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Staff Education on Depression Screening in an Outpatient Psychiatric Setting

Naiga Dohnji
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Naiga Dohnji

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Review Committee
Dr. Margaret Harvey, Committee Chairperson, Nursing Faculty
Dr. Barbara Barrett, Committee Member, Nursing Faculty
Dr. Cassandra Taylor, University Reviewer, Nursing Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2020

Abstract

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by

Naiga Dohnji

Post MSN, Rivier University, 2019

MSN, Mountain State University, 2011

BSN, Mountain State University, 2009

AND, Marymount University, 2000

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Abstract

Depression is among the common mental illnesses in the United States affecting 1 in 10 Americans. The U.S. Preventive Services Task Force recommended screening for depression irrespective of the risk factors. Yet, providers struggle to implement depression screening. Inadequate use of Patient Health Questionnaire-9 (PHQ-9) screening tool to identify and manage depression can lead to poor patient outcomes. PHQ-9 is valid and reliable tool used to diagnose depression and monitor treatment response. The purpose of this project was to develop, deliver, and evaluate an educational program for providers on the use of the PHQ-9 screening tool for the identification of depression. The design and implementation of this educational module was guided by the Iowa model of evidence-based practice. The research question focused on educating providers managing depression in an outpatient psychiatric clinic about using the PHQ-9 tool and assessing their knowledge and confidence levels before education, immediately after education intervention, and 1 month after. Six providers participated in the educational program and completed the pretest and posttest to evaluate the education. The results confirmed a significant change in the mean scores for participants' knowledge and confidence levels postintervention.. Enhancing provider's knowledge and confidence levels can facilitate proper diagnosis and treatment for depression, promote the health of clients' families, and prevent health-related complications associated with depression, which can positively impact social change.

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Dedication

For this great accomplishment, I want to give thanks to God almighty for the abundance of his grace and mercy for giving me the strength and knowledge required to attain the Doctorate degree successfully. This doctoral degree is dedicated to the memory of my Dad, Mr. Benedict Bande Dohnji, and brother Frederick Dohnji. Dad, you set the expectation, dream and believed in my ability. You stimulated my desire for educational growth to doctoral level. I know you are rejoicing with me in spirit. You taught me how to persevere and prepared me to embrace life challenges with faith, love, humility, strength, courage, and excellence. You always believed in my ability to be successful at anything I desired to do. Due to the sacrifices you made for me I reached for the stars and chased my dreams with God being my helper. Thank you, for helping me create my life and live my purpose. Your memories will be eternal, as I keep you in my heart. Dad, you set the expectation, dream and believed in my ability. I would like to express my sincerest appreciation to my mother, Elizabeth Dohnji and my siblings for their endless support, and kindness throughout my doctoral program. To my four amazing kids, Alma Ogunsina, Arielle Ogunsina, Aiden Ogunsina and Athan Ogunsina, I would have never come this far in fulfilling my dreams without your continuous encouragement, love, patience, and ongoing emotional support. My educational journey is a proof that God's plans are much larger than my own. You are my tower of strength.

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Section 1: Introduction

Introduction

Depression is among the common mental illnesses in the United States. It affects one in 10 Americans at some stage of their lives (National Institute of Mental Health [NIMH], 2018). According to the National Survey on Drug Use and Health, more than 16 million adults in the United States (6.7%) have experienced at least one major depressive episode, and that number includes only cases of depression that are known (Ahrnsbrak, Bose, Hedden, Lipari, & Park-Lee, 2016). Researchers suggest that depression may be even more common; in fact, only an estimated one out of every five individuals who experience a major depressive disorder ever receives clinical help for depression (Ahrnsbrak et al., 2016; Morin, 2018).

According to NIMH (2015), the number of patients diagnosed with depression increases by about 20% each year. If depression is left untreated, it can cause disabling symptoms that can negatively affect the quality of life. About two-thirds of suicides occur because of depression (Ledford, 2014). According to the depression report from National Alliance on Mental Illness (2019), women are 70% more likely to have depression compared to men, and young adults are 60% more likely to experience depression than adults 50 years and older. Practitioners diagnose depression when symptoms of sadness, loneliness, irritability, worthlessness, hopelessness, agitation, and guilt are present for 2 weeks or longer, with some of these symptoms escalating to suicidal and homicidal ideations (American Psychiatric Association [APA], 2013).

The United States' mental health system faces difficulties related to screening and treating depression and other psychiatric disorders. Depression is one of the leading causes of medical disability worldwide, costing the healthcare system over $210 billion annually (Greenberg, Fournier, Sisitsky, Pike, & Kessler, 2015; World Health Organization [WHO], 2014). Over 16 million adults in the United States experienced at least one major depressive episode during 12 months in 2016 (NIMH,2017). Depression in the United States and worldwide has both indirect and direct effects on morbidity and mortality (Smithson & Pignone, 2017). According to WHO (2015b), moderate to severe depression can lead to comorbidities such as heart disease, diabetes, and stroke. It can also affect productivity at work, socialization, increased absenteeism, healthcare costs, and suicidal tendencies.

The U.S. Preventive Services Task Force (USPSTF) recommended screening all patients for depression irrespective of their risk factors (USPSTF, 2016). They state that screening for depression improves the accuracy of early detection (Siu, 2016) and can significantly improve overall health outcomes (Culpepper, Muskin, & Stahl, 2015). According to the USPSTF guidelines, patients should be appropriately screened, diagnosed, treated, and provided follow-up for depression. According to Gay, Kottorp, Lerdal, & Lee (2016), failure to recognize depression can cause danger to the patient and the community. Haefner, Daly, & Russell, (2017), listed several depression screening tools available, such as (a) Hamilton Depression Rating Scale, (b) Zung's Self-Rating Depression Scale, (c) Patient Health Questionnaire-9 (PHQ-9), (d) Beck Depression Inventory and Beck Depression Inventory-II, (e) Montgomery-Asberg Depression Rating

Scale, (f) Cornell Scale for Depression, (g) Center for Epidemiologic Studies Depression Scale, (h) Brief Depression Scale, and (i) Multi-Problem Screening Inventory Depression Subscale. (Haefner et al., 2017). Of these, the PHQ-9 is the most recognized and reputable diagnostic screening tool, which is recognized to be efficient and accurate in the initial detection of depression (Haefner et al., 2017). The PHQ-9 has also been shown to be a reliable and valid tool that has been described as a simple, easy-to-use nine-question survey that helps clinicians screen and diagnose depression to make informed decisions regarding patient treatment (Brody, Pratt, & Hughes, 2018). The PHQ-9 is the most validated tool in mental health used by providers to diagnose depression and monitor treatment response.

The PHQ-9 screening tool aligns with the APA's *Diagnostic and Statistical Manual of Mental Disorders* (5th ed., DSM-V) criteria for major depressive disorder, guiding the provider to accurately diagnose and manage depression (APA, 2013). Despite the prevalence of depression in the United States and unambiguous guidelines regarding the use of the PHQ-9, providers continue to struggle to implement this depression screening tool in their practice (NIMH, 2017).

The nature of this project was to educate providers on the use of the PHQ-9 depression screening tool to increase their usage, knowledge, and confidence level to diagnose and manage depression in the outpatient clinic. The social change implications noted were reflected in the increase the providers stated they had in both their knowledge and confidence level, which can facilitate appropriate diagnosis and treatment, promote the health and well-being of clients' families, and positively impact patient outcomes.

Problem Statement

The project took place at an outpatient clinic located in a large Southern state. The clinic inconsistently uses the PHQ-9 tool for depression screening, which is incorporated in the electronic medical records (EMR) for documentation when it is completed. The DNP project was developed because of an informal meeting with the clinical team, which included the chief psychiatrist, the office manager, and a provider. During the meeting, the clinical staff presented the data they had collected via an anonymous form from their quality improvement report. The clinical team indicated that not every patient with a diagnosis of depression had been screened by providers using the PHQ-9 screening tool. The clinical team identified the gap in practice as being a perceived lack of knowledge and confidence level in implementing the PHQ-9 depression screening tool by providers when they were providing care to their patients. The clinical team also reported a persistent decline in the use of PHQ-9 screening tool by the clinic in the past 2 years. They reported a 50% usage, which was below the national average of 60%. The recommended standard for screening patients using PHQ-9 tool is 100% for all providers (USPSTF, 2016).

The team also indicated that there was no formal educational module in place on the use of PHQ-9 depression screening tool, and as a result, the providers did not fully understand how to properly diagnose and manage depression, which led to many patients not getting appropriate treatment or proper follow-up. The consistently low percentage of the use of PHQ-9 by providers in managing depression convinced the clinical team there was a need to educate. This gap in practice was addressed in this project with the goal of

having no patient with a missed diagnosis because of lack of appropriate testing (see Siu, 2016; USPSTF, 2016). By improving the provider's knowledge and confidence level on the use of PHQ-9 screening tool, a positive treatment outcome was expected, as well as achieving the public health task of early identification of depression (Porter, 2017).

The significance of this educational project is that it would increase providers' knowledge and confidence level in the use of PHQ-9, making it easy to identify and manage depression, which would significantly improve the patients' overall health outcomes (Culpepper et al., 2015). The USPSTF (2016), indicated that properly screening for depression could be effective in improving patient treatment outcomes. The importance of educating providers to attain competency in using depression screening tools cannot be overstated (Abar, Hong, Aaserude, Holub, & DeRienzo, 2016). Despite the prevalence of depression in the United States and clear-cut guidelines regarding the use of the PHQ-9, providers continue to struggle to implement this depression screening tool in their practice (NIMH, 2017).

The significance to the nursing profession is demonstrated by the fact that educating providers would not only increase their clinical knowledge but also increase their confidence level and opportunities to practice in an autonomous fashion when treating patients with depression. It would potentially increase their patients' positive outcomes by promoting better health and mental well-being. Educating providers on the use of PHQ-9 could improve the lives of their patients and prevent suicide.

Purpose of the Project

The gap in practice was a lack of knowledge and confidence level in the providers as it pertained to the use of the PHQ-9 screening tool. As a result, the DNP project's intended goal was to educate providers by implementing an educational program with an aim to increase the usage of the PHQ-9 screening tool. A secondary goal was to improve the providers' confidence level in the use of this screening tool for the management of depression. This DNP project answered the following practice-focused question:

> PFQ: In providers managing depression in an outpatient psychiatric clinic, does education on using the PHQ-9 tool increase staff knowledge and confidence level immediately after the educational intervention and again in 1 month?

