Development and Implementation of an Evidence-Based PHQ-2 Protocol for Adolescent Screening in a Pediatric Primary Care Clinic

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DNP 767: In Partial Fulfillment of the Requirements for the Doctor of Nursing Practice

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01/19/2022

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Abstract

Adolescents' depression is a serious disabling condition that can negatively affect both social and academic function. If not distinguished and treated early, it can lead to recurrent depressive episodes with poor treatment outcomes and increased risk of suicide. Primary care providers are positioned at the forefront of healthcare, perfect positioning to detect at-risk adolescents for depression. The national guidelines recommend using the PHQ-2 questionnaire as a primary tool to screen depression. In this quality improvement project, implementation of the PHQ-2 questionnaire as a protocol was enacted to screen depression in all adolescents aged 12 to 18 during their wellness exams. The protocol was supported by current peer reviewed literature and the national guidelines. The host site is a primary care pediatric clinic located in the Rio Grande Valley of south Texas. Before implementing the project, an educational seminar was conducted for the medical staff and providers about the step-by-step process of the protocol. The project was evaluated by the audit of fifty patients' charts. According to the data analysis, the project showed 64% medical staff adherence to the new PHQ-2 protocol. Data analysis using the Chi Square test compared to the notational standard of medical staff compliance to a change process was found insignificant. Overall, the project did find an improvement in medical staff performance with an increase in the number of adolescents screened for depression during the wellness exam.

Keywords: Example 1 Adolescent, Example 2 PHQ-2, Example 3 Protocol, Example 4 Data analysis, Example 5 Chai Square, Example 6 CPT code, Example 7 preventive exams.

Acknowledgment

This quality improvement DNP student project is dedicated to my husband and children for their support and willingness to accommodate my busy schedule and stress.

Development and Implementation of an Evidence-Based PHQ-2 Protocol for Adolescent Screening in a Pediatric Primary Care Clinic

Adolescent depressive disorders are considered a leading psychiatric disorder in the United States (US) affecting approximately 3.2 million youths who have experienced at least one major depressive episode (Avenevoli et al., 2015; National Institute of Mental Health (NIMH), 2018). Adolescents' depression is a serious disabling condition that can negatively affect both social and academic function, if not recognized and treated early, it can lead to recurrent depressive episodes with poor treatment outcomes and increased risk of suicide by young adulthood (Cheung et al., 2018; Rancan et al., 2018; Siu et al., 2016). Despite the need for practice preparation, identification, assessment, and initial management, studies have shown that fifty percent of adolescents with depression go unrecognized and untreated (Zuckerbret et al., 2018). Hence, there is a need for regular screening for adolescent depression in primary care clinics.

Routine screening of all adolescents using the Patient Health Questionnaire-2 (PHQ-2) aids in the early recognition of depression and facilitates the promotion of mental wellness (Manea et al., 2016; Mitchell et al., 2016; low et al., 2019; Caneo et al., 2020). Moreover, utilizing the PHQ-2 as an initial screening tool for all adolescents is the first step towards meeting national guidelines for assuring that the general population is screened and is provided treatment for symptoms of depression (Fallucco et al., 2018; Keatley et al., 2021; Levis et al., 2020).

Background

Cases of depression both in the U.S. and around the world continue to increase, and untreated, depressed clients struggle to cope with their emotions, often developing serious

problems including behavioral issues at home, increased anger and irritability, social withdrawal, substance abuse, risky behavior, and suicidal tendencies (Cheung et al., 2018; Siu, 2016). Altogether, these factors can interfere with measures of school performance, including the capability to perform well in school or even attend classes, and the ability to complete tasks, focus on class and socialize with peers (Siu, 2016).

The period of adolescence, age 12 through 18 years, is a bridge from childhood to adulthood. This time is crucial because a child's brain undergoes multiple developmental changes during this time, with puberty, changes in body shape, and alterations in thinking and emotional processes (Maughan et al., 2013)). Because of these drastic growth transitions, adolescence is a period prone to the development of mental health disorders (Maughan et al., 2013).

Additionally, health challenges are increasing, and adolescents with persistent health problems are more susceptible to mental health disorders (Avenvoli et al., 2015). To combat this increase, the United States Preventive Services Task Force (USPSTF) has recommended the inclusion of depression screening with all standard wellness care for the general adolescent population (U.S. Preventive Service Task Force, 2009; USPSTF 2016; The REACH Institute 2018). The screening recommendation for major depressive disorder (MDD), according to the USPSTF, should occur in adolescents aged 12 to 18 years (Zukerbrot et al., 2018; Siu, 2016).

Although multiple screening tools are available to screen depression in adolescence, the Patient Health Questionnaire (PHQ) is the most extensively utilized tool for depression screening in adolescence to facilitate the delivery of evidence-based mental health care interventions in places where there is a lack of specialized mental health providers (Fuchs et al., 2016; Arrieta et al., 2017). The lack of a mandated depression screening protocol in primary care clinics

highlights the scarcity of compliance and adds to the number of cases that go unrecognized, and therefore, untreated (Fuchs et al., 2016; Arrieta et al., 2017).

Problem Statement

Although depression in adults is concerning, depression in adolescents is a greater public health issue because adolescent-onset depression can lead to both short-term and long-term consequences, such as suicide and other abnormal behaviors (Avenevoli et al., 2015). One contributing factor to the increase in mental health disorders is poor socioeconomic status, which often adds a further negative impact on adolescent mental health (Sabariego et al., 2017). Many of these consequences are present particularly among low socio -economic Status (SES) families such as Mexican Americans residing in rural settlements of the RIO Grande Valley of South Texas in communities commonly known as *colonias* (Mier, et al., 2008). Unfortunately, the current project site does not provide routine depression screening, despite being located near several *colonias.*

Diagnosing depression during adolescence is often difficult because its clinical signs can present simply as unhappiness (Bhatta et al., 2018). Moreover, mood swings in adolescents can often be considered typical teenage behavior due to hormonal changes in addition to the barrier these presenting symptoms pose, health disorders can often go undiagnosed due to inadequate screening (Beirão et al., 2020). Because adolescents prefer being with their peers and often avoid much interaction with their parents, behavioral issues may be at a more critical stage by the time a parent expresses concern about their child (Van Hoorn et al., 2016). Therefore, the inclusion of a protocol for depression screening in the primary care setting would underscore the benefits that patients will experience because of early detection and appropriate treatment of the disabling condition.

It is imperative that the project site creates opportunities to identify individuals with depression and link them to necessary care to promote mental well-being. One such opportunity would be the use of the PHQ-2 as a routine initial screening tool (Rancans et al., 2018). Since there is no standardized protocol for this initial depression screening, providers are not always aware there is a problem until a parent voices a concern, by which time the issues may be more widespread or have already imparted consequences (Van Hoorn et al., 2016).

Screening all adolescents with the PHQ-2, the modified version of the PHQ-9 will help to separate the negative and positive clients, and the providers can then initiate further evaluation with PHQ-9, if required, and refer the positive patient for further evaluation and treatment (Fuchs et al., 2015). Therefore, the primary care pediatric clinic is the perfect place to screen and intervene in the early stages of depression to prevent the morbidity and mortality of untreated depression because the primary care providers are the gatekeepers for their patient.

Project Question

"Will providers/medical staff through the development and implementation of an evidence-based PHQ-2 protocol for adolescent screening in a pediatric primary care screening improve provider and staff knowledge and adherence to the protocol in a five-week timeframe?

PICOT Format

Population: Providers/medical staff.

Intervention: Develop and implement a PHQ-2 screening in a pediatric primary care clinic.

Comparison: No protocol.

Outcome: Improve screening rates.

Time: Five weeks.

Search Methods

A literature search was conducted to learn more about the feasibility of developing and implementing a PHQ- 2 screening protocol in a primary pediatric care clinic. The Jay Sexter Library website provided by Touro University has 106 databases of which Pub-Med, (MEDLINE), CINAHL, Pro- Quest and national guidelines were used. The amount of information in these databases allowed for a comprehensive, yet specific, analysis of adolescent depression, depression screening methods and the need for early intervention. The following search terms were used: “adolescent, depression, screening tool, guidelines, recommendations, PHQ- 2, PHQ- 9, low- socioeconomic status, and Mexican- Americans.

Conducting a literature review is an effective way to determine if there are gaps in knowledge on screening for adolescent depression in primary pediatric care areas and whether the scholarly works of others could contribute in some manner to evidenced-based nursing practice in developing a screening protocol for early recognition of adolescent depression. In addition, a literature review is an excellent way of synthesizing research findings to not only to show evidence on a meta-level and uncover areas in which more research is needed but is essential for creating theoretical frameworks and building conceptual model for this project.

