Implementation of the PHQ-9 in an Acute Care Setting: To Improve Admission Diagnosis of Depression

Dorine Blanco

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Michelle McGonigal DNP, RN NE-BC

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Abstract

Introduction: Mental illness consists' of diagnosable mental disorders, one of them is depression, and if identified early, quality of life outcomes will increase. The purpose of this quality improvement project was to introduce the Patient Health Questionnaire -9 into an Acute Care setting to screen adult patients ages 20 to 65+ years for depression upon admission to begin early treatment.

Research Methodology: The integrative review was based on the literature search of screening patients for depression in an acute care setting. Four databases were searched in the Chamberlain University library (CINAHL, PubMed, Academic Search Complete, and MedLine), selecting studies published between January 2015 and August 2020. Initial searches yielded a total of 88 articles assessed for relevance from the databases, articles relevant for integrative review 5. Relevant articles identified from reference list 26, articles relevant for integrative review 10. Total articles for integrative review 15. Inclusion criteria: were published between 2015 to 2021; English language; screening depression in acute care settings; patients age 20 to 65+ years old; and acute conditions (diabetes, hypertension, and heart disease). Excluded were patients who did not have inclusion criteria and studies that only focused on the questionnaire tool and not its effect on patient care.

Results and Discussion: The search of the literature analysis of the studies and results of the integrative review shows that the Patient Health Questionnaire-9 was well represented in the literature and has proven to be a useful instrument to identify patients who have depression. Relevant data gathered for the integrative review were divided into four major themes to show the overall impact and positive outcomes of the PHQ-9 in different studies. They were ‘background of depression,’ ‘tools used to screen for depression,’ ‘patient health questionnaire

and implementation' and 'considerations and challenges for implementation.' Also included were three subthemes that continued to identify the PHQ-9 and how it had positively affected the population in question: 'specific diagnosis,' 'specific settings' and 'validity and reliability.'

Conclusions and Further Recommendations: It is recommended that nursing staff demonstrates competency in recognizing patients with mild, moderate, and severe depressive symptoms; when to notify a clinician to begin treatment on the patient; how to effectively answer questions regarding depression and provide education; and when to implement the nursing care plan specific to patient care.

keywords: Adult depression, depression screening in primary care and acute care settings, Patient Health Questionnaire-9.

Dedication

First and foremost, I want to give a glorious thank you to my lord, my king Jesus Christ. I would never have made it without him. This is dedicated to my late father, Sonny Rice, who has always been there for me and still is. I also will like to dedicate this to my mother, Doretha Rice-Mcduffie, whom I admire dearly for her strength and encouragement to her children. May I always remember her phrase “God bless the child who has their own” so that I may pass it along to the new generation. To my siblings, whom I love dearly, for understanding why I was not always there, thank you (Joann, Robin, Lawanda, Thomas, and Luther). I also want to thank all my nieces and nephews. May you journey to be the best you can be. They always say leave the best for last, so I dedicate this to the ones who stood by me the most, my loving husband for over 30 years, Peter and our daughters Taishari, Nativiana, and Heaven, along with my granddaughter Wynter and dog-son Mookie. I love you all forever, a day, an hour, a minute, a second, and a breath. May you all pursue greatness with God’s grace beside you.

Acknowledgments

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Contents

Implementation of the PHQ-9 in a Post-Acute Care Setting:

To Improve Admission Diagnosis of Depression

Mental health is the absence of mental disorders and the ability to function independently and thrive within society. Mental illness consists' of diagnosable mental disorders that affect alterations in thinking, mood, or behavior associated with distress and impaired functioning (Nies & McEwen, 2015). Depression, a mental illness, is underdiagnosed and undertreated, yet around 350 million people live with depression globally (Minallah, Azam,& Merani,2019). Why does depression remain undiagnosed and untreated? According to Mihaly, Rudis, and Woods (2017), complaints of sleep disturbances, mood changes, and appetite changes may be dismissed by healthcare providers who may not realize depression may be the underlying condition. For the elderly, depression can be confused with dementia, and the right treatment plan is not in place (Mihaly et al., 2017). How can healthcare providers identify depression early in their patients to begin treatment? Major depressive disorder (MDD), a mental illness, is estimated to affect around 16 million Americans and is the leading cause of disability worldwide (The American Psychiatric Association Foundation, 2020). Many people are affected by major depressive disorder, and many are not diagnosed unless they are screened by a medical professional. Screenings for depression can be done at a physician's office, outpatient clinic, hospitals, and long-term care facilities by healthcare professionals trained to assess patients for depression and use an instrument to identify depressive symptoms.

