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Increasing Depression Screening and Treatment for Adults Living with HIV/AIDs

Velma Asneth Frasier
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Velma Fraser

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.

Review Committee
Dr. Joanne Minnick, Committee Chairperson, Nursing Faculty
Dr. Amelia Nichols, Committee Member, Nursing Faculty
Dr. Jonas Nguh, University Reviewer, Nursing Faculty

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2019

Abstract

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by

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MS, University of Medicine & Dentistry, 2012

BS, Long Island University, 2003

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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Abstract

The lifetime prevalence of clinical depression in patients living with human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) is approximately 22% compared to 3% to 10% in the primary care population. The nursing practice problem at the project site concerned nurses' lack of knowledge and understanding of procedures to help ensure that all patients living with HIV/AIDS were properly screened for depression and referred for further evaluation and treatment. The purpose of this project was to implement a staff education module to address the use of the PHQ-9 screening tool to identify depression in people diagnosed with HIV/AIDS. The theoretical framework for this educational module was the theory of planned behavior. The practice-focused question explored the extent to which the implementation of an evidence-based practice education model in a primary care clinic treating patients living with HIV/AIDs would increase staff knowledge on the use of the PHQ-9 tool to screen for depression. A staff education project incorporating a pretest and posttest design was conducted to determine whether a significant change existed in the test scores of the participants between the pretest and the posttest. After completion, the posttest measures showed an improvement of 35%. The implications of this project for social change might include improvement in the knowledge, attitudes, and practices of the nurses in the treatment of depression in adults living with HIV/AIDS.

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Dedication

A sincere thank you to my family and friends, who have been understanding, and very supportive throughout this DNP program. There have been very challenging times, but you believed in me and supported me. Sincere thanks.

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My sincere gratitude to Dr. Jody Minnick for her continued support and direction. I will be forever thankful. Also, a big thank you to my committee member, Dr. Amy Nichols for her great contribution and guidance. I am indeed grateful.

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Section 1: Nature of the Project

Introduction

The Centers for Disease Control and Prevention (CDC, 2018) reported that in the United states, 1,144,500 people, aged 13 years and older, are presently living with HIV/AIDS and that 658,507 people have died of HIV/AIDs since 2012. HIV infection continues to be a significant worldwide source of morbidity and mortality despite advances in the medical management of people living with HIV/AIDS. Approximately 940,000 people died from HIV-related causes globally in 2017 (World Health Organization, 2018). People living with HIV/AIDs are more likely than the general population to develop clinical depression (otherwise known as major depressive disorder). One study estimated that lifetime prevalence of clinical depression in patients living with HIV/AIDs to be about 22% compared with 3% to 10% in the general population. The American Psychiatric Association et al. (2014) reported that 20% to 30% of patients living with HIV/AIDs are in primary care settings are diagnosed with HIV/AIDS. HIV infection is not necessarily the direct cause of depression. Common entry points for a depressive state in patients living with HIV/AIDs include initial HIV diagnosis, informing friends and family about HIV+, introducing new medication, recognizing disease progression, hospitalization, and treatment failure (Lieber, 2018). Depression may also arise as a direct result of HIV neuro-invasion due to complications of antiretroviral therapy (Jonsson, Davies, Freeman et al., (2013).

The *Diagnostic and Statistical Manual of Mental Disorders* (Fifth edition) (*DSM-5*) published by the American Psychiatric association, (2018) defines *clinical depression* as a severe affective disorder symptomized by feelings of sadness, tearfulness, emptiness, worthlessness, guild, self-blame, or hopelessness, loss of interest or pleasure in most or all normal activities, sleep disturbances, tiredness, lack of energy, anxiety, agitation, restlessness, as well as trouble with thinking, concentrating, making decisions and remembering things. Clinical depression may also be associated with thoughts of death, suicide ideation and/or suicidal attempts (American Psychiatric Association, 2018). The symptoms of clinical depression in patients living with HIV/AIDs are also associated with a reduced ability to follow treatment, as well as lowering the quality of life and lifespan of patients living with HIV/AIDs (Bhatia & Munjal, 2014; Chan, Weiser, Boum, Haberer, Kembabazi et al., 2015; Desmukh, Borkar, & Deshmukh, 2017; Skalski, Watt, MacFarlane, et al., 2015; Spies, & Seedat, 2014). A significant comorbidity of clinical depression is the lowering of adherence to highly active antiretroviral therapy (HAART) and the impairment of self-care, resulting in poor health outcomes for patients living with HIV/AIDs including reduced immunity to infection, rash, diarrhea, anorexia, weight loss and increasing episodes of viral infections (Costa, Torrest , Coelho, & Luz, 2018; Dale et al, 2014; Varela & Galdamez, 2014).

It is imperative that clinicians caring for patients living with HIV/AIDs actively screen for, diagnose and manage depression because this vulnerable population rarely

volunteers information about their mental state (Jonsson et al., 2013). Consequently, the CDC recommends that it is essential to treat clinical depression in patients living with HIV/AIDs (CDC, 2018). The U. S. Preventative Services Task Force (USPSTF, 2018) recommended yearly depression screenings for all patients who are 18 years and older to identify and treat early diagnosis of depression.

Primary care settings represent the best place for screening patients living with HIV/AIDs for depression, because they are the only settings where both screening and treatment can be provided. The most commonly used tools that have been administered in the last decade to screen for depression by primary care providers, as reported in the guidelines published by the Institute for Clinical Systems Improvement (Mitchell, Trangle, Degnan, et al., 2013) are the Patient Health Questionnaire Two (PHQ-2) and the Health Questionnaire Nine (PHQ-9) originally developed by Kroenke, Spitzer, and Williams (2001). In Appendix A, I present a copy of the ICSI guidelines and in Appendix B, I present a copy of the PHQ-9. Although much progress has been made to improve screening for depression by primary care providers in the United States in last decade, much room for improvement exists (Thase, 2016). Positive social change will be accomplished only when clinical staff who manage patients living with HIV/AIDs in primary settings are properly educated and trained to effectively implement, maintain, and communicate depression screening and interpret the results. The development of an evidenced-based practice policy and procedure is necessary to ensure that all patients

living with HIV/AIDs are properly screened, identified, and referred for further evaluation and treatment by primary care providers.

Problem Statement

The local nursing practice problem includes the lack of understanding of the importance of diagnosing depression in people living with HIV/AIDs. Furthermore, a lack of understanding exists of the screening procedures to ensure that all patients living with HIV/AIDs are properly screened, identified, and referred for further evaluation and treatment. Because patients living with HIV/AIDs are not currently being followed up at the practicum site, documentation of the effectiveness or outcomes of depression screening is not available in the electronic medical records (EMR) of the patients. Several intervention studies have revealed that educational programs or modules implemented in clinical settings may help to improve the knowledge, attitudes, and practices of primary care providers regarding the screening and treatment of depression. This situation needs to be rectified and developing and implementing a new evidenced based practice education module holds significance for improving nursing practice for the management of patients living with HIV/AIDs at the practicum site and elsewhere. This evidence-based practice education module holds significance for improving nursing practice for the management of patients living with HIV/AIDs at the practicum site and elsewhere.

Purpose

The major gap in practice identified, even though the PHQ-9 has been available for many years, the providers at the practicum site were not aware that many of the patients living with HIV/AIDs should be screened and treated for depression. No formal practice protocols or guidelines are established for clinic staff to outline specifically how PHQ-9 depression screening should be implemented, managed, or distributed. Uniform practices for PHQ-9 depression screenings are necessary to ensure consistent implementation so that screening results would be made available to the providers. Accordingly, the purpose in this DNP project was to address this gap-in practice by answering the following practice-focused question: Will a staff education model of the PHQ-9 depression screening tool improve the staff knowledge of how to use the tool to identify depression in people diagnosed with HIV/AIDs? Through this project, I have the potential to address the stated gap-in-practice because helping to improve the knowledge, attitudes and practices of nurses regarding the screening and treatment of depression should potentially help to improve the number of patients living with HIV/AIDs who are diagnosed with depression. Evaluating and using the PHQ-9 tool will potentially help the tracking of depression outcome and organizing follow-up, Moreover, an improvement in the knowledge, attitudes, and practices of the nurses should also potentially enhance the likelihood of improved quality of life and treatment for depressed adults living with HIV/AIDs.