In conducting a general search through the databases, both inclusion and exclusion criteria were used to obtain relevant articles. For best results both qualitative and qualitative, full-text peer-reviewed qualitative article, and government recommendations and guidelines were included. Specially, the inclusion criteria for this project were as follows: adolescents between 12 -18 years, nurses, primary care providers, case managers, or other professionals involved in caring for adolescents in a primary care setting, systematic reviews, quantitative, observational, qualitative studies, and studies focusing on screening for depression and early intervention

measures. Additionally, only articles from 2015 to present day were included. Finally, literature cited by the primary articles was included if it contained pertinent information related to adolescent depression screening.

Exclusion criteria consisted of the following: peer- reviewed articles, concerning medication evaluation and treatment of depression, opinion pieces, adolescents with a prior diagnosis of depression or who were receiving treatment for depression, and studies conducted in locations other than an outpatient setting. Short articles, articles with minimal supportive information, duplicate articles and articles focusing on either children or adults were also excluded.

Despite these exclusions, the search yielded 54 relevant articles; from those, 22 studies were closely related to both the topic and the selected search questions. These 24 articles were more relevant to this project as they evaluated adolescent population screening methods in primary care areas, with results supporting the validity of the PHQ- 2 and PHQ- 9 screening tools.

The project site was evaluated for any other available database, but it revealed no intranet facility database. The project site does contain a paper form of the *Policy Procedure Manual*, which was used to search routine protocols for screening of teenage depression and preventive care visits.

Review of Study Methods

The project PICOT question guided the search through peer-revied articles. Review of current guidelines, systematic reviews, and meta-analyses of evidence is necessary for leaders of the nursing profession to develop an appropriate practical tool for identification of adolescent depression. The literature review yielded meta- analyses and observational studies. Evidence-

based knowledge is essential to support the question and especially crucial while developing a protocol to improve patient care. After identifying an issue, a detailed search of both old and new articles is required to gather the data.

A meta- analysis by Hanwelle et al. (2019), explored the validity and reliability of the PHQ- 2 and PHQ- 9. Looking at 75 cases and using 75 controls, it found high sensitivity and specificity of the PHQ-2 screening tool in a primary care setting. The two- item screening method's sensitivity was 0.80 and the specificity was 0.97. This article supported the benefit of the PHQ-2 screening tool utilization in a busy primary care clinic to screen depression.

Significance of the Protocol

If adolescent depression is not identified early, it can lead to both short-term and long-term consequences (Rancans et al., 2018). It is imperative that a Doctor of Nursing Practice (DNP) prepped leader take the initiative to improve community health by developing and implementing a depression screening tool. This will go far in ensuring that depressed adolescents receive treatment promptly and will be referred for appropriate intervention.

A DNP prepared provider can review the policies and procedures in the clinical settings to improve clinical standard and patient care delivery. The first step a DNP should take is to understand the standard of practice through evidence-based literature research and then ascertain if the standard is in place in the clinic or if there are any gaps in performance (Chism, 2019). A DNP-prepared leader who promotes collaboration with the multidisciplinary team, motivates staff to work together and establishes a common goal to improve healthcare outcomes (Chism, 2019). The use of a screening tool during each preventive care visit of adolescents facilitates the recognition of depression earlier (Arroll et al., 2019).

Review Synthesis

A literature review was conducted to identify recent relevant literature about depression screening tools, prevailing impact of adolescent depression, depression symptoms, need for primary care awareness, screening guidelines, and depression associated with low socioeconomic status. In addition, the needed background for understanding the gap is necessary to frame a project that will fill that gap. Both early screening and detection of adolescent depression were stressed in all the articles as measures to reduce later consequences.

Screening Tool

According to the literature, multiple screening tools are available in primary care centers for the screening of depression. The article titled "Depression in Childhood and Adolescence" stresses the importance of depression screening using the PHQ- 2; however, it has shown that exclusive use of the PHQ- 2 often provides a low sensitivity (Manea et al., 2016). Because the lowering of the cut-off point may limit the number of people that would be missed by the screening, clinicians must be aware that this is merely a tool, and they must be more alert to the signs and symptoms of depression during the history physical (Manea et al., 2016). However, this article does support that it is important to narrow the field of possible clients with depression using the PHQ- 2 as an initial screening (Manea et al., 2016).

One meta-analysis used a tool called the Quality Assessment of Diagnostic Accuracy Studies-2 (QUADAS-2) to observe the primary studies which would be included as variables (Mitchel et al., 2016). Then the diagnostic accuracy of the PHQ was calculated at best sensitivity estimates of 81.3% and best specificity of 85.3% for detecting major depression (Mitchel et al., 2016). The fact that the PHQ- 2 is a short screening tool makes it is an excellent method initial step when screening for depression in primary care (Mitchel et al., 2016). It explains that the

PHQ- 2 can be used as part of a two-step procedure in a pediatric clinic to help diagnose depression cases (Mitchel et al., 2016: Keatleyet et al.,2020).

The article “Physician Actions Following a Positive PHQ- 2: Implications for the Implementation of Depression Screening in Family Medicine Practice” describes the signs and symptoms and the consequences of adolescent depression, supporting the project topic of the PHQ- 2 as a first-line depression screening measure to discover positive patients (Fallucco et al., 2018). According to one article by Rancans et al., (2018), 50% of depression cases are undetected in primary care, and estimates that improved screening could mitigate the depression burden. The main aim of this study was to evaluate the validity of the PHQ- 2 and the PHQ- 9. The article recommends using the PHQ- 2 as a primary tool, and if the patient is positive, it would warrant the use of the PHQ- 9 and further evaluation and treatment (Rancans et al., 2018).

A validation study of the PHQ- 2, a diagnostic meta-analysis, by Manea et al. (2016), showed the accuracy of the PHQ- 2 in identifying that major depression was lower than the original validation study done by Kroenke et al. (2002). This supports the implementation of a PHQ- 2 protocol in a primary care clinic as a depression screening tool.

The importance of primary care training is explained in the article written by Falluco et al. (2018), where the author explains that successful implementation of the protocol is achieved by educating the primary care provider and staff. Van Hoorn et al., (2018) studied adolescent peer influence and described adolescent social behaviors, explaining the importance of the screening so that symptoms of depression can be differentiated from simply adolescent behavior.

Sabriego et al. (2020), wrote about the impact of poverty and low socioeconomic status and its effect on depression. This project is going to be conducted on low socioeconomic

Mexican American patients who live in a *colonia.* The clinical guidelines were searched from the USPSTF, the AAP, and the National Institutes of Health websites, and they established the need for early screening of adolescents.

Impact of Adolescent Depression

Understanding and recognizing adolescent depression is important because it may interfere with family, school, and social performance and lead to increased mortality and morbidity (Mitchel et al., 2016). Undiagnosed and untreated depressed teens are at risk for emotional instability, personality disorders, chemical abuse, alcohol addiction, and juvenile suicide (Mitchel et al., 2016). Mentally challenged teens also present health challenges to the family, society, and the nation (Mitchel et al., 2016).

Depression Symptoms

Often, depressed adolescents appear at the primary care clinic with somatic symptoms that cannot be explained by regular examination (Arrieta et al., 2017). Common somatic symptoms are recurrent headache, intermittent abdominal pain, tiredness, and muscle pain (Arrieta et al., 2017), and they are often misunderstood as "normal teenage attitude." Depression symptoms, however, are different, and may manifest in poor school attendance, decreased interest in attending school, other-than-normal attitude and behavior, and a troubled relationship with parents and siblings (Arroll et al., 2019). After a general examination, if the physical symptoms cannot be ruled out, then depression must be considered and evaluated closely so the patient can be referred to a consultant for proper guidance.

Need for Primary Care Awareness

At any age during adolescence, disruptive behavior can appear; consequently, this exhibited behavior could affect parents, family, and society at large (Sabariego et al., 2018:

Beirão et al., 2020). Early depression screening of this population in a primary care clinical setting is crucial because the first medical encounter with a provider in a person's life is usually in the primary care clinic. Therefore, primary care providers play a critical role in depression diagnosis. Providers in pediatric clinics should be vigilant and knowledgeable about adolescent depression symptoms because depression is increasing worldwide and is considered a community health burden (Bhattia et al., 2018).

Important Guidelines

The screening guidelines for adolescents in the primary care clinics set by the American Association of Pediatrics (AAP) and the United States Preventive Service Task Force (USPSTF) are predicated on evidence-based research. These recommendations specify that adolescent depression and support identification of the issue should be accomplished through screening and initial management and should be continued through further ongoing treatment and referrals.