The purpose of the proposed Doctor of Nursing Practice (DNP) project was to improve quality care through patient-centered care for patients seeking treatment for depression upon admission to a Post- Acute Care Setting. The aim was to see if early treatment for patients diagnosed with depression after being screened using the PHQ-9 shows an improvement of

depressive symptoms within two weeks from date of admission, then eight to ten weeks before their discharge date. The DNP project focused on the practicum site issue of not screening and treating depressive symptoms in newly admitted patients using their current assessment tool and how the PHQ-9 was a flexible and reliable tool to improve patient care. The problem of depression was viewed on the global, national, and local levels where healthcare workers have had similar issues in their organizations. This project was conducted to determine the severity of depression for newly diagnosed patients screened using the PHQ-9, provide interventions, assess its predictors, and suggest recommendations for prevention.

Problem Statement

There are other reasons mental illness may go unnoticed in patients. Mental illness can carry a social stigma, and many people may feel embarrassed to mention they struggle with depression and may withhold this information from the healthcare provider (Mihaly et al.,2017). This leads to inquiry: If an adult patient at a local Post-Acute Care facility was screened on admission using the PHQ-9, will early diagnosis and treatment of depression prove effective during their stay and after discharge compared to current practice. An integrative review of the literature supporting the intervention of the PHQ-9 (Appendix B) was completed. Studies supported that the PHQ-9 can be implemented as an evidenced-based tool to screen patients on admission and within two weeks of stay at the facility.

Significance of the Practice Problem

The population age range at the practicum site was from 20 to 65+ years old. The problem identified by decision-makers was that approximately 75 percent of their patients began treatment within three to five days of admission or may not have had treatment at all. According to Tesky et al. (2019), major depression in the German healthcare system was diagnosed in a

mere 42.9% of nursing home residents with the disease. Only half of them received appropriate therapy. When this happens, patients were admitted into a facility without having been treated for depression. In other cases, budget cuts may have reduced the kinds of services that were available for the patient leading to not having enough qualified professionals to diagnose and treat depression (Mihaly et al., 2017).

According to the National Network of Depression Centers (2018), these were the facts about depression on a national level: (a) economic impact, $210.5 billion lost earnings per year due to severe mental illness; (b) treatment, 80% of those treated for depression showed an improvement in symptoms within four to six weeks of starting treatment; (c) research funding, one in five Americans will be impacted by mental illness during their lifetimes; (d) suicide, there was one death by suicide every twelve minutes in the United States; and (e) veterans, only half of all returning veterans who needed mental health treatment receive it. On a global level, In 2017, an estimated 264 million people experienced depression (National Network of Depression Centers, 2018). Psychiatric instability contributed to low functioning and high rates of acute healthcare use among individuals with serious mental illness (SMI); psychiatric instability also imposed a practice problem across our nations when patients with depression were not identified early enough to receive proper treatment (Pratt, Naslund, Wolfe, Santos & Bartels, 2015). In 2011 and 2012, the percentage of users of long-term care services with a diagnosis of depression was highest in nursing homes (49%) and home health agencies (35%), and lowest in residential care communities (25%), adult day services centers (24%), and hospices (22%). The percentage of users with a diagnosis of depression in nursing homes (49%) was approximately twice that of those in adult day services centers (24%) or residential care communities (25%) in 2012 (CDC.gov, 2014).

IMPLEMENTATION OF THE PHQ-9

Admitting patients with mental illness into a nursing home had become familiar to many local nursing home settings and practicum sites. Since the COVID-19 pandemic, there had been an increase in the admission of patients admitted to nursing home facilities. This increase in admissions impacted nursing when there was a shortage of staff to care for patients diagnosed with COVID-19. One of the problems many patients faced who have COVID- 19 was stress. This caused a lack of sleep, decreased appetite, worsening of a chronic condition, and mental health conditions (CDC.gov, 2019). It also impacted facilities and nursing by needing more healthcare providers to care for patients with depression. Maintaining appropriate staffing in healthcare facilities was essential in providing a safe work environment for healthcare personnel (HCP) and safe patient care (CDC.gov, 2019). Organizations could improve their competencies with basic depression screenings to provide health services to older adults, primarily when related to the provision of social support and the anticipated incidence of depression in the nursing home (Wahyuni, Shahdana & Armini, 2019). Adding the PHQ-9 to the current admission assessment tool at the practicum site could lead healthcare providers to treat early-onset depression with patients receiving follow-up while still at the facility.