Nature of the Doctoral Project

Two main sources of evidence are used to address the practice-focused question that guides this quality improvement project. First, the content and delivery of the educational module will be developed using information synthesized from several previous studies that have been conducted to determine the effects of educational interventions on the knowledge, attitudes, and practices of nurses regarding the screening and treatment of depression in primary care settings. (Brumfield, 2017; Lea, 2014; Loeb, Sieja, & Corrall, 2014; Roberge, Fournier, Brouillet, et al., 2013; Western, 2015). The theoretical framework that underpins this educational module is the Theory of Planned Behavior, focusing on how to improve the long term-behavior of the nurses, in addition to improving their current knowledge (Ajzen & Manstead, 2007).

The approach that I used to organize and analyze the evidence is a quasi-experiment incorporating a pretest and posttest design. The essential features of this design are that quantitative data are collected using a validated instrument before a prescribed intervention (known as the pretest) and after the intervention (known as the posttest). Inferential statistical analysis is then conducted to determine whether a significant change exists in the test scores of the participants between the pretest and the posttest. An improvement is indicated if the posttest measures are significantly greater than the pretest measures, using a paired *t* test.

The identification of a significant improvement between the pretest and the posttest will potentially help to alleviate the stated gap-in-practice by ensuring that the nurses know how and why the PHQ-9 depression screening should be implemented. An improvement in knowledge and understanding should lead to uniform practices for PHQ-9 depression screening, which are necessary to ensure consistent implementation, maintenance, interpretation, and communication of the results. The development of an evidenced-based practice (EBP) policy and procedure will potentially ensure that all patients living with HIV/AIDs are properly screened, identified, and referred for further evaluation and treatment.

Significance

This quality improvement project will enhance the awareness of routine depression screening in patients with HIV/AIDs. The project is significant to nursing practice and will prove beneficial when the deficits that currently exist with the PHQ-9 screening practices have been identified and eradicated. Eliminating deficits in knowledge and understanding by appropriate usage of depression screening will serve as a stepping-stone towards the use of EBP to properly screen, manage, and communicate information related to the adequate screening of depression.

Implementing this change project will significantly impact stakeholders, because donations and specific projects, including the Ryan White program, exist, which fund HIV/AIDs in this community. The social implications for this change project will impact

affect the nursing staff as they will be educated and trained to properly conduct depression screenings in patients living with HIV/AIDs. Early identification and treatment of depression in patients living with HIV/AIDs can greatly improve patient health outcomes. USPSTF (2018) stated that improvements in patient outcomes when programs implement depression screenings and provide supportive continuation of treatment is evident.

Through this project, there will be contribution to positive social change within the health care setting. The staff as well as the patients and their families, and ultimately the community will be positively affected by this project. Having the staff successfully conducting depression screenings will identify patients living with HIV/AIDS that are slipping through the cracks and not receiving appropriate treatment and referrals. Screening is not enough to improve depression unless this information is properly recorded and transferred to the proper channel to provide treatment to patients living with HIV/AIDs.

Summary

The introduction, problem statement, purpose statement, nature of the doctoral project, and significance of the study provided in Section 1 include information to indicate how improving the knowledge, attitudes, and practices of nurses in a primary care setting will potentially help to improve the diagnosis and care of the vulnerable population of patients living with HIV/AIDS. The ultimate creation of an EBP guideline

and protocol will have implications for positive social change when members of the clinical staff are properly educated and trained to implement and maintain successful screening for depression and referring patients living with HIV/AIDs for treatment. In Section 2, I provide further information on the background and context for this quality improvement project.

Section 2: Background and Context

Introduction

The practice problem concerns the lack of knowledge and understanding among nurses in a primary care setting of the importance of diagnosing depression in patients living with HIV/AIDs, and the use of the PHQ-9 screening procedures to ensure that all patients living with HIV/AIDs are properly screened, identified, and referred for further evaluation and treatment. The practice-focused question for my project was: Will a staff education module of the PHQ-9 depression screening tool improve the staff knowledge of how to use the tool to identify depression in people diagnosed with HIV/AIDs? My purpose in this DNP project was to use two main sources of evidence to address the practice-focused question. The first is the evidence obtained from the literature required to develop an EBP education module. The second is the empirical evidence collected by the project student to evaluate the improvement in knowledge, attitudes and practices of nurses regarding the screening and treatment of depression. In Section 2, I will first present the theoretical framework (concepts, models and theories) that underpins this DNP project. Subsequently, the relevance to nursing practice, background and context, and my role as the DNP student is discussed.

Concepts, Models, and Theories

Several studies have concluded that simply implementing a short educational program in a clinical setting (e.g., a seminar with a PowerPoint presentation) with the aim

of improving the existing knowledge of health care professionals in the short term may be insufficient to change their future behavior in order to improve the outcomes for patients in the long term (Balasubramanian, Cohen, Davis, et al. 2015; Reising, 2016). More sustained efforts are essential to ensure the long-term effects of educational programs for nurses in clinical settings, by focusing on how to improve their future behavior, in addition to improving their existing knowledge. Such efforts should ideally be underpinned by the Theory of Planned Behavior (Ajzen & Manstead, 2007).

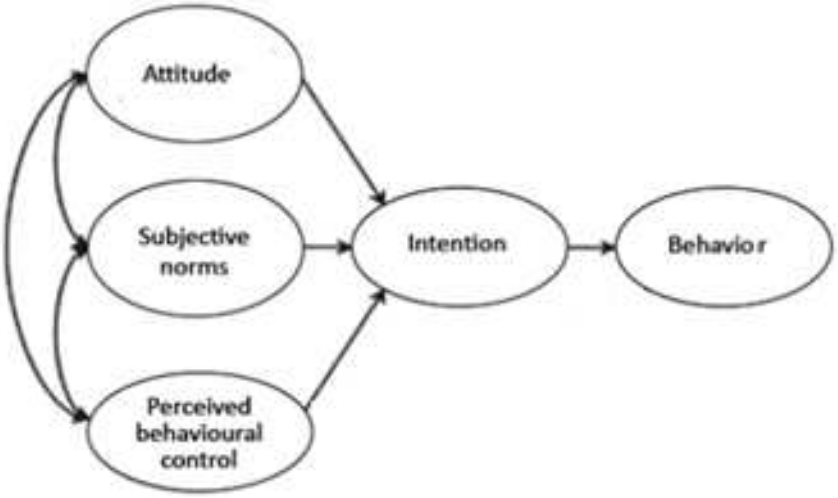

Figure 1. Theory of planned behavior. Adapted from Ajzen & Manstead (2007).

The theory of planned behavior, outlined diagrammatically in Figure 1, posits that numerous psychological factors, including the attitudes, subjective norms, and perceived behavioral control of health care workers will predict their intentions. In the context of this project, behavior refers to the different ways in which the nurses may react to the prescribed educational program. *Attitude* refers to what the nurses say they currently

think and feel about the screening of depression. Subjective norms are the nurse's beliefs about the screening of depression that are influenced by their cultural background and the shared beliefs of other nurses in their group. *Perceived behavioral* control refers to the barriers that the nurses perceive may prevent or hinder their intention to change their behavior regarding the screening of depression. *Intention* refers to the extent to which the nurses are ready and able to change their attitude and beliefs regarding the screening of depression.