According to the USPSTF guidelines, all adolescents (age 12-18) should be screened for depression yearly (USPSTF, 2009). The AAP recommendation states that screening children should begin at the age of 11 for early detection of depression symptoms (Cheung et al., 2018). These guidelines support this author’s project for developing and implementing a screening protocol for adolescents aged 12 to 18. The development of a screening protocol during each preventive care visit will enable providers to identify depressed adolescents early and select an efficient and accurate referral. This type of improved care will result in better patient care outcomes and permit the clinic to comply with the national standards for adolescent depression screening.

Project Aims

The aim of this project is to improve adolescent depression screening by implementing a screening protocol in a pediatric primary care clinic by providing education to providers and staff. Furthermore, this protocol implementation will increase the PHQ- 2 form usage during preventive care screening and decrease unnecessary PHQ-9 completion. The aim is to use the PHQ- 2 tool as a primary screening method to improve the outcome rates of depression screening by 25% within a five-week implementation frame.

Project Objectives

In the timeframe of this DNP project, the host site will:

1. Implement an evidence- based depression screening protocol to improve quality of care.
2. Administer an educational seminar for the multi-disciplinary team to train on this protocol.
3. Improve provider compliance with national standards for care pertaining to PHQ-2 protocol for adolescent screening in a primary care clinic.
4. Improve rates of depression screening outcomes by 25% within a four-week implementation frame.
5. Provide an initial education to 80% of medical staff and providers at the pediatric primary care clinic regarding PHQ-2 depression screening protocol.

Theoretical Framework

This DNP project is centered around the development and implementation of a protocol to improve depression screening which involves the participation of clinical staff to introduce change to human behaviors in a group dynamic. Lewin's "Change Management Theory" was chosen to formulate and organize the structure of this project (Appendix A). Dr. Kurt Lewin's

"Change Management Theory" has been used in the medical setting and other professional groups because it has been consistently successful in the delivery of improved outcomes (Zimbardo, 2016). This theory's implementation will educate medical staff and providers using evidence -based guidelines to elicit the best outcomes. The participation of medical staff acceptance of new practices is the key component to adherent changes (Nursing Theory, 2019).

Historical Development of the Theory

Dr. Kurt Levin is known as the modern pioneer of social, organizational, and applied psychology (Zimbardo, 2016). After the first World War in Germany, he developed a philosophy of science and the psychology of individuals (Nursing Theory, 2016). In 1930, he migrated to the US, where he researched more on group dynamics (Zimbardo, 2016). At MIT, he started a research center for group dynamics and a national training technology. Lewin's research on group dynamics, experimental learning, and action research had a tremendous influence on today's social psychology development (Zimbardo, 2016). Dr. Kurt Lewin theorized a three-stage model of the nursing theory called the "Change Management Theory" (Nursing Theory, 2019). Dr Kurt Lewin's "Change Management Theory" is fundamentally helpful in refining and elaborating a process as individual or group level human change is a profound psychological dynamic process (Nursing Theory, 2019).

Application to DNP Project

According to Dr. Kurt Lewin, the change process in an organization must be simple. Therefore, to facilitate the process and increase the success, he divided the change process into three stages: unfreezing, changing, and refreezing (Hussain et al., 2018).

Unfreezing

The first stage of Dr. Kurt Lewin's "Change Management Theory" is called unfreezing. In this stage creates no change besides it involves a process of identifying the practice gap and recognizing the organizational attitude. The leader must achieve the potency to overcome individual or group compliance (Hussain et al., 2018). The unfreezing stage has three vital concepts: the driving force, equilibrium, and restraining force (Nursing Theory, 2019).

Critical steps in the unfreezing stage of this project are the review of the current clinical site practices, the organization's needs, and the current tolerability level of the stakeholders. This author identified the depression screening gap in the project site and the need for implementing an evidence-based depression screening protocol to improve quality care. However, it is necessary to ascertain that both the stakeholders and the medical staff understand the practice guidelines and the need for change. At this stage, communication is vital because the stakeholders and the medical staff must be aware of the necessity and urgency of the change. At the beginning of the project, the stakeholders' and providers' acceptance increases the driving force, creating a shift in the equilibrium which causes unfreezing.

Changing

The second stage of Kurt Lewin's "Change Management Theory" is changing, which is achieved through action research (Cummings et al., 2020). The project execution is done to launch the project with the highest odds of success through education and communication (Cummings et al., 2020).

For this DNP project, a pre-quiz was conducted to understand the extent of the medical staff's basic knowledge, and the education process was then carefully planned. An initial education regarding the PHQ- 2 screening protocol was provided to 80% of the medical staff to

help them understand the change. Then, a post- quiz was administered to assess their understanding of the process. This author's goal was for each participant to understand and be conscious of the benefits of the protocol implementation to improve adolescent depression screening.

Refreezing

The final step in Kurt Lewin's "Change Management Theory" is refreezing. The important point to remember during refreezing is that the newly learned process must agree with the learner's behaviors and be agreeable to other learners (Hussain et al., 2018). Success can achieve only with the transformation of the group's routines are also accepted change. The final stage must be tested and confirmed: otherwise, the group can easily go back to old habits (Hussain et al., 2018).

The main goal in this stage is to prevent failure; therefore, constant support and in-service are the backbones of the refreezing process to achieve success. Mandatory screening protocols will improve provider compliance with national standards for care pertaining to adolescent screening at the project site. The aim is to use the PHQ- 2 tools as a primary screening method to improve the outcome rates of depression screening by 25% within a five-week implementation frame.

Population of Interest

This DNP project will be implemented in a pediatric primary care clinic. The direct population of interest consists of the medical staff and providers currently employed at the project site. The total number of staff that will be educated at the project site includes five Medical Office Assistants (MOS), five Medical Assistants (MA), one Physician Assistant (PA), one Family Nurse Practitioner (FNP), and a pediatrician. The inclusion criteria consist of the

staff employed at the project site and involved in direct patient care there. The receptionist, pediatric patients, and nursing students are excluded for the purposes of this project since the receptionist is not directly involved in patient care, and nursing students are not employed at the project site. The indirect population of interest is the adolescent patients who will receive care in this clinic.

Practice Setting

The practice setting is an outpatient pediatric day and night clinic located in the Rio Grande Valley. A private pediatric physician who takes care of children's healthcare needs owns this clinic, which is open seven days a week. This project site opened to the public in 2008 and sees all children under 21 years of age. The clinic sees a daily average of 75 patients, eight of whom are adolescents between 12 and 18 years of age. The clinic sees about 2,304 teenage patients in a year, averaging 192 visits per month.

The documentation system in the clinic is on paper, and all charts are filed alphabetically in a filing cabinet. This clinic is, however, in the process of adapting its files to an Electronic Health Record (EHR) system.

Stakeholders

The stakeholders involved in this project are the owner of the clinic, the clinic administrator, and the clinic manager. The stakeholder has a special interest in the implementation of the protocol as the USPSTF recommends using the PHQ-2 as the primary tool in depression screening (USPSTF, 2016). Consequently, the stakeholder welcomed the project process because PHQ-2 is uncomplicated, and it is easy to educate the medical staff in its use. Additionally, because the PHQ-2 consists of only two questions, it is easy for the patient to fill out the form. The providers working at the DNP project place are one Physician Assistant (PA),

one Family Nurse Practitioner (FNP), and the pediatrician (stakeholder). This clinic is a busy pediatric clinic All the providers agree to implement the PHQ-2 protocol to assess adolescence as a primary depression tool because this clinic is a very busy pediatric clinic. This protocol will help to identify the positive and negative depression patients.

Therefore, this clinic would like to implement the PHQ-2 protocol as a depression screening tool for adolescents during the annual evaluation. This will then allow the provider to concentrate on the positive clients who need to be evaluated for further treatment. A permission letter from the stakeholder is inserted in appendix B. Since this project site is a privately-owned clinic, no affiliation agreement is needed.

Interventions

The goal of this DNP project is to improve quality care through the implementation of the PHQ-2 as a primary screening tool for depression during each annual wellness exams for adolescents (ages 12 to 18) in a primary care setting. The timeframe for the implementation of this project is five weeks. First week the project leader will recruit medical staff. During the second week, the multidisciplinary team will participate in an educational seminar, which will introduce the change process and the necessary education regarding depression screening. A PowerPoint Presentation (PPP) and supplementary printed materials will be utilized for the seminar (see Appendix E). The objective of the educational seminar is to review national standards for adolescent depression screening in a primary care clinic, and the DNP project protocol.