When it comes to patients' legal rights with mental illness, The Mental Healthcare Act 2017 (MHCA 2017) explicitly examined the rights of Patients With Mental Illness (PWMI). It recommended the ethical and legal responsibilities of mental health professionals and the government (Bipeta,2019). The patient's rights with mental illnesses were the same as any other patient seeking treatment at a facility. Such rights translated into the ethics of psychiatric care that related to respect for autonomy; the principle of non-maleficence, beneficence, and justice; confidentiality (and disclosure); boundary violations; informed consent; and involuntary treatment (Bipeta,2019).

Translation Science Framework

Translational science was a new way of investigating how to improve patient care and outcome in organizations. According to Titler (2018), healthcare practices were evidence-based to guide delivery, but many organizations did not use this as a part of their routine practice. The result of this made for a gap in the practice. The difference between the availability of evidence-based practice (EBP) recommendations and application to improve patient care and population health was linked to poor health outcomes (Titler, 2018).

This DNP Student practicum project's translational science model was the Knowledge-to- Action model (KTA). Dr. Ian Graham and colleagues at the University of Ottawa developed the KTA model to integrate knowledge creation and knowledge application (White, Dudley-Brown, & Terhaar, 2016). The KTA framework was intended to help those concerned with knowledge translation deliver sustainable, evidence-based interventions (Titler,2018). The KTA was described as a funnel, where new Knowledge moved through the top end of the funnel and was then processed as it progressed to the end of the funnel. According to White et al. (2016), the funnel represented new Knowledge as it moved through the stages until it was adopted and used. The new Knowledge was developed so that those most likely to benefit could easily apply the Knowledge (White et al.,2016).

The seven phases used in the KTA model were operationalized for each of the primary areas related to the practicum project's PICOT question. The first phase identified a problem and selected the Knowledge or research relevant to the problem: delivery diagnosing and treating patients on admission for depression. The second phase adapted the Knowledge used to the local context. Safe and effective provision of client care in the current healthcare context required organizations to assess their models of care continuously and look for ways to ensure that client

needs were best matched with the complement and skillset of nurses and other inter-professional team members (Cleverley, Bartha, Strudwick, Chakraborty,& Srivastava, 2018). Phase three assessed barriers to knowledge use. One potential barrier was having a more than usual amount of patient's being admitted during the time of trial. The DNP student addressed these barriers by implementing a screening tool that was feasible and timely during an admission assessment. Phase four selected, tailored, and implemented interventions to promote the use of Knowledge. Implementation of the PHQ-9 was initiated with all new admissions. Patients who were newly diagnosed with depression began immediate intervention that included seeing a clinician specializing in mental illness. Phase five monitored knowledge use, which started by introducing and educating the team/ nursing staff to the questionnaire in week one and then as needed. In the following weeks, the DNP student and the unit manager monitored newly diagnosed patients with depression through chart auditing. The sixth stage included the evaluation of outcomes through the planned data analysis of PHQ-9 implementation. The final stage sustained the knowledge use of the PHQ-9. The DNP student supported the KTA model and implemented continued use of the PHQ-9 for all patients diagnosed with depression.

Methodology

Review Protocol

An integrative review methodology was conducted to search for relevant articles related to the DNP student project. Four databases were searched in the Chamberlain University library (CINAHL, PubMed, Academic Search Complete, and MedLine), selecting studies published between January 2015 and August 2020. The following keywords were used in combination: ‘adult depression,’ ‘depression screening in primary care,’ ‘patient health questionnaire nine,’ ‘geriatric depression,’ ‘depression therapy,’ and ‘mental illness treatment.’ Other searched terms

used were: ‘mental illness,’ ‘mental health,’ ‘depression tools,’ ‘depression in the elderly population,’ and ‘mental disorder.’ They were excluded from the search to increase the chance of finding relevant articles. In addition, other references to related articles were used to identify additional relevant studies. Initial searches yielded a total of 88 articles assessed for relevance from 11 databases Medline Complete 19, Medline 16, Complementary Index 15, CINAHL with full text 12, Academic Search 10, Academic Search Index 7, Directory of Open Access Journals 3, SocIndex with full text 2, Library Information Science and Technology Abstracts 1, Korea Citation Index 1. Articles from each database search were selected by choosing full text or abstracts in the advanced search. A remaining total of 71 articles were discarded after excluding these search terms: ‘depression tools,’ ‘mental illness,’ ‘mental health,’ ‘depression in the elderly population,’ and ‘mental disorder,’ leaving 17 articles to be assessed for relevance. A remaining total of 5 articles were used in the final analysis after excluding keywords: ‘geriatric depression,’ ‘depression therapy,’ and ‘mental illness treatment.’ The final databases used were Medline Complete PubMed 3, Academic Search Complete 1, and CINAHL 1. Relevant articles identified from the reference list of 26; only 10 were relevant for integrative review. Total articles used for integrative review were 15.