Because good intentions are theoretically an immediate antecedent and predictor of improved behavior, the intentions of nurses to change their behavior should ultimately lead to beneficial patient outcomes. Many recent studies underpinned by the Theory of Planned Behavior based on the approaches recommended by Ajzen & Manstead (2007) have concluded that the behavior of nurses can be improved by training that focuses on changing attitudes, subjective norms, and intentions, as well as removing barriers associated with perceived behavioral control (Bertani, Carone, et al., 2016; Ekayani, Wardhani, & Rachmi, 2017; Gagnon, Cassista, & Payne-Gagnon (2015); Gustafsson & Borglin, 2013; Javadi, Kadkhodaee, Yaghoubi, Maroufi, & Shams, 2013). Westland (2015) applied the theory of planned behavior as a relevant theoretical framework to explain how and why an educational intervention should be implemented in a primary care setting in order to achieve successful changes in nursing practice leading to improved levels of screening for depression with the PHQ-9 instrument.

The evidence from the literature outlined previously indicates that, to promote permanent changes in the screening for depression for patients living with HIV/AIDs by nurses at the practicum site, the content and delivery of the proposed educational intervention should be underpinned by the theory of planned behavior. Therefore, the intervention should not only consist of a seminar with a PowerPoint presentation (to increase knowledge and understanding) but also a workshop (focusing on the attitudes, subjective norms, perceived behavioral control, and intentions of the nurses).

Relevance to Nursing Practice

There is currently a lack of continuity in the use of the PHQ-9 screening procedures to ensure that patients living with HIV/AIDs are always screened, identified, and referred for treatment at the practicum site. The relevance of this project to nursing practice is that improved health outcomes for PLWH should result from improving the knowledge and understanding of nurses about the importance of diagnosing depression. Early identification and treatment of depression will be instrumental to ensure that the patients living with HIV/AIDs are able to cope with the barriers that affect their health outcomes, including the lowering of adherence to HAART reduced immunity to infection, rash, diarrhea, anorexia, weight loss and increasing episodes of viral infections (Costa et al., 2018; Dale et al, 2014; Viremath & Desai, 2017; Varela & Galdamez, 2014). Effective screening for depression and early initiation of therapy may reduce the risk of transmitting the virus to an uninfected partner by as much as 96% (Cohen et al.,

2011). A similar approach was applied by Westland (2015) to examine changes in nursing practice leading to improved levels of screening for depression with the PHQ-9 instrument.

Local Background and Context

No educational programs have been implemented at the practicum site in the context of screening for depression, justifying the practice-focused question. Consequently, in this section, I focus mainly on the content and delivery of the EBP educational module that will be developed and implemented locally at the practicum site The information provided in this section is derived mainly from previous studies that have been conducted to determine the influence of educational interventions designed to improve the screening of depression by nurses and clinicians in primary care settings. The content and delivery of the educational module will be underpinned by the theory of planned behavior, because educational interventions for nurses should focus not only on improving knowledge, but also on changing attitudes, subjective norms, and intentions, as well as removing barriers associated with perceived behavioral control (Ajzen & Manstead, 2007).

Five interventions have previously been implemented with the goal of improving the screening of depression by primary care providers. Brumfield, (2017) used an assessment training tool to inform the participants about how to use the PHQ-9 tool. Pretest and posttest scores to measure knowledge were collected using a questionnaire.

The EMRs of the of the patients were used to measure frequency of screening. There was a statistically significant improvement in the knowledge of screening for depression. Depression screenings at the study site increased from 10% to 100%. Lea (2014) used a web based presentation (PowerPoint slides) to registered nurses in a clinic treating heart failure patients. The intervention focused on the emotional and physical issues associated with depression, the signs and symptoms of depression in heart failure patients; the importance of depression screening; and guidelines for depression screening. Pretest and posttest scores were collected from using the 22-item R-DAQ (Haddad et al., 2015). There was no statistically significant improvement in the nurses' beliefs about depression; however, there was an increased likelihood that the nurses would routinely screen for depression after the intervention. The increase in the nurses' intent to screen for depression without a corresponding change in beliefs indicated that other obstacles affected the nurses' intent to screen patients for depression.

Loab et al. (2014) gave a short lecture discussing the rationale for depression screening with PHQ-9 and the protocol for recording the results in the EMR to medical assistants in a primary care unit. The EMRs of the patients were used to measure frequency of screening. A statistically significant association between the intervention and compliance with procedures indicated the importance of training to promote practice change. Western, (2015) delivered a short seminar describing how to use the PHQ-9 tool to physicians and medical assistant s in a primary care unit. The PHQ-9 scores were

entered into the EMR system before and after the intervention. Pretest and posttest scores to measure comfort using the PHQ-9 were measured using a questionnaire created by the DNP student. The EMRs of the patients were used to measure frequency of screening.

The pre- and post-questionnaires revealed an increased comfort with using the PHQ-9 after the intervention. All the cited interventions appeared to be effective, as indicated by the beneficial outcomes for the primary care providers and/or the patients. However, Lea, (2014) concluded the results were biased, because an increase in the nurses' intent to screen for depression without a corresponding change in attitudes and beliefs suggested that other issues (e.g., subjective norms and barriers associated with perceived behavioral control) may have affected the nurses' intentions to screen. Lea suggested that this finding implied that workshops underpinned by the Theory of Planned Behavior (Ajzen & Manstead, 2007) may be more useful to improve the nurses' intentions to screen for depression than a simple PowerPoint presentation.

Role of the DNP student

As the DNP student, I was an advanced practice nurse working in internal medicine, providing care and collaborating with infectious disease physician to provide care for HIV patients. I have experience with patients who are diagnosed with HIV and the many challenges associated with them. My role was to deliver and evaluate the outcomes of an education module to encourage the routine screening for depression of patients living with HIV/AIDs by nurses in a primary care setting. Bias will be avoided

by underpinning the project by the theory of planned behavior and by applying an objective design and methodology to collect and analyze quantitative data.

Summary

People living with HIV are more likely than the general population to develop depression, affecting their ability to follow treatment, as well as their health outcomes, quality of life and lifespan. However, the screening of patients living with HIV/AIDs for depression is not properly implemented in all primary care settings. My purpose in this a quality improvement project was to implement an educational program in a primary care unit specializing in the treatment of patients living with HIV/AIDs. This project will fill a gap-in-practice to promote an improvement in the knowledge, attitudes and practices of nurses regarding the screening and treatment of depression, as well as increase in the rate of depression screening. The practice-focused question designed to address this problem is: Will a staff education module of the PHQ-9 depression screening tool improve the staff knowledge of how to use the tool to identify depression in people diagnosed with HIV/AIDs? Several sources of published evidence will be used to address the practice-focused question, based on information synthesized from the previous studies that have been conducted to determine the effects of educational interventions on the knowledge, attitudes, and practices of nurses regarding the screening and treatment of depression. In Section 3, I describe how the data to address the practice-focused questions was collected and analyzed.

Section 3: Collection and Analysis of Evidence

Introduction

HIV infection continues to be a significant worldwide source of morbidity and mortality despite advances in the medical management of patients living with HIV/AIDs. Living with the diagnosis of HIV/AIDS is emotionally stressful and is associated with symptoms of chronic depression. People who are infected with HIV are more likely than the general population to develop depression, affecting their ability to follow treatment, as well as their health outcomes, quality of life, and lifespan. It is therefore essential to successfully screen for depression in primary care settings. In this quality improvement project, I focused on the problem that improved procedures are needed to ensure that all patients are properly screened, identified, and referred for further evaluation and treatment.

My purpose in this quality improvement project was to implement an educational program in a primary care unit specializing in the treatment of patients living with HIV/AIDs. This project will fill a gap-in-practice to promote an improvement in the knowledge, attitudes and practices of nurses regarding the screening and treatment of depression. In Section 3, I describe how the data to address the following practice-focused question will be collected and analyzed.