This quality improvement project is to utilize the evidence-based PHQ-2 screening tool to improve the care of adolescents. At present, this project site does not employ PHQ-2 as a primary depression screening. During week two, upon completion of staff education, the

protocol will be implemented. The third week will be utilized to perform data collection via chart audit will assess the success of project implementation. The goal is to audit 50 charts from adolescent patients, ages 12 to 18, receiving annual wellness exam. A manual datasheet will be created to evaluate how many patients received a PHQ-2 questionnaire during their physical examination. During the fourth week, the final evaluation of the project and resulting collected data will be analyzed. This data will be reviewed to determine if further education and training is necessary to maintain the recommended changes.

Tools

This project is an evidence-based quality improvement proposal in accordance with the USPSTF recommendations (Siu, 2016). To implement a DNP project successfully specialized tools and an applicable evaluation are required (Chism, 2019).

Protocol

The project protocol (see Appendix G) provides a step-by-step guide to the project site team and starts with the registration of an adolescent who came to the project site for wellness exam. During the registration, the medical assistant will provide a PHQ-2 questionnaire to each eligible patient. This questionnaire score ranges from 0 to 6 points (Kroenke et al. (2003). If a patient scores greater than 3, the MA will provide a PHQ-9 questionnaire to the patient to self-report. Then the provider will conduct a direct interview with the patient. This will assist the provider for further treatment, referral and follow up.

PHQ-2 Screening Tool

The American Pediatric Association and USPSTF recommends the PHQ-2 as a primary tool for depression screening (Richardson et al., 2010). Studies conducted by Kroenke et al. (2002), Richardson et al. (2010), and Gilbody et al. (2007) support the use of PHQ-2 tools. Kroenke et al.

(2002) tested the PHQ-2 on 6,000 patients in eight primary care clinics and seven gynecology clinics. According to the study, a score of three or greater had a sensitivity of 83% and a specificity of 92% for major depression (Gilbody et al., 2007). The PHQ-2 is a convenient and useful measure for depression screening shows. extensive research supporting its efficacy (Richardson et al., 2010). No permission is required to reproduce, translate, display, or distribute the PHQ-2 tool and it is available on the internet to use (Richardson et al., 2010) (see Appendix D). The medical assistant will distribute the PHQ-2 questionnaire to eligible patients for completion.

Power Point Presentation (PPP)

After consultation with the project team and the stakeholder, an educational seminar will be conducted during the second week of project intervention (see Appendix E). The goal is to provide initial education to 80% of the medical team at the project site on the topic of PHQ-2 depression screening protocol.

Attendance Roster

A sign-in sheet will be provided to all the medical staff before the educational seminar. This attendance roster will be used to calculate the participation of the medical team to evaluate if 80% of staff participated in the educational seminar.

Chart Audit Tool

The PHQ-2 will be used to screen every adolescent (aged 12-18) during their annual wellness exam at the project site following the implementation of the new protocol. The daily patient appointment list of annual wellness visits will be annotated with charts that should be pulled for review. During the data collection period, 50 charts of the adolescents (12-18), who came for wellness exams will be reviewed to assess that the medical staff provided the PHQ-2 tool to the patients.

The chart audit analysis will be conducted using a manual datasheet (see Appendix F). This tool was reviewed and approved by the project team. The manual data sheet will have the following contents: “Number of charts audited,” “Number of patients that received the PHQ-2 tool,” and “Number of patients that did not receive the PHQ-2 tool”. The chart audit will be used to evaluate if patients appropriately, or inappropriately received a PHQ-2 depression screening tool during the annual preventive care visit. This data will illuminate areas of successful implementation, areas that need reinforcement, and areas requiring reeducation.

Study of Interventions/Data Collection

Staff Recruitment and Education

The project will be implemented over a five-week period. First week medical staff will be recruited via oral and flyer invitation. During second week, a PowerPoint Presentation (see Appendix E) will be given to the medical staff and providers to explain the step-by-step process of the protocol**.** Additionally, the project lead will review the depression screening protocol, educational seminar, and the project start date with the project site team. All fifteen of the employees will be invited to voluntarily participate in the educational seminar over the lunch hour. A flyer will be posted about the educational program in the lunchroom and the nurse’s station to remind the staff (see Appendix J). The staff conference room will be set out as the venue for the educational seminar. Lunch will be provided to increase staff participation. No monetary compensation will be provided. An attendance roster will be utilized to log staff participation (see Appendix D).

Protocol Implementation

In week 2, immediately after the education session, the protocol will be implemented. A copy of the protocol will be displayed on the staff bulletin board prominently. The next step is to

monitor the implementation process and encourage medical staff participation. The project lead will be available at the project site for clarification and to support the staff with the transition implementing the protocol. The third week implementation of the protocol will be continued.

Chart Audit Tool

The fourth week after the project implementation, data collection process will begin**.** The initial step of data collection will start with the clinic electronic medical record registration form. At this project site, daily patient visits are entered into an electronic registration database with their name, age, and ICD code. In Weeks 4, the project lead will search all the charts on the electronic registration form and identify all wellness exam patients aged 12 to 18 coded ICD Code 10, Z00.129 (Without sickness) or Z00.121(with sickness). No less than 50 paper charts will be pulled and audited manually by the project lead to verify how many patients received the PHQ-2 questionnaire during their clinic visit. In week five collected data of the chart audit will be analyzed to evaluate the achievement of the project goal of 80% multidisciplinary team compliance to the protocol.

To safeguard integrity and reliability the process of data collection will be conducted cautiously. All the data collected will be entered into a spreadsheet and it will be saved on the project lead's computer. The computer will be password protected to increase the security of the file to protect patients' privacy. To have systematic and consistent data collection only the course leader will perform the chart audit. All the information from the chart and registration form will be deidentified to ensure patient privacy. A data codebook will be developed to track the names of the variables and sources of the data with abbreviations. This will allow protection for the human subjects when entering the data into SPSS for statics analysis.

The benefit of the protocol is to improve provider compliance with national standards using the PHQ-2 tool for initial adolescent depression screening. The indirect benefit of this quality improvement project is to improve the patient outcomes of depression in adolescents via early detection due to this protocol implementation. There no identified risk identified with project implementation.

Ethics/Human Subjects Protection

In research studies, human subjects play a vital role; furthermore, they assist as a source of data and generate essential information (Resnik, 2018). This s a quality improvement project. The project lead must maintain privacy and ensure ethical standards. In July 2021, the DNP student completed the Basic/Refresher course provided by the Collaboration Institutional Training Initiative (CITI). This course is intended for those who are in the process of social/behavioral interactions with human subjects.

As per Touro University of Nevada (TUN) policy before implementing the project an Institutional Board Review (IRB) determination form was submitted (see Appendix I). The PHQ-2 screening protocol is a quality improvement project, therefore, IRB approval was not required. The project site is a privately owned pediatric clinic and the pediatrician is the stakeholder of this clinic. The clinic manager of the project site provided written permission to implement the project and did not require review (see Appendix B).

During the chart review process patient, privacy and confidentiality will maintain to prevent Health Insurance Portability and Accountability Act (HIPAA) violations, as well as to support the integrity of the project. All employees were reminded of patient privacy and confidentiality measures pertinent to this project.

Patient information of the charts and the names from the electronic medical record of sign in entered by the office clerk will be deidentified to protect human subjects and the project confidentiality. While entering the data in the spread sheet, numeric numbers will be used instead of a patient's name or registration number, to maintain patient's privacy. To safeguard the computer will be locked with a password. This password will not be shared with any other team or office members. In this DNP project has no risks identified at this time nor any risk anticipate.

Measures /Plan for Analysis

This project's goal is to implement a protocol to use PHQ-2 as primary tool to screen all adolescents. This project was influenced by the USPSTF recommendation to use PHQ-2 as the primary tool to screen for adolescent depression in a primary care clinic.

A chart audit tool is created to enter the results of the audited chart (see Appendix F). The result of the chart audit will be entered in a spread sheet and in a manual chart audit tool (see Appendix G). After data collection, a code book will be developed to assign each response a numerical code so it can be entered into Statistical Package for the Social Science (SPSS) for analysis. A Chi-Square test will be used to determine the medical staff compliance with PHQ-2 protocol implementation. The Chi-Square test is a non-parametric technique ideal for this project because the data result is nominal and analyzes group differences (Pallant, 2016). The assumption of using Chi-Square test is the use of random sample collection and independent observation. This project verifies two independent group variables: if the eligible patient "PHQ-2 Received" or "PHQ-2 Not Received". The hypothesized proportion necessary for the Chi-Square is greater than 55% compliance related to the variable of compliance amongst medical staff to disseminate PHQ-2 questionnaire. According to McGlynn et al., (2003), 55% compliance is the standard compliance amongst medical staff.

