ability to function in a leadership role. Through the progression of this process, the Essentials of

the DNP competencies that have been beneficial to my success are Essentials II and Essential VI. Essential II has allowed me to focus on improving health care outcomes, by designing clinic staff training on the proper way to administer the PHQ-9 screening tool and educating clinic staff of the implementation of an EBP protocol (American Association of Colleges of Nursing, 2006). Essential VI has created opportunities for me to build collaborative relationships with all stakeholders, especially members of the interdisciplinary team (American Association of Colleges of Nursing, 2006). The success of this project was directly related to the relationships built and the collaborative efforts of the clinic staff as well as the interdisciplinary team. This experience has taught me so much about the significance of the DNP role and how imperative the role is in leadership. As a DNP graduate, one of my long-term goals is to teach a graduate-level course at a local university or online. I have also considered completing a DNP bridge program to obtain a PhD in nursing.

Although the DNP project was a great success, it also met with a few challenges. One of the biggest challenges I faced was obtaining approval from the organization. There was a little confusion about who needed to approve my project. It was later discovered that this is something that the Chief Executive Officer (CEO) needed to complete. In the past, there had only been one other DNP project at the rural clinic and it was under the direction of another CEO. This issue was quickly resolved after speaking with the CEO herself.

Even though the staff involved in the project had 100% participation, I had one person who really did not seem happy about completing the pre- and posttest and learning

styles test. One of my biggest fears was that her negative attitude would spill over to the rest of the group. Fortunately, I was able to remind her that the real reason this project was necessary was to benefit the patients and improve staff inconsistencies with screenings.

Since starting this scholarly journey to obtain my DNP, I have gained so much insight to the role of nursing. As a nurse of 19 years, I never imagined myself attempting to become anything more. This journey has taught me how to become an effective leader, active listener, and most of all a team player.

Summary

In summary, disseminating the evidence from the DNP project has definitely been a major step in my professional development as a scholar practitioner. It was important to recognize who my audience was and what methods of dissemination would be most effective. I have conquered one of my greatest fears of public speaking with the dissemination of this project. As a nursing scholar, I understand the importance of sharing my knowledge with colleagues and the effects that it can have on others. I have become more comfortable with my abilities to lead while collaborating with others. I hope that I will continue to strive to become a better nurse leader as I continue this new chapter in my nursing career.

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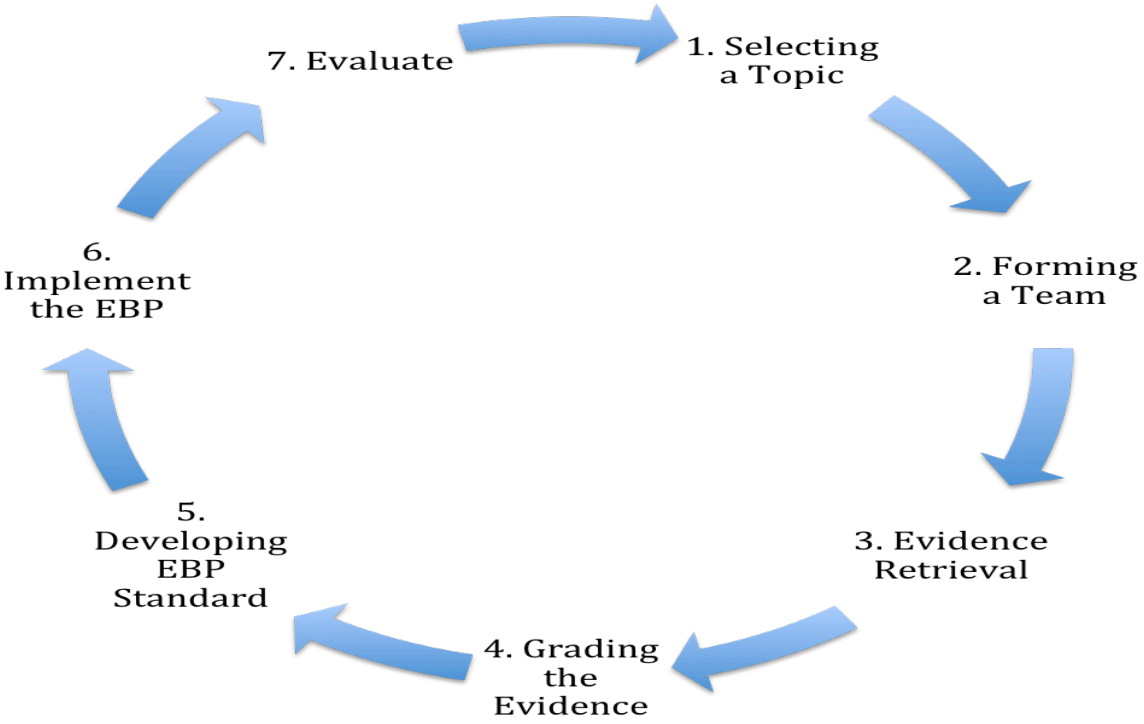
Appendix A: Iowa Model of EBP