This doctoral project had the potential to address this gap in practice by promoting better patient outcomes through early diagnosis and treatment of depression. It will teach the providers how to administer the PHQ-9 and why it is important to use this tool when assessing patients who appear to be depressed with the goal of appropriate treatment and follow-up. Completion of this doctoral project should also increase nurse providers' confidence levels when assessing and treating those with depression. The goal was that providers better understand the benefits of using the PHQ-9 tool.

Nature of the Doctoral Project

I obtained the sources of evidence from the following scholarly databases: Medline, CINAHL, EBSCO host, Ovid Plus, Walden University library, Google Scholar, and Pub Med. I performed a search related to the project topic and reviewed the current literature. I examined a total of 750 articles. The search was limited to studies published

in English from 2010 to 2018. The number was reduced to 60 articles with 10 selected as relevant to the clinical setting. The final articles selected were published within 5 years of my expected graduation date. The Iowa model guided the development of the educational project.

A pretest was done prior to implementing the educational module to evaluate providers' knowledge on the use of PHQ-9 tool. The educational session was completed using a PowerPoint educational module. A posttest was completed by participants immediately after the educational training and another posttest was administered 1 month after. I analyzed the results by the Statistical Product and Service Solutions (SPSS) 26.0 software. The gap in practice identified by the clinical team was the lack of knowledge and confidence level using the PHQ-9 screening tool by providers at the clinic to accurately diagnose and manage depression.

The purpose of the DNP project was to develop, deliver, and evaluate an educational program for care providers regarding use of the PHQ-9 screening tool for the identification of depression. The gap-in-practice was addressed by the creation of a staff educational program that improved staff knowledge and confidence level on the use of PHQ-9 screening tool for the identification of depression. This should contribute to better patient outcomes that will include early detection of depression, appropriate treatment, and proper follow-up as the providers understand the reasons for using the PHQ-9 tool.

Significance

The stakeholders impacted by the project included the patients, who could potentially have better patient outcomes due to early diagnosis and treatment of

depression. Other stakeholders included the families of the patients. Healthcare providers who benefit from the educational sessions by acquiring increased knowledge and confidence would also be stakeholders.

This project contributes to improving the providers' knowledge and confidence level on the use of PHQ-9 during patient visits, resulting in early detection of depression and positive psychopharmacological outcomes. Early detection plays a major role in the outcome of any health issue (Porter, 2017). Potential contributions to nursing practice would include me being able to share the results of the project with other nurses by presenting at conferences and by publishing. Nursing practice would also benefit by increased knowledge about the PHQ-9 and the benefits of its use. The educational project improved providers' knowledge and confidence levels promoting proper use, accurate screening, prompt identification of depression, and management of depression.

This educational project can be easily transferred to similar practice areas such as a primary care clinic. Even though it was designed for this outpatient clinic, the evidenced-based educational program can be used to educate providers practicing in primary care settings to improve their knowledge and confidence level in using PHQ-9 depression screening tool to manage patients with depression.

Implications for social change would be reflected by a potential decrease in the rate of undiagnosed depression, which can derail lives, the prevention of suicide by depressed patients who are now being properly treated, and hopefully a more accepting attitude of clinical depression by better understanding the prevalence of it. The PHQ-9

screening tool could be used at other outpatient clinics that work with patients being treated for depression.

Summary

The first section of the project paper discussed the DNP practice problem, project purpose and question, and the significance to nursing. I also briefly discussed the methodology and the implications for social change. The next section builds on the foundation of the prior section, and examines the background and context of the project, covering the literature review and theoretical framework in pursuit of developing an educational program for providers to encourage the use of the PHQ-

Section 2: Background and Context

Introduction

The practice problem identified at this outpatient clinic was that providers struggled with the consistent use of the PHQ-9 screening tool to identify and manage depression in their patients. The clinical team reported a 50% average use of the PHQ-9 screening tool by providers at the clinic, which is below the national average of 60%. The clinic does not have any formal educational module in place on the use of PHQ-9 depression screening tool to accurately diagnose and manage depression leading to many patients not getting appropriate treatment or proper follow-up. This DNP project answered the practice-focused question:

> PFQ: In providers managing depression in an outpatient psychiatric clinic, does education on using the PHQ-9 tool increase staff knowledge and confidence level immediately after the educational intervention and again in 1 month.?

The main purpose of the DNP project was to develop, deliver, and evaluate an educational program for providers on the PHQ-9 screening tool for the identification of depression. A secondary purpose was to improve the providers' confidence level in the use of this screening tool for the management of depression. For depression screenings to be correctly and consistently performed, it becomes imperative for providers to be appropriately educated on using the PHQ-9 depression-screening tool and gain confidence in doing so.

Concepts, Models, and Theories

The Iowa evidence-based practice (EBP) model was used to guide the project. The rationale for using the Iowa model lay in the fact that it is an evaluation model that supports a project designed to educate providers and works well with the goal of building confidence levels. This model provides guidance to providers in everyday decision-making to provide quality patient care (Grove, Burns, & Gray, 2013). The Iowa model provides opportunities for the providers to pay attention to knowledge and to question existing nursing practices to see if they can be improved upon by using current research findings (Buckwalter et al., 2017). The Iowa model guide was initially used at the Federally Qualified Health Center site in Brooklyn by the clinical nursing staff in adopting an evidence-based depression protocol, clinical guidelines for the PHQ-2 and PHQ-9, and an EBP educational curriculum plan (Doody & Doody, 2014). The Iowa model focuses on EBP through a structural viewpoint rather than from an individual's point of view, which provides guidance for decision-making to help provide quality care (Grove et al., 2013). Using this Iowa model (see Appendix A) assists the providers to question their existing practice and see if they can improve their knowledge and confidence level using current research findings (Buckwalter et al., 2017).

According to Dentje (2015), the first step of the Iowa model is to identify the problem that needs to be changed by identifying the clinical practice question, which is triggered by a problem in the setting. If the problem is a priority, then a team is formed to start searching for relevant literature related to the recognized problem. With insufficient evidence, an additional literature search is necessary. The second step is to test the

practice change (Brown, 2014). If successful, then the change can be implemented into an organizational practice change with a continuous evaluation of the change after implementation (Brown, 2014). Providers at the clinic manage patients with depression. However, increasing the knowledge and confidence levels of providers regarding using the PHQ-9 tool to manage their depression would result in a better treatment outcome.

Synthesis of the Literature

A literature search provided an overview of evidence indicating that effective staff education modules can increase providers' knowledge and confidence levels in using the PHQ-9 screening tool to diagnose and manage depression in a clinical setting. The literature review also provided a guide to developing the educational module used to educate the provider on the use of PHQ-9 screening tool. The USPSTF (2016) suggested that properly screening for depression could be effective in improving patient treatment outcome, improving the accuracy of early detection, and significantly improving overall health outcomes. The literature review by Abar et al., (2016) also emphasized that effective treatment of depression is based on proper screening and diagnosis of patient symptoms. Therefore, the importance of educating providers to attain competency in using depression screening tools cannot be overstressed.

A comprehensive review of current scholarly literature on the decreased use of and poor adherence to the PHQ-9 offered insights into the background of this problem, the significance of the problem, evidence-based interventions to address the problem, and evidence-based approaches to evaluate the project (Peterson et al., 2018; Terry, 2018). Horton and Perry (2016) also conducted a study to determine the effectiveness of the

PHQ-9 by evaluating its rating scale. The PHQ-9 was developed based on classical test theory, the limitations of which include the fact that "data are treated as interval level, the evaluations of scales are sample dependent, and the assumptions of CTT cannot be formally tested" (Horton & Perry, 2016, p. 237). As a result of these limitations, Horton and Perry introduced a new form of psychometric methodology to evaluate the PHQ-9: the Rasch analysis. In a sample of 767 depressed patients, the researchers used the Rasch analysis to test the outcomes of the PHQ-9 against a subjective mathematical model. The result was a formal measurement process for screening depression using PHQ-9, the benefit of which was to confirm the use of cut scores and clinical questions as necessary to produce more accurate results. Horton and Perry's examination confirmed that the PHQ-9 is an important and reliable tool for screening depression but that it should not be used alone if a primary care provider wants to get the best possible results. The results of the Horton and Perry study are supported by Picardi et al. (2016), which established that the PHQ-9 is not used for outcome evaluation only. The researchers tested the outcomes of the PHQ-9 to determine whether its results can be improved. They were directed by research questions that sought to determine which features of a screening program can be improved.

The USPSTF (2016) recommend providing adequate education to providers to increase the compliance in using the PHQ-9 screening tool. By improving providers' knowledge and confidence levels on the use of PHQ-9 screening tool this would have a positive treatment outcome as well as achieve the public health task of early detection of depression, which is widely not recognized and often not getting treated. (Porter, 2017).

The literature review uncovered evidence used to build the education program and answer the practice-focused question. Beard, Hsu, Rifkin, Busch, and Bjorgvinsson (2016) supported the use of the PHQ-9, explaining that it allows for a two-category assessment of the symptoms of depression: somatic symptoms, including overeating, poor appetite, low energy, and fatigue; and cognitive-affective symptoms, including feeling hopeless or discouraged.

The PHQ-9 has been validated in primary care environments and used successfully in behavioral health centers. The PHQ-9 depression tool can be self-administered or administered by a clinician. Providers use PHQ-9 during initial visit to assist with diagnosis and identification of problem symptoms and follow up visits to measure treatment response and identify specific symptoms that are not responding (APA, 2013). The PHQ-9 was developed by Kroenke, Spitzer, Williams, and Löwe (2010) with an educational grant from Pfizer, Inc., and it is adapted from the Primary Care Evaluation of Mental Disorders. There is no permission needed to reproduce, translate, display, or distribute the PHQ-9 (Kroenke et al., 2010).

In several studies, the PHQ-9 scores > 10 have been shown to have a sensitivity of 88% and a specificity of 88% for major depressive disorder (APA, 2016). A cross-sectional study by Seo and Park (2015) involving 132 participants who visited the clinic as a result of headaches resulted in the authors collecting their data from patients suffering from migraines who were 16 years old to 70 years old in order to validate the PHQ-9 depression screening tools. The study reported that the use of PHQ-9 tools was reliable and valid with a sensitivity of 79.5%, and specificity of 81.7% with a positive

predictive value of 64.6%. The study reported a negative predictive value of 90.5%. This study concluded that the PHQ-9 is a reliable and valid tool for screening for depression in an outpatient clinic. Several independent research studies have indicated that using the PHQ- 9 depression-screening tool after education could promote early diagnosis and prompt referral and management of depression (Seo & Park, 2015).