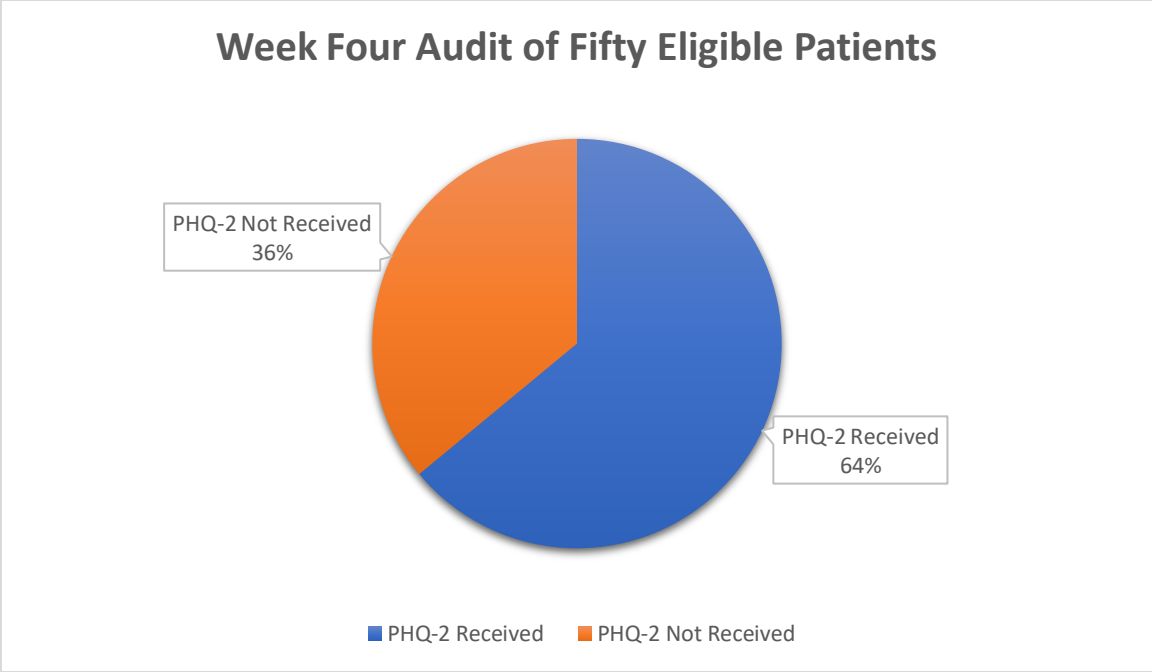
A clearly articulated data collection will increase the credibility of meaningful project analysis. The assumption is the usage of protocol the providers screening compliance will be improved; accordingly, the quality of patient care will be improved.

Data Analysis

The first data analysis includes the attendance of the medical staff because the project aim was to educate 80% of the medical staff about the PHQ-2 depression screening protocol. According to the attendance register, thirteen medical staff and two providers attended the educational seminar. In total there were thirteen medical staff and two providers, so all members of the healthcare staff were in attendance. The implementation of the project was observed effective in meeting its objectives of 100% of staff attendance during educational seminar.

After the educational seminar, a protocol was implemented, and the project lead supported the medical staff at the project site to clarify any questions. Two-weeks after the project implementation chart audit started. On week four, the registration sheet was audited to get the appropriate file number, patient name and age for data aggregation. Fifty charts were selected and audited to analyze if the medical staff provided the PHQ-2 questionnaire during the clinical visit to patients meeting eligibility criteria. Of the fifty eligible charts audited, 32 patients received and completed the PHQ-2 questionnaire.

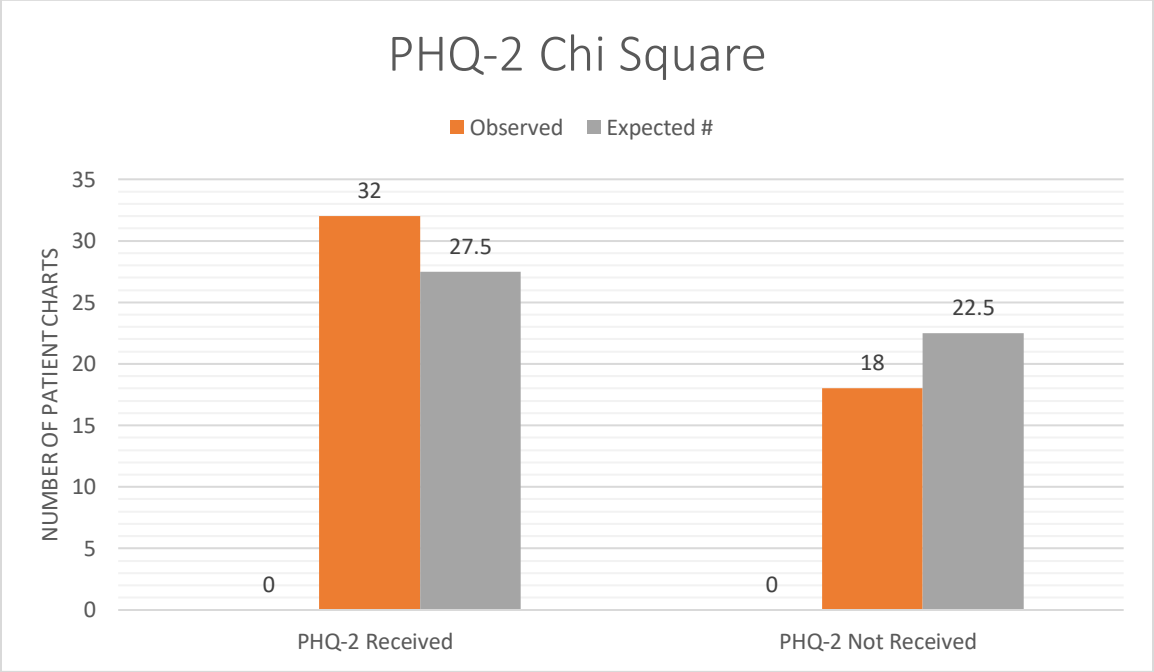
A simple calculation done to see the total compliance of the staff ([32/50] *100). This simple calculation shows that 64 % of the eligible patients received the PHQ-2 questionnaire. Calculated, this shows that the questionnaire distribution compliance amongst staff educated using the seminar was 64% on week four. Below shows the visual representation of the data using a pie chart.



The data was then analyzed using a manual entry data sheet for input into the Statistical Package for the Social Science (SPSS) for analysis. A chi-square test was used to measure the medical staff compliance. The result showed the compliance of the medical staff. A chi-square test of was performed to examine PHQ-2 questionnaire received or not received of the audited 50 charts (N=50). The expected number of audited charts was calculated using the systematic study of established healthcare compliance (McGlynn et al., 2003). This was done by calculating expected PHQ-2 compliance as 55% of 50 charts and PHQ-2 noncompliance as 45% of 50 charts. Chi squared equals 1.636 with 1 degrees of freedom. The two-tailed P value equals 0.2008.

Row #	Category	Observed	Expected #	Expected
1	PHQ-2 Received	32	27.5	55.000%

2	PHQ-2 Not Received	18	22.5	45.000%



By conventional criteria, this difference is not statistically significant compared to the expected protocol compliance systematic research (McGlynn et al., 2003).

Discussion of Findings

This DNP student project developed a protocol using PHQ-2 to screen all adolescents aged 12 to 18 during their wellness examination. Depression causes disability during adolescence as well as adulthood. This quality improvement project focused on improving staff knowledge of the current recommendation of depression screening in a pediatric primary care clinic.

The purpose of this DNP student quality improvement project was to answer the clinical question: “Will providers/medical staff through the development and implementation of an evidence-based PHQ-2 protocol for adolescent screening in a pediatric primary care screening improve provider and staff knowledge and adherence to the protocol in a five-week timeframe?

Overall, the protocol implementation was effective in screening depression during adolescence wellness exams because this clinic was not using PHQ-2 as a primary tool for depression screening as recommended by USPSTF. Even though 64% of the adolescence received the protocol during their wellness exam the chi square data analysis comparison with standard medical staff compliance to a new protocol is less significant. One hundred percentage of medical staff were educated before the protocol implementation. The goal of this project was to have at least 25% of medical staff compliance with this protocol. In consideration of this project goal, the data analysis result shows the goal of this student project met. The medical staff's adherence to the protocol was achieved by providing educational seminars about the use of the PHQ-2 questionnaire and depression. During this student project evaluation period, 64% of the patients received the PHQ-2 protocol.

Significance/Implications for Nursing

Improving depression screening in adolescence by developing and implementing a protocol to screen all patients aged 12 to 18 during their wellness exam is important because depression rates are skyrocketing, and most adolescent depression is not diagnosed in primary care settings (Avenevoli et al., 2015). According to Dr. Kurt Levin's “Change Management Theory” to achieve an organizational change an effective framework and constant reminders needed in all three stages (Hussain et al., 2018). Continued implementation of this project should consider further education, one-to-one discussion, and random supervision to see who and why the protocol is not followed. A constant reminder and education are necessary for any change process.

