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Improving Depression Screening for Clinical Staff in a Psychiatric Rehabilitation Facility: A Quality Improvement Project

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By

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Abstract

Background: Depression is the most common of mental disorders in the United States affecting a significant portion of the population. Despite the serious consequences of untreated depression, depression screening remains a challenge across healthcare settings prompting the United States Prevention Task Services to develop strong recommendations to improve screening and treatment. Yet, despite those recommendations, lack of knowledge about depression screening continues to impede this process. The presence of substance use in individuals affected by depression worsens the severity of either condition alone. Considering the frequency of co-occurring substance use and depression, it becomes vital that staff working at substance abuse facilities receive adequate training to improve depression screening skills in this sub-population.

Purpose: The purpose of this quality improvement project was to increase knowledge of depression screening skills for clinical staff working at a psychiatric rehabilitation facility.

Methods: A total of 15 participants completed an online pretest survey to assess their baseline knowledge on depression screening. This was followed by a virtual education module delivered online via PowerPoint presentation. Then, 4 weeks after, participants completed an online posttest survey to evaluate knowledge gained.

Results: Pretest survey results revealed knowledge deficit regarding guidelines about depression screening, depression screening skills, and a misguided attitude and negative perception regarding depression. Posttest shows significant improvement in all categories with an overall improvement of 41%.

Conclusion: The overwhelming improvement in scores shows the effectiveness of educational interventions to improve depression screening skills and competence and the impact of evidence-based training overall in improving patient care.

Keywords: substance use, depression, educational intervention, training, screening

Introduction

Problem Identification

Major Depression is one of the most common reasons people seek medical care worldwide (Dold & Kasper, 2017). Depression is a serious condition that negatively affects thinking and feeling (Parekh, 2017). It is the fourth leading cause of disability worldwide with a projection of being the second leading cause of disability by the year 2020 (Yeon et al., 2019). The DSM-V characterizes depression as discrete episodes of at least 2 weeks duration in which there is a clear-cut change in affect, cognition, and neuro-vegetative functions. Symptoms of depression vary from person-to-person and can range from mild to severe. The associated symptoms include feeling of sadness most of the day, lack of interest in pleasure, unintentional weight gain or loss, sleep difficulties, fatigue, excessive guilt, and recurrent thoughts of death (American Psychiatric Association, 2013). The American Psychological Association [(APA), 2020] reveals that one in 6 people will experience depression in their lifetimes. Although depression can occur at any time, it most often strikes for the first time in the late teens to mid-20s (APA, 2020).

Major Depression seen in any medical setting goes often unrecognized as approximately half of patients with depression are undetected and only 1 in 5 receive adequate treatment (Jha, et al., 2019). Among a rising concern for undetected and untreated depression in healthcare settings, there have been recommendations for universal screening for depression in general adult populations (Jha, et al., 2019). Moreover, the detection of depression can be made difficult by the presence of substance use, which is common. The DSM-V classifies substance use, the use or drugs or alcohol, as mental illness. Having depression and a substance abuse disorder, called comorbidity, is like having two mental illnesses at the same time (National Institute of Mental Health ([NIMH], 2020). Needless to say, comorbidity complicates treatment for each disorder (NIMH, 2020).

Background

Depression represents the most common of mental disorders in the United States with a lifetime prevalence of about 17% (Pacek et al., 2019). In fact, every year, Major Depression affects 5 to 10 % of the population in the United States (Jha, et al., 2019). Moreover, a significant portion of the population of the United States is affected by the adverse consequences of Major Depression (Yeon et al., 2019). Major depression is associated with several adverse outcomes such as low education, unstable unemployment, unstable relationship, persistent and severe secondary disorders, and a greater chance of premature mortality due to physical disorders and suicide (Yeon et al., 2019). Furthermore, studies have shown that depression shortens life expectancy. In fact, depression detected at any point in time increases risks of mortality that continues as long as two decades (Gilman et al., 2017). Additionally, an estimated 10 % of people with Major Depression attempt suicide (Dold & Kasper, 2017).

Moreover, the relationship between depression and substance use has consistently been established. In fact, depression is 3 to 4 times more likely in individuals with substance use disorder than those without (Hobdena et al., 2017). By far, most patients who attend substance abuse treatment have a co-occuring mood disorder (Lee, et al., 2011). Yeon et al. (2019) argue that early use of alcohol, tobacco, and cannabis are associated with major depression. Similarly, Dierker et al. (2018) point out that depression has been consistently linked to substance use behavior and chronic dependency or heavy use. The prevalence of cannabis use is twice as high among individuals with depression as among those without depression (Pacek, et al., 2019). Depression is also prominent in patients undergoing treatment for opioid disorder in both inpatient and outpatient (Stein et al., 2017). About 25% of patients who enter substance abuse treatment for heroin dependence had major depressive disorder (Stein et al., 2017).

The DSM-V defines substance use disorders as conditions in which the use of one or more psychoactive substances results in clinically significant impairment or distress. Substance use disorders represent major health problems that can lead to severe impairment affecting physical, psychological, and social functioning (Ciobanu, et al., 2020). Additionally, individuals suffering from both depression and substance use experience more intense depressive symptoms, greater functional impairment, and more attempts at suicide than those with either condition alone (Hobdena et al., 2017). Likewise, Sanchez et al. (2015) point out that the presence of depression in individuals with substance dependence is associated with greater and substantial disability

Despite these issues, the majority of individuals with substance use disorders and comorbid psychiatric illness have never received treatment for their mental disorder (Sanchez, et al., 2015). Yet, even those who have been treated tend to have worse abuse treatment outcomes (Sanchez, et al., 2015). Often, depression goes undetected and untreated in substance abuse individuals; nevertheless, evidence suggests that individuals with co-occurring substance use disorder and depression respond well to specific antidepressant treatment (Sanchez, et al., 2015). Thus, it underscores the need for routine screening of depression in people with primary substance use disorders (Sanchez, et al., 2015). Similarly, Stein et al. (2017) argue that initial assessment in substance abuse settings should include screening for depression, which will guide the development of an individualized treatment plan. If a diagnosis of depression is given, treatment needs to begin and referral made to mental health services regardless of how far patient has been in detoxification treatment (Stein et al., 2017).

Scope of the Problem

Millions of people worldwide are affected by depression. In Europe alone, approximately 30 million people suffer from Major Depression (Dold & Kasper, 2017). The NIMH (2020) revealed that in 2017 an estimated number of 17.3 million adults in the United States had at least one major depressive episode. This number represented 7.1% of all U.S. adults. Females are disproportionally affected by depression with a prevalence of 8.7% compared to males 5.3%. The prevalence of individuals who suffer from Major Depression is higher in those between the ages of 18 to 25 (NIMH, 2020). Furthermore, the NIMH (2020) estimates that in 2017 11 million U.S. adults aged 18 or older had at least one major depressive episode with severe impairment.

Adolescents are also affected by Major Depression. According to the NIMH, in 2017 approximately 2.3 million adolescents aged 12 to 17 in the United States had at least one major depressive episode with severe impairment. This number represented 9.4% of the U.S. population aged 12 to 17. Additionally, an estimated 70.77 % of adolescents with major depressive episode had severe impairment (NIMH, 2020). In light of the frequency of the occurrence of depression in the US population, the United States Preventive Services Task Force (USPSTF) recommends screening for depression in the general adult population which can ensure appropriate diagnosis, treatment, and follow-up.

Consequences of the Problem

Major Depression is a significant health problem in the United States and elsewhere. The global financial burden of depression is appalling (Evans-Lacko & Knapp, 2016). Statistics from the Global Burden of Disease rank depression as a leading cause of disability globally having affected 350 million people (Evans-Lacko & Knapp, 2016). In the United States, depression is a leading cause of disability for people age 15 to 44 years (Greenberg et al., 2015). It leads to close to 400 million disability days in a year, significantly more than any other physical and mental

disorder (Greenberg et al., 2015). The economic burden of depression in the United States alone is estimated at 81. 2 billion a year (Abar et al., 2017). Between 2005 and 2015, the economic burden of individuals with depression saw an increase of over 20% with an approximate total cost of $210.5 billion in 2010 (Greenberg et al., 2015). Higher direct medical costs accounted for the increase, which accounts for 50% of the total costs (Greenberg et al., 2015).

The greatest economic impact of depression is by far due to loss of productivity (Evans-Lacko & Knapp, 2016). Across all countries, the economic impact of depression is considerable and sick days lost to mental illness such as depression has only increased in recent years (Evans-Lacko & Knapp, 2016). Depression can also affect the performance of those at work, a phenomenon known as presenteeism. The United States sees the highest cost of presenteeism per person due to depression, $5524. According to Evans-Lacko and Knapp (2016), the cost for presenteeism is 5 to 10 times higher than absenteeism. The impact of depression in the workplace across all countries is considerable, making depression an issue that deserves attention regardless of a country's economic development or culture (Evans-Lacko & Knapp, 2016). Moreover, with mental illnesses contributing substantially to the growing in non-communicable diseases worldwide, the extent of the problem is likely to increase (Evans-Lacko & Knapp, 2016).

Knowledge Gaps

Little is known on the reasons why clinicians are not compliant with depression screening in substance abuse facilities despite high statistics of occurrence and recommendations. Sanchez et al. (2015) suggest that comprehensive assessment of depression in substance abuse settings is time consuming as it requires additional resources that often are not readily available. Moreover, multiple studies have indicated there is a lack of depression screening in substance facilities despite the association between depression and substance use. Nevertheless, studies have showed

depression detection and intervention increased with staff education (Lee, et al., 2011). However, no studies have examined the impact of educational intervention on staff knowledge in substance abuse facilities.

Proposal Solution

Despite all statistics and recommended general guidelines by the USPSTF, clinical staff still struggle to implement depression screening in medical settings. The discrepancy between standard recommendations for depression screening and the compliance rate shows a need for clinical staff to be trained to increase their knowledge and utilize screening tools efficiently so that depression symptoms are not missed during any encounter. Specifics guidelines for treating co-occurring mental health conditions within substance use treatment facilities establish the need for clinicians to seek to identify symptoms of depression, so that these symptoms can be treated (Hobdena et al., 2017). The guidelines specify that recognizing and managing symptoms of depression need to be an important part of treatment for individuals seeking treatment for substance use disorders even if they do not meet criteria for a formal diagnosis (Hobdena et al., 2017).

Although symptoms of depression are distressing for clients, they are often undetected by substance abuse practitioners (Lee, et al., 2011). Properly identifying depression in this subpopulation is of paramount importance to reduce mortality and morbidity, enhance productivity, and promote quality of life. Without an accurate diagnosis of patients, it is impossible to treat depression effectively. Hence, the importance of training clinical staff to attain proficiency in utilizing depression screening tools cannot be overstated (Abar et al., 2017). The proposed project would implement an educational intervention for clinical staff at a psychiatric rehabilitation facility to improve their knowledge of depression screening. Adequate training can provide clinical

staff with knowledge to initiate screening for depression and confidence to refer those who screen positive for mental health treatment. Furthermore, staff training is important as it allows the improvement of deficiencies in practice resulting from complications that can arise from undetected and untreated depression. Additionally, improvement in knowledge of depression screening will contribute to safe and competent delivery of care.

Literature/Evidence Related to the Clinical Question

The United States Preventive Services Task Force (USPSTF) recommends screening for depression in the general adult population that can ensure appropriate diagnosis, treatment, and follow-up. According to the USPSTF, the evidence from the literature supports the need to screen the general adult population for depression especially when healthcare providers trained for depression screening are available. Screening for depression using a validated instrument is an efficient modality to increase detection of depression. Studies have shown that educational interventions improve evidence-based practice among nurses by increasing knowledge and skills (Häggman-Laitila et al., 2016).

The implementation of knowledge translation strategies on clinical staff nurses to support the application of research-based evidence improve patient outcomes (Wu, et al., 2018). Lee et al. (2011) implemented an evidence-based project where training and supervision were provided to clinical staff working in substance abuse facilities. Based on the findings, Lee et al. concluded that when clinical staff working in substance abuse settings receive depression screening training, depression detection and intervention improve (Lee, et al., 2011). Similarly, Thomas et al., (2012) point out that training increases healthcare workers' confidence in identifying depression in individuals with dual diagnosis of substance use and depression.

Search strategy

The literature was explored to find relevant articles to answer the PICO question. To this end, the databases that were searched included CINAHL, PubMed, and Medline ProQuest. The keywords that were applied to retrieve the articles include “depression screening”, “depression assessment”, “educational interventions”, “educational strategies”, knowledge*, “primary care providers”, “clinical staff”, or nurses. The search was limited to English language articles from peer-reviewed journals published in the last 10 years. The search yielded 110 articles from CINAHL, 61 from Medline, and 45 from PubMed. The inclusion criteria were educational interventions on depression screening or depression assessment. In addition, study participants receiving the intervention had to include clinical nurses. All above-mentioned articles were screened for relevance. Articles excluded were those targeting pediatric, peri-natal, and post-partum depression. Also excluded were studies performed on college campuses or high school. In looking for relevant articles, all quality improvement projects were rejected as they are considered non-research studies. Moreover, studies that were not published in peer-reviewed journals or other trusted academic sources were excluded as well. After duplicates were removed, only six articles were found to be most related to the PICO question and those articles were thoroughly reviewed thereafter.

Literature Supporting Educational Interventions to Increase Knowledge of Depression Screening

A review of the literature supports educational interventions to increase knowledge of depression screening among clinical staff. Abrams et al. (2017) conducted a randomized controlled trial (RCT) study to train staff in nursing homes and other long term care facilities to recognize depression. The study purpose was to examine a depression screening program for front line staff at a long term care facility (Abrams, et al., 2017). The researchers point out that lack of symptoms

recognition by nursing staff has impeded the management of depression in nursing homes. Those staff members receive little to no training to recognize symptoms of dementia and depression. As a result, they may fail in distinguishing between normal symptoms of aging and behaviors indicative of depression (Abrams, et al., 2017). Yet, research studies have demonstrated that nurse aides in nursing homes are capable of reporting symptoms of depression and are considered trusted sources of information about depression in nursing homes (Abrams, et al., 2017). Abrams et al. (2017) further state that targeting training improves staff competence in identifying depression in nursing home residents and it increases their ability to distinguish depression symptoms from behavior of normal aging.

The researchers referred to previous studies where Internet-based interactive programs have been successful in educating staff about depression to guide their own program. However, they had to develop their own education program since most nursing homes are not equipped for computer based training materials for front line staff (Abrams, et al., 2017). The conceptional model the authors chose to develop the program is grounded on the notion that multiple sets of factors including patients, staff, characteristics of the institution, and the nature of the symptoms of depression predominant in a particular setting determine staff recognition and impact treatment of depression in long term care facilities (Abrams, et al., 2017). However, the conceptual model to evaluate the success of the program was based on the two levels of the Kirkpatrick Four-Level Evaluation Model. Level 2 which concerns knowledge was the one the researchers focused on to report on enhanced knowledge (Abrams, et al., 2017).