Educating providers on the use of PHQ-9 is important in today's evolving healthcare system may greatly improve patient treatment outcomes and overall quality of care (DeCapua, 2018). To this effect, it is crucial for providers to receive proper education on the use of PHQ-9 to manage depression in an outpatient clinic. My extensive literature review guided the development of an educational module that can effectively impact providers' knowledge, confidence levels, and patient outcomes.

Relevance to Nursing Practice

The relevance of this educational module to nursing practice and healthcare, in general, can be established by the prevalence of depression worldwide. In the United States, approximately 16 million patients had experienced at least one major depressive episode during 12 months in 2016 (NIMH, 2017). Despite the prevalence of depression in the United States and clear-cut guidelines regarding the use of the PHQ-9, providers continue to struggle to implement this depression screening tool in their practice (NIMH, 2017).

According to the current states of nursing practice, unidentified depression can cause danger to the patient and their community, suggesting that patients should be appropriately screened, diagnosed, and treated for depression (Gay et al., 2016).

Untreated depression is a progressive mental health disorder that can result in severe disability, frequent emergency room visits, expensive hospitalizations, suicide, and low-quality rating for the clinic. Depression has both indirect and direct effects on morbidity and mortality (Smithson & Pignone, 2017).

The involvement of stakeholders is important to promote success in an educational project because of the feedback they provide, which adds value to the project. The USPSTF released a standard recommendation encouraging all providers to undergo regular depression screening education (DeCapua, 2018). The outcome of this educational module is meant to cause an increase in providers' knowledge and confidence levels in using the PHQ-9 depression screening tool in clinical settings. The PHQ-9 is a validated screening tool, the use of which results in improved knowledge and skills related to the best clinical practice outcomes, reduced visit times, improved staff understanding of depression, and promotion of consistent follow-up among providers (Thombs et al., 2014).

The involvement of the clinical team was vital to the success of this educational project because their contribution and feedback made it valuable to the clinic providers. Educating providers on the use of the PHQ-9 screening tool would improve their knowledge and confidence level, which would help reduce the incidence rate of a missed depression diagnosis in patients who visit the clinic.

Current Strategies and Practices to Address the Gap in Practice

Funderburk, Crasta, and Maisto, (2016) mentioned that the Veterans Health Administration (VHA) successfully implemented standardized annual screening for

depression. Being a large healthcare facility, they mandated the use of PHQ-2 and PHQ-9, as the screening measures in the implementation of clinical practice guidelines for major depressive disorders. The current strategy to address the gap in practice is developing an educational project for providers on the use of PHQ-9 screening tool that will increase their knowledge and confidence level. Increasing the providers knowledge and confidence level will make it easy to identify and manage depression which would significantly improve the patients' overall health outcomes (Culpepper et al., 2015). According to Seo & Park, (2015), there are different research studies suggesting that utilizing the PHQ- 9 depression-screening tool, after educating the providers, could promote early diagnosis and prompt referral and management of depression. By improving provider's knowledge and confidence level on the use of PHQ-9 screening tool this would have a positive treatment outcome, as well as achieving public health task of early detection of depression which is widely not recognized and not getting treated. (Porter, 2017). Currently at the facility where the project intervention will occur, there is no consistent usage of the PHQ-9 and providers state they do not feel confident in administering. This project should close that gap in practice.

Advances to Nursing Practice

The gap in practice at this clinic revealed there a 50% average use of the PHQ-9 screening tool by providers at the clinic which is below the national average of 60% and the clinic does not have any formal educational module in place on the use of PHQ-9 depression screening tool to properly diagnose and manage depression leading to many patients not getting appropriate treatment or proper follow-up. The clinical relevance of

this project was to educate the provider on the use of PHQ-9 screening tool, which will improve their knowledge and confidence level to diagnosis of depression early and provide treatment. (Hamid & MacKenzie, 2017). The USPSTF released a standard recommendation encouraging all providers to undergo regular depression screening education (DeCapua, 2018). Educating providers on the use of PHQ-9 is important in today's evolving healthcare system as it greatly improve patient treatment outcomes and overall quality of care (DeCapua, 2018).

Local Background and Context

This staff education project was conducted in an outpatient clinic located in the southern United States where providers struggle with the use of PHQ-9 screening tool to identify and manage depression in their patients. The clinic has a population of approximately 600 patients, ages 18 and older. All adult patients are eligible for healthcare services at the clinic. The clinic has an average caseload of 120 patients per day. It employs EMRs for documentation purposes. The staff of the outpatient clinic consists of two psychiatrists, one office manager, two medical assistants, and six advanced practice RNs. The clinic provides care to all ethnic's backgrounds and socioeconomic background. The target audience for the DNP project is the providers in the clinic because of the lack of knowledge and confidence level in using PHQ-9 depression screening tool.

The local evidence on the relevance of the problem is that providers are not educated properly on the use of PHQ-9 screening tool because the clinic does not have a formal education module. There is a consistently low percentage of the use of PHQ-9 by

providers in managing depression convinced the clinical team there was a need to educate. This gap in practice was addressed in this project, with the goal of having no patient with a missed diagnosis because of lack of appropriate testing (Siu & USPSTF, 2016). At the clinic, it has been found that the impact of disability or depression affects not only the patient, but also affects their family, friends, & the community.

The institutional context as applicable to the problem is the fact that, the clinical team was concerned about the 50% average rate, compared to the national average of 60%, on the usage of PHQ-9 screening tool in managing depression. This justifies the practice-focused question:

> PFQ: In providers managing depression in an outpatient psychiatric clinic, does education on using the PHQ-9 tool increase staff knowledge and confidence level immediately after the educational intervention and again in 1 month.?

The current providers will be educated to be able to teach new providers being hired in the clinic on the use of PHQ-9 screening tool. The increased occurrence of depression within the U.S. population leads to a social and economic concern (CDC, 2013; Greenberg et al., 2015). Therefore, screening local patients for depression using the PHQ-9 is important because lack of proper screening for depression by providers can lead to untreated disease, which can lead to adverse outcomes like suicide. The importance of examining this topic is because depression is one of the leading causes of medical disability worldwide, costing the healthcare system over $210 billion annually and, like the local agency, the United States' mental health system faces difficulties related to screening and treating depression and other psychiatric disorders. (Greenberg et al., 2015;

WHO, 2014). The impact of depression affects does not only affect the patient, but it also affects their family, friends, & their community and is not always measurable. At the psychiatric outpatient where the project was implemented, it was found that properly identifying patients with depression using the PHQ-9 screening tool is important to initiate appropriate treatment.

Role of the Doctor of Nursing Practice Student

I had no professional relationship with the proposed project site and worked closely with the clinical team to develop the evidence based educational strategy, implement and evaluate the program. The clinical team presented the data to the DNP student related to the gap in practice after reviewing the EMR for patients with diagnosis of depression to see if the providers utilized the PHQ-9 screening tool to screen for managing their depression.

My role in this DNP project included developing, implementing and evaluating an education module on the use of PHQ-9 depression-screening tool for six providers who work in clinic settings that could increase their knowledge and confidence level in managing depression. I also designed a pre/posttest questionnaire to evaluate the providers' knowledge on the use of PHQ-9 screening tool. The DNP student made changes to the educational module based on feedback and then presented the program to the six participants. The DNP student completed a pretest before the initiation of the educational program to find out the gap in knowledge, and confidence level in using PHQ-9 and presented the program to the six participants who are providers at the clinic. The DNP student collected and analyzed the data and the resulting conclusions.

My motivations for this doctoral project was to implement an educational program that would have a difference in the lives of the mentally ill and the families and communities in which they live. I have seen is the devastation that severe depression can cause on a patients' emotional health, and I desired to work with the clinical team to implement an educational program for the providers, since they had identified a problem from their quality report.

The only bias was the fact that the PHQ-9 screening tool was the only tool approved by the clinic to diagnose and manage depression by providers, and the one I was most familiar with. There was an internal bias toward the PHQ-9 when the possibility exists that another tool may have been better accepted by the providers.

The Role of the Project Team

The clinical team collected and provided data from their quality report, which indicated a gap in practice in this clinic. The clinical team also provided support for this staff education module by assisting with problem identification. They presented the data from the quality report, which they made available to this DNP learner. The clinical team assisted with the review and analysis of the literature and identified the areas that needed education and reviewed the pre-post-test survey. They identified the areas of needed education based from their quality report.

Summary

This section appraised the background of the project implementation site. It discussed the use of Iowa EBP model to guide the implementation of the project and the relevance to nursing practice. This section also identified and defined the roles of the

various parties involved in the project, including the role of this DNP learner. The next Section includes a discussion of the evidence supporting the project.

Section 3: Collection and Analysis of Evidence

Introduction

According to the USPTF, screening for depression improves the accuracy of early detection (Siu, 2016) and improves overall health outcomes (Culpepper et al., 2015). Despite the prevalence of depression in the United States and definite guidelines regarding the use of the PHQ-9, providers continue to struggle to implement this depression screening tool in their practice (NIMH, 2017).

The main problem identified was the lack of knowledge and self-confidence on the use of PHQ-9 screening tool to diagnose and manage depression at a local facility. The purpose of the DNP project was to develop, deliver, and evaluate an educational intervention that addresses the management of depression using the PHQ-9 screening tool as an instrument to identify patients suffering from depression. Screening for depression using the PHQ-9 tool routinely by providers at the clinic provides a great opportunity to better diagnose and manage depression. According to the statistics provided by USPFTF (2016), approximately 16.2 million people in the United States suffer from depression with another 35 million having experienced depression at some point in their lives. The objective of this DNP project was to develop and implement an evidenced-based educational module on the use of PHQ-9 tool to enhance providers' knowledge and confidence levels in managing depression in the outpatient clinic. The clinical team provided the DNP student with expert opinions and recommendations in determining the practicality, applicability, and the relevance of the staff education module in addressing the gap in practice at the clinic. I used the Iowa EBP model to guide this project's

objective; the model contributed to both the planning and implementation of the educational module. In Section 3, I examine sources of evidence to support the project and analysis and synthesis of the data.

Practice-Focused Question

The local problem was the perceived lack of knowledge and confidence level in using the PHQ-9 depression screening tool by providers at an outpatient clinic when providing care to their patients who may suffer from depression. The DNP project answered the following practice-focused question:

> PFQ: In providers managing depression in an outpatient psychiatric clinic, does education on using the PHQ-9 tool increase staff knowledge and confidence level immediately after an educational intervention and again in 1 month?