Patients with mental health disorders' first medical occurrence are at the primary care clinics (Arrieta et al., 2017). Evidence-based studies supported the findings of the project that

medical staff adherence to the project is necessary for the success of the project. In a primary care clinic medical staff may need to be re-educated to comply with the protocol. According to McGlynn et al., (2003), systematic study shows that the standard medical staff compliance with protocol is only 55%. In any change leaders must do constant process evaluation of the changes because the health care industry is changing constantly.

Implications for Nursing

The protocol implementation is significant to the nursing profession because recognizing depression early is necessary to assure appropriate evaluation, diagnosis, referral, and treatment (Bhattia et al., 2018). The protocol implementation of depression screening created a change in the workflow of the facility and demonstrated that the outlined protocol improved depression screening as evidence-based that 64% of patients received a depression screening tool. The project completion was accomplished by the integration of the ideas of other providers, mentors, and the support of the stakeholder. Early diagnosing and treating depressed adolescents could improve their adult life (Beirão et al., 2020).

DNP graduate is knowledgeable to start a change process successfully to promote patient's daily requirements of practice environments (Malloch, & Porter-O'Grady, 2016). This student DNP project was also a quality improvement project of the primary clinic to comply with the recommended pediatric and USPSTF recommendation of depression screening. Each qualified nurse should take responsibility to improve the healthcare system. The conclusion of this project indicates that the protocol implementation was remarkably successful with increasing utilization of PHQ-2 tool usage to detect depression among adolescence. Even though the actual protocol analysis did not show a significant change, quality improvement project initiations are necessary to enhance patient safety. This primary care clinic successfully utilized a standardized

protocol to screen for depression. Continued efforts to detect depression early will enhance health care quality.

Limitations

Multiple limitations were identified during the implementation of this DNP student QI project. The primary notable limitation of this project was the time limit of the project implementation. The entire project time from education, implementation, data collection, and data analysis were done in a five-week period. In a health care setting, short-term change acts as a quick fix for an issue. In this case, short-term changes was instigated with the immediate knowledge through the educational seminar. In the real world, a short-term change may provide a desired outcome during the data collection, however, a short-term change may not be followed by a long-term change process. The sustainability of a change is critically important to provide evidence-based depression screening of adolescence using the PHQ-2 questioner. During a change process in a health care organization, medical staff compliance and their acceptance to the change and sustainability of the project are achieved through continuous education, staff motivation, periodic evaluation, awareness of staff interest, and staff opportunity to be involved in the process (Glass et al., 2017). Any sustainable change in an organization requires an organizational cultural change of medical staff attitude towards the change, the efficiency of effective leadership, and periodic evaluation of the change process (Albert et al., 2020).

Another limitation of this PHQ-2 protocol was its designation to only be used for adolescents who were at the clinic for a wellness exam. During the project design, the project lead knowingly excluded all other age groups and decided to concentrate only on adolescents aged 12 to 18 and to screen only during their wellness exam time. During the study development, a systematic bias is consciously introduced to limit the study to a particular group for better

results (Ross, & Bibler Zaidi, 2019). The two questions of the PHQ-2 have targeted only the patient's condition for the last two weeks. This protocol was used to assess the depression assessment only once a year and does not represent the segment of the population that did not partake in wellness exams during this five-week period at this location.

During the project development, the stakeholder was interested in the introduction of the PHQ-2 tool as a protocol. Unfortunately, the Current Procedural Terminology (CPT) code of PHQ-2 is not qualified for reimbursement from Medicare or any other private insurance. This presents a substantial challenge to receive full support from a stakeholder, as implementing a non-payable item is not economically viable. The primary care providers have a better chance to identify at-risk patients and to improve their lives through appropriate treatment and referral. Since the CPT code is not a billable item introducing the PHQ-2 tool to primary care will be limited. Globally depression in adolescence is increasing as well as The USPSTF and Pediatric Association recommends the usage of PHQ-2 as a primary depression tool to screen depression, yet this tool has not been utilized. This clearly shows that the primary care providers are missing an opportunity to help depressed patients.

Dissemination

The dissemination of this DNP QI project's conclusions involves collaboration with other healthcare providers and stakeholders at the project site. Additionally, such dissemination might inspire each health care worker to enhance the process and need of depression screening in adolescence. It is vital to reveal each student's evidence-based QI project on a DNP project repository so the other providers will have a chance to learn about the need for and importance of depression screening. The project lead is considering publication in a peer-reviewed nursing journal. The abstract will be submitted for publication to "American Nurse" the official

American nurses Association publication. This publication's mission is to give nurses a flat form for nurses to have a chance to express their voice and their contribution to society.

Further dissemination of this project is to the sister clinics of the pediatric clinic where the DNP project is implemented. The project lead intends to disseminate the findings of this project and the complete PPT to other health care professionals and stakeholders at the facility to create professional resources that can aid in depression screening in primary care. During the monthly meeting of the provider's medical staff on March 23rd at 1 PM via zoom the complete result will be disseminated. Finally, the complete project inclusive of the background, methodology, and findings will be shared with students and instructors in the DNP program at Touro University, Nevada.

This DNP project is an excellent tool to use not only in the clinic but also at other sites such as schools. The project lead's plan is to introduce this tool to the UTRGV nursing school to see if it is possible to screen the students each semester, so the student advisors have a basic understanding of the stress level of a student. Each month UTRGV faculty has a brown bag presentation about new ideas. This project lead is planned to present the entire project and the need for and importance of screening depression on March 31st at 11:30 AM. Implementation of the staff training module is beneficial not only to the participants but also to the organization, which will have a way to recognize depression, and the clients, who will benefit from improved health outcomes.

Project Sustainability

The sustainability of a project in a health care setting is crucial to have improved quality care. The implementation of a depression screening protocol in the primary care setting created a change in the workflow of the facility and demonstrated the necessity for an outlined protocol to

improve depression screening, the findings of the study of this project is consistent that in any change process one set educational seminar is not enough. To achieve the sustainability of the project, need constant education to medical staff, motivation from the medical staff, leadership should understand the mindset of the medical staff, and constant evaluation is needed to find the pros and cons of the change (Letlow, et al., 2013). The stakeholder's environmental awareness of the issues is an important step to Increase organizational sustainability (Daneshpour, 2015). In a primary care clinic with knowledgeable staff and providers with supportive leadership more likely to continue to use screening tools and will diagnose depression in a timely manner.

The first step to sustain the QI project, the project lead should obtain support from the stakeholder and other providers then approach the designated healthcare authority to investigate the current issues about depression and the necessity of depression in primary care clinics. After that encourage the stakeholder and other providers to write a joint petition for the healthcare authority to investigate the CPT code. This type of motivational approach could improve the outlook and the PHQ-2 screening tool may be a billable item. Consequently, the clinic stakeholders will have the monetary motivation to sustain the PHQ-2 protocol as a routine test for all adolescents. This could benefit the entire nation's young generation to identify their issues early and get appropriate treatments. As a result, a periodic screening of adolescents for depression using the PHQ-2 questionnaire may be an advantage to the individual, family, and to society.

Conclusion

Adolescent depression is a serious disabling condition. In the United States, approximately 3.2 million adolescents have experienced at least one major depressive episode in their lifetime. If adolescent depression is not recognized and treated early, it can lead to recurrent

depressive episodes with poor treatment outcomes and an increased risk of suicide by young adulthood.

PHQ-2 questionnaire is a primary tool to screen depression in adolescents recommended by USPSTF and the American Pediatric Association. This DNP quality improvement student project was implementing a protocol to screen adolescents using the PHQ-2 questionnaire as a primary screening tool during a wellness exam. The project's aim was to improve depression screening in primary care by educating the medical staff about depression screening tools and the step-by-step process of a depression screening using the new protocol. After an educational seminar using PPP and printed educational materials, the protocol was implemented. The total project timeframe was five weeks. An evaluation of the project was done by auditing the charts of 50 patients. In this project, manual data analysis shows 64% of medical staff compliance to the project. Hence a chi square analysis shows no significance when compared to the researched stand of healthcare protocol implementation. The QI project improved the workflow of the primary care clinic, the medical staff and providers have had a positive reception to this protocol. The PHQ-2 is an important tool to disseminate. This tool has the potential to be widely beneficial at schools and other organizations for adolescents to recognize depression symptoms early. It is vital to diagnose depression early and start treatment to enhance quality of life for adolescents, families, and communities.