The educational intervention was made of 3 training module sessions compiled by an interdisciplinary team composed of psychiatry, nursing, occupational therapy, social work, and social science. (Abrams, et al., 2017). Then, a group of 6 experts in depression including a

community psychologist reviewed the content of the training program including the knowledge tests and revised the content based on recent literature review and knowledge (Abrams, et al., 2017). The training was originally for front-line clinical staff in nursing homes such as nurses, social workers, and nursing assistants, but it was later expanded to all types of long term care facilities including rehabilitation centers. During the training, an additional module was devoted exclusively to train on the use of the Patient Health Questionnaire (PHQ-9) to improve depression screening skills. The goal was to teach depressive symptoms recognition based on the DSM-V (Abrams, et al., 2017).

The study method was a cluster RCT in which 169 staff members were randomly assigned to a trained pre-post test intervention group and a control group. The intervention group received the training that the professional trainers delivered while the control group did not receive any additional training (Abrams, et al., 2017). Cronbach's alpha with polychoric correlations and McDonald's omega total reliability were used to evaluate knowledge measures (Abrams, et al., 2017). Using a paired *t* test, the researchers found that knowledge increased in the intervention group for module 1 as evidenced by mean numbers of correct response from 6.48 for the pretest to 8.74 for the post test (Abrams, et al., 2017). For module 2, knowledge increased by 3.50 points on the post test while it increased by 2.78 points in module 3. The results of the study demonstrated that the educational intervention was successful at increasing knowledge of depression detection and recognition (Abrams, et al., 2017). However, this knowledge was short lived and the training was given at a fifth grade level since there were more nursing assistants attending the training than professional nurses (Abrams, et al., 2017). One limitation of the study was that many participants skipped the second training session and many did not take the pre-post test most likely because they left early or arrived late.

From a similar RCT study, Brown et al. (2010) found that staff who received depression screening training showed improvement in knowledge. Like Abrams and colleagues, Brown et al. targeted staff working with long term care patients. However, unlike Abrams et al. (2017) participants were those working in home care as opposed to those working in nursing homes. Brown et al. (2010) point out that there have been established guidelines based on evidence for depression in primary care settings, but little research has been done to approach depression recognition or treatment in homecare settings. To that end, the study goal was to address deficiencies in depression screening and assessment by home care nurses working with older adult patients (Brown et al., 2010). According to Brown et al. (2010), although homecare nurses are required to assess for depression, they do not feel prepared enough to do so and often fail to recognize depression. In addition, the homecare nurses fear that asking about depressive symtoms may invade privacy and precipitate distress such as question on suicide ideation (Brown et al., 2010). Also constituted a barrier, the burden of paperwork required to document depression screening activities.

The educational program, called Training in the Assessment of Depression (TRIAD), involved partnership with three homecare agencies (Brown et al., 2010). To develop the content of the training modules, the researchers referred to the Weill Cornell Homecare Research Partnership's approach (Brown et al., 2010). Based on that approach, they developed multiple modalities including surveys and shadowing activities aided by a grant they received from the NIMH. The agencies invited researchers to shadow nurses to help them understand how those nurses assess patients in the mental health field. Based on those observations, the researchers were able to gather information in the reality of depression screning in home care and elderly population (Brown et al., 2010). These observations guided the development of the training in a number of

ways as for example nurses relying mainly on their own observations to assess depressive symptoms and rarely ask direct questions about symptoms (Brown et al., 2010).

The program was split into two sessions which lasted 4.5 hours each and one month apart (Brown et al., 2010). A nurse, a social worker, a psychologist, or a medical doctor who had knowledge in geriatric depression and had spent time to develop the intervention were the ones delivering the training (Brown et al., 2010). To facilitate nurse engagement, they played videotaped of patient actors involving multiple nurse-patient encounters that show symptoms of depression. Those taped encounters offered a general approach to interview patients for depressive symptoms and suicidal ideations in ethnically diverse background patients. The training sessions gave nurses ample opportunites to interview patients and receive feedback from instructors. While the study by Abrams et al. (2017) included teaching of the PHQ-9, this study did not include neither the PHQ-9, nor the PHQ-2. The study sample involved 36 homecare nurses who were randomly assigned to the intervention group who received the training module and the control group that did not receive any training.

The results assessed one year later showed that the nurses who received the educational program were 2.5 times more likely to identify depression and make appropriate referrals (Brown et al., 2010). Statistical results at baseline showed nurses in both the intervention group and the control group scoring about the same on their ability to assess for depressive symtoms, 2.6 ± 0.8 for the usual care group and 2.6 ± 0.7 for the intervention group (Brown et al., 2010). One year later, the researchers found that the intervention group scored significantly higher as shown through statistical results which was 3.3 ± 0.6 whereas the control group's confidence remained the same 2.8 ± 0.6. In all other areas of the training, findings showed increase in confidence in the intervention group. At reporting of the study, the researchers signaled that the PHQ-2 will be

introduced in other TRIAD training programs where the PHQ-2 can be an alternative to screen for depression. Although the TRIAD has been successful and disseminated, the researchers recognize that to be implemented, there is a need to bring a trained primary care provider who is expert in managing psychological problems or an expert in psychiatry to examine suspected cases that screen positive for depression (Brown et al., 2010). Moreover, the program is limited as it is not designed to be stand alone, but part of a facuty led training program (Brown et al., 2010).

Ski et al. (2014) also led a study which demonstrated the effectiveness of educational interventions at improving depression screening. However, unlike Abrams et al. (2017) and Brown et al. (2010), Ski et al. (2014) used a qualitative approach to examine their educational interventions. Another notable difference between this study and the previous two is that it involved nurses working with cardiac patients. Ski et al. (2014) in setting the stage for the educational intervention argue that depression is common in cardiac patients with a prevalence that stands between 15 to 20%. When depression is present in cardiac patients, it not only increases disease burden, it also increases mortality and morbidity (Ski et al., 2014). Yet, despite that frequent occurrence and recommendations to screen all patients with coronary heart disease (CHD) for depression, routine depression screening is rare. Moreover, healthcare professionals often see depressive symptoms as normal part of suffering following a cardiac event. That perception is in line with what Abrams et al. (2017) noted in their study in which healthcare workers perceive depression symptoms in older people as part of normal aging process.

Routine assessment of depression and appropriate referral have the potential to improve patient outcome following a cardiac event (Ski et al., 2014). Nurses are consistently engaged with cardiac patients throughout their stay and, therefore, are well positioned to recognize depression early signs and symptoms (Ski et al., 2014). Even if cardiac nurses do not have a formal training

in mental health, they still can receive targeted education to screen for depression with the use of validated screening instruments (Ski et al., 2014). Ski et al. (2014) point out that there are procedures put in place in nursing practice when an anomaly is detected in patients with chronic disease to provide treatment. The researchers argue that the same practice should be applied to cardiac patients who are showing depressive symptoms. Hence, the study aimed to examine the efficacy of an education program developed specifically for cardiac nurses to improve screening and proper referral of patients with CHD for depression symtoms (Ski et al., 2014).

The framework that guided the study was the Donabedian's 'Structure-ProcessOutcome' framework. Ski et al. (2014) argue that the Donabedian's framewoek is an evaluative model that has been widely used in the healthcare settings. The researchers made their own adaptation of the framework as the following: *structure* represents the *cardiac unit* where the education was implemented; *process* being the *teaching procedure*; and *knowledge and skills* that cardiac nurses acquired as *outcome* (Ski et al., 2014). A number of 14 nurses from two cardiac wards making a purposive sample participated in the study. The researchers explained the choice of purposive sample was correct as cardiac nurses were the ones who attended the educational program.

The program lasted approximately two and a half hours and covered topics such as signs and symptoms of depression based on the DSM-IV as well as different types of depression. In addition, the program dedicated a significant portion of the component on introducing depression screening instruments. Abrams et al. (2017) also included an additional module of their program exclusively to introduce a depression screening instrument. The instrument entailed the five-item Depression Scale Short Form for the depression screening part of the program (Ski, et al., 2014). Participants were also educated on how to recommend referral based on the level of risks of

patients. Like the previous two studies, a multidisciplinary team made of health professionals in health education and research helped develop the program.

Data collection in Abrams et al. (2017) and Browns et al. (2010)'s studies was completed through post test to assess knowledge gained. In contrast, to collect data on knowledge gained, Ski et al. (2014) realized semi-structured interviews as it was a qualitative study. After a 6 week of education program involving depression screening and intrument use, semi-structured interviews which lasted 30-45 minutes were completed in quiet rooms to assess the knowledge gained during the program (Ski, et al., 2014). Participants were invited to describe the skills set and knowledge they acquired on depression and CHD (Ski, et al., 2014). Extensive data collection and analysis were performed in parallel and to validate data participants had to elaborate or clarify their answers throughout the interviews. Ski et al. (2014) used data saturation as an important guiding principle to ascertain when to stop the interviews. Therefore, they continued with the collection and analysis of data until no new themes arose from ensuing interviews. At that point, they recruited no further participants. Ski et al. (2014) used the 6 stage pragmatic data analysis approach of Halcomb and Davidson's (2006) to analyze interview data.

According to Ski et al. (2014), three key themes emerged from the data analysis that reflected the results. Theme 1 showed that the knowledge of depression increased as evidence by participants stating that they had in depth knowledge of depression as well as impact on patients (Ski, et al., 2014). Theme 2 revealed that their self-efficacy to screen for depression improved. Theme 3 examines the clinical implications of the education program in clinical practice as well as the use of screening and referral instruments (Ski et al., 2014). In summary, the results indicated a confidence by participants to recognize depression (Ski, et al., 2014). Also, their practical and verbal skills in depression screening and instrument use were improved as a result of the

educational program (Ski, et al., 2014). Consequently, participants recommended the introduction of depression screening instruments in the cardiac unit. Yet, there was a weakness of the study related to the small sample size of 14 nurses which limited the findings.

In a mixed study, Worrall-Carter et al. (2012) explored the effectiveness of education workshops and a validated depression screening tool. Like Ski et al. (2014)'s study, the study was conducted in a cardiac unit, but in a different hospital. Worral-Carter et al. (2012) point out that depression is an independent risk factor for CHD prompting the American Heart Association Advisory to recommend routine depression screening on all patients with CHD. Research on CHD and depression has mainly focused on increased risk of acute cardiac event if depression is present as opposed to prevention and an early detection system of care (Worrall-Carter, et al., 2012). Not surprisingly, routine depression screening is uncommon in cardiac patient populations despite the high prevalence of major depression in patients with CHD (Worrall-Carter, et al., 2012).

Depression is harder to diagnose than cardiac symptoms and depend on subjective complaints and objective data taken during assessment by nurses and medical professionals (Worrall-Carter, et al., 2012). Nevertheless, nurses with no formal training in mental health, but equiped with appropriate education and validated instruments can screen for depressive symptoms (Worrall-Carter, et al., 2012). Properly screening patients with heart disease for depression can improve treatment and lead to proper follow-ups (Worrall-Carter, et al., 2012). The researchers were motivated to do the study following a 12 months retrospective chart audit in which they were investigating the rate of depression screening. The results were appalling, the researchers found there was no formal procedure put in place for depression screening and there was no established protocol to refer for further care patients who were showing signs and symptoms of depression (Worrall-Carter, et al., 2012). Hence, the goal of the study was to evaluate the effect of education

workshops and a screening and referral tool on nurses′ knowledge and practice regarding depression screening as well as referral for those with heart disease (Worrall-Carter, et al., 2012).

In contrast to Ski et al. (2014) who only used semi-structured interviews in their study, Worrall-Carter et al. (2012) used a mixed method of pre and post test self report surveys and semi-structured interviews.The screening and referral tool comprised two parts: identify an effective depression screening tool, proper follow-up actions and referral pathways (Worrall-Carter, et al., 2012). Like the previous studies, to develop the education program, the researchers assembled a multidisciplinary team including experts in mental health. From the literature search, the researchers identified multiple validated depression screening instruments including the Beck Depression Inventory (BDI) and the PHQ-9. However, it was determined that the short form CDS-5 would be chosen for its strong correlation with both the 26-item CDS and the BDI in addition to its high sensitivity and specificity in detecting major depression (Worrall-Carter, et al., 2012).

A total number of 53 nurses participated in the education workshops and 40 nurses completed the pre-education worhops (Worrall-Carter, et al., 2012). The education workshops were made of three part and delivered over a one month period. The first component was related to identification of depressive symtoms; the second part taught about health outcomes of patients with depression and heart disease; the third component was about the implementation of the screening and referral tool as well as discussion on barriers and facilitators (Worrall-Carter, et al., 2012). Six weeks following the implementation of the workshops, post workshops surveys were mailed to participants to complete. A number of 30 nurses returned their post education surveys while 14 took part in a semi-structured interviews for the qualitative part of the study (Worrall-Carter, et al., 2012).

The goal of the semi-structured interviews was to further explore nurses' knowledge and experience after they attended the workshops (Worrall-Carter, et al., 2012). For analysis of survey data the researchers used frequencies for demographics and Chi-square for comparison of pre and postsurvey data. An alpha level of 0.05 was used for all statistical tests (Worrall-Carter, et al., 2012). Two members of the research team analyzed data from the interview via thematic analysis to ensure identifiable themes were validated data through a methodical process of concurring evaluation (Worrall-Carter, et al., 2012). Conversations that fit under a specific pattern were placed in the corresponding pattern. Then, data were merged forming a list of associated patterns representing subthemes (Worrall-Carter, et al., 2012).

The results indicated a success of the education workshops as evidenced by an increase in the percentage of nurses who reported an increase in knowledge, 80% compared to 35 % pre-workshops (Worrall-Carter, et al., 2012). Prior to the implementation of the depression screening tool and referral, 13% nurses reported there was no validated depression screening tool and formal screening process on the unit. Post workshops, 58 % of nurses reported using the formal depression screening tool that was introduced during the workshops (Worrall-Carter, et al., 2012). The responses given by nurses during the interviews clearly demonstrate the importance of educational interventions to increase knowledge of depression screening. Nurses indicated a lack of knowledge and the absence of a valid depression screening tool as the main culprits of their inability to screen for depression (Worrall-Carter, et al., 2012). Post education, nurses reported that the screening tool improved their ability to detect depression and more of them reported they would discuss referral with medical to mental health liaison services (Worrall-Carter, et al., 2012).

Another study by Mellor et al. (2010) investigated the impact of a depression screening education program on nursing staff's knowledge. Similar to the studies by Abrams et al. (2017)

and Brown et al. (2010), the study targeted staff working with older adults. Like Brown et al. (2010), Mellor et al. (2010) conducted their study in a long term care residential facility. According to Mellor et al. (2010), late-life depression represents a serious public health concern, it increases morbidity and mortality for older adults, and it increases the likelihood of disability of daily living. The prevalence of depression and depressive symptoms is far greater in elderly living in residential care facilities compared to the general elderly population (Mellor, et al., 2010).