Practice-Focused Question(s)

Proper procedures for screening for depression in patients living with HIV/AIDs are not currently being followed locally at the practicum site. Guidelines published by Institute for Clinical Systems Improvement (Mitchell et al., 2013) to promote screening for depression in primary care settings using the PHQ-9 tool (see Appendix A) are not routinely implemented. Many patients living with HIV/AIDs, therefore, do not receive early treatment or proper follow-up for depression. The practice-focused question designed to address this problem is: To what extent will the implementation of an EBP education model in a primary care clinic treating patients living with HIV/AIDs increase the staff knowledge on the use of the PHQ-9 tool to screen for depression? The expected outcome is an improvement in the knowledge, attitudes and practices of nurses regarding the screening and treatment of depression.

Sources of Evidence

I used two main sources of evidence to address the practice-focused question. First, the content and delivery of the EBP educational program was developed using information synthesized from several previous studies that have been conducted to determine the impact of educational interventions on the knowledge, attitudes, and practices of nurses regarding the screening and treatment of depression in primary care settings (Brumfield 2017; Lea, 2014; Loab et al, 2014; Western, 2015). The content and delivery of the educational module (see Appendix E) was underpinned by the theory of

planned behavior, which proposes that educational interventions for nurses should focus not only on improving knowledge, but also on changing attitudes, subjective norms, and intentions, as well as removing barriers associated with perceived behavioral control (Ajzen & Manstead, 2007).

Second, a test with 16 questions was administered to collect empirical data to measure the key dimensions of the knowledge, attitudes, and practices of the nurses toward the screening and treatment of depression using the PHQ-9 screening tool (see Appendix D). The quantitative data was analyzed using inferential statistics to determine the extent to which the implementation of the education model in a primary care clinic treating patients living with HIV/AIDs was followed by an improvement in the knowledge, attitudes and practices of nurses regarding the screening and treatment of depression.

Participants

The target population for the administration of the instrument consists of 20 nurses and medical assistants working at a primary care clinic. The nurses were able to read English, agreed to, and were available to participate in an education module. A power analysis was conducted using G*Power software (Faul, Erdfelder, Lang, & Buchner, 2007) to estimate the minimum sample size necessary to obtain statistically significant results using the scores collected before and after the education module. To provide a practically significant effect size (Cohen's $d = .5$) with adequate statistical

power (.8) at the conventional level of statistical significance (p = .05) the minimum sample size should be 20 nurses. However, some of the responses to the 16 questions in Appendix B were missing because the nurses failed to answer them, and/or some participants dropped out between the pretest and the posttest. Therefore, the sample size required to ensure that the data analysis for this project is not underpowered should ideally be approximately 20 nurses.

Procedures

The procedure involves incorporating a pretest and posttest design based on the PowerPoint (PPT) developed. The rationale for applying this design in clinical and educational settings has been well documented in the methodological literature Alessandri, Zuffiano, & Pernelli, 2017. The essential features of this design are that quantitative data are collected using a validated instrument before a prescribed intervention (known as the pretest) and after the intervention (known as the posttest). The 16 questions for the pretest and posttest are listed in Appendix B, adapted from the PHQ-9 quick assessment tool designed by Broomfield (2017). Inferential statistical analysis is then conducted to determine if there is a significant change in the test scores of the participants between the pretest and the posttest. An improvement is indicated if the posttest measures are significantly greater than the pretest measures.

The first stage of the procedure was conducting the pretest, in order to examine the knowledge, attitudes and practices of a group of nurses regarding the screening and

treatment of depression the implementation the staff education program. Information to describe the demographic characteristics of the nurses (including their gender, age, qualifications, and length of experience) was also collected. The second stage was to deliver the educational module using a PPT presentation (see Appendix A). The content and delivery of this module also acknowledged that understanding the attitudes and behavioral intentions of nurses to ameliorate a problem in a healthcare setting is just as important as understanding their knowledge regarding that problem. Furthermore, the constraints (e.g., time, effort, and resources) that prevented the implementation of behavioral intentions were considered (Ajzen & Manstead, 2007). Consequently, in addition to the formal presentations delivered by the DNP student, an informal workshop was held, in which the nurses received additional instructions on the Theory of Planned Behavior. The role of the DNP student at the workshop was acting as a facilitator to ask the questions and taking notes to summarize the responses of the nurses to questions about attitudes, subjective norms, intentions, behavioral control, and future behavior.

The final stage was conducting the posttest (using the same questions as the pretest listed in Appendix B) to assess the changes in the attitudes of the nurses towards screening for depression and their knowledge of the PHQ-9 screening tool after the staff education program.

Protections

The researcher received approval from the Institutional Review Board (IRB) of Walden University prior to conducting this study. The researcher obtained consent from the nurses to participate in the educational module and the rights of all participants regarding confidentiality and secrecy was respected. No data that can be used to identify individual participants was reported. Only the researcher and dissertation committee have access to the data. The data is stored password protected files, and all printed documents are stored in locked files. These files will be deleted in five years.

Analysis and Synthesis

The results were analyzed using descriptive and inferential statistics to address the practice-focused questions. The quantitative data was stored and analyzed using IBM SPSS v. 24.0 software. The first part of the practice-focused question, to examine the extent of the improvement in the knowledge, attitudes and practices of nurses regarding the screening and treatment of depression was addressed. This test determined that the mean difference between the posttest minus the pretest scores was significantly greater than zero. A statistically significant improvement was indicated since $p < .05$ for the *t*-test statistic (Field, 2013). However, the *p*-value will not reflect the practical significance of the results, which requires a measure of the magnitude of the difference between the pretest and the posttest scores. The *p* value does not determine whether the magnitude of the difference is important to the recipients of an intervention in a clinical setting. A

statement issued by the American Statistical Association (Wasserstein & Lazar, 2016) recommended that, because the *p*-value does not measure the size of an effect or the importance of a result, scientific conclusions and policy decisions must not be based only on whether or not a *p*-value passes a specific threshold (e.g., the conventional $\alpha = .05$ level of significance). Other statistics, including the effect size, should therefore be calculated and interpreted. The minimum effect size that was assumed to reflect the practical significance of the results of the *t*-test (based on previous studies of the impact of nursing interventions) was Cohen's $d = 0.5 > 0.4$ (Johnson, McMorris, Raynor & Monsent, 2013).

Summary

The setting for this project was a primary care clinic treating patients living with HIV/AIDs. The sample size was 20 nurses, and two main sources of evidence were used to address the practice-focused question. First, the content and delivery of the EBP educational module (see Appendix A) was developed using information synthesized from several previous studies that have been conducted to determine the impact of educational interventions on the knowledge, attitudes, and practices of nurses regarding the screening and treatment of depression in primary care settings. Second, a pretest and posttest were administered to collect empirical data to measure the key dimensions of the knowledge, attitudes, and practices of the nurses regarding the screening and treatment of depression. The pretest and posttest data were analyzed to determine the extent to which the

implementation of the education model was followed by an improvement in the knowledge, attitudes, and behavior of the participants regarding the screening for depression using the PHQ-9 tool.

Section 4: Findings and Recommendations

Introduction

Clinical depression in people living with HIV/AIDs is much higher than the general population. One study estimated that lifetime prevalence of clinical depression in patients living with HIV/AIDs to be about 22% compared to an average of 7% in the general population. The American Psychiatric Association [APA], (2014) reported that 20% to 30% of patients living with HIV/AIDs in primary care settings are diagnosed with depression. Depression may also be a result of neurological complications of HIV/AIDs or may be due to complications of antiretroviral therapy (Jonsson et al.., 2013). In the United States, neurological complications are seen in approximately 50% of adults with HIV/AIDs (CDC, 2018). As a result, it is critical that the nursing staff recognizes the immediate need for patients living with HIV/AIDs to be screened for depression. The assessment skills and knowledge necessary to routinely screen and identify patients with HIV/AIDs for depression is essential in this primary care setting. My purpose in this staff educational project is to implement an educational program in a primary care setting specializing in the treatment of patients living with HIV/AIDs. My project fills a gap in practice to promote an improvement in the knowledge, attitudes, and practices of nurses regarding the screening of depression.