Adapted from Doody ,C.M., & Doody, O. (2014). Introducing evidence into nursing practice: Using the Iowa model. *British Journal of Nursing , 20*(11): 661-664. Doi: 10.12968/bjon.2011.2011.661. Permission not needed for adoption of this model.

Appendix B: PHQ-9

Name _____ Date _____

Over the *last 2 weeks*, how often have you been bothered by any of the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3

7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

(For office coding: Total Score ____ = ____ + ____ + ____)

If you checked off *any* problems, how *difficult* have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all Somewhat difficult Very difficult Extremely difficult

□ □ □ □

From the Primary Care Evaluation of Mental Disorders Patient Health Questionnaire (PRIME-MD PHQ). The PHQ was developed by Drs. Robert L. Spitzer, Janet BW Williams, Kurt Kroenke, and colleagues. For research information, contact Dr. Spitzer at ude.aibmuloc@8slr. PRIME-MD is a trademark of Pfizer Inc.

Appendix C: Test Your Knowledge: Ten Questions on Depression in Adults

(This quiz is related to the Perspective in the June issue of PloS Medicine DOI:

10.1371/journal.pmed.0030220)

Question 1. What proportion of people seen in primary care settings has a major depressive disorder?

a. About 1%
b. About 5%-10%
c. About 20%-30%

Question 2. According to projections from the Global Burden of Disease Study, by 2020 where will depression rank in the list of the most common causes of disability worldwide (as measured by disability-adjusted life-years)?

a. Second, after cardiovascular disease
b. Third, after cardiovascular disease (first) and road traffic injuries (second)
c. Fourth, after cardiovascular disease (first), road traffic injuries (second), and cerebrovascular disease (third)

Question 3. Which one of the following best reflects the evidence on selective serotonin reuptake inhibitors (SSRIs) for treating depression in adults?

a. There is good evidence that they are more effective than tricyclic antidepressants (TCAs)
b. They are likely to be equally as effective as TCAs and monoamine oxidase inhibitors (MAOIs)
c. Although there is public concern that abruptly stopping SSRIs is associated with withdrawal symptoms, there is no research evidence to show that such symptoms occur

Questions 4. Which one of the following best reflects the clinical evidence on cognitive therapy for treating mild to moderate depression?

a. In RCT's, cognitive therapy was found to be much less effective than TCAs and phenelzine
b. Several systematic reviews have found that cognitive therapy significantly improves depressive symptoms, but further RCTs are needed to show that the results are generalizable
c. Cognitive therapy is no better than giving no treatment in older adults (over 55 years of age).