Evidence-based treatment can improve the life of older people with depression, but untreated depression increases the burden on healthcare as prognosis for recovery is poor (Mellor, et al., 2010). Yet, according to studies, the recognition of depression among older adults living in residential care settings is poor with a lack of treatment for those who shows signs of depression (Mellor, et al., 2010). Like Abrams et al. (2017), Mellor et al. (2010) point out that healthcare workers working with older adults are well posotioned to recognize symptoms of depression as they have close contact with them. Although healthcare workers working with older adults have expressed desire to be trained to recognize symptoms of depression; nevertheless, negative attitudes toward late-life depression impede their ability to recognize and detect depression (Mellor, et al., 2010). Hence, the researchers argue that addressing staff attitude toward depression is crucially important and needs to be part of training programs.

Moreover, studies have demonstrated that family members perceive caregivers as unwilling to discuss emotional symptoms and are reluctant to provide care for non-physical symptoms (Mellor, et al., 2010). The lack of concern and interest health professionals show about depressive symptoms may constitute barriers to depression detection and treatment in older adults (Mellor, et al., 2010). To respond to the lack of knowledge about depression and barriers to care, the researchers developed an education program for health professionals called, the *beyondblue*,

Depression Training Program (Mellor, et al., 2010). A preliminary study found the training increased knowledge of depression, but was limited due to small sample size and lack of a control group (Mellor, et al., 2010). Therefore, the researchers conducted a study with a control group to better assess the effectiveness of the training program. The purpose was to investigate whether the training was effective at increasing health professionals' knowledge toward depression as well as improving their skills to detect depression and monitor response to treatment (Mellor, et al., 2010).

Unlike the previous studies, those researchers developed hypothesis that needed to be tested. It was hypothesized that health professionals in the intervention group would see their knowledge of depression increased in contrast to the control group that did not receive any training (Mellor, et al., 2010). Moreover, their negative attitudes toward depression would improve and self-efficacy to care for older adults with depression would also improve (Mellor, et al., 2010). Lastly, their ability to refer residents with depressive symptoms would improve as evidenced by an increase in number of referrals (Mellor, et al., 2010). A total number of 244 healthcare workers including 71 registered nurses, 120 patient care assistants (PCAs), and 30 care managers working in either community care or residential care participated in the study (Mellor, et al., 2010).

The program assessed the knowledge of healthcare workers pre-test with the Knowledge of Late-Life Depression Scale (Mellor, et al., 2010). The questionnaire comprised 23 items that evaluated their knowledge of depression in older adults as well as competency to work with depressed older adults. Confidence in Working with Depressed Older People questionnaire was another instrument used to examine the level of self-efficacy to work with depressed care individuals (Mellor, et al., 2010). It contained 2 versions, one with 18 items for RNs and care managers and one with 14 items for PCAs. The Depression Attitude Questionnaire is a questionnaire with 20-items that evaluated clinical staff attitudes toward late-life depression. The

scale was originally designed to evaluate the attitudes of general practitioners toward depression, but several groups in research including nurses and psychiatrists have since been using it (Mellor, et al., 2010). Participants were randomly assigned to either the intervention group that received the training or the control group. Both groups completed questionnaire before the training started, immediately after training completed, and again three months following completion of the training program (Mellor, et al., 2010).

To analyze data, SPSS 15.0.1 for Windows statistical package was used. Before all statistical analysis, the researchers identified all missing values and replaced them using mean substitution (Mellor, et al., 2010). Using paired sample *t* tests, the researchers found that knowledge had significantly improved for the PCAs who received the training from baseline to post training and from baseline to three months follow-up in all outcome variables (Mellor, et al., 2010). In contrast, the group of PCAs that did not receive the training showed no improvement in knowledge; instead, their negative attitudes toward working with depressed patients worsened. For RNs and care managers who received the training, in subsequent paired sample *t* test the researchers also found significant improvement about depression knowledge and self-efficacy and a decrease in negative attitudes toward depression from baseline to three months follow-up (Mellor, et al., 2010). By contrast, the group that did not receive the training, mean scores did not significantly change over time (Mellor, et al., 2010). It was hypothesized that healthcare workers who received the depression training would show inprovement in knowledge about depression as opposed to those who did not (Mellor, et al., 2010). Indeed, researchers found that PCAs and RNs who took part in the training showed significant improvement in knowledge about depression. The strength of the study was the RCT design with high level of evidence. However, it was limited as

the confidence of health professionals did not show a significant improvement even if increase in knowledge was significantly improved.

Delaney et al. (2016) reported similar results about increase of knowledge following depression screening training from a quasi-experimental study. Like Abrams et al. (2017), Brown et al. (2010), and Mellor et al. (2010), Delaney et al. (2016) also targeted clinical staff working with older adults. With a prevalence of 15%, depression in older adults in home care is considered extremely high (Delaney et al., 2016). Despite depression being widespread in late-life, it is underrecognized and undertreated. Indeed, from the six millions of adults age 65 and over in the United States dealing with depression, only less than 10 % have received treatment (Delaney et al., 2016). Not surprisingly, the Center of Medicaire and Medicaid Services require that adults in the care of home care agencies have depression screening documented and interventions implemented if depression is detected (Delaney et al., 2016).

Home care professionals have pointed to lack of knowledge as a barrier in providing evidence-based care. Yet, some previous studies have proved that with training education, home health clinical staff have the ability to identify depression effectively and do proper referral for treatment (Delaney et al., 2016). Therefore, a new improved train-the-trainer (TTT) version was created to teach a group of trainers who in turn would distribute the training to other professionals including nurses, social workers, and therapists (Delaney et al., 2016). Specific goals of the study aimed at determining the effectiveness of a depression screening program in improving the knowledge and self-efficacy of trainees and trainers in depression screening as well as improving the identification of patients with depression (Delaney et al., 2016). The theoretical framework that guided the study was the concept of self-efficacy from the social learning theory by Bandura. Following Bandura's approach of modeling, Delaney et al. (2016) created the TTT model to

enhance modeling, thereby social cognitive learning, by having those resembling the health care providers be the trainers and deliver the training to the health care staff.

The study used a quasi-experimental pre-post test design with two cycles, so there was no randomization. Pre and post tests were given to the trainers, the trainees, and the agencies. The study was guided by 2 research questions: question 1 addressed the effect of the education program on all participants' knowledge about depression screening and self-efficacy . Question 2 addressed the impact of the education program on the rate of hospitalizations related to positive depression screening or other causes. The sample consisted of 20 trainers and 446 trainees. The trainers were health professionals who were willing to become trainers for their colleagues in an evidence-based training education program on depression screening (Delaney et al., 2016). The trainees were also healthcare professionals who wanted to participate and were employed by 14 participating home care agencies (Delaney et al., 2016).

The trainers received a 4-hour training session that combined web-based video and experiential learning. As part of the materials for the training, there was a PowerPoint slide presentation, case studies, as well as handouts (Delaney et al., 2016). Before the training started, the trainers were given a pre-test to assess their knowledge on depression screening and management. Following the test, a presentation that covered the major impact of depression on people and communities as well as theories on depression and causes were provided to the trainers (Delaney et al., 2016). Additionally, the trainers were taught to effectively screen for depression using the Assessment and Intervention Algorithm for Depression in Older Adults. Moreover, the research team stressed on the proper use of the PHQ-2 and PHQ-9 screening tools as well as effective interviewing methods, with time given to train on the interviewing skills using role play (Delaney et al., 2016). In contrast to the previous studies that gave their post test to assess

participants' learning weeks after the education session, the research team of Delaney et al. (2016) gave their test immediately after the education session. However, as mentioned above ample time was alloted to learners to practice their skills. The trainers then had to teach the trainees in a 2.5 hours long session via a modified Powerpoint version with instructor notes attached. Cycle 2 of the program consisted of the group that did not receive the training, but completed the baseline survey several months before the training.

Data collection was made of the 22 pre-post test survey questions completed by the trainers that measured knowledge on depression screening and self-efficacy. To assess the reliability of survey results, Cronbach's alpha was used for evaluation of internal consistency for the pre-test scores ($\alpha = .609$) and post-test scores ($\alpha = .941$). The results reflect a gain of knowledge by the trainees as a result of the training as supported by the difference in internal consistency. Data analysis was completed through the Statistical Package for the Social Sciences, version 22. Using paired sample *t* tests, the researchers compared the mean values for pre-post test summary scores in the trainers. Another set of descriptive statistics was used to calculate the pre-post test scores for the trainees. To analyze research question 1 and evaluate summary scores on knowledge and self-efficacy, the researchers used descriptive statistics that they applied to the individual items in the survey instrument. Delaney et al. (2016) found a significant increase (2 points) in knowledge in depression screening and self-efficacy in the trainers following the education session, $t(20) = 13.06$, $p < .001$.

On research question 2, the rate of hospitalization was the data used to validate the answer. There was a decrease in hospitalization 60 days following the depression training; however, it was not statistically significant. Nevertheless, the authors attributed this finding to a 3-month lag in data reporting by two agencies that participated in the study. Continuation analysis of data for the

trainees also revealed that knowledge increased significantly after their own depression training, $t(444) = 15.04$, $p < .001$, $d = .53$, $p < .0001$ (Delaney et al., 2016). Following the training there was a 9.4 % increase in knowledge related to depression screening. In contrast, the group that did not receive the training did not show any increase in knowledge. Based on the findings, the researchers concluded that a depression training workshop is effective at increasing the knowledge of depression screening for home nurses, social workers, and therapists (Delaney et al., 2016). The curriculum itself was a key to the success of the program and it constituted a major strength to the study (Delaney et al., 2016). In fact, the curriculum was grounded in evidence-based national guidelines for screening, interventions, and referrals for depression (Delaney et al., 2016). However, the study was limited because the sample was mostly white female nurses and limited to Connecticut and, therefore, may not represent diverse health professionals in other geographic areas in the country (Delaney et al., 2016).

Summary of Evidence

A number of six studies were found to be the most relevant to answer the PICO question. Four of the studies developed educational program for health professionals working with older adults while two studies targeted clinical staff working with cardiac patients. The studies compiled are different kinds of well-designed level I to level III evidence, which contributed to the strength of the literature review. Concerning quality, they were appraised from low due high quality due to sample size despite statistical significant results. Three studies were RCT, one study was a qualitative study, one was a mixed quantitative-qualitative, and another one was a quasi-experimental study. The authors of all six studies regardless of the settings where the educational program took place extensively discussed the seriousness of depression, specifically for the population affected. Moreover, the researchers of all six studies agreed that depression is

undetected and underdiagnosed which results in a significant increase in disability and mortality as well as financial burden for the healthcare system. Furthermore, all studies point out that health professionals' perception about depression constitute a major barrier to screen for depression.

Brown et al. (2010), Delaney et al. (2016), Mellor et al. (2010) and Abrams et al. (2017) raised the alarm on the lack of depression screening among older adults. Those researchers argue that clinical staff tend to dismiss depressive symptoms as normal behavior of aging. Similarly, Worrall-Carter et al. (2012) and Ski et al. (2014) argue that nurses perceive depressive symptoms as normal part of suffering after a cardiac event. Moreover, researchers of all studies point to the lack of an established system to facilitate depression screening. Yet, the biggest barrier to depression screening is a lack of knowledge on depression screening and assessment by health professionals (Abrams et al., 2017; Brown et al., 2010; Delaney et al., 2016; Mellor et al., 2010; Ski, et al., 2014; Worrall-Carter et al., 2012). Abrams et al. (2017) found that the depression screening training they implemented was effective at increasing staff knowledge on depression screening. Abrams et al. (2017) argue that staff education on depression improve the quality of life for residents of nursing homes. They suggest that when staff members are educated with skills to recognize depression, their morale is enhanced as they feel acknowledged as valued members of the healthcare team.

Brown et al. (2010) also found their educational training program to be effective at improving staff knowledge in depression recognition. Brown et al. (2010) suggest that to improve referrals of suspected cases of depression in the home care settings, educational programs are necessary to provide nurses with skills and confidence to incorporate depression assessment in routine care. Similarly, Ski et al. (2010) reported positive results in their qualitative study. Consequently, these findings underscored the significance to educate nurses on depression

screening with the use of depression screening and referral instruments (Ski et al., 2010). Worrall-Carter et al. (2012) developed a series of workshops to educate cardiac nurses on depression screening and assessment. Findings supported the effectiveness of educational interventions to increase knowledge on depression screening. Worrall-Carter et al. (2012) stated that comprehensive education training and selection of a depressive screening tool can overcome barriers to depression screening.

Mellor et al. (2010) found similar positive results with their *beyondtheblue* Depression Training Program. Mellor et al. (2010) argued that lack of training has contributed to the under-recognition of depression in older adults and the need for training related to mental health issues is well-documented. The study by Delaney and colleagues stands out because of the innovative approach of trainers-training-trainees. Moreover, the researchers developed a training packet made of late-life depression screening, interventions, and handouts exclusively for their study. Based on findings, they argued that depression training workshops are effective in improving the knowledge of health professionals.

The literature review highlighted the significance of providing clinical staff with adequate training to increase knowledge of depression screening and, thereby, increase depression recognition. In today's evolving healthcare system, training is a critical element to improve patient outcome and quality of care overall. To that purpose, health professionals need to be exposed to sufficient educational training to increase their knowledge. Training can improve detection of depression comorbidity in patients with substance use disorders (Lee, et al., 2011). From the review, it is noted that there are various forms of educational programs: web-based video material, written material, Powerpoint presentation, depression screening instruments, role-play scenarios to deepen understanding, and interview technique skills teaching. All included six studies found

significant improvement in clinical staff knowledge following implementation of education programs regardless of the model used and despite limitations of results. Moreover, all appraised studies developed their educational programs on depression screening based on evidence-based recommendations and guidelines from the literature. Therefore, they are suitable as guides for the development of adapted educational programs to increase staff knowledge regarding depression screening in other settings such as psychiatric rehabilitation facilities.

The body of evidence from the literature supports implementation of evidence-based educational interventions to increase knowledge of depression screening in clinical staff. The findings from the literature review will largely be used to develop the quality improvement (QI) project as it provides an insight into gap in practice. Additionally, the findings point to an urgent need to develop educational training modules to improve clinical staff's knowledge to effectively capture depression in previously undetected patients across healthcare settings. Moreover, the literature review will lay the ground for which methods of training are more efficient at improving staff knowledge.

Purpose/PICO Clinical Question/Objectives

Project Objective

Purpose

At the heart of this doctoral project was the design of an educational module guided by an extensive literature review on staff training regarding depression screening. The goal was to evaluate the efficacy of an evidence-based educational intervention in improving clinical staff knowledge on depression screening. Within the immersion site for this project, deficiency in formal training remains an instrumental factor in many patients with depression symptoms going

undetected. The specific purpose of this quality improvement project was to improve clinical staff‘s knowledge and skills of depression screening in patients with substance use disorders.

DNP Project Title

Implementing an educational intervention to improve the knowledge of depression screening among clinical staff in a psychiatric rehabilitation facility

PICO Question

Problem= Depression screening

Intervention= Educational program

Comparison= None

Outcome: Improve knowledge of depression screening

The Clinical Question

Will the implementation of an educational intervention effective in improving the knowledge of depression screening among clinical staff in a psychiatric rehabilitation facility?