Findings

To conform with Walden's *Doctoral Educational Staff Manual*, I contacted the institutional review board (IRB) and approval to conduct this project was obtained. IRB approval was not required from this clinical institution, and due to the nature of the project, patients' health information and privacy, the privacy of the staff taking part in this educational module were not be violated.

Meeting with the interdisciplinary team, which consisted of the medical director/infectious disease specialist, nurses and medical assistants, the goals of this project were explained. The instruments involved to train the staff and the protocols to effectively use the PHQ-9 tool were also explained. The nursing staff, which included medical assistants and nurses, are important to the success of this module because they are directly involved in new admissions as well as ongoing assessments of patients. Everyone has unique personal views regarding depression and how they can balance their personal feelings with their professional expectations. The expert team was strategically chosen to enhance the goals of the project to increase nurse's knowledge by offering valuable information that will affect high-quality patient care.

Eliciting the knowledge of the nurses regarding the use of the PHQ-9 tool via pretest questions (Appendix B) was done before a PPT with case scenarios was presented to the staff. After the presentation of the PPT, posttest questions (Appendix B) were presented, after which, the scores of the pretest and post test questions were collected and

comparison done. Overall the staff strongly agreed that the educational program addressed the practice issue on the lack of knowledge and aligned with evidence-based clinical practice. After the descriptive statistical analysis of data, the practice issue of depression screening in all patients with HIV/AIDs was easily understood and prepared the nursing staff to identify the importance of depression screening in patients living with HIV/AIDs.

The response from the interdisciplinary team, which consisted of infectious disease specialist, nurses, administrator, and medical assistants, afforded an opportunity to strengthen the project by achieving the project goals and attaining optimal outcomes. The outcome of the questionnaire was analyzed by comparing the results of the pretest with the posttest and measured them by using a standard mean calculation. The project revealed statistically significant results to strongly impact improvement in nurses' knowledge of depression screening.

Twenty members of the nursing staff were assessed, and the pretest results showed that an average score on pretest questions was 65%. The information provided in the PowerPoint conveyed the significance of depression screening in patients with HIV/AIDs. After the teaching module in the form of a PowerPoint that I presented and discussed, the nurses willingly provided answers to the questions that they answered before the presentation. The members of the nursing staff agreed that the educational materials addressed the deficiency of depression screening in patients with HIV/AIDs in

the organization. The scores of the posttest questions showed significant improvement, with an average score of 98%.

The responses revealed the project is supported by evidence-based practice and the educational material strongly supports bridging the gap in clinical practice. With positive feedback and statistically significant results, the doctoral evidence-based project contributed to promoting nursing excellence.

The theory of planned behavior (2007) focuses on the improved behavior of nurses by changing attitudes, subjective norms, and intentions, as well as removing barriers associated with perceived behavioral control (Bertani et al., 2016; Ekayani, Wardhani, & Rachmi, 2017; Gagnon, Cassista, & Payne-Gagnon (2015); Gustafsson & Borglin, 2013; Javadi, Kadkhodaee, Yaghoubi, Maroufi, & Shams, 2013). Westland (2015) applied the theory of planned behavior as a relevant theoretical framework to explain how and why an educational intervention should be implemented in a primary care setting in order to achieve successful changes in nursing practice, leading to improved levels of screening for depression with the PHQ-9 instrument.

The primary outcome of the project was to develop the nurses' knowledge to ensure significance and competence in screening all patients with HIV/AIDs for depression.

Table 1

Pretest and Posttest Comparison

	Pretest (n = 20)	Posttest (n = 20)
Questions	No. (%) staff correctly answering question	No. (%) staff correctly answering question
1	14 (70%)	19 (95%)
2	13 (65%)	18 (90%)
3	15 (75%)	18 (90%)
4	16 (80%)	20 (100%)
5	15 (75%)	18 (90%)
6	16 (80%)	20 (100%)
7	10 (50%)	18 (90%)
8	16 (80%)	18 (90%)
9	17 (85%)	20 (100%)
10	18 (90%)	20 (100%)
11	14 (70%)	19 (95%)
12	18 (90%)	20 (100%)
13	10 (50%)	19 (95%)
14	10 (50%)	20 (100%)
15	16 (80%)	20 (100%)

16	13 (65%)	19 (95%)

Recommendations

The outcome of this project demonstrated that educating the clinic staff on the PHQ-9 tool showed improvement in the scores of the posttest questions. With the PPT, the staff education levels were improved and not enhanced by an improvement in scores on the posttest on depression screening in patients living with HIV/AIDs.

PPT presentation for this project was selected because this venue could reach a large audience and be easily disseminated. PPT is also a excellent way to address different types of learners that need visual, hands-on and case scenarios to master and understand a concept you are teaching. Also, introducing a webinar as a continuous process using the PowerPoint for teaching the PHQ-9 tool to screen for depression in HIV/AIDs patients was recommended by the team. Webinars are effective in large audiences and are easily accessed 24 hours per day. The next PPT presentation could also be recorded via video to include as a webinar as well. Incorporating a teaching PHQ-9 tool to new nursing staff during orientation was also a suggestion.

Contribution of the Doctoral Project Team

The project team was led by the doctoral student and the panel was chosen for their expertise, clinical background, leadership ability, and knowledge. The project team is committed to organizational goals and a mission to improve the quality of life by

appropriately screening people living with HIV/AIDs for depression. There is a large population of HIV/AIDs patient in this clinical setting.

Interdisciplinary collaboration was a vital aspect to the success of this educational enterprise. One of the Essentials of the doctoral degree is that nurses should be very impactful in establishing interdisciplinary teams, which is vital in program designs to achieve educational goals and increase positive patient outcomes. The experts were instrumental in validating this educational tool to increase knowledge for nursing staff.

Enhancing Social Change

The doctoral educational project is instrumental in creating positive social changes. The approach and framework of the project made the nursing staff aware of the significance of screening for depression in patients living with HIV/AIDs. The improvement in depression screening made the nursing staff as well as key stake holders aware of this problem which will ultimately lead to implementation of evidence-based protocols for addressing depression in this community. Being able to identify depression will eventually refer these patients for treatment.

Presently, there is a constant revolving door in the nursing profession in relation to health care policy, guidelines, standards of care, and new approaches to evidence based practice changes. Application of the educational program will enhance the knowledge and skills of the nursing staff who have direct contact with these patients. This doctoral

project enhances knowledge and improves the professional and personal growth of the nursing staff, which will fundamentally elicit a culture for change.

The objective of this promise is to improve quality of life in this patient population and has the capability to transform quality care through evidence-based practice changes (Silver et al., 2016). The project is cost effective as not many materials were printed. The Power Point will be emailed to the nurses to refresh their memory on an ongoing basis.

Strengths of the Project

The current evidence-based project validated the instruments used and recognized depression in patients living with HIV/AIDs by increasing knowledge and skills of the nursing staff. The nursing staff was aware of the urgency to refer patients for treatment, which ultimately improved the standard of care in the clinic setting. Understanding the psychosocial impact of HIV/AIDs and the absolute necessity to screen these patients for depression and ultimately refer them for treatment is a significant strength of this project. The project goals aligned with DNP essentials and will empower the nursing staff for a long time.

The doctoral student driven project applied a PPT power point and case scenario educational module. Applying case scenarios into an educational medium reinforces the learner's ability for an in depth understanding of the materials and aids in applying skills (Trujillo-Jenks, 2014). In this setting, the nursing staff is engaged and has direct

interaction with this patient population. The benefits of the PPT design of the doctoral project stimulated the nurses to be engaged in a participatory way to foster clinical reasoning, which advances nursing practice (Latif, 2014).

Limitations of the Project

Although this project had areas of success, there were observable limitations. Being consistent with teaching the skill of screening for depression and being able to identify signs and symptoms of depression requires ongoing teaching. A busy clinical setting will have challenges related to time allotted to the nurses for ongoing teaching. Presenting PPT via email for continued learning may not be effective, as some nurses are not inclined to learn new materials without supervision, especially with the many thought-provoking tasks nurses are presented with daily.