The purpose of this DNP project was to improve provider knowledge and confidence in using the PHQ-9 depression screening tool. The approach aligns with the practice-focused question as it was expected that through provider education, there will be improvement in knowledge and confidence using the PQH-9 tool.

Sources of Evidence

The sources of evidence used for the project were Medline, CINAHL, EBSCO host, Ovid Plus, Walden University library, Google Scholar, and Pub Med. The keywords used were *depression, depression screening in outpatient clinic, types of depression screening, depression-screening guidelines, depression screening recommendation, evidence-based clinical practice for depression, theories, staff education training, depression module,* and *validity and reliability of the PHQ-9 depression screening tool*.

The initial search yielded a total of 750 articles. Narrowing the search to articles published in English from 2010 to 2018 reduced the number to 60 articles. Ten articles that were relevant to the project question and the clinical setting were selected and used for the project. These ten articles selected provided appropriate evidence to address the practice-focused question. Studies not included in the selections were those written in indigenous languages, those involving children younger than the age of 18 and those that did not align with the USPSTF recommendations. The collected evidence-based information was used to design and implement the educational module to improve providers' knowledge and confidence in using the PHQ-9 screening tool to help to bridge the gap in practice and meet providers' needs at the clinic.

Analysis and Synthesis

The review of literature and analysis answered the practice question and provided a guide to achieve the purpose of this project. The USPSTF (2016) recommended screening everyone for depression. Based on the data reported by the clinical team, only 50% of the patients were screened using the PHQ-9 tool, which is below the national average of 60%. The above data from the clinic is below the USPSTF standard requirement of 100% for all providers (USPSTF, 2016). The review and analysis of evidence base literature supported the purpose of this educational program, which was to increase knowledge and confidence level in providers at the clinic. Primeau, Avellaneda, Musselman, St. Jean, and Illa (2013) supported the idea that the more providers assess and treat depression using the PHQ-9, the more likely patients are to ultimately have lower depression screening scores, leading to improved health outcomes and increased

quality of life. It was also noted that the use of PHQ-9 screening tools by providers in an outpatient clinic is vital in diagnosing and managing depression.

USPSTF (2016), indicated there is evidence suggesting that screening for depression plays a vital role in early identifying and better treatment outcome. They also found enough evidence supporting that there is no harm of screening for depression. NIMH (2017) also highlighted that frequent use of the PHQ-9 tool by providers can identify symptoms of depression early, enhance early treatment interventions, and limit the potential for devastating complications. NIMH (2017) also indicated that many successful suicides were carried out by patients who consulted health professionals the week prior to their death. One important objective of this DNP project was to ensure that providers of the facility obtained evidenced based education that can help them utilize the PHQ-9 tool more consistently and boost their confidence level in using the tool.

Based on the literature review and analysis, USPSTF (2016) reported a negative impact of the lack of education on the use of PHQ-9 screening tool to diagnose and manage depression. PHQ-9 has been identified as a reliable and valid tool for screening for depression in an outpatient clinic (Arroll, B., Goodyear-Smith, F., Crengle, S., Gunn, J., Kerse, N., Fishman, T., . . . Hatcher, S., 2010). Several independent research studies have indicated that using the PHQ- 9 depression-screening tool after educating the healthcare providers promotes early diagnosis and prompt management of depression (Seo & Park, 2015). According to Williams, Chung, & Muennig, (2017), depression is identified as a contributing factor to increased disability globally, costing the United States in 2016 approximately $233 billion dollars. The effect of depression to the

economy results from increased medical care use, lower quality of life, and decreased workplace productivity (Williams et al., 2017). NIMH (2017) also reported that more than 16 million adults in the United States had experienced at least one major depressive episode during 2016. Failure to recognize depression can cause danger to the patient and the community according to USPSTF guidelines, suggesting that patients should be appropriately screened, diagnosed, and treated for depression by providers in the clinic (Gay et al., 2016). Despite the prevalence of depression in the United States and clear-cut guidelines regarding the use of the PHQ-9, providers continue to struggle to implement this depression screening tool in their practice (NIMH, 2017).

After comparing, contrasting, and synthesizing the literature, I concluded that the use of PHQ-9 screening tools by providers in an outpatient clinic is vital in diagnosing and managing depression. Educating providers on the use of PHQ-9 is important in today's evolving healthcare system as it greatly improves patient treatment outcomes and overall quality of care (DeCapua, 2018). To this effect, it is crucial for providers to receive proper training on the use of PHQ-9 to manage patients' depression in an outpatient clinic. The literature review guided the development of an educational module that effectively and positively impacts the providers' knowledge, confidence level, and patient outcomes.

Participants

All six participants in the staff educational program were advanced practice RNs providers at the clinic. The project took place in an outpatient clinic. The participants were educated about the nature of the project. The approach for this evidence-based staff

education project was to support the organization in the implementation and evaluation of an educational program on the use of the PHQ-9 screening tool via provider pre- and posttests. Participation in the educational project was voluntary. The criteria for inclusion of the clinical team members included their specific knowledge and years of experience in their field of practice. The clinical team for consultation for the creation of the educational program consisted of the chief psychiatrist, the office manager, the medical director, a nurse practitioner, and a staff nurse. All members of the clinical team had at minimum 10 years of experience in the field of psychiatry. As the DNP project leader, I have 6 years of experience as a family nurse practitioner and 1 year as a psychiatric nurse but have worked in the field of psychiatry for 20 years in various roles. Participants were not identified by name or any other specifying information for use in the educational project. All the participants were notified and assured that all information was confidential.

Procedure

A background analysis of the clinic's strategy of using the PHQ-9 was completed. A signed site agreement for permission for the project to be done in the facility was attained. After approval from the Walden Institutional Review Board (IRB), six participants who are advanced practice RNs participated in the project. Participation was voluntary and each participant could withdraw from the project at any time. Gaps in the facility's current strategies in addressing depression were identified and used to develop the educational training.

The clinical team had previously collected and provided data from their quality report indicating a gap in practice in this clinic. The current process in place for using the PHQ-9 screening tool at the clinic was analyzed. The project clinical team and I agreed on the content of the educational presentation. I led the development of the educational program. The team reviewed and analyzed the literature and identified the areas that needed education. The outline of the educational intervention was developed and validated by the team. I was provided with expert opinions and recommendations in determining the practicality, applicability, and the relevance of the staff education module in addressing the practice gaps at the clinic. The Iowa EBP model was used to guide the project's objective and contributed significantly to both the planning and implementation of the educational module. The outcome of the needs' assessment was used as a guide in developing and implementing the educational module. A 45-minute PowerPoint educational intervention addressed the gaps identified regarding use of the PHQ-9 depression screening tool at the clinic. Recommendations on the content of the educational module were developed. A draft of the questionnaire reviewed for clarity, appropriateness of the content, format, and style was competed.

The educational program consisted of a 45- minute PowerPoint presentation to educate the participants on the use of PHQ-9 screen tool to diagnose and manage depression in an outpatient clinic (Appendix F). The PHQ-9 tool (Appendix F) was developed by Kroenke et al. (2010) with an educational grant from Pfizer Inc and it is adapted from the Primary Care Evaluation of Mental Disorders. There is no permission to reproduce, translate, display, or distribute the PHQ-9 (Kroenke et al., 2010). The PHQ-9

scores > 10 have been shown to have a sensitivity of 88% and a specificity of 88% for Major Depressive Disorder. PHQ-9 screening tool was both valid and reliable in depression screening (APA, 2016). The instruments used in this project were a 13-question pre- and post-test that tested the participant's knowledge and confidence level on the use of depression screening tool (Appendix D). The questionnaire included three demographic and 10 Likert-type questions. The 10 Likert-type questions were designed to probe participants to express their perception on their knowledge and confidence of using the PHQ-9 tool. The pre/posttest was designed as a Likert type questionnaire in which the participants had the opportunity to quantify their perception before and after the educational intervention. The questions were developed using a 5-point Likert type rating scale from strongly agree = 1 to strongly disagree = 5: strongly agree (5 points), agree (4 points), neutral (3 points), disagree (2points), and strongly disagree (1point). The clinical team reviewed the draft of the questionnaire for clarity, appropriateness of the content, format, and style. The nature of the project was explained to the participants before the pretest. They were required to sign a consent to participate in the project. The pre implementation data was collected using the pretest questionnaire. The PowerPoint was then presented to the participants.

The six providers were required to sign a consent to participate in the project. The nature of the project was explained to the participants before the pretest. They completed the pretest in approximately 5-10 minutes providing a baseline for their knowledge and confidence level in using PHQ-9 tool prior to receiving the educational program. The PowerPoint presentation took 45 minutes and the post-implementation data was

immediately collected after the presentation with another data point collected one month after. All the six providers at the clinic were present at the presentation. The pre/posttest questionnaire results remained confidential.

The anticipated outcome of this educational program was for the participants to increase their knowledge and confidence level on the use of PHQ-9 depression screening tool. After the intervention, the results of the pre and posttest were presented to the clinical team. The data was analyzed using SPSS version 26 and the paired *t*- test was used to determine if differences in the means were statistically significant. The results were reported on a frequency table, descriptively and pie charts. The paired *t*-test was used to calculate the *p*-value and the standard deviation. The anticipated outcome of this educational program was for the participants to have increased knowledge and confidence level on the use of PHQ-9 depression screening tool. The results of the pre/posttest were presented to the clinical team. The outcomes from the project will be disseminated to another clinic.

Protection of Human Subjects

The project was on staff education: no patient intervention was included. Participant's confidentiality and privacy was maintained throughout the project. Permission from the IRB at Walden University was granted and assigned approval number is 09-18-19-0409447**.** Providers participation was voluntary, and the participants were able to withdraw from the program at any time. All the data was deidentified and remains anonymous, and the participant questionnaires will be stored securely at the clinic for five years. The computer used by the DNP student was password protected.

Prior to their participation, each of the participants gave their consent to complete an anonymous questionnaire. A site agreement form was signed, and Walden IRB approval was obtained. The project implementation site did not require IRB approval. The clinic deferred to the university and accepted their IRB approval process. Outliers and missing information were unremarkable due to the small number of participants.

Analysis and Synthesis

The main goal for the DNP project was to develop, deliver, and evaluate an educational program for care providers regarding use of the PHQ-9 screening tool for the identification of depression in an outpatient clinic setting. The approach used was a quantitative method to analyze the data and present the results. The pretest/posttest was used to measure the outcome of the education and the data was analyzed using SPSS 26.0 (2017) software. A descriptive analysis was used to report the results, while the utilization of the *t*-test was used for the analysis because the same subjects were being tested in different times (pre/posttest). The *t*-test is appropriate when we are trying to determine if the means of the 2 variables (pre/posttest) are statistically different or significant. The level of significant (p) is set at 0.5. The project did not have any control or experimental groups.