Goals and Outcomes

In today’s healthcare environment with rising healthcare costs and limited resources, the need to measure clinical outcomes is widely recognized (Bowman et al., 2015). One key strategy to meet the demands of efficiency in healthcare settings is to set clinical goals and measure goal achievement (Bowman et al., 2015). According to Bowman et al. (2015), the SMART goal- model is a commonly used framework to measure such goals. Similarly, Moran et al. (2020) suggest that the acronym SMART is a recommended format used for the development of objectives. SMART requires that objectives be specific, measurable, achievable, realistic, and timely (Moran etal., 2020).

The first specific goal of the project was to provide an educational intervention to clinical staff to enable them to increase their knowledge of depression screening. A pre-test was given by the DNP student to assess baseline knowledge before delivering the educational module. An increase in knowledge was expected with the educational intervention. A posttest survey was followed that evaluated the increase in knowledge. The goal was achievable as the DNP student implemented a well-developed educational module based on scientific evidence from the literature and adapted to the clinical staff working at the practice site. Moreover, multiple studies from the body of literature which goals were to evaluate increase in knowledge in depression screening showed that such a specific goal was achievable (Delaney et al., 2016; Smith et al, 2010). Furthermore, the project team made of the student, the professor, and the preceptor served as the resources to help achieve the goal. The prevalence of depression in the subpopulation of individuals with substance use is well documented prompting specific recommended guidelines to screen for depression and ensure timely treatment (Hobden et al., 2017). A need assessment at the immersion site revealed that clinical staff lacked knowledge and skills to screen for depression; therefore, it underscored the relevance of that goal. The goal was timely as the DNP student used a method of teaching that allowed participants to learn quickly and reach the goal within two weeks of initiating the project.

The second specific goal was be to improve clinical staff's confidence to use depression screening tools such as the Patient Health Questionnaire-2 (PHQ-2) and the Patient Health Questionnaire -9 (PHQ-9) efficiently. That goal was measurable as a pretest was given to evaluate knowledge and skills in using the depression screening tools. Following the demonstration to utilize the tools, a posttest was be given to measure knowledge gained. This goal was achievable because the DNP student followed guide and evidence from the literature review to develop an

education module that was informative and useful. Moreover, the student had the appropriate resources available in the project team to achieve the goal. A goal for clinical staff nurse to utilize depression screening tools efficiently was very relevant. Depression is rarely detected and treated in substance abuse facilities (Sanchez, et al., 2015). Patients with co-occurring depression and substance use disorder respond well to treatment (Sanchez, et al., 2015). However, for depression to be detected and treated, clinical staff need to be proficient at screening for depression using depression screening instruments such as the PHQ-2 and the PHQ-9. The goal was timely and was expected to be accomplished within two weeks of initiating the project. The DNP student ensured that the educational material was delivered in an environment that fostered learning in that timeframe.

Definition of Terms

Depression: The DSM-V characterizes depression as discrete episodes of at least 2 weeks duration in which there is a clear-cut change in affect, cognition, and neurovegetative functions.

Substance use disorders: The DSM-V defines substance use disorders as conditions in which the use of one or more psychoactive substances results in clinically significant impairment or distress.

Screening: Screening is defined as the process of identifying individuals at sufficient risk of a specific illness through systematic application of a test or enquiry to warrant further inquiry or direct preventive action, amongst individuals who have not seek out medical attention on account of symptoms of that illness (Wald, 2001).

Evidence-based interventions: Originated from the evidence-based medicine movement, evidence based interventions refer to practices or strategies in which the provider's clinical decision is supported by the most suitable information. (Hailemariam, et al., 2019)

Conceptual Framework

The conceptual framework underpinning the DNP Project is the theory of change by Lewin. Lewin's theory of change comprised four main themes: the field theory, group dynamics, action research, and the three-step model. Burnes (2004) argues that to create change, health practitioners need to consider all themes as interconnected and not as separate concepts. The influence of Kurt Lewin's work on the field of organizational development is well-recognized (Batras et al., 2014). Field theory involves studying group behavior in a particular environment; it means that the field has to be mapped in its totality as well as the consideration of its complexity and impact on the observed behaviors (Lewin, 1947). Lewin suggested that a complex set of symbolic interactions and forces define group behavior and it not only alters group structures, but it transforms individual behavior as well (Lewin, 1947). Thus, Lewin concluded that individual behavior is a function of the group environment or "field". Therefore, any change in behavior regardless of how big the change is, comes from the forces within the field (Lewin, 1947).

Lewin views change as a dynamic balance of forces working in opposite direction inside the field. While driving forces move individuals toward the change direction, restraining forces move individuals away from the change (Lewin, 1947). The analysis of forces within the field would help practitioners understand why groups behave the way they do and which forces need to be strengthened or diminished for the planned changes (Batras et al., 2014). Lewin was strongly convinced that behavioral change is a slow process although in certain circumstances including personal, organizational, or societal crisis, the different forces within the field may move quickly (Burnes, 2004).

Lewin also commented about group dynamics arguing that for change to happen the target should be at the group level as group pressures and norms influence individuals' behavior (Batras et al., 2014). Batras et al. (2014) argue that Lewin's views on the field theory and group dynamics can serve as guide to health practitioners to develop realistic approaches to facilitate the process of change. Those views will inspire Lewin to write the action research approach and the three step models that were parts of the theory of change. Action research means evaluating the current situation of an organization to identify possible solutions and choose the most suitable one (Burnes, 2004). According to Lewin for change to happen the group needs to acknowledge that change is necessary and success through action research encompasses a participatory process at a group level rather than individual level (Lewin, 1946). Additionally, people are more motivated to change when they involve them in the process of change. Lewin's theory of change is suitable for this DNP project because it provides the foundation to start and implement the process of change in practice in a healthcare organization.

Lewin's three-step model is often cited as key contributor to organizational change. Nevertheless, despite this view of the model, Lewin never intended for the three-step model to be understood as a separate element, rather as integrated with the other three concepts (field theory, group dynamics, and action research) to form the whole approach to planned change (Burnes, 2004). Batras et al. (2014) describe Lewin's first phase of the three step the model, called *unfreezing,* as the process that involves creating dissatisfaction with the status quo and allowing survival anxiety to overcome learning anxiety. The result will be a realization that the potential benefits of change outweigh the potential negatives associated with the process (Batras et al., 2014). The unfreezing phase of the project saw meetings taking place with stakeholders. The goal

of those meetings was to discuss organizational culture and barriers to change and obstacles to implement a depression educational module.

The second phase, *moving*, involves the implementation aspect of change and it requires research, action, and learning (Batras et al., 2014; Lewis, 1947). In this step, roles and responsibilities are redesigned; training and supporters are promoted while resisters are removed (Batras et al., 2014, Lewin, 1947). This phase involved the development of an evidence-based protocol, roles were redefined, participants of change were identified, and the educational program was implemented and finalized. The last phase, *refreezing*, happens after the change is implemented and the purpose is to sustain the change (Batras et al., 2014; Lewins,). In this step, trust is built, new ideas are encouraged, and new ideas are integrated (Burnes, 2004; Lewins, 1947). This step also involves the distribution of rewards and pay adjustment for the support of the continuum of change (Batras et al., 2014, Lewin, 1947). The project has currently reached the *refreezing* stage and for *refreezing* to be successful, it is imperative that the DNP project leader remains in communication with stakeholders and staff to ensure incorporation of the evidenced-based depression screening as a standard protocol to improve depression detection, and, therefore, enhance patient outcome.

Methodology

Setting and Participants

The site for this doctoral project was a psychiatric rehabilitation facility located on the east coast of the State of Florida. This facility provides care to patients with substance use disorder including mental health services for those with co-occurring psychiatric and substance use. The facility provides a full range of affordable services to assist people in reintegrating life as fully functioning, happy individuals. Services include medical and psychiatric treatment, individual

therapy, acupuncture, biofeedback therapy, group therapy, and recreational activities. The participants will be a convenience sample of healthcare workers (nurses, social workers, therapists) working at the facility. The need for this project originated from the fact that depression is often unrecognized and undertreated. Stein et al. (2017) point out that staff working at detoxification centers should screen patients for depression and if positive, treatment options should be offered. Upon assessing the practice site, the DNP student found a low compliance with depression screening. As depression goes undetected and unrecognized, patients get discharged prematurely while they are not ready. Thus, patients who are discharged early while their symptoms of depression go unrecognized and untreated get relapsed and readmitted. This aforementioned observation clearly means that the practice was not in line with recommended guidelines to screen for depression.

The United States Preventive Services Task Force [(USPSTF, 2016)] recommends that screening for depression be implemented for all adults to ensure appropriate diagnosis, treatment, and follow-up. The inconsistency between the compliance rate at the site and standard recommendations suggest that clinical staff needed to be educated to increase their knowledge of depression screening and utilize depression screening tools effectively. The literature review shows that the greatest impediment to depression recognition and detection is lack of training for clinical staff. Depression screening training is an effective activity to increase the knowledge of depression screening for health professionals (Delaney et al., 2016). Comprehensive staff training improves healthcare workers' confidence to screen patients with mental health co-occurring disorders (Thomas et al., 2012). The goal of this project was to evaluate if an evidence-based educational intervention was effective in improving clinical staff knowledge on depression screening in adults with substance use disorders.

Description and Project Procedures

To achieve the project goal, the DNP student had to analyze factors that could have been helpful to the project as well as factors that could have altered the successful implementation of the program using a strengths, weaknesses, opportunities, and threats (SWOT) analysis. Internal attributes of the organization such as ability to collaborate in a multidisciplinary team, staff engagement, and the presence of stakeholders were considered strengths. To capitalize on those strengths, the DNP student first assembled a project team. For a DNP project to be viable and succeed, it must involve the formation of a resourceful multidisciplinary team that has the ability to function as a team. The key to the effectiveness of multidisciplinary teams in healthcare is their ability to work collaboratively (Petri, 2010). Interdisciplinary collaboration in health care context is a relational process that involves participation of healthcare professionals representing multiple disciplines who share the same objectives, decision making, and responsibility and work together to solve problems in a healthcare organization or setting (Petri, 2010).

Moreover, the project required involvement of stakeholders identified as nurses, social workers, therapists, medical providers, and administrative staff before implementing the project. The participation of stakeholders is imperative for the success of the development of any education module that promotes evidence-based practice (Boaz et al., 2018). Furthermore, The DNP student needed to minimize weaknesses that could have been harmful to the project such as staff resistance to change, lack of training, and lack of communication between key stakeholders. It was expected that the greatest barrier to the project would be staff resistance to the change. Yet, this barrier was overcome with the involvement of the multidisciplinary team. Lack of communication between stakeholders could have also affected the implementation of the project. Communication is a key

feature to build effective teamwork to resolve interprofessional conflict, promote positive interpersonal relations, and improve interprofessional communication (Cutler et al., 2019).

Then, the DNP student examined external factors that represented opportunities and threats to the project. One opportunity of the project was an increase in knowledge of depression screening in adults with substance use disorders. The immersion site assessment revealed that patients have not been properly screened and treated for depression. Patients who are discharged with untreated depression are relapsed and readmitted frequently. The increase in knowledge will result in improve patient outcome as patients will be properly screened and referred for treatment when positive. The threat part to the SWOT analysis that could have impeded the project was lack of resources and funding for the project. However, the project was not anticipated to require too many resources and it was hardly costly. For instance, the staff education module on depression screening was presented via a PowerPoint presentation with pretest and post-test surveys delivered to participants, all online using Qualtrics. Traditional approach to teaching often fails to bring the needed changes to practice. New teaching strategies requires the teaching of new skills to move education from the classroom into practice settings (Smith et al., 2010). The education session was delivered within an hour at each participant's convenience time. Since the whole implementation was delivered online including the PowerPoint presentation, the pre and posttest surveys, impact to staffing at the immersion site was not an issue. Moreover, to minimize use of resources, the DNP project team, which included the clinical associate professor and the preceptor, was the one that reviewed the education module content and provided their approval.

Following completion of the literature review, the DNP student launched a project team, determined the outcomes, and developed a pretest to assess knowledge of depression screening and confidence in utilizing depression-screening tools such as the PHQ-2 and the PHQ-9.

Regarding detecting depression, the primary step is to do a clinical assessment; yet, screening using a validated rating tool may be performed as complementary. Most clients seeking treatment for alcohol and drugs use also meet criteria for co morbid mental illness including Major Depression (Thomas et al., 2012). These findings underscored the need to implement routine depression screening in patients with primary substance use disorders (Sanchez, et al., 2015). To answer the focused question for the study, the DNP student had to develop an education module to train clinical staff to screen for depression. The education module aimed to increase their knowledge of depression screening and recognition.

Role of the DNP Student

The DNP student had assumed the lead role throughout the development of the project. Priorities that were considered to ensure the success of the project involved the coordination of project activities, the need of team members, needs of stakeholders as well as the need of the organization (Moran et al., 2020). Marshall (2011) points out that the growing complexity of healthcare and the rising healthcare costs underscore the need for leaders that are visionary and effective. As the DNP student, I saw myself as a transformational leader who identified a needed change and had to create a vision to guide that change through inspiration (Marshall, 2011). As such, Moran et al. (2020) stated that the project leader must understand his/her skills as a leader and the behaviors related to the implementation of the project.

Quality Improvement Model

This was a quality improvement (QI) project that followed the Plan-Do-Study-Act (PDSA) Model. Harrold et al. (2018) state that the model is used to gain knowledge and understanding to continually improve a process. The model is grounded on a scientific process that helps to critically evaluate the improvement and the effectiveness of a project (Harrold, et al., 2018). QI studies

require incremental problem solving and, thus, the value of the PDSA cycle cannot be overstated (Harrold, et al., 2018). The model allows for progress to be seen with each stage with the goal that the process will improve in each cycle (Harrold, et al., 2018).

The PDSA consists of four steps: the first step (*plan*) saw the identification of the problem as well as the development of method to resolve that problem by setting goals and expected results (Holly, 2014). The *plan* cycle of this project informally started with the identification of lack of compliance with depression screening guidelines at the practice site, the educational module plan, and the expected outcome of an increase in knowledge. During this same stage, a cost-benefit analysis was performed to assess the viability of the project. Additionally, strengths, weaknesses, and barriers to the project were identified as well as identification of stakeholders and participants.

The second stage (*do*) involves implementation of the plan as well as collection of data. This is an extensive and time-consuming process and often requires instruction of staff on the process (Holly, 2014). It is also this cycle that sees the development of instruments and protocols. Accordingly, in the *do* cycle, the DNP student delivered an educational module and introduced the PHQ-2 and the PHQ-9 depression screening tools. A pretest and posttest survey were given to collect data and evaluate the level of knowledge acquired.

The third stage (*study*) involves data analysis, presentation and interpretation of results using quality improvement tools such as flowcharts, Pareto charts, or control charts (Holly, 2014). Consistent with this stage of the PDSA cycle, the DNP student had continuous meeting with the project team to discuss project development, successes, and obstacles and made necessary adjustments that supported the progress of the project. Data were analyzed and results were presented to stakeholders using charts that showed improvement in overall mean scores.