Resistance to change is also another inhibition, and some members of the nursing staff were not enthused to adapt to new knowledge, especially in a busy setting. The IRB process was also challenging, as it was very time consuming to get the necessary consent forms signed from the doctor who is director of infectious disease and consults in a few hospitals.

Section 5: Dissemination Plan

Dissemination

Disseminating evidence-based quality improvement projects is essential for effective changes to occur. In this project, I focused on disseminating knowledge to interdisciplinary team and nursing staff. I included the purpose of the study, the problem in practice, methods, project results, and implications. The significance of the study as it relates to the practice of the clinic and the influence on the welfare of the patients was presented.

Case scenarios, PPT presentation as well as pre questions and post questions enhanced the project. Incorporating case scenarios expanded the learner's ability to critically think, and convey a clear understanding of the information provided, and the significance of maintaining this practice. Learning was facilitated in this institution as the members of the nursing staff voiced their commitment to screening for depression in this patient environment as there is a large percentage of patients with HIV/AIDs and has potential for unrecognized depression. This is a significant topic to nursing and the medical community as there is many patients with depression that are unrecognized and undertreated.

Analysis of Self

Functioning in a leadership role and being a pioneer in nursing is significant as a doctoral prepared nurse. Mastering this project provided me with an opportunity to demonstrate my knowledge of the importance of depression screening in patients living

with HIV/AIDs. Working with experienced clinicians in the organization was influential in propelling me to this level as an effective leader. It is also important for leaders in nursing to make a huge impact in improving the lives of patients and their families.

The DNP essentials II and VI relate to the improvement of health care outcomes and building interdisciplinary teams. I have been able to achieve both essentials in this project and having the staff on board as well as the team made it achievable. The DNP Essentials are also focused on doctoral prepared nurses being involved in health care policies, management, and academia (AACN, 2006).

Ultimately, the project was a success and I was able to have the staff take a second look at how patients with HIV/AIDs are screened for depression. Despite the success of the project, I encountered challenges, one of which was the initial fear to present this to the leaders of the organization. In the beginning, there was a slight hesitancy as the leader responsible to give me permission thought that patients' rights would be affected. She voiced challenges in the past with doctoral projects; however, after explaining the staff education model of Walden, there were no further setbacks.

Summary

This DNP project is influential and significant to the nursing and medicine as it ultimately improved the quality of care of patients living with HIV/AIDs. The introduction, problem statement, purpose statement, nature of the doctoral project, and significance of the study provided and included information that indicated that improving

the knowledge, attitudes, and practices of nurses in a primary care setting potentially improved the diagnosis and care of the vulnerable population of patients living with HIV/AIDS. The ultimate creation of an EBP guideline and protocol provided positive social change when members of the clinical staff are properly educated and trained to implement and maintain successful screening for depression. In addition, referring patients living with HIV/AIDs for treatment is effective in their care.

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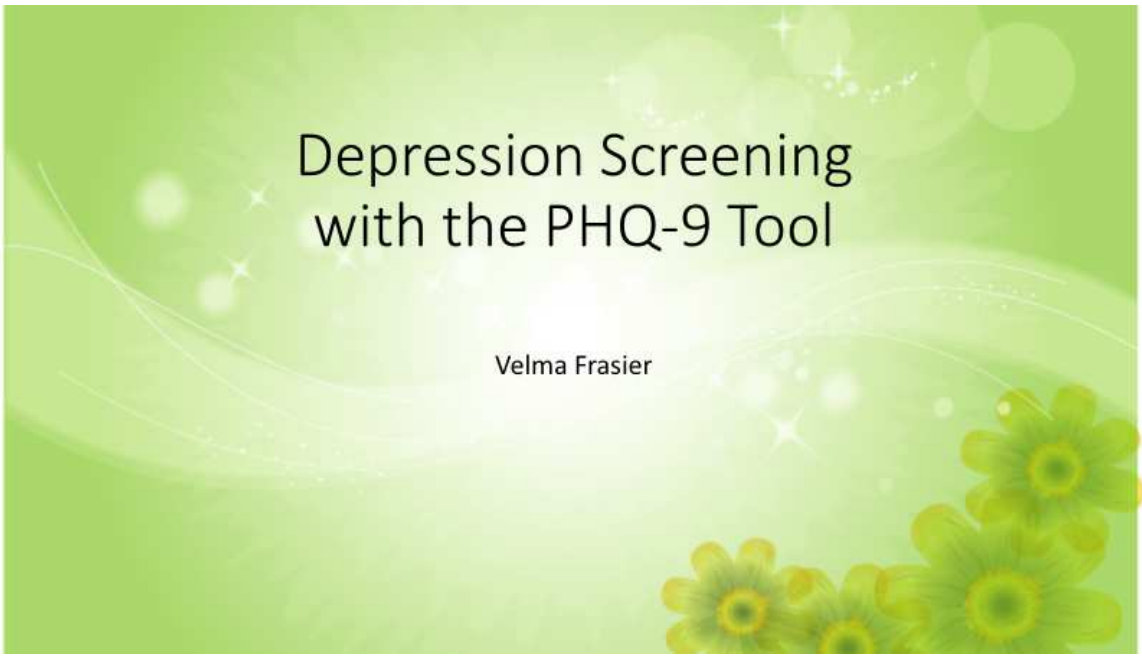
Appendix A: EBP Education Module



Origin of PHQ-9 tool

Patient Health Questionnaire (PHQ) was developed in the mid 1990s and the PHQ-9 in 1999.

Developed by Dr. Robert J. Spitzer, Dr. Janet B. W. Williams, Dr. Kurt Kroenke, and colleagues from Columbia University.

PHQ-9 was developed with a grant from Pfizer.

The PHQ is a self administered version of the Primary Care Evaluation of Mental Disorders (PRIME-MD), a screening tool developed and validated in the 1990s to efficiently diagnose and treat12 mental and emotional health disorders.

The PHQ is a 59 question instrument which has units on mood (PHQ-9), anxiety, alcohol, eating and somatoform disorder (psychological disorders where a patient experience physical symptoms inconsistent with physical or neurological diagnosis).

Validity and Reliability

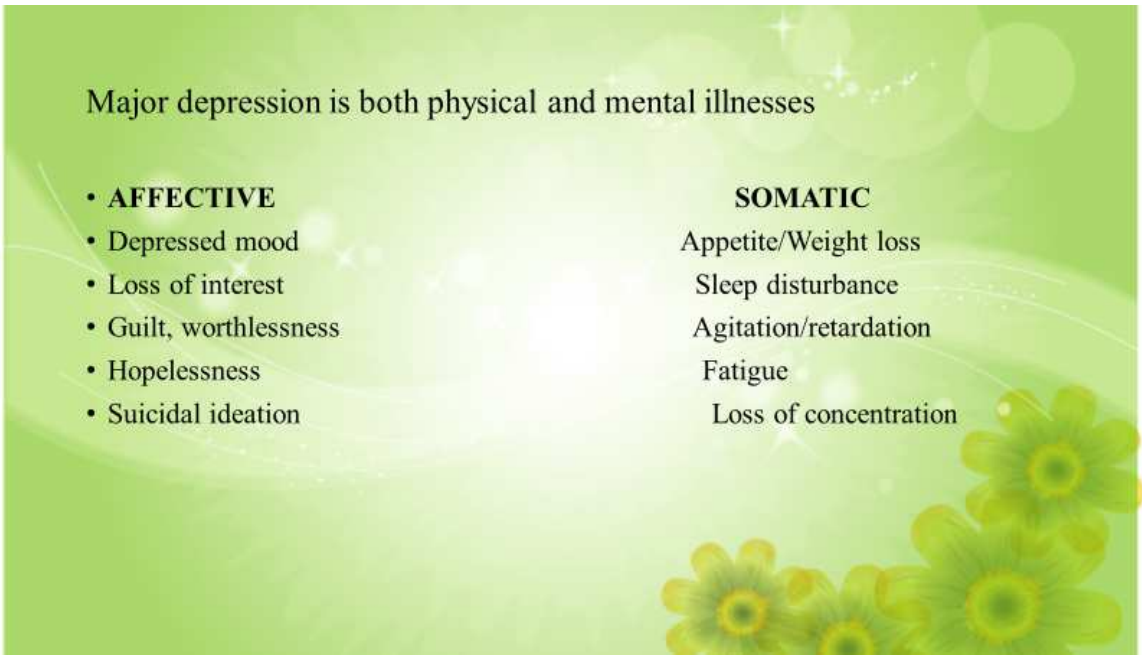
- Validity and reliability tests were conducted in 2001 by Kroenke, Spitzer, and Williams.
- Tests resulted in 88% sensitivity and 88% specificity.
- The PHQ-9 tool was endorsed by The National Institute for Health and Clinical Excellence, The Behavioral Risk Factor Surveillance Survey, The National Health and Nutrition Examination Survey, The Medicare Health Support Program and many other institutions.
- The PHQ-9 is available in over 30 languages.