Questions 5. Which one of the following best reflects the evidence on St. John's Wort for treating mild to moderate depression?

a. A systematic review of RCT's found that St. John's wort was less effective than TCAs
b. A systematic review of RCTs found that St. John's wort was less effective than
c. A systematic review found that St. John's wort was more effective than placebo There is good evidence of the effectiveness of St. John's wort in older adults

Questions 6. Which one of the following interventions is best proven in RCTs to be effective at inducing remission in people with mild to moderate depression ?

a. Interpersonal psychotherapy (IPT)
b. Problem solving therapy (PST)
c. Befriending
d. Exercise

Question 7. Which one of the following is true about monoamine oxidase inhibitors (MAOIs)?

a. They are more effective than TCAs at treating severe depressive disorders
b. They frequently used in primary care because of their safety profile
c. They can interact with SSRIs to cause the serotonin syndrome

Question 8. Which of the following best reflects the evidence on combining antidepressants drugs with psychological therapies for treating mild to moderate depression?

a. There is no evidence that combining these treatments is superior to either antidepressants alone or psychological therapy alone
b. Based on the best available evidence, combining these treatments is likely to be superior to either treatment alone

Question 9. Which one of the following best reflects the evidence on the benefits of elctroconvulsive therapy (ECT) for hospitalized patients with severe depression?

a. ECT is less effective than antidepressant drugs at improving symptoms over three to 12 weeks
b. ECT is no more effective than simulated ECT (in which the patient receives all the procedures of ECT, including anesthetic, but not the electric current)
c. Bilateral ECT is more effective at improving symptoms than unilateral ECT
d. Low dose ECT is more likely to cause transient memory loss than high dose ECT at improving symptoms
e. Treatment three times a week is more effective than twice a week

Question 10. Which one of the following best reflects the evidence on the harms of electroconvulsive therapy (ECT) for moderate to severe depression?

a. ECT is more likely to cause memory loss six months after treatment than simulated ECT
b. Bilateral ECT is more likely to cause transient memory loss than unilateral ECT
c. Low dose ECT is more likely to cause transient memory loss than high dose ECT

Citation:
Yamey, G. (2006). Test your knowledge: Ten questions on depression in adults. *PLoSMED,* 3(6): e325. DOI: 10.1371/journal.pmed.0030325

Appendix D: Satisfaction Survey

Please take a few minutes to fill out this survey on your overall satisfaction with the effectiveness of learning from the PHQ-9 screening tool and training. Your feedback is appreciated and your answers will be kept confidential. Thank you for your participation. Circle the answer that most represents your opinion.

General Questions

What is your age?

1	2	3	4	5
18-20	**21-31**	**32-42**	**43-53**	**53>**

What is your gender?

1	2
Male	**Female**

Before completing this project, did you have experience using a PHQ-9 screening tool?

1	2	3	4	5
Strongly Agree	**Somewhat Agree**	**Neither**	**Somewhat Disagree**	**Strongly Disagree**

Where you comfortable with initiating the PHQ-9?

1	2	3	4	5
Strongly Agree	**Somewhat Agree**	**Neither**	**Somewhat Disagree**	**Strongly Disagree**

Do you think that critical thinking skills were used to complete this project?

1	2	3	4	5
Strongly Agree	**Somewhat Agree**	**Neither**	**Somewhat Disagree**	**Strongly Disagree**

Do you understand what it means to think critically?

1 2 3 4 5
Strongly Agree Somewhat Agree Neither Somewhat Disagree Strongly Disagree

Did you understand how to score the PHQ-9 tool before beginning this project?

1 2 3 4 5
Strongly Agree Somewhat Agree Neither Somewhat Disagree Strongly Disagree

Do you think this project increased your level of understanding of the PHQ-9 screening tool?

1 2 3 4 5
Strongly Agree Somewhat Agree Neither Somewhat Disagree Strongly Disagree

Do you believe that you can effectively initiate the PHQ-9 screening tool and follow guidelines set forth?

1 2 3 4 5
Strongly Agree Somewhat Agree Neither Somewhat Disagree Strongly Disagree

Would you recommend training on the PHQ-9 depression screening tool for future employees?

1 2 3 4 5
Strongly Agree Somewhat Agree Neither Somewhat Disagree Strongly Disagree

Do you think that it is important to screen for depression in HIV and AIDS patients?

1 2 3 4 5
Strongly Agree Somewhat Agree Neither Somewhat Disagree Strongly Disagree

How satisfied where you utilizing the PHQ-9 and protocols?