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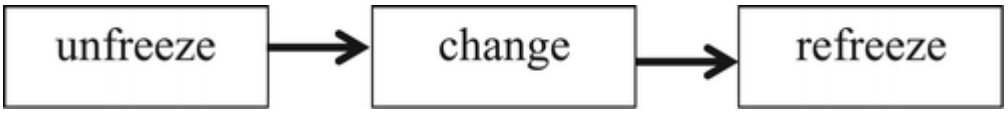
Appendix A

Kurt Lewin's Management Theory Tenets



Appendix B

Sarojini Bose M.D., P.A., dba

Ashley Pediatrics Day & Night Clinic

3135 S SUGAR ROAD

EDINBURG, TX 78539

PHONE 956-259-0400

FAX 956-259-8085

April 12, 2021

Dr. Jessica Grim

Touro University

Good afternoon Dr. Grim.

I would like to reach out to you about Kochurani Joseph, NP. She is a practitioner at our Donna clinic located at 701 N. Main St. in Donna, TX. She is working on a project "Development and Implementation of an Evidence- Based PHO-2 Protocol for Adolescent Screening in a Pediatrics Primary Care". There is no clinical agreement needed for her to do this project while working in our clinic. If you have any questions, please feel free to contact me at 956-259-0400 X 1417.

Respectfully,

Rudy Leal, HR/Business Manager

Appendix C

Attendance Roster

Number	Name	Job Title
1		
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Appendix D

Patient Health Questionnaire-2 (PHQ-2)

Over the last *2 weeks*, how often have you been bothered by any of the following problems?	**Not at all**	**Several days**	**More than half the days**	**Nearly every day**
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3

For office coding: _____*0*____+_____+_____+_____

= Total Score _____

Adapted from the patient health questionnaire (PHQ) screeners (www.phqscreeners.com). Accessed October 6, 2016. See website for additional information and translations.

PHQ-2 scores and Proposed Treatment Actions

The PHQ-2 consists of the first 2 questions of the PHQ-9. Scores range from 0 to 6. The recommended cut point is a score of 3 or greater. Recommended actions for persons scoring 3 or higher are one of the following:

- Administer the full PHQ-9
- Conduct a clinical interview to assess for Major Depressive Disorder

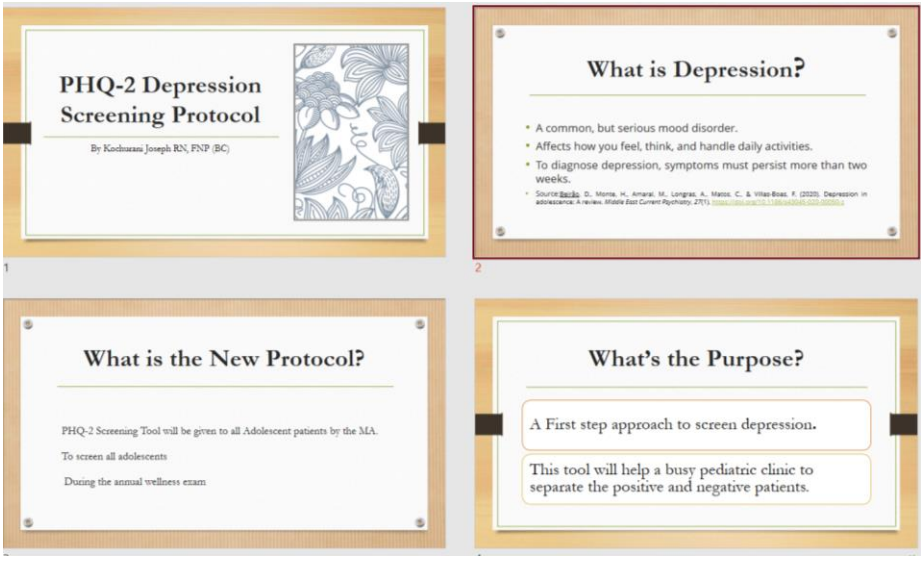
1. Korenke K, Spitzer RL, Williams JB. The Patient Health Questionnaire-2: Validity of a Two-Item Depression Screener. *Med Care*. 2003, Nov;41(11):1284-92.

2. Kroenke K(1), Spitzer RL, Williams JB, Löwe B. The Patient Health Questionnaire Somatic, Anxiety, and Depressive Symptom Scales: a systematic review. *Gen Hosp Psychiatry*. 2010 JulAug;32(4):345-59.

Adapted from the patient health questionnaire (PHQ) screeners (www.phqscreeners.com). Accessed October 6, 2016. See website for additional information and translations.

Appendix E

PowerPoint Presentation



What's the Goal?

- Improve quality care
- Improve diagnosis and treatment
- Collaborative approach
- Decrease the misdiagnosis of depression during adolescent Period.

5

What's PHQ Stand for ?

Patient Health Questionnaire

The Patient Health Questionnaire (**PHQ**) is a self-administered version of the PRIME-MD diagnostic instrument for common mental disorders.

6

Who Created PHQ-2?

- By Dr. R.L. Spitzer, J.B.W. Williams, K. Kroenke and colleagues, with an educational grant from Pfizer, Inc. Jul 2, 2014
- The PHQ-2 has been validated in 3 studies in which it showed wide variability in sensitivity (Gilbody, Richards, Brealey, and Hweitt, 2007).
- Source:Arrieta, J., Aguerrebere, M., Raviola, G., Flores, H., Elliott, P., Espinosa, A., Reyes, A., Ortiz-Panozo, E., Rodriguez-Gutierrez, E. G., Mukherjee, J., Palazuelos, D., & Franke, M. F. (2017). Validity and utility of the patient health questionnaire (phq)-2 and PHQ-9 for screening and diagnosis of depression in rural Chiapas, Mexico: A cross-sectional study. *Journal of Clinical Psychology, 73*(9), 1076-1090. https://doi.org/10.1002/jclp.22395

What're the PHQ-2 Questions ?

- The Patient Health Questionnaire 2-item (PHQ-2) is a brief screening tool for major depression.
- The PHQ-2 inquires about the frequency of depressed mood and anhedonia over the past two weeks.
- The PHQ-2 includes the first two items of the PHQ-9..
- Source:Arrieta, J., Aguerrebere, M., Raviola, G., Flores, H., Elliott, P., Espinosa, A., Reyes, A., Ortiz-Panozo, E., Rodriguez-Gutierrez, E. G., Mukherjee, J., Palazuelos, D., & Franke, M. F. (2017). Validity and utility of the patient health questionnaire (phq)-2 and PHQ-9 for screening and diagnosis of depression in rural Chiapas, Mexico: A cross-sectional study. *Journal of Clinical Psychology, 73*(9), 1076-1090. https://doi.org/10.1002/jclp.22395

What are the Score?

- Not at all : 0 point
- Several days : 1 Point
- More than half the days: 2 points
- Nearly every day: 3 Points
- Source:Kroenke, K., Spitzer, R. L., & Williams, J. B. (2003). The patient health questionnaire-2. *Medical Care, 41*(11), 1284-1292. https://doi.org/10.1097/01.mlr.0000093487.78664.3c

9

What is Interpretation?

- A PHQ-2 score ranges from 0-6.
- A score of 3 as the optimal cut point when using the PHQ-2 to screen for depression.
- If the score is 3 or greater, major depressive disorder is likely.
- Source: Kroenke, K., Spitzer, R. L., & Williams, J. B. (2003). The patient health questionnaire-2. *Medical Care, 41*(11), 1284-1292. https://doi.org/10.1097/01.mlr.0000093487.78664.3c