In the *Act* stage, the plan is refined, improvements are implemented if necessary, or strategies are applied to maintain positive results (Holly, 2014). Furthermore, success and failures are assessed and if needed corrective measures are implemented or analysis of root cause to examine the failure of goal achievement (Holly, 2014). Currently, the project is completed and is in the *Act* stage. There are ongoing meetings with stakeholders; the goal is to sustain the project and maintain the success of the teaching module.

Protection of Human Subjects

Before conducting the project, a request was submitted to the Institutional Review Board (IRB) of Florida International University for approval to ensure the ethical integrity of the project. The review board approved the project as it met criteria for a quality improvement project which purpose was to improve staff knowledge regarding depression screening. Participation was voluntary and staff was provided with reassurance that there would not be any disciplinary consequences should they chose not to participate. The intervention comprised of the teaching of an education module about depression screening and there was not any harm done to participants. Before participating in the education module, participants had access to an informed consent form online describing the purpose of the project, risks and benefits, and the steps taken to ensure anonymity. The benefits for participants were an increase in knowledge and improvement in confidence to screen for depression using screening tools. All information from staff participants was kept confidential as well as protections of their rights.

Data Collection

Data collection started with a need assessment of the immersion site. The results indicated a lack of compliance with recommended screening guidelines; thus, the need for this evidence-based project was to increase clinical staff's knowledge of depression screening. During the

implementation phase of the project, data collection continued virtually with a test given before and after the study to assess knowledge pre and posttest. The pre and posttest were created based on findings from the literature. In fact, the DSM-V, which the researchers from the appraised studies cited considerably to develop their pre and posttests, was also used as a guide to develop the questions of the survey. In addition, all studies included in the literature review have indicated their educational teaching on depression screening involved the teaching of a least one depression screening tool. Therefore, one of the questions that was included in our pre and posttest referred to the familiarity of clinical staff with depression screening tools. Moreover, the lack of training to screen for depression, lack of established guidelines, and unfamiliarity with depression screening tools were noted in the literature review to be important barriers to depression screening. To this effect, there were questions specifically addressing those barriers.

Depression Screening Instruments

A validated depression screening instrument was introduced to ascertain if the regular use of such a tool could assist staff in recognizing depression. There are multiple depression screening tools commonly used in healthcare settings to screen for depression. These include, but not limited to, the Beck Depression Inventory, the Hospital Anxiety and Depression Scale, the Hamilton Rating Scale for Depression, the CDS-26 which has been modified to a shorter version, the short form CDS-5, and the PHQ-2 and the PHQ-9. Depression screening instruments show variation in their psychometric properties, with the PHQ-2 and the PHQ-9 the most commonly used tools (El-Den et al., 2018). Kroenke et al. (2001) conducted two studies to examine the reliability and validity of the PHQ-9 and they determined the tool to be reliable and valid based on results. Findings from their studies showed an excellent internal reliability with a Cronbach's alpha of 0.89 (Kroenke et al., 2001). Kroenke et al. (2001)'s study also indicated strong evidence of validity as

demonstrated in a sample of 580 patients who were independently interviewed by a mental health professional.

The PHQ-9 contains 9 items based on criteria for depressive disorders from the DSM-IV (Kroenke et al., 2001). Each item scores between 0 and 3. A score of 1-4 indicates minimal depression, 5-9 mild, 10-14 moderate depression, 15-19 moderately severe depression, while a score of 20-27 suggests severe depression (Kroenke et al., 2001). The PHQ-2 is a shorter version of the PHQ-9 and it contains the first two items of the PHQ-9. Kroenke et al. (2001) also found strong evidence of reliability and validity related to the PHQ-2 from a study they performed. The PHQ-2 symptoms severity scores from 0 to 3 with a maximum score of 6 (Kroenke et al., 2003). The PHQ-9 is the ideal instrument when the purpose is to either establish a definitive diagnosis of depression or to assess depressive symptoms response to treatment (Kroenke et al., 2003). The PHQ-2 should only be used as a first step approach. However, if patients score positive with the PHQ-2, they should be evaluated further with the PHQ-9 or other depressive instruments to definitely establish a diagnosis.

In a recent study by Carey et al. (2016) comparing the two instruments, it was found that the PHQ-2 has high sensitivity, high specificity, and high validity compared to the PHQ-9. More recently, in a systematic review examining the psychometric properties of multiple depression screening tools, El-Den et al. (2018) found the PHQ-9 to be the most evaluated with high reliability and validity, the PHQ-2 was the second most evaluated. Furthermore, Delgadillo et al. (2011) conducted a study examining the effectiveness of the PHQ-2 and the PHQ-9 on individuals with substance use disorders. Based on findings, they concluded that both screening instruments have high reliability and validity in this subgroup population (Delgadillo, et al., 2011). Other data that

will be collected include demographic data such as gender, age, and ethnicity of participating staff as well as educational level.

Data Management and Analysis Plan

Before gaining access to the education module, participants to the project completed a pre-test to assess knowledge on depression recognition and assessment tools. After the delivery of the educational content, a post test followed to measure knowledge gained. Tests were scored using a percentage. Then, a group average was calculated and scores were compared. Results indicating that the post test scores were significantly higher than the pretest scores would show that the educational intervention was effective and there was increase in knowledge in screening for depression. The DNP student as the leader of the team was responsible of managing the data, which was stored in Qualtrics, the website provided by the school. Each participant was provided with an identification number, and their information was recorded into a database kept securely without names to avoid recognition.

Results

A pretest and posttest design were used to assess knowledge of depression screening by clinical staff at the immersion site. The pretest provided information about baseline knowledge as well as demographic information of each participant while the posttest revealed whether learning objective was reached. Staff was educated on depression recognition as well as utilization of the PHQ-2 and the PHQ-9 to screen for depression. The combination of both tests results was used for data analysis. The questions were grouped into three main categories: the first category of questions assessed staff's knowledge about guidelines on depression screening. The second group evaluated their knowledge on depression assessment as presented in the DSM-V. The third group assessed their perceptions and attitudes about depression screening.

The results of the pretest informed the DNP student in which category there was more deficiency. Following the education project, an outcome-based performance rate was chosen to appraise participants' knowledge while comparing the pretest and posttest. Results of both the pre and posttest were scored individually and as a group's percentage score. Then, group percentage scores were computed into Excel for analysis. As it was expected, the education module significantly improved knowledge of depression screening and increased confidence in using the PHQ-2 and the PHQ-9 as well.

Pretest Analysis

Pre-Test Demographics

Table 1

Pretest and Posttest Demographics of Participants

Total Pretest and Posttest Participants	n(%)
15	80%
Medical Profession	n (%)
APRNs	1 (6.67%)
RNs	6 (40%)
CMAs	6 (40%)
LCSWs	1 (6.67)
ATs	1 (6.67%)
Gender	n (%)
Males	4 (26.67%)
Females	11 (73.33)
Ethnicity	n (%)
Whites	0 (0%)
African Americans	12 (80%)
Hispanics	2 (13.33%)
Asians	1 (6.67%)
Years of experience	n%
More than 20 years	1 (6.67%)
10 to 20 years	2 (13.33%)
5 to 10 years	5 (33.33%)
1 to 5 years	5 (33.33%)
Less than 1 year	2 (13.33%)

The pretest demographics features are demonstrated in table 1. A total number of 15 healthcare workers equaling 80 % of clinical staff completed the pretest survey. These included 6 registered nurses (RNs), 6 certified medical assistants (CMAs), one advance registered nurse practitioner (APRN), one licensed clinical social worker (LCSW), and one activity therapist (AT). The overwhelming majority (80%) were African Americans, while 13.33% identified themselves as Hispanics, and 6.67% as Asian Americans. The sample did not include anyone identifying self as White. Separated by gender, there were 11 females and 4 males. With regard to years of experience in the healthcare field, 13.33% had less than one year of experience, 33.33% 1 to 10 years of experience, 13.33% 11 to 20 years of experience, and 6.67% over 20 years of experience. Moreover, the pretest results revealed that only one participant had been exposed to a depression educational training.

Pretest Guidelines on Depression Screening and Depression Screening Tools

To evaluate participants' knowledge about recommended guidelines on depression screening, questions based on the latest guidelines from the USPTS and other recommendations from the literature were used. The pretest results showed that only 7.14% of participants answered they were familiar with the latest recommendations on depression screening. Only one participant responded having received depression screening training before. Additionally, none of the participants were familiar with the PHQ-2 and the PHQ-9 depression screening tools. As a result, participants were unable to answer 3 specific questions that addressed the depression screening tools. Moreover, only 28. 57% had the right answer on the frequency of depression screening. A percentage of 53.33% rightfully replied it is false to screen only patients who look sad for suicide.

Pretest Knowledge on Depression Symptoms and Screening

In reference to knowledge on depression symptoms and screening guided by the DSM-V, the pretest survey results show mixed responses. Some questions received an overwhelming majority of right answers while others were the opposite. Only 7.14% of participants responded they strongly agreed being knowledgeable about symptoms of depression while 42.86% answered somewhat agreed. Moreover, merely 7.14% strongly agreed in their ability to screen for depression while 28.57 % somewhat agreed. When asked about which symptoms to look for when screening for depression, 60% of respondents strongly agreed with the right answer. Moreover, more than half of participants strongly agreed patients should be reminded to report changes in mood and thoughts of death. Furthermore, participants were asked to write three symptoms of depression, only 40 % correctly named 3 such symptoms. Lastly, on questions that asked about symptoms of depression, some questions received significantly right answers while other questions showed moderate knowledge deficiency. Scores in that category ranged as the following: 40%, 60%, 73,33%, 80%, and 93.33%.

Pretest Perceptions and Attitudes on Depression and Depression Screening

No participant answered screening every patient that he or she encounters for depression, not even the participant who had previously been exposed to depression screening training. The pretest survey revealed that only 28.57% responded it was definitely important to screen every patient for depression while the same percentage answered probably yes and 21.43 % replied it is probably not important. Furthermore, a little more than 50% of participants answered depression strikes across ages. Moreover, participants were asked to choose an incorrect statement which was “depression are normal part of aging.” The results showed only 40% picked that incorrect statement. Additionally, when asked to select medical and social consequence of depression, 66.67% selected “all the above” as the correct answer. Concerning prevalence of depression, one

question stated that depression is very rare affecting only one in 50 American Adults; results revealed 60% correctly selected “false”. Moreover, there was a question addressing the reasons why screening and treating depression were important. Only 46% of respondents selected all of the reasons. However, when asked about the most serious consequence of untreated depression, a significant percentage of 73.33% accurately responded it was suicide.

Posttest Analysis

Posttest Guidelines on Depression Screening and Depression Screening Tools

Overall improvement is shown in the familiarity with the guidelines. Following the educational intervention, 73.33% of participants responded they were familiar with the guidelines on depression screening compared with 7.14% before the training who strongly agreed they were familiar with the guidelines. A percentage of 53.33 % answered they were definitely familiar with the PHQ-2 and the PHQ-9 compared with 0% in the pretest. Another 46.67% responded they were probably familiar, which was expected since only one training would not lead to an overwhelming majority to be strongly familiar with the tools. Moreover, when asked about the frequency for depression screening, 86.67% had the right answer while the pretest showed only 28.57%. A majority of 92.86% answered regular depression screening is important while only 42.86 % gave the same answer before the intervention. Moreover, when asked if only patients who look sad should be screened for depression, the answer showed an improvement of 40%, 93.33 correctly chose “false” while pretest 53.33% chose the correct answer. A number of 3 specific questions addressed the PHQ-2 and PHQ-9; results showed improvements of 66%, 73%, and 80% respectively.

Figure 1

Guidelines and Depression Screening Tools Pretest and Posttest

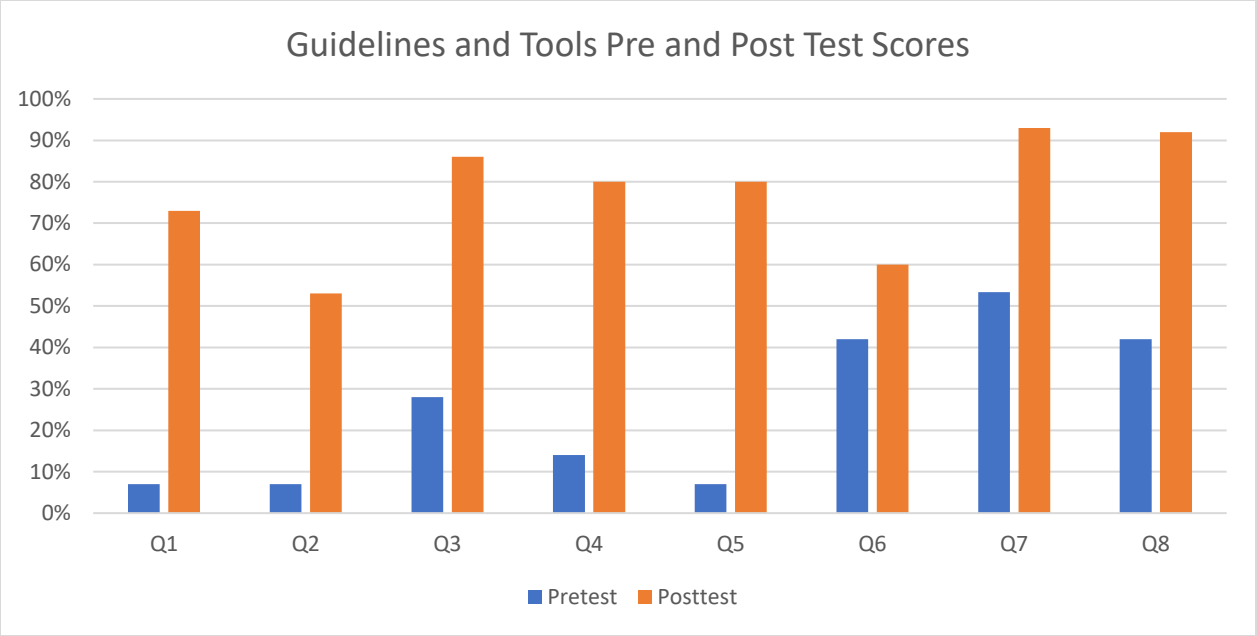
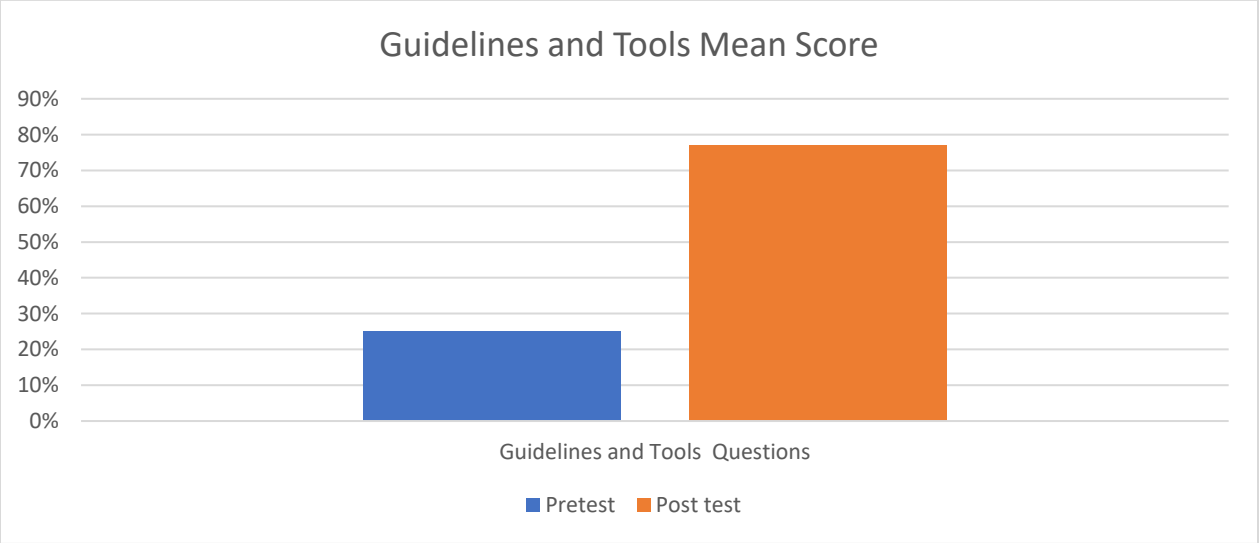


Figure 2

Guidelines and Depression Screening Tools Pre and Posttest Mean Scores



Posttest Knowledge on Depression Symptoms and Screening

The depression screening teaching indicated significant improvement in recognizing depression. Pre intervention, only 7.14% strongly agreed they were knowledgeable about symptoms of depression while 42.86% somewhat agreed and 21.43% strongly disagreed. Post

intervention, 66.67% strongly agreed while 20% somewhat agreed and the “strongly disagreed” category decreased significantly to 6.67%. The ability to screen for depression also revealed significant improvement. Before the education module, a very small percentage of 7.14% responded they strongly felt confident in their ability to screen while 28. 57% were somewhat confident and 35.71% did not feel confident. Following the presentation, 53.33% responded they strongly felt confident in their ability to screen and 46.67% somewhat confident. The number of participants who strongly disagreed in their ability to screen for depression fell to 0%.