1 2 3 4 5
Strongly Agree Somewhat Agree Neither Somewhat Disagree Strongly Disagree

Do you think that after completing the staff training on PHQ-9 screenings and protocols you have a better understanding of the process?

1	2	3	4	5
Strongly Agree	**Somewhat Agree**	**Neither**	**Somewhat Disagree**	**Strongly Disagree**

Where you satisfied your completion of the staff training and feel that it was beneficial to you?

1	2	3	4	5
Strongly Agree	**Somewhat Agree**	**Neither**	**Somewhat Disagree**	**Strongly Disagree**

Appendix E: Staff Training

PHQ-9 QUICK DEPRESSION ASSESSMENT TRAINING TOOL

For initial diagnosis:

1. Patient completes PHQ-9 Quick Depression Assessment.
2. If there are at least 4 ✓s in the two right columns (including Questions #1 and #2), consider a depressive disorder. Add score to determine severity.
3. ***Consider Major Depressive Disorder***
   • if there are at least 5 ✓s in the two right columns (one of which corresponds to Question #1 or #2).

   Consider Other Depressive Disorder
   • if there are 2 to 4 ✓s in the two right columns (one of which corresponds to Question #1 or #2).

Note: Since the questionnaire relies on patient self-report, all responses should be verified by the clinician, and a definitive diagnosis is made on clinical grounds, taking into account how well the patient understood the questionnaire, as well as other relevant information from the patient. Diagnoses of Major Depressive Disorder or Other Depressive Disorder also require impairment of social, occupational, or other important areas of functioning and ruling out normal bereavement, a history of a Manic Episode (Bipolar Disorder), and a physical disorder, medication, or other drug as the biological cause of the depressive symptoms.

To monitor severity over time for newly diagnosed patients or patients in current treatment for depression:

1. Patients may complete questionnaires at baseline and at regular intervals (eg, every 2 weeks) at home and bring them in at their next appointment for scoring or they may complete the questionnaire during each scheduled appointment.
2. Add up ✓s by column. For every ✓:
   "Several days" = 1 "More than half the days" = 2 "Nearly every day" = 3
3. Add together column scores to get a TOTAL score.
4. Refer to accompanying PHQ-9 Scoring Card to interpret the TOTAL score.
5. Results may be included in patients' files to assist you in setting up a treatment goal, determining degree of response, as well as guiding treatment intervention.

Scoring—add up all checked boxes on PHQ-9

For every ✓: Not at all = 0; Several days = 1; More than half the days = 2; Nearly every day = 3

Interpretation of Total Score

Total Score	Depression Severity
0-4	None
5-9	Mild
10-14	Moderate
15-19	Moderately severe
20-27	Severe

Appendix F: Protocol

PHQ-9 New and Annual Depression Screening Protocol

PHQ-9 Score	Provisional Diagnosis	Treatment Recommendation (Patient Preferences should be considered)
0	No depression	Teach patient coping skills
1-4	Mild depression	Teach patient coping skills; Support and educate patient to call if symptoms are worse.
5-9	Minimal Symptoms*	Teach patient coping skills; Notify physician; Start medication if needed at this time; Support and educate patient to call if symptoms are worse, return in one month.
10-14	Minor depression++ Dysthymia Major Depression, mild	Psychotherapy teaching patient coping skills; Support; Notify physician; start medication or adjust medication if patient is currently taking any. If patient is taking meds and they are increased, patient should return in 1 month. If an increase in meds is not warranted, patient can return in 3 months. Educate patient to call if worse. Antidepressant and/or psychotherapy
15-19	Major depression, moderately severe	Antidepressant and/or psychotherapy (Follow Treatment Recommendations for a score of 10-14)
>20	Major Depression, severe	Antidepressant and/or psychotherapy (especially if not improved on monotherapy) (Follow Treatment Recommendations for a score of 10-14)

***If symptoms present > two years, then probable chronic depression which warrants antidepressants or psychotherapy (ask "In the past 2 years have you felt depressed or sad most days, even if you felt okay sometimes?")**
++If symptoms present >one month or severe functional impairment, consider active treatment.