Summary

Providers have a vital role to play with regards to diagnosing and managing depression in an outpatient clinic. This section of the project discussed the doctoral proposal plan for collecting and analyzing the evidence with a well-defined source of the

evidence, description of how the data was collected, measured, and the ethical protection of the participants.

In the next Section, a report on the statistical findings and implications that resulted from the analysis will be completed. Discussions of any unforeseen limitations or outcomes and their potential impact on the findings will be evaluated. The implications resulting from the findings and potential implications to social change will be discussed. Recommendations that will potentially address the gap-in-practice as indicated by the findings will be highlighted.

Section 4: Findings and Recommendations

Introduction

The problem addressed in this project results from the lack of knowledge and self-confidence on the use of PHQ-9 screening tool to diagnose and manage depression by providers at an outpatient clinic. The DNP project answers the project-focused question:

> PFQ: In providers managing depression in an outpatient psychiatric clinic, does education on using the PHQ-9 tool increase staff knowledge and confidence in a 1-month period?

The purpose of the DNP project was to develop, deliver, and evaluate an educational intervention that addresses the management of depression using the PHQ-9 screening tool as an instrument to identify patients suffering from depression.

The USPSTF (2016) recommended screening for depression irrespective of the risk factors. It was noted that at this local facility, the required standard for depression screening using the PHQ-9 tool was not met. They reported a 50% usage, which was below the national average of 60% and below the recommended standard for screening patients using PHQ-9 tool, which is 100% for all providers (USPSTF, 2016). This identified gap in practice created the purpose of the project, which was to educate providers and build their confidence in using the PHQ-9 screening tool in managing patients with depression.

The validation for this project was obtained from two sources: the clinic and scholarly databases. The scholarly databases included Medline, CINAHL, EBSCO host, Ovid Plus, Walden University library, Google Scholar, and Pub Med. I performed a

search related to the project topic and reviewed current literature. I examined a total of 750 articles. The search was limited to studies published in English from 2010 to 2018. The number was reduced to 60 articles with 10 selected as relevant to the clinical setting and depression management.

Analytical strategies used for the staff development project were the Iowa EBP model and pretest and posttest evaluations before and after a PowerPoint educational program. For the project I used a quantitative method to analyze the data and present the results. I analyzed the pretest/posttest to measure of the outcome of the educational intervention using SPSS 26.0 software. I provided a descriptive analysis along with the quantitative method, including the use of the paired *t* test. The paired *t* test was used for the analysis because the same subjects were being tested in different times (pretest/posttest). The *t* test was used to determine if the means of the 2 variables (pretest/posttest) were statistically different or significant. The level of significant (*p*) was set at 0.5.

Findings and Implications

The clinical team collected and provided data from their quality report indicating a gap in practice in this clinic. A pretest questionnaire was used for this project to assess the providers' knowledge and confidence levels in using PHQ-9 tool to diagnose and manage client depression. Providers were educated on the use of PHQ-9 depression screening tool to manage depression during a 45-minute PowerPoint presentation. A posttest was given to evaluate their knowledge and confidence levels immediately after education and again 1 month after the education. The outcome was measured using a

pretest and posttest analysis. A total of six providers in the clinic participated in the educational program. All six providers completed the pretests and post-tests. The staff educational program was developed to enhance provider knowledge and confidence levels on the use of PHQ-9 tool in diagnosing and managing depression. All six participants completed the consent form prior to the presentation of the educational program. The documents created were as follows: (a) Iowa Model of EBP (see Appendix A), (b) PHQ-9 (See Appendix B), (c) Depression Toolkit (see Appendix C), (d) Knowledge/Confidence Level Questionnaire (see Appendix D), (e) Acknowledgement of Receipt and Review of PowerPoint Presentation(see Appendix E), (f) an educational curriculum plan (see Appendix F). The clinic had no routine depression screening practices in place at baseline. The results of the tests show a statistically significant difference between pretest score and posttest score on knowledge of PHQ-9.

Evaluation of the Participants Knowledge

In order to evaluate participants' knowledge, I analyzed the results of the pretest and the posttest (see Table 1 and Figure 1)

Table 1

Pretest Posttest Knowledge of Using the PhQ-9 Screening Tool in Depression Management

Participant	Pretest	Posttest immediately after intervention	Posttest 1 month after intervention
P 1	8	20	20
P2	10	19	20
P3	12	16	20
P4	4	19	19
P5	17	20	20
P6	8	19	20
M	9.83	18.83	19.83

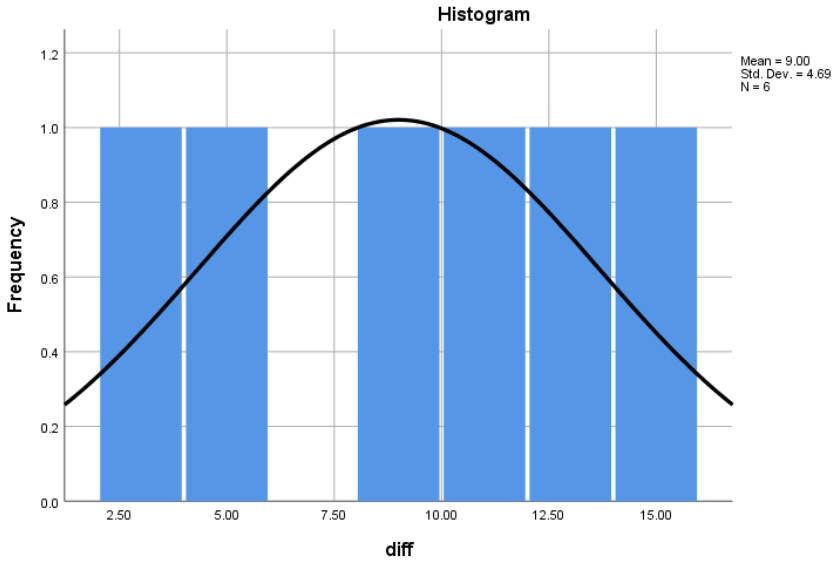

Figure 1. Histogram of data representing knowledge scores.

In order to assess the effectiveness of the educational intervention of the PowerPoint presentation on the use of PHQ-9 depression screening tool, a mean score of the participants were recorded before ($\mu = 9.8333$) and after ($\mu = 18.8333$) the intervention. The percentage change in the pretest/posttest scores were also computed using the formula [change in % = (new mean - old mean) ÷ old mean × 100]. There was an average increase of 9 in the mean scores of the participants and a 92 % increase of knowledge from pretest to posttest. In order to evaluate if the change in the mean was statistically significant, the *p*-value was computed using the paired *t* test. The result ($p = .005$) was found to be statistically significant with α set at .05. Since $p < \alpha$, this indicated that the intervention was successful. After 1 month, it was noted that an increase in the difference of the mean from 9 to 10 with a *p* value of .002 occurred, indicating further improvement in the average Likert scale score of the participants knowledge.

Evaluation of the Participants Confidence Level

In order to evaluate participants knowledge, the results of the pretest and the posttest were analyzed looking specifically at differences in confidence levels of the participants (see Table 2 and Figure 2).

Table 2

Pretest/Posttest on Confidence Level of using the PHQ-9 Screening Tool in Depression Management

Participants	Pretest	Posttest Immediately After Intervention	Posttest 1 month After Intervention
P1	8	18	20
P2	15	19	20
P3	12	16	20
P4	4	18	19
P5	20	20	20
P6	8	20	20
M	11.17	16.53	19.83

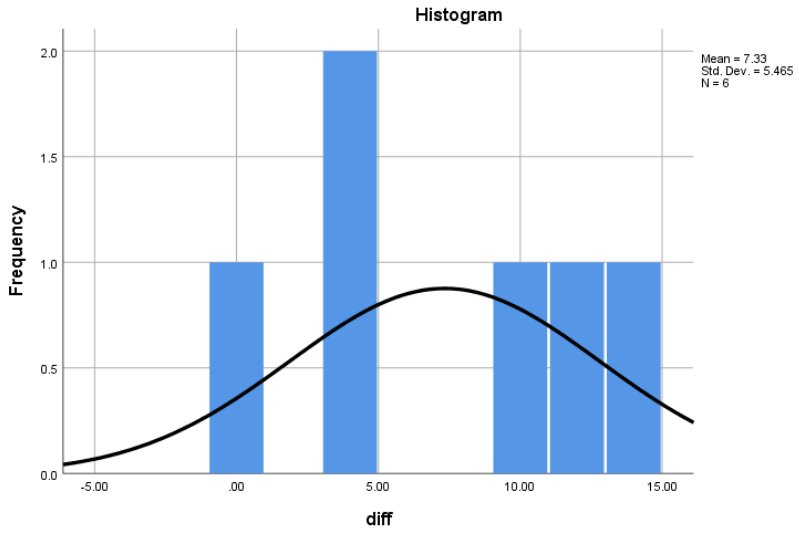

Figure 2. Histogram of data representing confidence scores.

In order to assess the effectiveness of the educational intervention on the confidence level, the mean score of the participants was recorded before ($\mu = 11.1667$) and after ($\mu = 18.500$) the intervention. The percentage change in the pretest/posttest scores were also computed using the formula [change in % = (new mean - old mean) ÷ old mean × 100]. There was an average increase of 7.3 in the mean scores of the participants and a 65 % increase of knowledge from pretest to posttest. In order to evaluate if the change in the mean was statistically significant, the *p*-value was computed using the paired *t* test. The result ($p = .022$) was found to be statistically significant with α set at .05. Because $p < \alpha$, this indicates that the intervention was successful in increasing providers' confidence levels.

After 1 month, it was noted that an increase in the difference of the mean from 7.3 to 8.6 with a *p*-value of .012 indicated further improvement in the average Likert scale score of the participants confidence level. The education module showed significant improvement in the providers' knowledge on using PHQ-9 tool for diagnosing and managing depression. Following the educational presentation, a hard copy of the educational module was presented to the clinical team (Appendix F).

Educating providers increased their knowledge and confidence level on how to successfully administer PHQ-9 screening tool, which significantly increased the use of best practices. The primary outcome of this project was increased provider knowledge, confidence, and assessment skills when identifying signs and symptoms of depression in the clinical setting.