Moreover, participants were asked to name three symptoms of depression in both pretest and posttest. Pretest, 40% were able to correctly name 3 symptoms of depression. Post-intervention, however, that number jumped to 73.33%, an improvement of 33.33%. When enquired about specific questions they should ask for when screening for depression, 60% strongly agreed with those questions compared with 100% in the posttest. When asked if patients should be educated to report changes in mood and thoughts of suicide, 53.85% strongly agreed in pretest while posttest 100% strongly agreed. Other questions in that category were multiple choice requiring to identify symptoms of depression, the lowest score pretest was 40% while highest score was 93.33%. Lowest score posttest is 86.67% with satisfactorily 100% scores.

Figure 3

Knowledge on Depression Symptoms and Screening Pre and Posttest

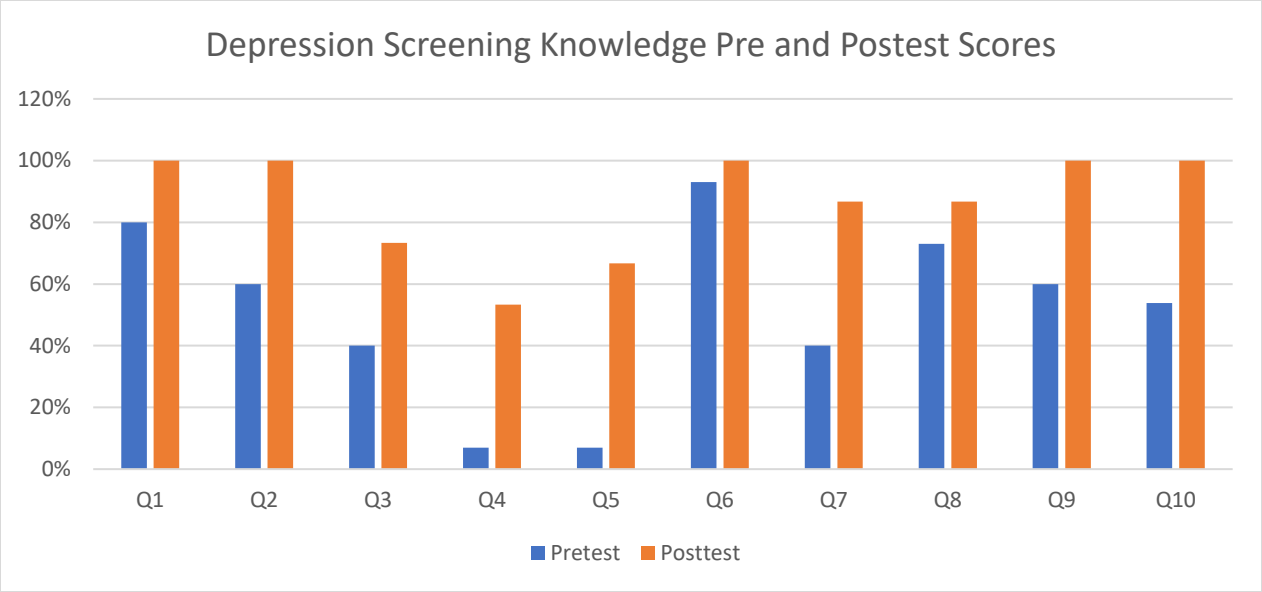
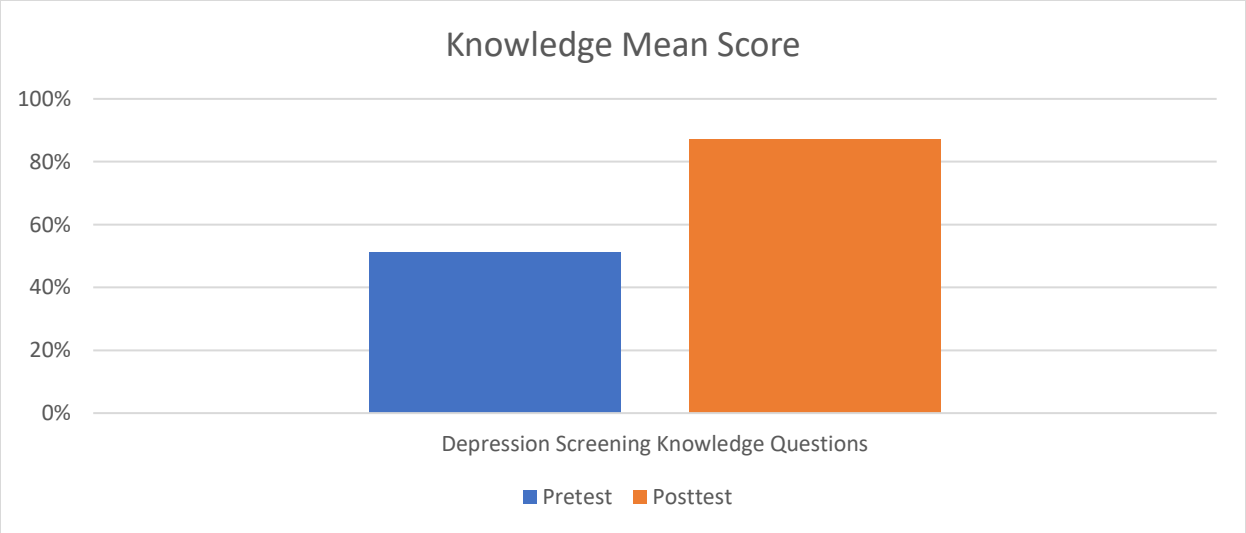


Figure 4

Knowledge Depression Symptoms and Screening Pre and Posttest Mean Scores



Posttest Attitudes and Perceptions on Depression and Depression Screening

Before the educational intervention, 0% of participants strongly agreed they were screening their patients for depression while 7.14% somewhat agreed and 50% strongly disagreed. Post

intervention, number of participants who strongly agreed they screened all their patients for depression increased significantly to 53.33% while 40% somewhat agreed and 0% strongly disagreed. Additionally, posttest results showed the biggest improvement in that category when scored changed from 28.57% to 100% of participants who responded it is definitely important to assess every patient for depression. Moreover, while pretest showed a significant 73.33% of participants correctly identified suicide as the most serious consequence of untreated depression, that score jumped to 100% after the intervention. Furthermore, in pre-intervention, when asked about which group of patients (children, older adults, children) are not affected by depression, 53.33% of participants correctly chose "none of the above." Following the training 93.33% chose the correct answer. Moreover, participants were asked to choose an incorrect statement which was "depression are normal part of aging." Pre-intervention, 40% chose that incorrect statement while post-intervention, 73.33% selected the right answer.

In addition, when asked to select medical and social consequence of depression, 66. 67% selected "all the above" as the correct answer. By contrast, post training, 100% of participants picked the right answer. In regard to prevalence of depression, pretest results revealed 60% selected "false" when question stated depression was very rare affecting one in 50 American Adults. In contrast, 86.67% selected false after receiving the training. Participants were asked about the reasons why screening and treating depression was important. Pretest, 46% selected all of the reasons; however, in posttest survey, the percentage of participants who picked all the reasons increased to 73.33%.

Figure 5

Attitudes and Perceptions on Depression Pre and Posttest Scores

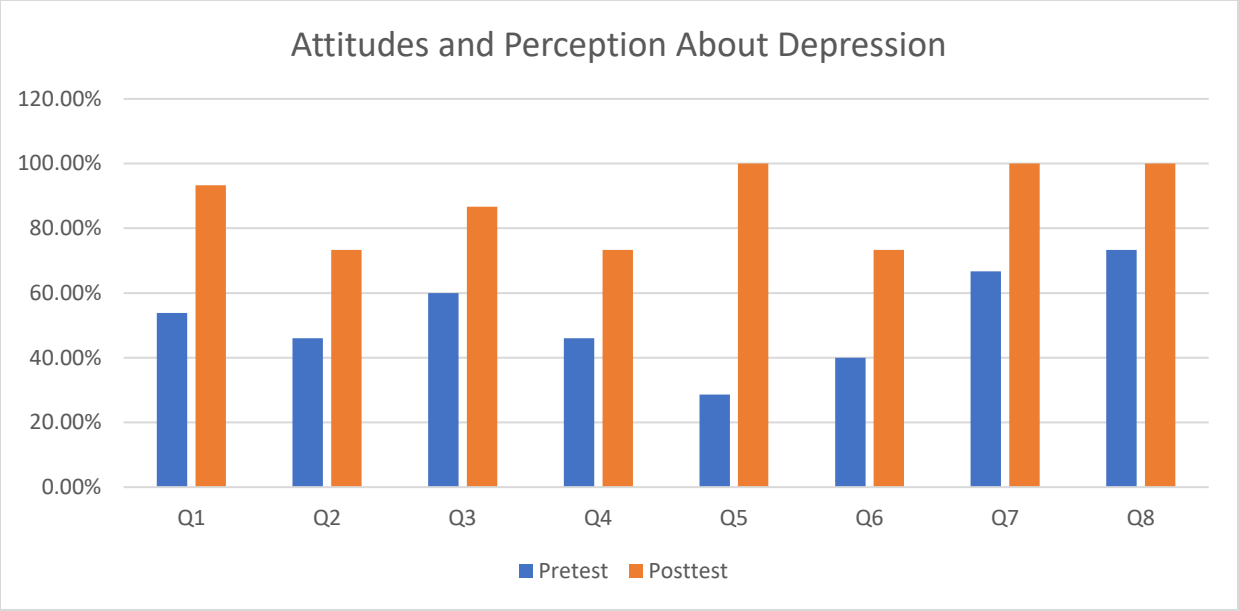
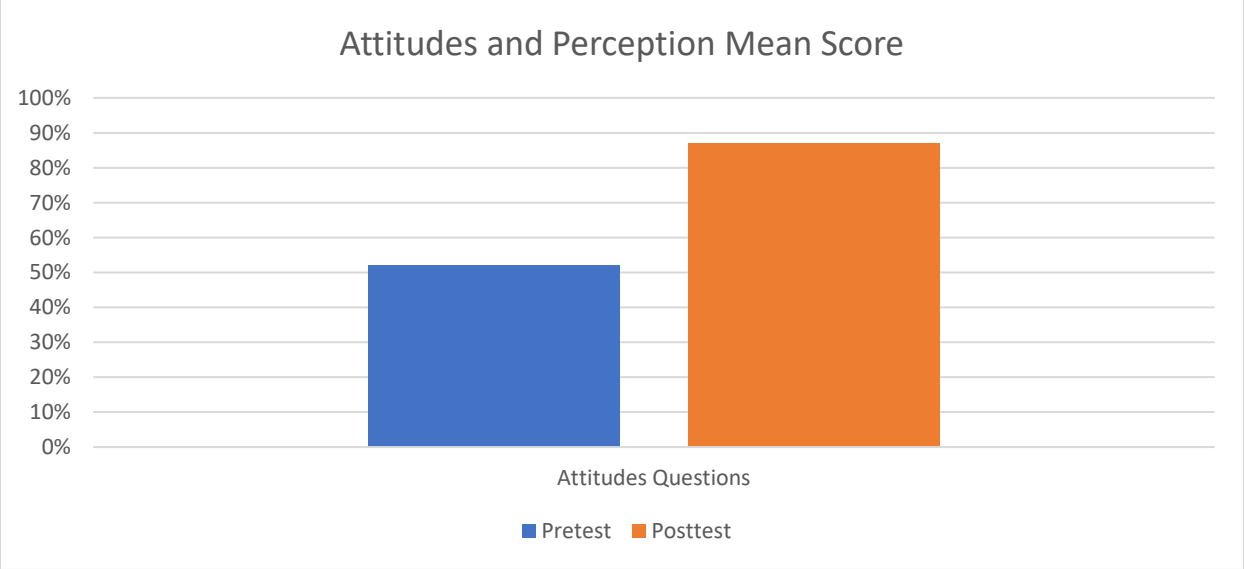


Figure 6

Attitudes and Perceptions on Depression Pre and Posttest Mean Score



Summary of Results

Pretest surveys mean scores showed knowledge deficit in regard to guidelines on depression screening and depression screening tools, deficient knowledge in regard to depression symptoms and screening, as well as negative attitudes and perception about depression and

depression screening. Posttest surveys scores indicated an overall improvement in all three categories showing an average increase of 41% in all three as shown in figure 7. Mean score changes are presented in table 3. The posttest higher scores indicated increased awareness of guidelines, positive knowledge retaining, and improved perception and attitudes.