Inclusion/Exclusion Criteria

Inclusion criteria included the following: articles that were published between 2015 to 2021; published in the English language; primary research article related to screening depression; related to treating patients for depression in primary care settings including long-term care facilities, assisted living communities, and community health centers; related to treating patients with depressive symptoms; related to adult patients age 20 to 65+ years old with a new diagnosis of depression; related to patients treated for acute conditions (diabetes, hypertension, and heart

disease). Exclusion criteria were published before 2015; published in a language other than English; articles other than primary research not related to depression screening; did not relate to treating patients for depression in a primary care setting including long-term care facilities, assisted living communities; and community health centers and another healthcare inpatient/outpatient facilities; did not relate to treating patients with depressive symptoms; patients younger than 20 with a new diagnosis of depression; did not relate to having a diagnosis and being treated for acute conditions (diabetes, hypertension, and heart disease). Other studies selected for inclusion were questionnaires used to measure depressive symptoms in adults to begin early treatment, studies that reported the questionnaire's measurement properties for reliability and validity, the patients admitted to facilities or outpatient seeking treatment other than depression but may have depressive symptoms. Excluded were studies that only focused on the questionnaire tool and not its effect on patient care. Selected articles were analyzed to assess the level of evidence using the Johns Hopkins Nursing Evidence-Based Appraisal Tool (2017) (See Appendix A for the Evaluation Table).

Data Analysis

The literature search yielded 15 relevant articles for the DNP project. Ten articles used quantitative research methods, and five used qualitative research (Appendix A). Most studies were done in the United States, and other studies were done in seven different countries; China, Africa, Saudi Arabia, Latvia, Canada, and India. Both qualitative and quantitative studies contained one of the designs: exploratory, descriptive analysis, two prospective cohorts, retrospective observational, retrospective chart study, four cross sectionals, one systematic, two pilot studies, and one controlled cluster-randomized. Relevant data were collected and placed into four categories for the integrative review: background of depression; patient health

questionnaire (PHQ) and implementation; tools used to screen for depression; and considerations and challenges for implementation. Six studies were placed in the ‘theme’ of background of depression; five studies were placed in the ‘theme’ of PHQ and implementation; seven studies were placed in the ‘theme’ of tools used to screen for depression; two studies were placed in the ‘theme’ of considerations & challenges for implementation. Three subthemes were also included that are not mentioned in (Appendix A): specific diagnosis, specific settings, and validity & reliability. Sample size varied with the quantitative studies from as low as 20 to as high as 380. There was also a variation with qualitative studies ranging from as low as 15 to as high as 324.

Each article was analyzed using the Johns Hopkins Nursing Evidence-Based Practice Appendix G Individual Evidence Summary Tool (Appendix A). The articles numbered one to fifteen were in categories based on author and date; evidence type; sample size and setting; study findings to help answer EBP question; observable measures; limitations; and evidence level and quality. The aim and themes of each study were significant to why the articles were chosen for the integrative review, and this could be found under “study findings to help answer the EBP question.” Each aim was similar for integrative review in providing evidence of positive screen for depressive symptoms on the 9-item Patient Health Questionnaire-9; determine the frequency of depression; improve depression treatment through intervention; to examine the validity of a brief, new measure of depression severity; determine the sensitivity and specificity of the PHQ-9; identify the risk factors among chronic disease patients and identify social support and barriers of implementation. The limitations varied amongst each article, and four articles' limitations were excluded.