Depression /HIV/AIDs Statistics

- The Centers for Disease Control and Prevention, 2018 (CDC, 2018) 1,144,500 people, aged 13 years and older are presently living with HIV/AIDS, 658,507 people have died of HIV/AIDs in the United States since 2012 (World Health Organization, 2018).
- 940, 000 people died from HIV-related causes globally in 2017 (World Health Organization, 2018).
- People living with HIV/AIDs are more likely than the general population to develop major depressive disorder.
- Lifetime depression in patients living with HIV/AIDs is 22%, 3% - 10% in the general population, and 20% to 30% of patients living with HIV/AIDs are in primary care settings (American Psychiatric Association, (2014).

Depression and HIV Infection

- Depression is associated with
- Increased morbidity and mortality
- Failure to initiate antiretroviral treatment (ART)
- Failure to adhere to medications once initiated
- Slower virologic suppression
- Increased HIV related risk behaviors.


Major depression is both physical and mental illnesses
• AFFECTIVE
• Depressed mood
• Loss of interest
• Guilt, worthlessness
• Hopelessness
• Suicidal ideation
SOMATIC
Appetite/Weight loss
Sleep disturbance
Agitation/retardation
Fatigue
Loss of concentration

Depression in patients living with HIV/AIDS

- The main symptoms of depression include little interest or pleasure in doing things and feelings of sadness and hopelessness.
- The symptoms of depression in patients living with HIV/AIDS are associated with a reduced ability to follow treatment, as well as reduced immunity to infection and lowering of lifespan.
- The Centers for Disease Control and Prevention (2018) recommends that it is essential to treat depression in persons living with HIV/AIDS

Depression in patients living with HIV/AIDS contd

- It is imperative that primary care staff managing patients living with aids actively screen for depression because these vulnerable patients rarely volunteer information about their mental states.
- Primary care settings represent the best place for depression screening of persons living with HIV/AIDS, because they are the only settings where screening, diagnosis, and treatment can be provided.

Rationale for Depression Screening

- Screening improves the accurate identification of adult patients with depression in primary care settings, including patients living with HIV/AIDs.
- Programs combining depression screening with adequate support systems improve clinical outcomes (e.g., reduction or remission of depression symptoms) in adults, including patients living with HIV/AIDs (US Preventative Services Task Force, 2016).
- Nursing practice problem concerns limited knowledge and understanding of the procedures to ensure that all patients living with HIV/AIDS are properly screened for depression, and referred for further evaluation and treatment.

Theory of Planned Behavior

- Sustained efforts are essential to ensure the long-term impact of educational programs for nurses in clinical settings, by focusing on how to improve their future behavior, in addition to improving their existing knowledge.
- Such efforts should ideally be underpinned by the Theory of Planned Behavior (Ajzen & Manstead, 2007).
- This theory predicts that if you currently have very strong beliefs and an appropriate attitude to improve your care of patients, then, in future, you will eventually change your behavior, so that your quality of patient care will ultimately be improved.
- This theory can be applied in practice to help you improve your screening of patients living with HIV/AIDS for depression.

PHQ-9 Screening Tool

PHQ-9 screening tool is a validated multipurpose instrument for screening, diagnosing, monitoring, and measuring the severity of depression (Kroenke et al., 2001).

- The PHQ-9 is a self-report instrument, which is completed by the patients in a few minutes. The patients are asked how often they have experienced nine symptoms in the past two weeks.
- Ask the patient to place a tick (√) in the response box for each question (0 = Not at all; 1 = Several days; 2 = More than half the days; 3 = Nearly every day).
- The scores for each question are added up to calculate the total score, called the severity index.

Using the PHQ-9 for newly diagnosed patients, or patients in current treatment

- Nurses and clinicians should ensure that all patients living with HIV/AIDS are screened with the PQH-9 tool.
- New patients should complete the PHQ-9 at their first scheduled appointment (baseline)
- Patients in current treatment should complete the PHQ-9 at regular intervals at home or at each scheduled appointment (e.g. every 2 weeks).

PHQ-9 Tool (Questions 1 and 2)

Over the past 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

PHQ-9 Tool (Questions 3 to 6)

3. Trouble falling asleep, 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're a failure or have let yourself or your family down	0	1	2	3

PHQ-9 Tool (Questions 7 to 9)

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

PHQ-9 Question 10:

The PHQ-9 also contains an addition question (Q10) to determine if there is evidence of social, occupational, or other functioning :

10. If you checked off any problems, how difficult have those 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

Calculation of Severity Score

- Add up the scores (0, 1, 2, 3) for each column in Q1 to Q9
- This is the severity score
- The severity score is interpreted as follows:

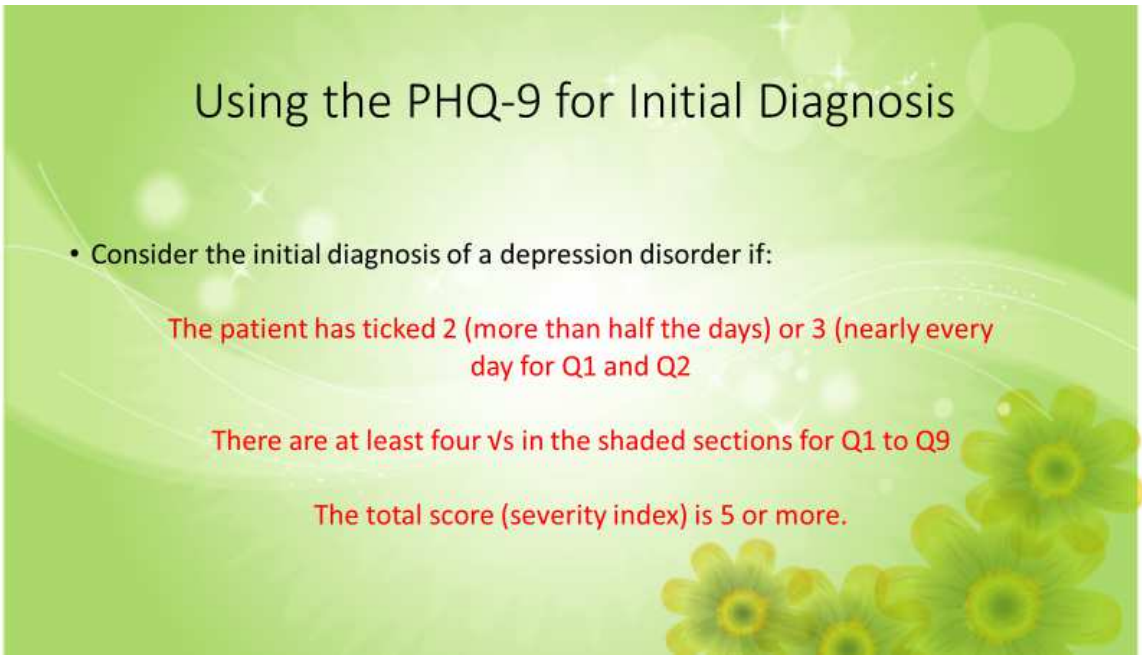
1 - 4 = Minimal symptoms

5 - 9 = Mild depression

10 - 14 = Moderate depression

15 -19 = Moderately severe depression

20 - 27 = Severe depression


Using the PHQ-9 for Initial Diagnosis
• Consider the initial diagnosis of a depression disorder if:
The patient has ticked 2 (more than half the days) or 3 (nearly every day for Q1 and Q2
There are at least four √s in the shaded sections for Q1 to Q9
The total score (severity index) is 5 or more.