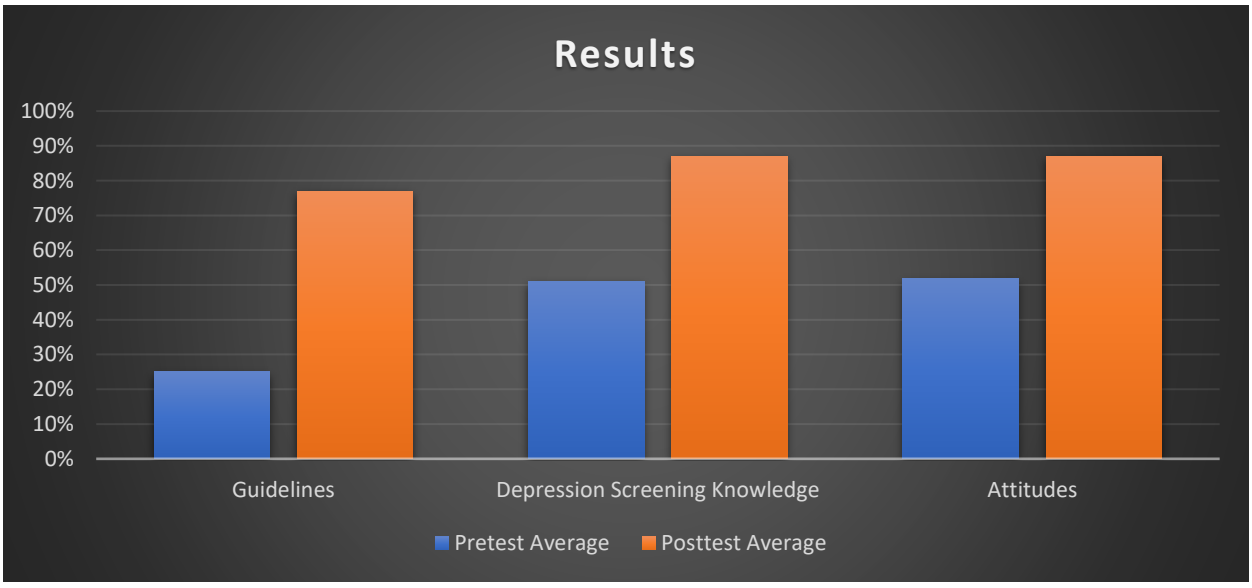
Table 2

Pretest and Posttest Analysis

	Pretest Average	**Posttest Average**	**Change**
Guidelines	25%	77%	+52%
Knowledge	51%	87%	+36%
Attitudes	53%	87%	+35%
Total Average	43%	85%	+41%

Figure 7

Guidelines, Knowledge, and Attitudes Overall Mean Scores



Discussion

This project used a pretest and posttest design to evaluate the knowledge of staff working in a psychiatric rehabilitation facility in regard to depression screening. Participants were taught the latest guidelines on depression screening as well as screening using the PHQ-2 and the PHQ-9 using a 25-minute PowerPoint presentation. The result of the teaching module was measured using a pretest and posttest analysis of acquired knowledge as well as changes in their attitudes and perceptions about depression screening. The pretest survey results revealed that only one participant had prior exposure to depression screening training and was familiar with the guidelines. No participant was familiar with the PHQ-2 and PHQ-9 depression screening tools. The information acquired in the pretest was used as a guide to develop the educational module with an emphasis on increasing staff's knowledge on depression screening.

The results showed a significant difference in scores between the pretest and posttest with an average gain of 41%. The staff training module showed substantial improvement in the familiarity with the guidelines on depression screening, the PHQ-2 and PHQ-9, and increased knowledge of depression screening. In addition, training clinical staff on depression screening enhanced their knowledge level on how to screen for depression with or without depression screening tools. Moreover, the improvement in overall mean scores revealed that clinical staff who never screened their patients for depression changed their attitudes toward screening by gaining the confidence they needed. This improvement is enough to change their self-practices and incorporate what they learned in their patient care encounters.

Those changes in scores are consistent with other research studies and QI projects that trained staff on depression screening. For instance, Jang (2019) implemented a QI project to increase staff knowledge of depression assessment in a medical center in Hawaii. Based on the overall improved scores, Jang suggested that there was improvement in staff knowledge about

depression screening. Also, Brown et al. (2010) evaluated the efficiency of a RCT of a depression screening training program. The findings support the success of such trainings with regard to improvement of skills in depression recognition. Smith (2010) argues that trainings that use traditional approaches rarely change practices. Thus, Smith encourages teachings that help participants learn new skills away from the classroom and into practice settings such as this depression screening training.

Limitations

This project was not without limitations. The first limitation was a lack of a comparison group to compare results with another group who would not have received the educational intervention. The second limitation was the small sample size. A percentage of 80% of the staff at the practice site consented to take part in the study. A larger sample size would have added strength to the results. Moreover, the logistics in which the PowerPoint presentation was delivered online to adjust to social distance imposed by COVID weakened the strength of the study. The online presentation gave participants the opportunity to revisit the information. A live presentation would have tested their knowledge without the information being available to revisit. Lastly, the staff at the practice site is mostly African American female resulting in a sample that was overwhelmingly African American female. Thus, the sample may not represent a more diverse healthcare staff in other settings. Nevertheless, the positive results of the project support the effectiveness of these types of educational interventions in other healthcare settings that want to increase their staff's depression screening skills.

Implications for Nursing Practice

The role of evidence-based practice in delivering high-quality health services is internationally recognized as an ideal problem-solving approach. Evidence-based practice

highlights the use of the best research and allows health professionals make more effective health care decisions (Stokke et al., 2014). Yet, despite gaining popularity, lack of implementation of evidence based in the delivery of healhcare continues to be a problem. This results from the failure of disseminating research and translate new knowledge into practice. Although nurses value evidence based practice, they do not always implement evidence base practice. Factors such as time constraints, inadequate understanding of statistical terms, and inability to understand the language used in research articles have constituted major roadblocks in the implementation of evidence based practice (Majid, et al., 2011). Therefore, healthcare facilities have a reponsibility to provide educational trainings that are accessible to their nursing staff. This evidence based training has the potential to improve depression screening skills knowledge while allowing clinical staff to incorporate evidence based practice screening in their daily routine. For this purpose, the Powerpoint presentation as well as other resources will be made available in a folder for clinical staff at the facility to consult at anytime.

The sustainability of such project will no doubt be challenging. Although the project received fervent support at the leadership level, at the staff level the reception has been less enthusiastic. Jones et al. (2019) describe the multiple challenges in designing, delivering, and sustaining an improvement project. Such challenges range from persuading staff that there is problem that needs to be addressed through keeping them engaged throughout the project as other clinical urgencies may compete for their interest (Dixon-Woods et al., 2012). Moreover, the organizational culture and the extent to which they are willing to question existing practice and try new ideas may constitute an important barrier to sustain this evidence-based intervention.

The next step for this QI project is to develop and implement short term and long-term strategies that reinforce the importance of depression screening in every patient encounter. Short-

term strategies include information technology involvement for changes in the electronic medical record. Suggested changes include the development of a depression screening component where provider will not be able to sign a record without filling the depression screening part. Incorporating depression screening as part of daily routine assessment has the potential to improve patient care. Additionally, this one training session will not be enough to motivate staff to adhere to guidelines. Educational trainings are more effective when combined with managerial approaches that create an environment that improves healthcare workers' job satisfaction and enhance motivation (Egger, et al., 2017). Multiple component interventions are more effective at improving adherence to clinical guidelines than single component ones (Egger, et al., 2017). Performance feedbacks and continuous education sessions have the ability to cement newly acquired knowledge and facilitates dissemination of best practices (Egger, et al., 2017). Moreover, due to the significant improvement in post intervention scores, the results of this study can be presented in other healthcare facilities in an effort to improve depression detection and recognition, and thereby, improve patient outcome. Thus, long term strategies is to disseminate this project outside the practice site and develop manuscripts that can be published in nursing journals. Other potential avenues of dissemination include conferences and workshops.

Conclusions

The clinical relevance of this quality improvement project lied in the complication of caring for patients with comorbid depression and substance use disorders. Misdiagnosing depression remains an issue. Hence, stress was placed on the significance of educating clinical staff on depression along with implementation of screening instruments. The primary purpose of the project was to enhance clinical staff's knowledge on depression screening in patients with substance use disorders. The positive increase in posttest survey mean scores indicates that the

intervention was effective at improving clinical staff's depression screening skills. The findings are being used to demonstrate the importance of education for staff in becoming proficient in clinical skills such as depression screening. Evidenced-based education training can improve knowledge and increase skills competency to use depression screening tools efficiently to screen for depression in substance abuse facilities. Moreover, the success of such educational programs can promote the use of evidence-based practice in advance practice nursing for improvement in patient care.

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Appendix A

Letter of Support

Galt Ocean
Rehabilitation Center Phone: 954-804-6607
4001 North Ocean Dr
Fort Lauderdale, Fl
33309

Dr. Charles Buscemi
Clinical Associate Professor

Florida International University
11200 SW 8th St,
Miami, FL 33199

Dear Dr. Buscemi, **01/24/2021**

Thank you for inviting Galt Ocean Rehabiliation Center in the DNP project of Myrlene Merveille. I understand that this student will be conducting this project as part of the requirements for the Doctor of Nursing program at FIU. After reviewing the purpose of the project, which is to enable clinical staff to increase their knowledge of depression screening, I have decided to grant her permission to implement the project in our facility.

We understand the the project will be developed in our settings and will occur in two sessions in a two week time frame, and will probably continue afterward. We are also aware of the participation of our staff in volunteering for the project, including giving access to the facility, giving informed consent, completing the pre and post test questionnaire, and attending the educational session. We will provide a peaceful environment to ensure our participants' privacy as well as adequate area to ensure success of the project.

We also understand that prior to the implementation of the project, The Institutional Review Board of FIU will review the project and provide approval. Our institution will not conduct such review as Myrlene ensured us it is a non research project that will not lead to any harm to participants. We believe our facility will benefit from this quality improvement project as evidence suggests that adequate training is efficient at increasing knowledge of depression screening and, thereby, increasing depression recognition.

We expect that Myrlene will not disrupt normal staffing and she will conduct herself in a professional manner worthy of a DNP student, and she will follow the faciltity's rules and regulations. As a member of administratrion of Galt Ocean Rehab Center, I support the participation of our clinical staff in this project and look forward to working with you.

Sincerely,

Martine Phillips

Appendix B

IRB Approval Letter

FIU | FLORIDA INTERNATIONAL UNIVERSITY

Office of Research Integrity
Research Compliance, MARC 414

MEMORANDUM

To: Dr. Charles Buscemi
CC: Myrlene Merveille

From: Maria Melendez-Vargas, MIBA, IRB Coordinator

Date: February 23, 2021

Protocol Title: "Implementing an educational intervention to increase the knowledge of depression screening and assessment among clinical staff working in a psychiatric rehab facility: A quality improvement project"

The Florida International University Office of Research Integrity has reviewed your research study for the use of human subjects and deemed it Exempt via the **Exempt Review** process.

IRB Protocol Exemption #: IRB-21-0066 **IRB Exemption Date:** 02/23/21
TOPAZ Reference #: 110048

As a requirement of IRB Exemption you are required to:

1) Submit an IRB Exempt Amendment Form for all proposed additions or changes in the procedures involving human subjects. All additions and changes must be reviewed and approved prior to implementation.
2) Promptly submit an IRB Exempt Event Report Form for every serious or unusual or unanticipated adverse event, problems with the rights or welfare of the human subjects, and/or deviations from the approved protocol.
3) Submit an IRB Exempt Project Completion Report Form when the study is finished or discontinued.

Special Conditions: N/A

For further information, you may visit the IRB website at http://research.fiu.edu/irb.

MMV/em

Appendix C

Recruitment Letter

From: Myrlene Merveille

Date: Friday, February 5, 2021

To: Galt Ocean Rehab Facility Staff

Subject: Implementing an educational intervention to improve the knowledge of depression screening and assessment: A quality improvement project

Dear Clinical Staff at Galt Ocean Rehabilitation Center,

My name is Myrlene Merveille and I am a student from the Graduate Nursing Department at Florida International University. I am writing to invite you to participate in my quality improvement project. The goal of this project is to provide an educational intervention to clinical staff to enable them to increase their knowledge in depression screening. You are eligible to take part in this project because you are a clinical staff at Galt Ocean Rehabilitation Center. I am contacting you with the permission of the administration of the facility.

If you decide to participate in this project, you will be asked to complete and sign a consent form for participation. Next, you will complete a pre-test questionnaire online, which is expected to take approximately 5-15 minutes. You will then be asked to view an approximately 20-minute-long PowerPoint educational presentation virtually. After watching the presentation, you will be asked to complete the post-test questionnaire online as well, which is expected to take approximately 5-15 minutes. *No compensation will be provided.*

Remember, this is completely voluntary. You can choose to be in the project or not. If you'd like to participate or have any question about the project, please email or contact me at mmerv006@fiu.edu and telephone number 786-214-0989

Thank you very much.

Sincerely,

Myrlene Merveille, MSN, APRN, PMHNP-BC

DNP Student

Florida International University

Appendix D

Data Collection Instruments

Pre and Post-test Survey

FIU | FLORIDA INTERNATIONAL UNIVERSITY

PRETEST-POSTTEST

Implementing an educational intervention to improve the knowledge of depression screening and assessment among clinical staff in a psychiatric rehabilitation facility

Introduction:

This questionnaire is an essential part of a quality improvement project aiming to increase clinical staff knowledge regarding depression screening in patients with substance use disorders through an educational program.

Please, answer to the best of your knowledge. Your response will help to understand gaps in knowledge and provide room for improvement. The questions are structured to assess your understanding regarding depression symptoms, depression screening, depression assessment in patients with substance use disorders.

Demographics:

Gender: Female _____ Male _____

Age: _____

Ethnicity:

A. Hispanic

B. African American

C. Non-Hispanic White

D. Asian

E. Other

Current Job Title:

A. Certified Medical Assistant (CMAs)

B. Registered Nurse (RNs)

C. Advanced Practice Registered Nurse (APRNs)

D. Social Worker

E. Activity Therapist

How many years of experience do you have in the field?