Project Implications

This evidence-based educational program has the potential to improve knowledge and enhance confidence level while also integrating EBP knowledge in screening for depression using the PHQ-9 tool by providers by in the outpatient clinic. With all the positive feedback from the clinical team, along with the statistically significant results, this evidence-based project contributes to practice excellence and quality patient outcomes. According to Williams et al. (2017), depression is identified as a contributing factor to increased disability globally, which is costing the United states in 2016 approximately $233 billion dollars. This educational project will positively influence social change by reducing the incidence of undiagnosed and untreated depression among patients who are seen by providers at the clinic thereby reducing the financial issues caused by depression on the economy (Williams, Chung, & Muennig, 2017). The ongoing promotion of depression screening would provide a social shift among the providers at the clinic by using the PHQ-9 depression screening tool to give the opportunity for best possible diagnosis and treatment of depression, which also will promote the health and wellness of clients, families, and the community.

Recommendations

This DNP project suggests that implementing an educational intervention on the use of the PHQ-9 depression screening tool is, not only beneficial to the providers, but also to the clinic as new hires will have the opportunity to benefit from the PowerPoint presentation. It should be noted that this project did not evaluate patient's outcome as a result of the intervention. However, it evaluated providers' knowledge and their

confidence in utilizing the PHQ-9 depression screening tool. This should assist in maintaining the sustainability of the use of PHQ-9 tool by providers. It is realistic to recommend that all new providers hired at the clinic receive this education to improve their knowledge and enhance their confidence level on the utilization of the PHQ-9 depression screenings tool. Another recommendation would be incorporating a teaching PHQ-9 tool to new providers orientation package. This was an educational project that will continue to move forward long after the completion of this project and will better serve the needs of the patient population and the providers.

In reviewing the responses from the questionnaire, several recommendations were made for future projects to address the gaps in practice. The time limitations and the inconsistent demands in the clinic are challenges to effectively screening patients for depression using PHQ-9 tool. Thus, an important recommendation was to create a standard documentation process for providers using the PHQ-9 tool for every patient who comes to the clinic. Another recommendation would be for the clinic to study patient outcomes as they relate to the increase usage of the PHQ-9 to determine whether consistent usage results in the correct diagnosis and treatment of these patients.

This evidence-based educational program has the potential to improve knowledge and enhance confidence level while integrating evidence-based knowledge into practice. This project will influence positive social change by reducing the incidence of undiagnosed and untreated depressive patients who are seen at the clinic. It is recommended that the project be standardized for use at similar outpatient facilities which has many patients with the potential diagnosis of depression. The more patients are

diagnosed and treated for depression withing a community, the more positive outcomes for the patient, family, and the community. This could help reduce the financial constraints caused by depression on the economy (Williams, Chung, & Muennig, 2017). Another recommendation would be that the project be implemented over a longer period to verify the results of this project. Finally, looking at patient outcomes as a result of correctly diagnosing depression early in their treatment would be necessary to validate the usefulness of consistent usage of the PHQ-9.

Contributions of the Project Team

The Project Team

The project team consisted of clinical team members who are experts in this field. The team members were very involved in the development of the project as they contributed in the identification of the gap in practice, reviewed and evaluated the content of the educational module to determine accuracy, corroborated on the instrument used for data collection and confirmed the pretest and posttest results. Some of the revisions made to the content of the educational module was based on the feedback provided by the clinical team also called the “Project Team”. The clinical team supported the development and implementation of the educational program to attain the goal of the project.

The Doctor of Nursing Practice Student

The DNP student took the leadership role in the project. The student collected the pre/posttest data, presented the PowerPoint educational material, and analyzed the data.

Both the DNP student and the project team members suggested the proposed recommendations.

Strengths and Limitations of the Project

The strength of the project is that it met the gap in practice for this outpatient clinic and targeted the problem the clinic was facing. Another strength was the collaboration the clinic gave this DNP student, as a shared goal was the overarching concern. The motivation of this learner to truly make a difference in the lives of patients suffering from depression was another strength of the project.

Limitations included the fact that the number of participants was small so the result cannot be generalized. Demographically, all the participants were female, which could impact the way questions were answered on the pre-and-posttest surveys. All the participants were selected from one facility, which limits perceptual diversity in their responses to the questionnaire. It was difficult to have all the participants in one session for the PowerPoint presentation resulting in some participants reviewing the presentation without the opportunity to ask questions. Another limitation of this project was the amount of time used to collect data. The four weeks for data collection may not have been enough time to ensure consistency of using the PHQ-9 depression screening tool in managing patients with depressions.

Summary

This section of the project highlighted the findings and implication of the project. It presented the results and discussed the limitations and recommendations of the project. The role of the project team was also reviewed. Section Five will focus on plans for

disseminating the findings and recommendation to the facility and a wider audience in nursing. The analysis of self and the role as a practitioner, project manager, scholar will also be discussed including challenges and insight gained during this project.

Section 5: Dissemination Plan

Dissemination

Dissemination is an important part of any DNP project because it ensures the research has a social, political, or economical influence on people. Dissemination brings to the attention of stakeholders of research's outcomes and conclusions, which enhances knowledge regarding the implementation of the research (Marín-González, Malmusi, Camprubí, & Borrell, 2017). The plan is to educate providers on the use of PHQ-9 screening in outpatient clinics within my geographical area in the promotion of better patient outcomes for depressed patients. I also intend to present my project at a nursing conference and may consider publishing my project findings.

Analysis of Self

This DNP project helped developed my self-confidence in project implementation and evaluation. Furthermore, I found my ability to function in a leadership role in developing, improving, and decision-making process has grown. The project implementation improved my collaborative skills in working with the clinical team, as we sought to integrate evidence-based changes in an evolving healthcare system. Upon completion of this scholarly journey, I was able to gain confidence in speaking in public to an audience of peers. I learned to trust myself as a scholar and leader who has a knowledge set that I could share with other professionals. One of my long-term goals is to work in a nongovernmental organization located in a rural area where the implementation of health care projects in mental health is desperately needed.

Summary

The number of patients diagnosed with depression increases by about 20% each year. Depression often goes undiagnosed and without treatment. The United States reported there is an estimate two- thirds of undiagnosed depression cases, leading to untreated depression (Williams et al., 2017). If depression is left untreated, it can cause disabling symptoms that can negatively affect the quality of life. Recently, there has been an initiative in the United States to identify and treat depression (Sparer, Muennig, & Brown, 2016). This project addressed the lack of routine depression screening by providers to identify those at risk or needing treatment. The results from this DNP project support education on the use of the PHQ-9 depression screening tool to enhance participants' knowledge and their confidence levels.

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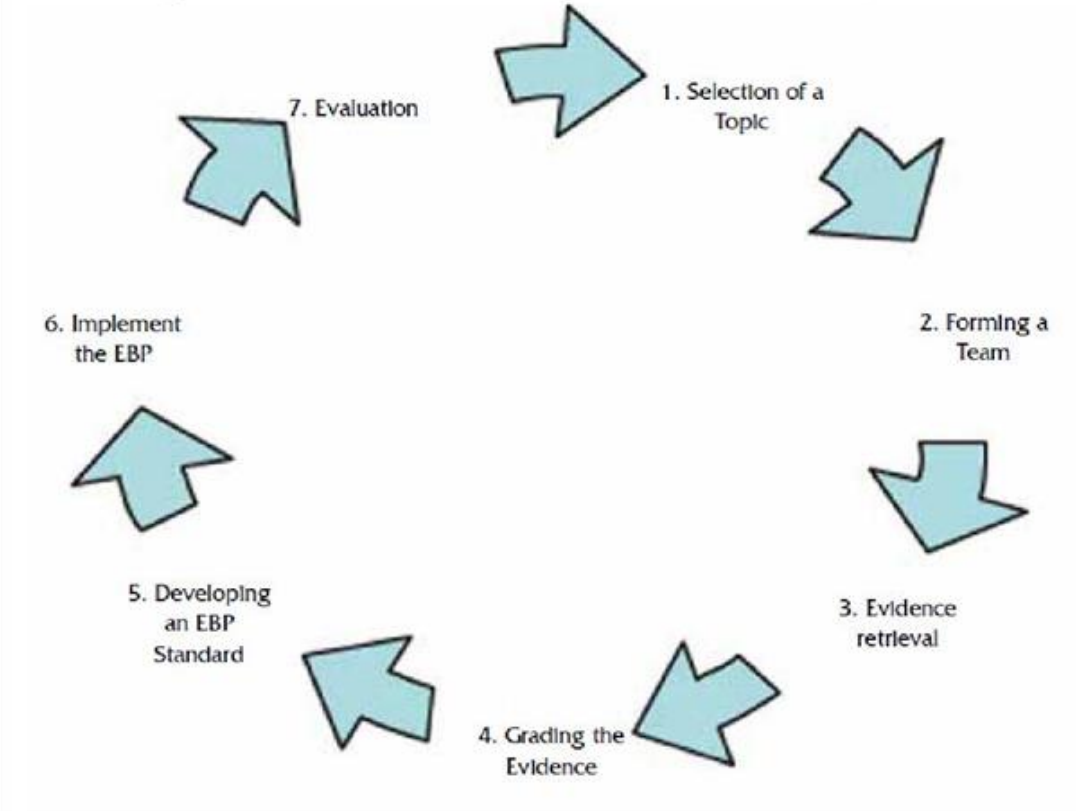
Appendix A: Iowa Model of Evidence-Based Practice

l: Seven Steps of Iowa Model of Evidence-Based Practice (EBP)



Note. From "Introducing Evidence into Nursing Practice: Using the Iowa Model," by C. Doody & O. Doody, 2011, *British Journal of Nursing*, *20*, p. 661-4. Retrieved from: https://www.researchgate.net/publication/51466031_Introducing_evidence_into_nursing_practice_Using_the_IOWA_model

Appendix B: Patient Health Questionnaire-9

PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems? *(Use "✔" to indicate your answer)*	**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 __0__ **+** _____ + _____ + _____

=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**
⑤	⑤	⑤	⑤

Developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues, with an educational grant from Pfizer Inc.

Appendix C: Depression Toolkit Contents Guidelines for using PHQ-9

PHQ-9 Depression Severity Score Proposed Treatment Actions

0 – 4 Minimal

No treatment recommended.

5 – 9 Mild depression

Watch the patient closely just in case it progresses. No treatment recommended

10 – 14 Moderate depression

Propose treatment and counseling.

15 – 19 Moderately severe depression

Patient needs active treatment: pharmacotherapy and psychotherapy.

20 – 27 Severe depression

Patient requires immediate initiation of treatment; expedite referral to a mental health specialist.