Using the PHQ-9 for Initial Diagnosis

- Consider the initial diagnosis of a major depression disorder if:
  - There at least five √s in the shaded sections (one of which corresponds to Q1)
  - The total score (severity index) is 15 or more for Q1 to Q9
  - There is evidence of social, occupational, or other functioning (indicated by Q10)
- Consider the initial diagnosis of other depressive disorders if
  - There are at least two to four √s in the shaded sections (one of which corresponds to Q1 or Q2).

Verification

- Because the PHQ-9 relies on patient self-report, all responses should be verified by a clinician.
- All positive screening tests using the PQH-9 should lead to additional assessment that considers severity of depression and comorbid psychological problems (e.g., anxiety, panic attacks, or substance abuse), alternate diagnoses, and medical conditions.

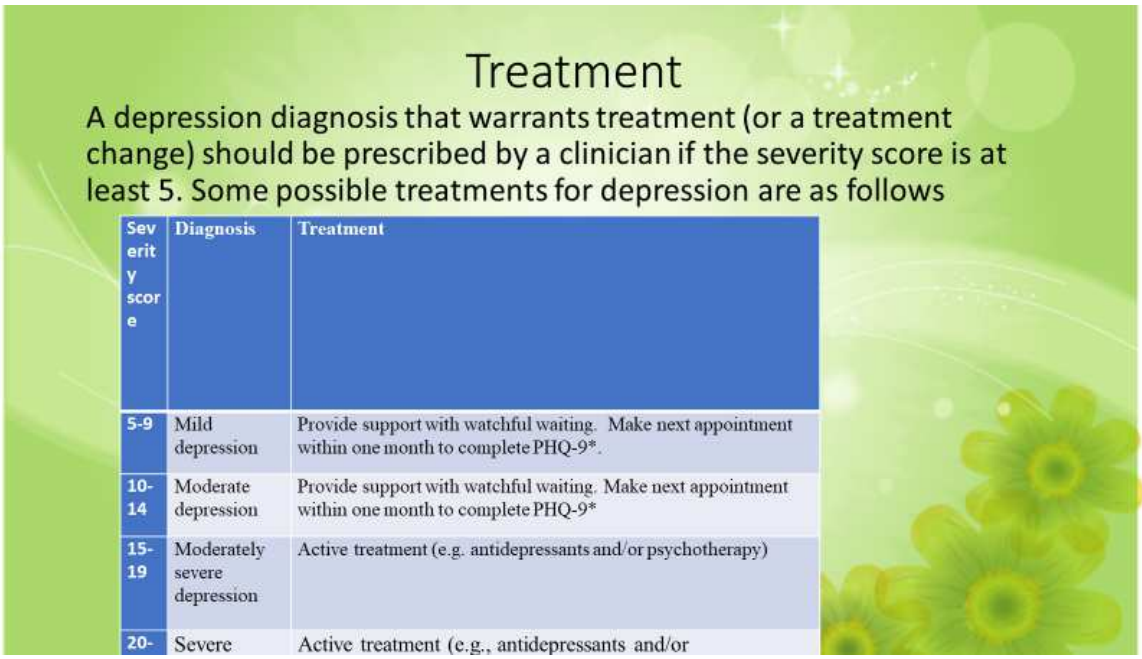
Definitive diagnosis

- A definitive diagnosis of clinical depression 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 should rule out the following:

  Normal bereavement, manic episodes (bipolar disorder), a physical disorder, medication, or other drug as the cause of the symptoms.

SIGECAPS (mnemonic dx depression)

- **S** - Changes in **S**leep pattern
- **I** - Changes in **I**nterests or activity
- **G** - Feelings of **G**uilt or increased worry
- **E** - Changes in **E**nergy
- **C** - Changes in **C**oncentration
- **A** - Changes in **A**ppetite
- **P** - **P**sychomotor disturbances
- **S** – **S**uicidal ideation


Treatment
A depression diagnosis that warrants treatment (or a treatment change) should be prescribed by a clinician if the severity score is at least 5. Some possible treatments for depression are as follows
Severity score
Diagnosis
Treatment
5-9
Mild depression
Provide support with watchful waiting. Make next appointment within one month to complete PHQ-9*.
10-14
Moderate depression
Provide support with watchful waiting. Make next appointment within one month to complete PHQ-9*
15-19
Moderately severe depression
Active treatment (e.g. antidepressants and/or psychotherapy)
20-
Severe
Active treatment (e.g., antidepressants and/or

Case 1

- Miss P is a 37 year old female new to clinic. She states she recently moved from New York and wants to establish care.
- Medical Hx - HIV/AIDs, HTN, DM. She is obese, reports medications ran out 2 weeks ago.
- Social hx- divorced 3 years ago, cigarette smoker 1ppd x 10 years, has 2 children living with her 13 and 15 years old. She is reluctant to communicate, nods occasionally during assessment and reports drinking 2-3 glasses of wine daily to help her sleep. Vital signs are stable.
- What are your next steps?

Case 2

- A 26 year old man presents to the clinic with diagnosis of HIV/AIDs x 1 year. Throughout the history taking you noticed he had blank stare a few times.
- His vital signs are normal.
- He refused to answer questions while doing depression screening.
- What would you do next?

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Appendix B: Pretest and Posttest Questions

1. The patients are asked how often over the last two weeks they been bothered by a list of problems. How many problems are in this list?
2. Does this list include trouble sleeping, poor appetite, and difficulty in concentrating?
3. What is the score if the patient ticks the box labelled "Nearly every day"
4. How do you calculate the total score?
5. How do you interpret a total score of 5 to 9?
6. How do you interpret a total score of 15 to 19?
7. How do you interpret a total score of 20 to 27?
8. What type of disorder would you diagnose if there are at least 2 checks in the two right columns?
9. What type of disorder would you diagnose if there are at least 5 check marks in the two right columns including questions #1 or #2?
10. What type of disorder would you diagnose if there are 2 to 4√s in the two right columns one of which corresponds to Question #1 or #2?
11. Should all responses be verified by a clinician before a diagnosis is made?
12. Should the diagnoses be verified by considering how the patient understood the questionnaire, as well as other relevant information from the patient?

13. What other areas of functioning should you consider when making a diagnosis of major depressive disorder?
14. Would you diagnose a major depressive disorder if the patient had a history of bereavement, bipolar disorder, physical disorder, medication or drug use, that was the biological cause of depression?
15. How often and where should the patient complete the PHQ-9?
16. When should the patient return the completed PHQ-9?

Appendix C: Answers to Pretest and Posttest

1. 9 problems
2. Yes
3. The score for nearly every day = 3
4. Add up scores for the check mark in each column
5. Total score of 5 to 9 = mild depression
6. Total score of 15 – 19 = moderately severe depression
7. Total score of 20 to 27 = severe
8. Depressive disorder
9. Major depressive disorder
10. Other depressive disorder
11. Yes
12. Yes
13. Impairment of social, occupational, or other areas of functioning
14. No
15. At baseline, and at regular intervals (e.g. every day, or week) at home or during a scheduled appointment
16. At a scheduled appointment