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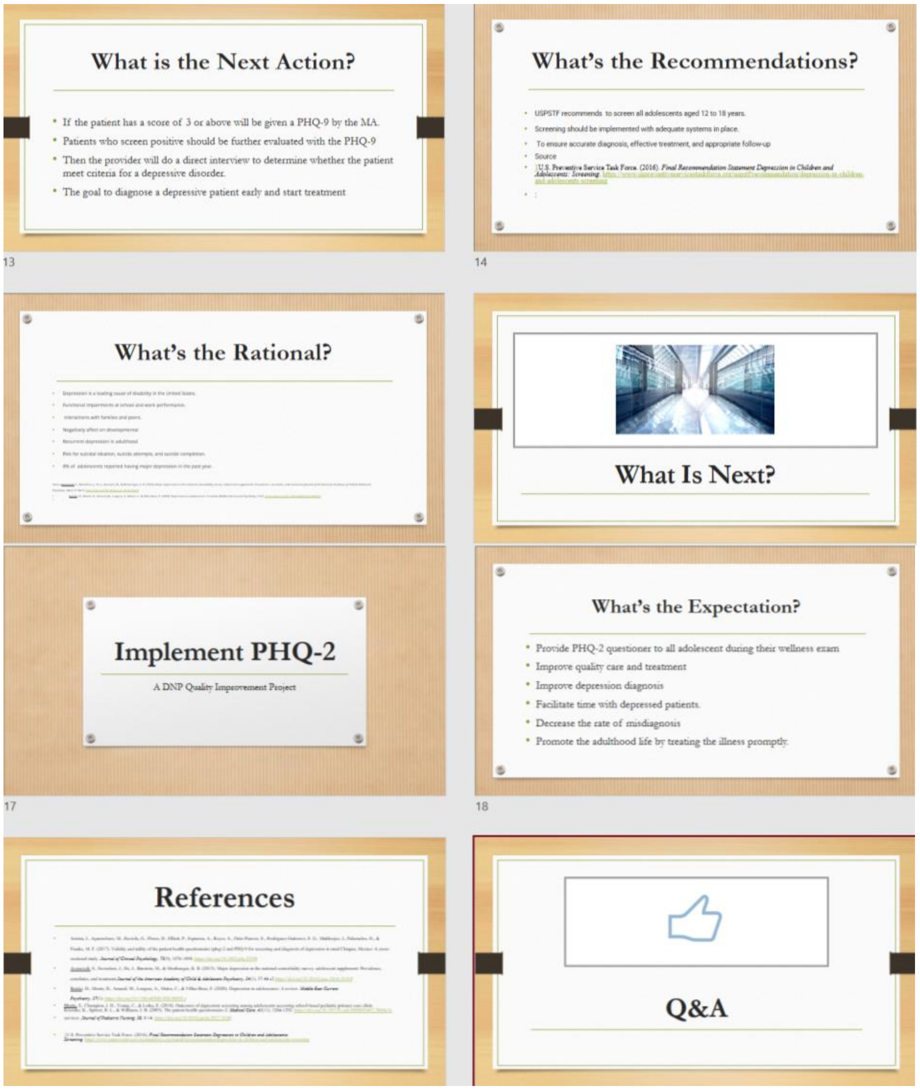
What are the Steps of protocol?

- An adolescent patient in the clinic for the well exam
- MA will provide the PHQ-2 protocol to the patient
- The patient self report the answers.

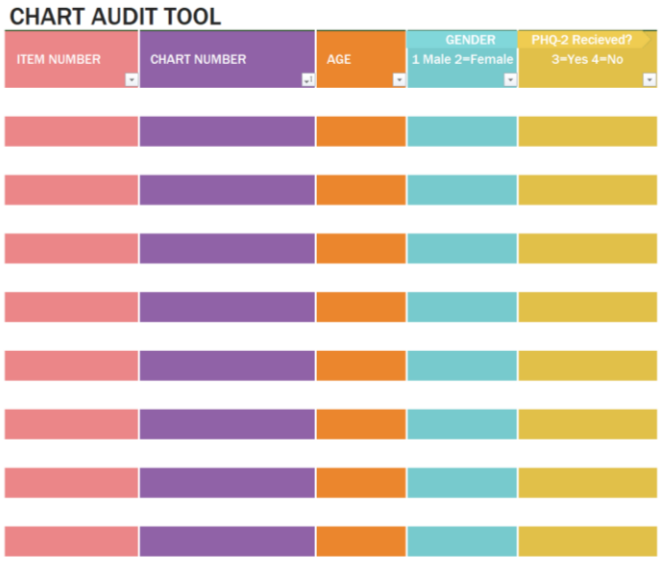
Over the last 2 weeks, how often have you been bothered by any of the following problems?	Not at all	Several day	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3

Scores range from 0 to 6. The recommended cut point is a score of 3 or greater. Recommended actions for persons scoring 3 or higher are administer PHQ-9 and Refer the patient for better Treatment.


What is the Next Action?
If the patient has a score of 3 or above will be given a PHQ-9 by the MA.
Patients who screen positive should be further evaluated with the PHQ-9
Then the provider will do a direct interview to determine whether the patient meet criteria for a depressive disorder.
The goal to diagnose a depressive patient early and start treatment
13
What's the Recommendations?
USPSTF recommends to screen all adolescents aged 12 to 18 years.
Screening should be implemented with adequate systems in place.
To ensure accurate diagnosis, effective treatment, and appropriate follow-up
Source
U.S. Preventive Service Task Force. (2016). Final Recommendation Statement Depression in Children and Adolescents: Screening.
14
What's the Rational?
What Is Next?
Implement PHQ-2
A DNP Quality Improvement Project
17
What's the Expectation?
Provide PHQ-2 questioner to all adolescent during their wellness exam
Improve quality care and treatment
Improve depression diagnosis
Facilitate time with depressed patients.
Decrease the rate of misdiagnosis
Promote the adulthood life by treating the illness promptly.
18
References
Q&A

Appendix F

Chart Audit Tool



Appendix G

Manual Data Sheet

Number of charts audited

Number of patients that received the PHQ-2 tool

Number of patients that did NOT receive the PHQ-2 tool

Appendix H

Adolescent Depression Screening Protocol

Purpose: To Assist primary care providers to identify depression in adolescents (ages 12-18) in association with national guidelines.

Objectives: To improve adolescent depression screening by implementing a screening protocol in a pediatric primary care clinic by providing education to providers and staff is to use the PHQ- 2 tool as a primary screening method.

Indications: A screening protocol for adolescents aged 12 to 18 in a primary care pediatric clinic during the wellness examination

Contraindications: None

Protocol Step by Steps

Step one: An adolescent patient in the clinic for annual physical (sick or not sick)

Step Two: MA will provide the PHQ-2 protocol to the patient

Step Three: The patient self-reports the answers.

A PHQ-2 score ranges from 0-6.

Step Four: If the patient has a score of 3 or above will be given a PHQ-9 by the MA to self- report.

Step Five: A face to face interview by the provider to diagnose, treatment, referral and follow up.

Appendix I

DNP Project: Statistics Plan Worksheet

Please provide a brief description of each section. Attach supporting documents (instruments) to the end of this form as appendices.

Name: Kochurani Joseph

Date: 07/26/2021

Section	Description
Project Title	**Development and Implementation of an Evidence-Based PHQ-2 Protocol for Adolescent Screening in a Pediatric Primary Care Clinic**
Project Purpose	The aim of this project is to improve adolescent depression screening by implementing a screening protocol in a pediatric primary care clinic by providing education to providers and staff. Furthermore, this protocol implementation will increase the PHQ- 2 form usage during preventive care screening and decrease unnecessary PHQ-9 completion. The aim is to use the PHQ- 2 tool as a primary screening method to improve the outcome rates of depression screening by 25% within a four-week implementation frame.
Project Question	"Will providers/medical staff through the development and implementation of an evidence-based PHQ-2 protocol for adolescent screening in a pediatric primary care screening improve provider and staff knowledge and adherence to the protocol in a four-week timeframe?

Project Design (general description how treatments are assigned/observational/ repeated measures of X # of people, etc.)	The project is a protocol implementation of depression screening tool called PHQ-2. The quality improvement project will be measured by chart auditing after implementation of the project. The goal is to audit 50 charts the week after implementation of the project This is a quality improvement project. To achieve a quality improvement the project must be accepted by the staff. The goal is to educate at least 80% of the staff about the protocol at the project site.
Population of Interest	The population of interest is the clinic staff (Providers, MA, MOS etc.)
Variables	Independent Variable(s) – The training of the staff through the educational seminar Dependent Variable(s) – During chart audit verify the usage of PHQ2 -asking a question. Yes/ No. Relevant Constant(s)- Chart audit
Sample Size	13
Recruitment Methods	Educational seminar. I will provide an educational seminar during the lunch hour
Instruments/Tools (Validity/Reliability)	Manual data sheet will be made to analysis the QI improvement. This will be done as comparison study A bivariable study will be used Will do a Chi-square test for data analysis
Proposed Descriptive Statistics and Statistical Test(s)	Analysis will be done using the manual data sheet result. The manual sheet will have the following contents 1- Number of charts audited 2 Number of patients received the PHQ-2 tool 3 Number of patients NOT received the PHQ-2 tool

After your instructor has approved the draft, email your completed form to your instructor and Dr Murukutla- Manognya.Murukutla@tun.touro.edu
Allow Dr Murukutla a minimum of 1 week to send feedback. If you have not received at least acknowledgment of receipt within one week, you should follow up to make sure the email came through.

Appendix-J

Flyer of Educational Seminal

Education Seminar
PHQ-2 Protocol Implementation
Date: November 4th, 2021

Please join for FREE lunch and knowledge gain

Thanks

Kochurani Joseph RN, FNP-BC