Note. From "Attitudes Toward Dissertation Editors," by W. Student, 2008, *Journal of Academic Optimism, 98,* p. 11. Reprinted with permission. [if needed?] from New York State Department of Health (2016).

Appendix D: Knowledge/Confidence Level Pre-/Posttest Questionnaire

The purpose of this questionnaire is to assess provider's knowledge/confidence level in the utilization of the PHQ-9 screen tool for Depression management. Please respond to questions 1-10 with the most appropriate answer

1.Please indicate your age. 20-29 [], 30-39 [], 40-49 [], 50-59 [], over 60 []

2.What is your gender? Female [], Male []

3.What educational degree do you hold; NP □, MD □, PMHNP □, FNP □

In items 4 - 13 below, please respond with your appropriate level of agreement:

1 = Strongly Disagree (SD), 2= Disagree (D), 3= Neutral (N), 4= Agree (A), 5= Strongly Agree (SA).

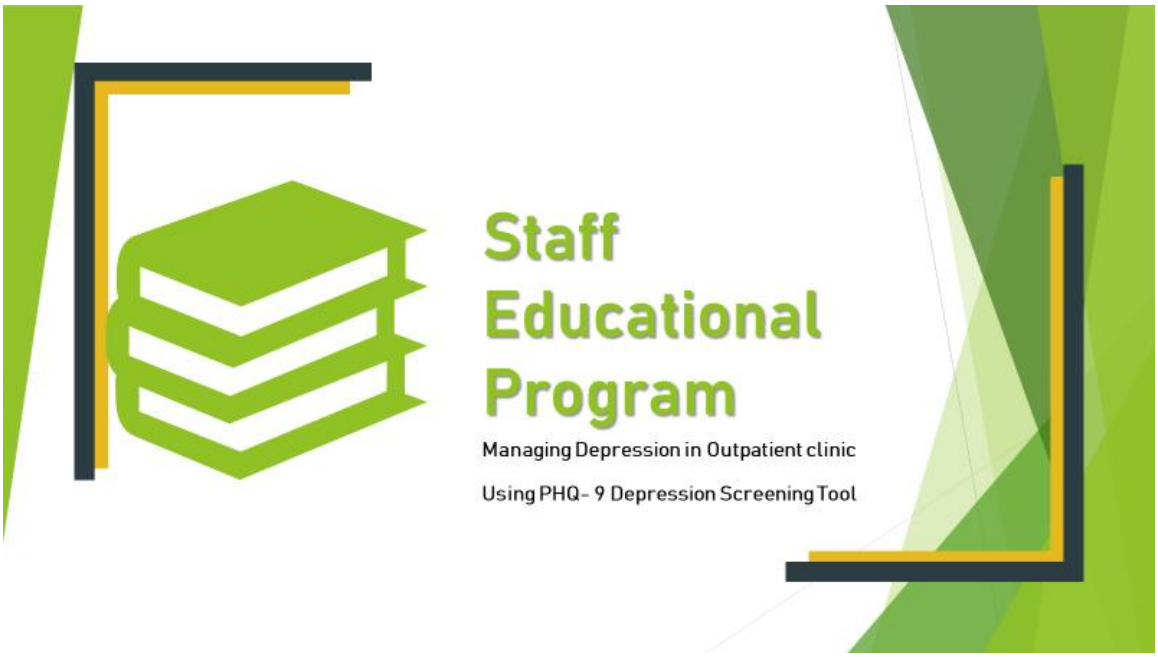
	SD 1	D 2	N 3	A 4	SA 5
4. I have adequate knowledge in using the PHQ -9 for depression screening					
5. I have adequate knowledge in using the PHQ -9 for depression diagnosis					
6. I have adequate knowledge in using the PHQ-9 for monitoring depression management					
7. I have adequate knowledge in using the PHQ -9 tool for measuring severity of depression					
8. I have the desire to receive further education that will improve my knowledge in utilizing the PHQ-9 tool					

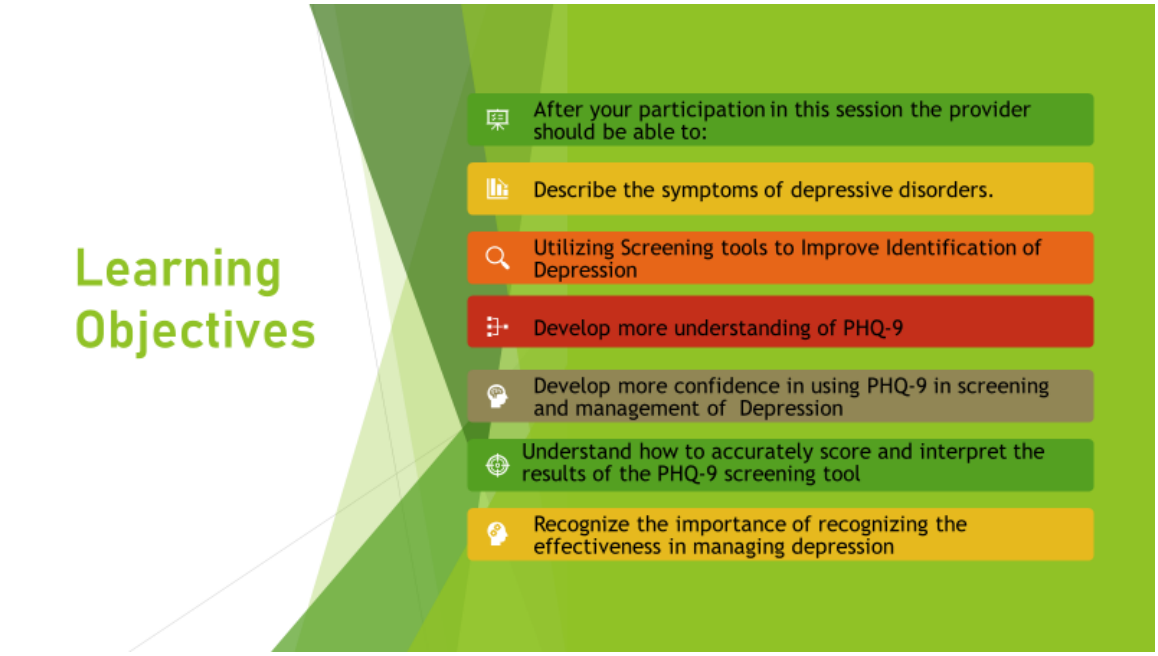
9. I am confident in my ability to use the PHQ-9 tool for depression screening					
10.I am confident in my ability to use the PHQ-9 tool for diagnosing depression					
11.I am confident in my ability to use the PHQ-9 tool for monitoring the progression of depression management					
12.I am confident in my ability to use the PHQ-9 tool for measuring the severity of depression s					
13.I have the desire to receive further education that will improve my knowledge in utilizing the PHQ-9 tool					
Total Score					

Appendix E: Acknowledgement of Receipt and Review of PowerPoint Presentation on Staff Education: Depression Screening in an Outpatient Setting

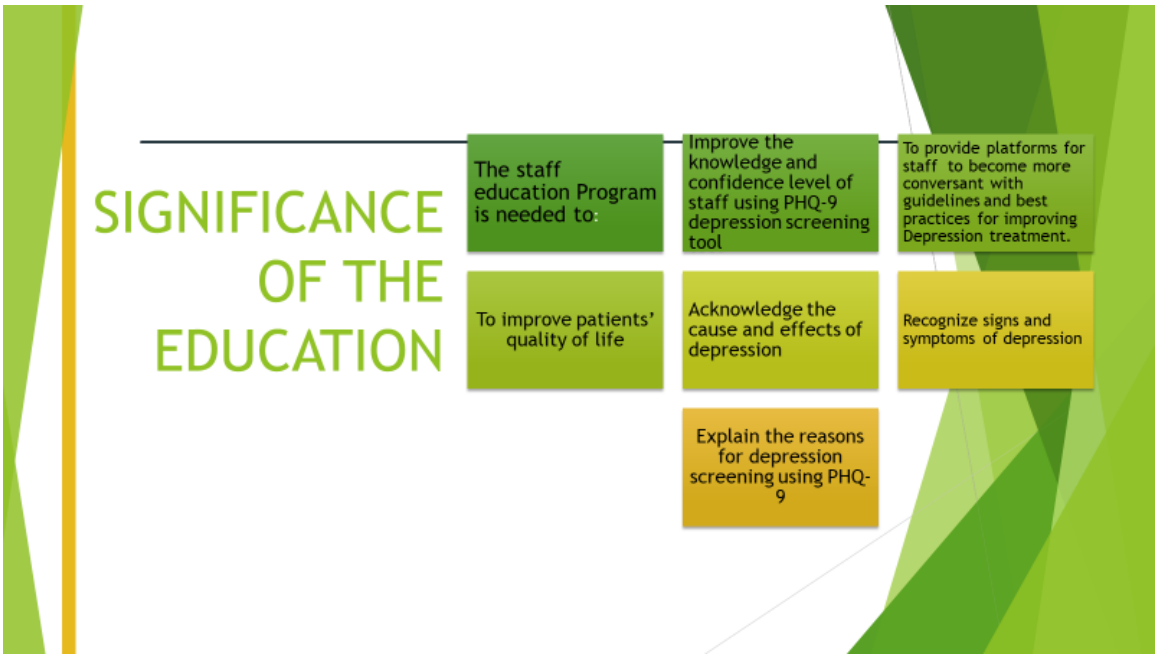
Participants (Nurses)	Signature	Date
P1		
P2		
P3		
P4		
P5		
P6		