A. Less than 1 year
B. 1 to 5 years
C. 6 to 10 years
D. 11 to 20 years
E. More than 20 years

Questionnaire:

Assessment of guidelines knowledge

1. Have you received any type of training regarding depression screening?

_____none _____not sure ____yes

If yes, how many? _____

2. Please respond to the following statements:

Statement	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
I am very familiar with the latest recommendations of depression screening					
I am knowledgeable about symptoms of depression					
I screen every patient I encounter for depression					
I am confident in my ability to screen for depression					

3. Do you use any standardized tool to assess for depression?

   _____yes ____not sure _____no

4. Are you familiar with the Patient Health Questionnaire 2 and Patient Health Questionnaire 9?

5. The PHQ-2 depression screening instrument is. Select all that apply.

   a shorter version of the PHQ-9

   Contains the first 2 items of the PHQ9

   If patients score positive, they should be evaluated further with the PHQ-9

   A score of 3 or more is positive

6. If a patient scores 25 on the PHQ-9

   Refer the patient to a mental health provider

   Do nothing because it is a normal score

   It indicates severe depression

   Both A and C

7. A score of 10 to 14 on the PHQ-9 screening instrument indicates

   Severe Depression

   Mild depression

   Moderate depression

   Minimal depression

8. Do you consider it important to assess every patient for depression?

____yes _____not sure _____not at all

9. How often depression screening should be done?

_____each shift _____daily

_____monthly _____ only during admission

10. Which of these patients should be referred to a mental health provider for depression follow-up?

_____ a 22 year old woman who just got married and is happily expecting her first child

_____a college student who is graduating from college in 3 months

_____a patient who is socially isolated, has lost weight significantly, and feels worthless

_____an 80-year-old female who keeps forgetting where she puts her things

11. All of those patients meet criteria for referral for depression, *except*

_____A patient who lost appetite and complains of sadness for the past 2 weeks
_____A patient who is sleeping all day for no reason and reports hopelessness
_____A patient who reports excessive guilt and recurrent thoughts of death
_____A patient who reports significant weight loss after enrolling in a diet program

12. Which is the most serious consequence of untreated depression?

___ Suicide
____ Hospitalization
____ Disability
____ Aggression

13. In patients with a history of depression, the management should include: *Select all that apply*

_____ suicide risk screening

_____referral to a mental health provider

_____use of antidepressant medications

_____psychotherapy

14. Which one is a symptom of depression?

_____Significant weight loss when not dieting

_____diarrhea

_____headache

_____vomiting

15. Which one is a symptom of depression?

_____insomnia or hypersomnia

_____chest pain

_____fever

_____cough

16. Which one is not a symptom of depression?

_____fatigue

_____sadness

_____lack of interest in pleasure

_____feeling of worthlessness

_____headache

17. Which of the following group of people are not affected by depression?

____Older adults

____Children

____Adolescents

____None of the above

18. Why is it important to screen and treat depression? *Select all that apply*.

___decrease in hospitalizations and healthcare costs
___Reduce mortality
___Promote quality of life
___It is not important

19. Which statement is not true?

___Depressive symptoms are normal part of aging
___Stressful life events can lead to depression
___Heritability accounts for developing depression
___Chronic medical conditions can lead to depression

20. All of these can be associated with depression-like phenomena, *except*

_____Prescribed medications

_____Substances of abuse

_____Several medical conditions

_____Exercise daily

21. Which of these is associated with depression?

____Low employment
____Unstable relationship
____Low education
____Persistent and severe secondary disorders
____All of the above

22. Give 3 symptoms of depression

1____

2____

3____

23. Why is training for depression important? *Select all that apply*

_____Provide evidence-based knowledge

_____ Provide confidence to refer patients

_____to increase the rate of depression screening

_____It is not important

24. In your opinion, why are healthcare providers do not comply with depression screening.

Select all that apply.

___Lack of knowledge about depression screening
___Lack of knowledge about depressive symptoms
___Perceive it is not necessary
___Time consuming
___Lack of an established guideline

True or False

25. Only patients who look sad should be screened for depression

T F

26. Asking patient questions about depression can make them suicidal

T F

27. Depression is a serious condition that can lead to disability

    T F

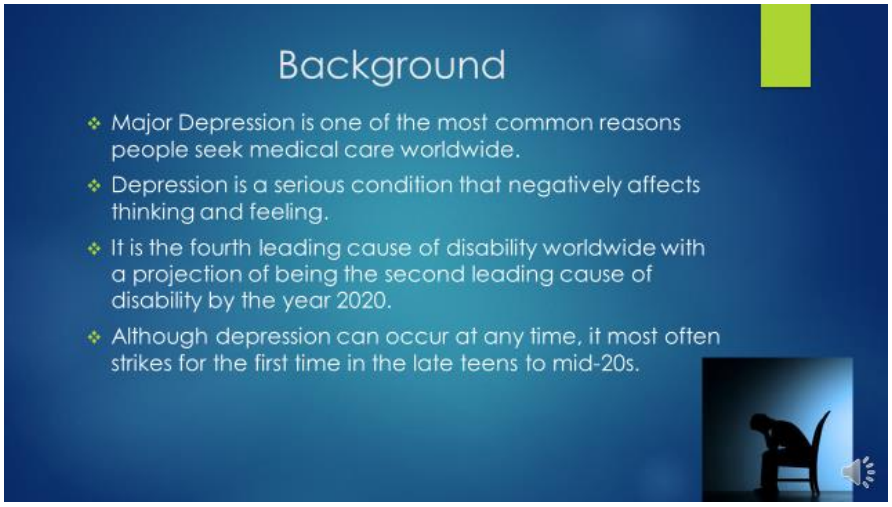
28. According to the Centers for Disease Control, depression is very rare and affects only one in every 50 American Adult.

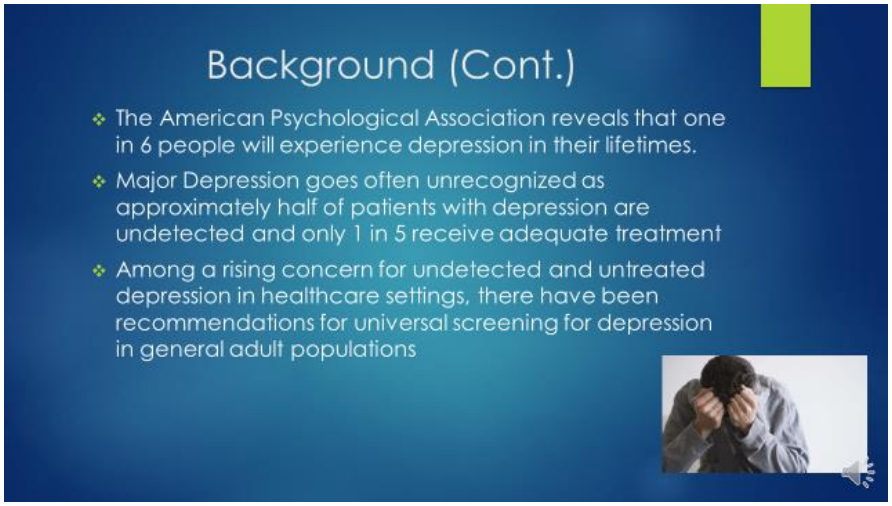
29. Please, answer the following statements

Statement	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
When assessing for depression I should ask patients about mood, appetite, sleep, and thoughts of death					
It is important to assess patients frequently for depression symptoms					
Patients should be educated about signs of depression					
Patients should be reminded to report changes in mood and thoughts of death					

Appendix E

PowerPoint Presentation

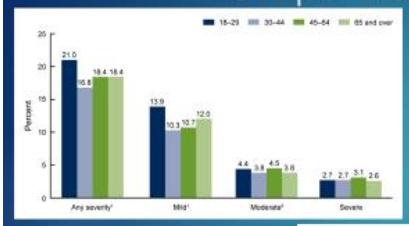


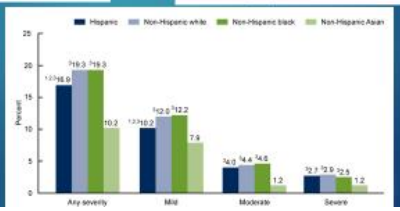


Statistics

- An estimated number of 17.3 million adults (7.1 %) in the United States had at least one major depressive episode in 2017.
- Females are disproportionally affected by depression with a prevalence of 8.7% compared to males 5.3%.
- The prevalence of individuals who suffer from Major Depression is higher in those between the ages of 18 to 25
- Approximately 2.3 million adolescents aged 12 to 17 in the United States had at least one major depressive episode with severe impairment in 2017
- 3.2% of children aged 3-17 years (approximately 1.9 million) have diagnosed depression

Graphic Statistical





Characteristics

- Depression is associated with an increased suicide rate
- Strong tendency for recurrence
- Depression is not normal part of aging
- Low detection and recognition rates
- Depression strikes across gender, race, age, and class boundaries

Depression and Substance Use

- Depression is 3 to 4 times more likely in individuals with substance use disorder than those without
- Individuals suffering from both depression and substance use experience more intense depressive symptoms
- Greater functional impairment, and more attempts at suicide than those with either condition alone


Depression and Substance Use (Cont.)

- The majority of individuals with substance use disorders and comorbid psychiatric illness have never received treatment for their mental disorder
- Often, depression goes undetected and untreated in substance abuse individuals

Consequences of Untreated Depression

- Major depression is associated with several adverse outcomes
  - Low education
  - Unstable relationship
  - Persistent and severe secondary disorders
  - High risk of mortality
  - Suicide, which is the most serious consequence


Conditions that Can Lead to Depression

- Prescribed medications
- Substances of abuse
- Several medical conditions
- Stressful life events
- Heritability

Symptoms of MDD

- Depressed mood most of the day, nearly everyday
- Markedly diminished interest or pleasure in all or almost all activities most of the day
- Significant weigh loss when not dieting or weight gain
- Insomnia or hypersomnia nearly everyday
- Psychomotor agitation or retardation nearly everyday
- Fatigue or loss of energy
- Feeling of worthlessness or inappropriate guilt
- Diminished ability to concentrate
- Recurrent thought of death, recurrent thoughts of suicide

Diagnosis of MDD

- Major depressive episode is defined by presence of five or more of those symptoms (presented on the next slide) during the same 2 weeks period
- Symptoms represent a change from previous functioning
- At least one of the symptoms is either depressed mood or loss of interest or pleasure

SIGECAPS

- S • Changes in sleep pattern: Insomnia or hypersomnia
- I • Changes in interests or activity
- G • Feelings of guilt or increased worry
- E • Changes in energy
- C • Changes in concentration
- A • Changes in appetite
- P • Psychomotor disturbances
- S • Suicidal ideation

Screening Questions

- Over the last two weeks
- Have you felt down or sad?
- Have you felt little interest or pleasure in doing things? Have you lost motivation?
- Have you been sleeping too much or not en... How many hours you sleep at night?
- Have you lost weight recently? How is your a...
- Do you feel like staying in bed all the time?

Screening Questions (Cont.)

- Are you feeling suicidal?
- Do you feel life is worth living?
- Are you feeling hopeless, helpless?
- Do you have any feeling of guilt?

Recommended Tools

- **PHQ-2:** Patient health Questionnaire 2
  - Shorter version of the PHQ-9
  - Contains the first two items of the PHQ-9 (interest or pleasure, feeling down or depressed).
- **PHQ-9**: Patient Health Questionnaire-9
  - Contains 9 items based on criteria for depressive disorders from the DSM-V on slide 8
  - Each item scores between 0 and 3.
  - Score of 1-4 indicates minimal depression
  - 5-9 mild
  - 10-14 moderate depression
  - 15-19 moderately severe depression
  - 20-27 suggests severe depression.

The PHQ-2

PHQ-2 Questions

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
Little interest or pleasure in doing things	0	1	2	3
Feeling down, depressed, or hopeless	0	1	2	3

- A cut-off score ≥ 3 is positive

The PHQ-9

Table 4. Patient Health Questionnaire-9: Screening Instrument for Depression

Over the past two weeks, how often have you been bothered by any of the following problems?	Not at all	Several days	More than one-half the days	Nearly every day
Little interest or pleasure in doing things	0	1	2	3
Feeling down, depressed, or hopeless	0	1	2	3
Trouble falling or staying asleep, or sleeping too much	0	1	2	3
Feeling tired or having little energy	0	1	2	3
Poor appetite or overeating	0	1	2	3
Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
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
Thoughts that you would be better off dead, or of hurting yourself in some way	0	1	2	3
		Total: ____ +	____ +	____

Interpretation

Total score	Depression severity
1 to 4	Minimal
5 to 9	Mild
10 to 14	Moderate
15 to 19	Moderately severe
20 to 27	Severe

Adapted from patient health questionnaire (PHQ) screeners. http://www.phqscreeners.com. Accessed September 6, 2017.

Screening Guidelines

- Screening is recommended for the general adult population for depression especially when healthcare providers trained for depression screening are available
- Initial assessment in substance abuse settings should include screening for depression
- Clinical staff should continue screening for depression at the start of their shift

Importance of Screening and Treating Depression

- Decrease in hospitalizations
- Decrease in healthcare costs
- Reduce mortality
- Promote quality of life

Why Healthcare Workers Don't Comply with Depression Screening

- Lack of knowledge about depression screening
- Lack of knowledge about depressive symptoms
- Perceive it is not necessary
- Time consuming
- Lack of an established guideline

Importance of Depression Training

- Provide evidence-based knowledge
- Provide confidence to refer patients
- Increase the rate of depression screenin
- Improve patient care

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Appendix F

Project Timeline

Activity	**Plan Start**	**Plan Finish**	**% Finish**	Aug-Dec 2020	Jan-Feb 2021	March 2021	April 2021
PROJECT DEVELOPMENT Evidence-based Research Clinical problem Literature Review Organizational Assessment Project Proposal	September 2020	April 2021	100%	X			X
IRB Application Submission	February 2021				X		
IRB Approval			February 2021		X		

Activity	**Plan Start**	**Plan Finish**	**% Finish**	April-July 2021	May 2021	June 2021	July 2021
PROJECT IMPLEMENTATION Educational Intervention Pre and Posttest Surveys Data Collection	April 2021	June 2021	100% 100%	X X	X		
Project Evaluation Data Analysis	May 2021	June 2021	100%		X	X	
Project Presentation Dissemination	July 2021	July 2021	0				X

Appendix G

Poster

A QI Project to Improve Knowledge of Depression Screening in a Psychiatric Rehab Facility

Myrlene Merveille, DNP, APRN, PMHNP-BC
Dr. Charles Buscemi, PhD, APRN, Clinical Associate Professor
Martine Philipps, APRN, FNP, PMHNP-BC

Nicole Wertheim College of Nursing and Health Sciences, Florida International University, Miami, FL

Background

Depression is the most common of mental disorders in the United States affecting a significant portion of the population. Despite the serious consequences of untreated depression, depression screening remains a challenge across healthcare settings prompting the United States Prevention Task Services to develop strong recommendations to improve screening and treatment. Yet, despite those recommendations, lack of knowledge and lack of training continue to impede this process.

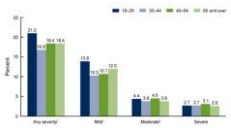
Purpose

The purpose of this quality improvement project was to increase knowledge of depression screening skills and assessment of clinical staff working at a psychiatric rehabilitation facility.

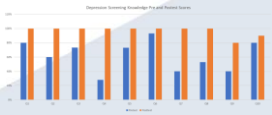
Method

A total of 15 participants completed an online pretest survey to assess their baseline knowledge on depression screening and assessment. This was followed by a virtual education module delivered online via PowerPoint presentation. Then, 4 weeks after, participants completed an online posttest survey to evaluate knowledge gained.

Depression Statistics



Screening guidelines



Results

Results show overwhelming improvement in all categories meaning the training has been successful . Educational training programs are effective at improving staff knowledge in depression recognition

Conclusion

The primary purpose of this project was to increase clinical staff's knowledge of depression screening and assessment in patients with substance use disorders. The findings are being used to demonstrate the importance of education for staff in becoming proficient in clinical skills such as depression screening

Evidenced-based education training can improve knowledge and increase skills competency to use depression screening tools efficiently to screen for depression in substance abuse facilities

FIU Nicole Wertheim College of Nursing & Health Sciences