Appendix F: Educational Curriculum Program

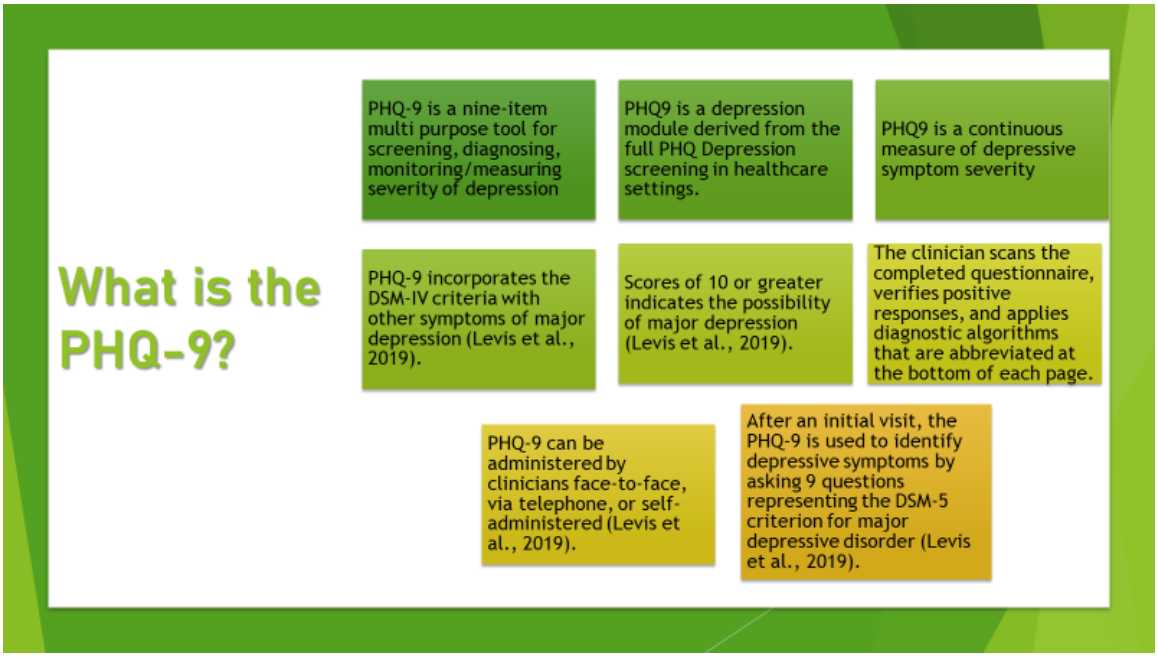





Key Questions for Your Practice
What does your practice currently do to screen for depression?
What percentage of your patients are being screened for depression using the PHQ-9 depression screening tool?
How can identifying and treating behavioral conditions benefit you and your patients?


SIGNIFICANCE OF THE EDUCATION
The staff education Program is needed to:
Improve the knowledge and confidence level of staff using PHQ-9 depression screening tool
To provide platforms for staff to become more conversant with guidelines and best practices for improving Depression treatment.
To improve patients' quality of life
Acknowledge the cause and effects of depression
Recognize signs and symptoms of depression
Explain the reasons for depression screening using PHQ-9


Introduction
Depression is one of the most prevalent and treatable mental disorders affecting patients' lives including their families and communities (Friedl et al., 2015).
World Health Organization (WHO, 2015) reported 350 million people experience depression worldwide.
Screening and follow-up should be standard clinical practice.(APA, 2013)
APA (2019), state major depression is the leading cause of disability in Americans aged 15-44 years.
Over 8 million patients visit physicians yearly in the United States for depression (Ferenchick, Ramanuj, & Pincus, 2019).
The Patient Health Questionnaire (PHQ) is a diagnostic tool used by health care professionals that is quick and easy .
In the mid-1990s, Robert L. Spitzer, MD, Janet B.W. Williams, DSW, and Kurt Kroenke, MD, and colleagues at Columbia University developed the Primary Care Evaluation of Mental Disorders (PRIME-MD), a diagnostic tool


What is the PHQ-9?
PHQ-9 is a nine-item multi purpose tool for screening, diagnosing, monitoring/measuring severity of depression
PHQ9 is a depression module derived from the full PHQ Depression screening in healthcare settings.
PHQ9 is a continuous measure of depressive symptom severity
PHQ-9 incorporates the DSM-IV criteria with other symptoms of major depression (Levis et al., 2019).
Scores of 10 or greater indicates the possibility of major depression (Levis et al., 2019).
The clinician scans the completed questionnaire, verifies positive responses, and applies diagnostic algorithms that are abbreviated at the bottom of each page.
PHQ-9 can be administered by clinicians face-to-face, via telephone, or self-administered (Levis et al., 2019).
After an initial visit, the PHQ-9 is used to identify depressive symptoms by asking 9 questions representing the DSM-5 criterion for major depressive disorder (Levis et al., 2019).

Why Use PHQ-9 Tool?

Use of a standardized instrument will quantify baseline intensity and document future progress

Benefits your practice to document response and remission rates

The costs of treating depression poses a significant physical, emotional, and mental burden on patients and their families (Siu, 2016).

The depression screening prevents:

- Misdiagnosis
- Under treatment, and
- Lack of screening for depression
- Community Preventive Services Task Force (CPSTF, 2015)

Why is Screening Needed?

- Depression screening allows clinicians to identify patients with high risks of suicide (World Health Organization [WHO], 2014).
- Depression screening also provides opportunities to detect underlying causes of depressive symptoms including intimate partner violence (Savoy & O'Gurek, 2016).
- Individuals with positive diagnoses are re-evaluated to determine the most appropriate treatment.
- To improve the identification of patient's presenting with depression
- Assessment of symptom severity A Guide for treatment recommendations
- Improving the detection of depression, assessment of severity is also important in guiding treatment decisions.
- The PHQ-9 is also a reliable and valid measure of depression severity.
- Important in identifying early signs of depression.

Patient Health Questionnaire-9

- Over the last 2 weeks, how often have you been bothered by any of the following problems? (0 = not at all; 1 = several days; 2 = more than one half the days; 3 = nearly every day):
- Little interest or pleasure in doing things
- Feeling down, depressed, or hopeless
- Trouble falling or staying asleep or sleeping too much
- Feeling tired or having little energy
- Poor appetite or overeating
- Feeling bad about yourself or that you are a failure or have let yourself or your family down
- Trouble concentrating on things, such as reading the newspaper or watching television
- Moving or speaking so slowly that others have noticed, or the opposite
- Thoughts that you would be better off dead or hurting yourself in some way
- If you have checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or have a good relationship with other people?

Follow-up for Depression

- Watchful waiting, re-evaluate in 4-8 wk.
- Mild depression (PHQ-9 score of 10-14)
- Contact by phone or in-person monthly
- Moderate depression (PHQ-9 score of 15-19)
- Contact by phone or in-person every 2-4 wk.
- Severe depression (PHQ-9 score of ≥20)
- Contact by phone or in-person every 2-4 wk. until PHQ-9 score improves by ≥5 points
- No active treatment, receiving ongoing stable antidepressants or counseling
- Contact by phone or in-person every 2-3 month after remission

When Should Screening Occur ?

- The U.S. Preventive Services Task Force (USPSTF) recommends depression screening for individuals ages 12 to18 years and in adults (Siu, 2016).
- Screening should be conducted on adults who have not been screened previously.
- There is no definitive guidance on the frequency in which individuals should be screened for depression (WHO, 2014).
- The recommended outline of depression screening
- Screening of depression every visit for early detection, treatment, and follow-up care through collaborative skills.
- Conduct and score the PHQs by:
- a) Discussing with patients the reason for screening;
- b) Explaining and initiating the PHQ-9 screening tools. (CPSTF, 2015)

Interpretation of Screening Score

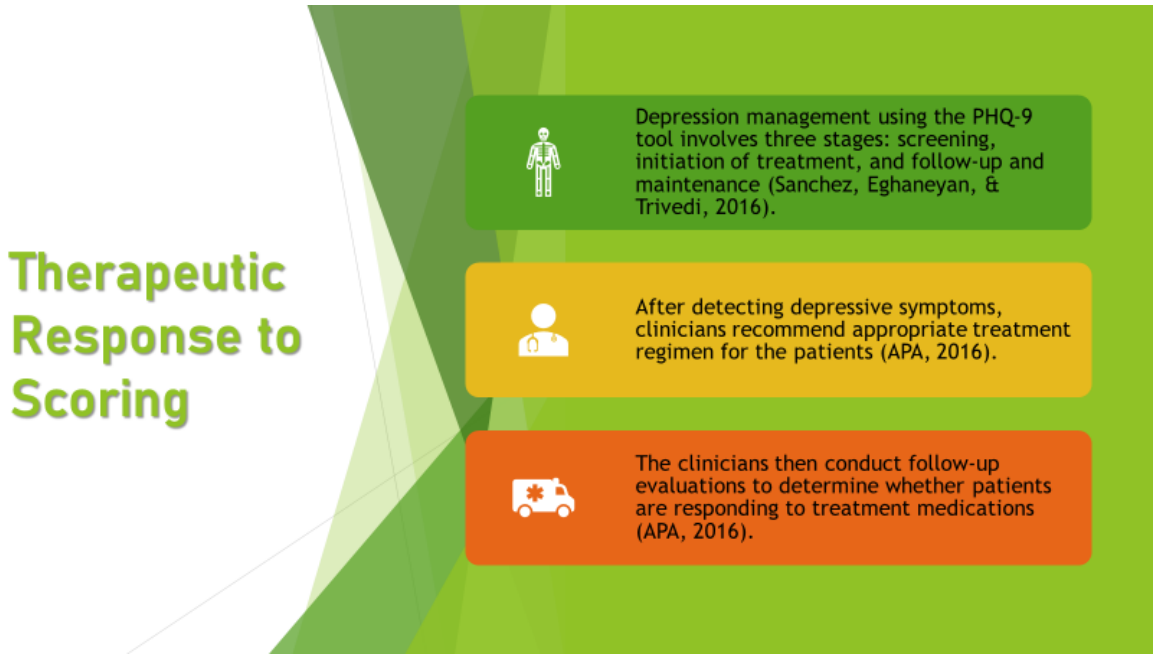
The individuals are asked the frequency in which each symptom bothered them over the previous two weeks. The response will be scored as 0-3 - Not at all = 0 - Several days = 1 - More than half the days = 2 - Nearly every day = 3 Scores are added together to determine severity of symptoms (Levis et al., 2019).

The PHQ-9 can be scored categorically or as a continuous variable ranging from 0-27.

During follow-up, the PHQ-9 tool is used to evaluate treatment response and detect unresponsive symptoms.

Interpreting the Total Score

- Total Score 1-4 5-9 10-14 15-19 20-27 Depression Severity Minimal depression Mild depression Moderate Depression Moderate-Severe Depression Severe Depression


Therapeutic Response to Scoring
Depression management using the PHQ-9 tool involves three stages: screening, initiation of treatment, and follow-up and maintenance (Sanchez, Eghaneyan, & Trivedi, 2016).
After detecting depressive symptoms, clinicians recommend appropriate treatment regimen for the patients (APA, 2016).
The clinicians then conduct follow-up evaluations to determine whether patients are responding to treatment medications (APA, 2016).


Benefits of Screening Patients for Depression
The PHQ-9 tool provides for applicability in busy clinic settings
Continuous measurement to assess and monitor response to treatment
Serves as a guide in the assessment and treatment of depression
Recommended for best practice
Leaving depression undiagnosed may result in high medical costs and increase patient's suffering and possibility of adverse events (WHO, 2014).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