Results and Discussion

Characterization of the Body of Literature

Selected articles were analyzed to assess the level of evidence using the Johns Hopkins Nursing Evidence-Based Appraisal Tool (2017) (See Appendix A for the Evaluation Table). The quality of sources selected for the integrative review was level I, level II, and level III. Three articles were reviewed at a level I (B) (good quality), one article was reviewed at level II (B) (good quality), and eleven articles were reviewed at a level III (B) (good quality). Of the quantitative studies, there were three level I, one level II, and seven-level III. Of the qualitative studies, there were four level III. The design types were experimental studies, randomized controlled trials (RCT), a systematic review of a combination of RCTs, non-experimental studies, cross-sectional studies, and retrospective studies. The quality ratings for the quantitative studies were at good quality showing to have reasonably consistent results; sufficient sample size for the study design; some control, fairly definitive conclusions; reasonably consistent recommendations based on a fairly comprehensive literature review that includes some reference to scientific evidence (John Hopkins, 2017). Qualitative studies' quality ratings were of good quality showing transparency, diligence, verification, self-reflection and scrutiny, participant-driven inquiry, and insightful interpretation.

Relevant data to the DNP project topic, ‘Implementation of the PHQ-9 in an Acute Care Setting: To Improve Admission Diagnosis of Depression’, were chosen by eliminating articles. Four databases were searched in the Chamberlain University library (CINAHL, PubMed, Academic Search Complete, and MedLine), selecting studies published between January 2015 and August 2020. Using keywords adult depression, depression screening in primary care, patient health questionnaire, and selected fields of ‘tx all text, and abstract,’ the search was

limited to full text and peer-reviewed. Initial search results were 88, and database results included Medline, Pubmed, Academic search, and CINAHL. Seventy-one articles were eliminated that were not relevant to the DNP project. Seventeen articles were assessed further using the John Hopkins appraisal tool and eliminating article subjects that were only for medical screening and basic screening. The articles' inclusion included depression, primary health care, mental depression, questionnaires, patient-health questionnaire, descriptive statistics, randomized control trials, correlation statistics, prevention for mental depression, depressive disorder, diabetes mellitus type-2, mental health, and chi-square test. Twelve articles were discarded after reviewing inclusions, and exclusions five articles were included for integrative review. Relevant articles identified from the reference in the DNP proposal and literature synthesis 26 were assessed for relevance using the same criteria for elimination. Sixteen articles discarded as not relevant for integrative review, and ten articles were included. The total number of articles for the integrative review were 15. The articles chosen were scholarly peer-reviewed from journals and had included: *British journal of community nursing*, *Saudi medical journal, Nordic Journal of Psychiatry, Indian Journal of Psychological Medicine, Journal of general internal medicine, Pakistan Armed Forces Medical Journal, Journal of Mental Health, Indian Journal of Public Health Research & Development.*

Findings Synthesis

Relevant data gathered for the integrative review were divided into four major themes to show the overall impact and positive outcomes of the PHQ-9 in different studies. They were ‘background of depression,’ ‘tools used to screen for depression,’ ‘patient health questionnaire and implementation’ and ‘considerations and challenges for implementation.’ Also included

were three subthemes that continued to identify the PHQ-9 and how it had positively affected the population in question: ‘specific diagnosis,’ ‘specific settings’ and ‘validity and reliability.’

Theme 1-Background of Depression

Depressive disorders were the second most common psychiatric illness. It was also the leading cause of illness burden and a public health priority for many older adults who were susceptible to depression (Chin et al.,2016; Minallah et al.,2019; Tesky et al., 2019; Kroenke et al., 2001; Liu et al., 2016; Udedi et al., 2019). Approximately 350 million people lived with depression globally, but the elderly usually remained under-diagnosed or under-treated if not screened by healthcare providers while being treated in a nursing home (Minallah et al., 2019; Tesky et al., 2019). Primary care was the entry point for most requiring healthcare services. Therefore, when depressive disorders are left untreated, it can place a negative influence on the course of many somatic diseases, which puts the patient at risk of polypharmacy, frequent hospitalizations, and suicidal tendency(Chin et al., 2016; Minallah et al., 2019; Tesky et al., 2019; Liu et al., 2016). A patient self-reported symptom screening tool to improve depression treatments was one way to overcome this issue (Chin et al., 2016; Tesky et al., 2019).

Subtheme -Specific Diagnosis

Patients diagnosed with depression have other co-morbidities that could be the underlying cause of depression. Diabetic or hypertensive patients have a high risk of developing mental disorders such as depression or anxiety (Alkhathami et al., 2017; Barnacle et al.,2016). Co-occurrence or readmission had psychological and psychosocial issues on physical illness, particularly diabetes and HTN, and could be challenging to manage (Alkhathami et al., 2017). In Saudi Arabia, the prevalence of depression reaches up to 50% in outpatient clinics. This burden of disease was globally rising along with diabetes, which had doubled during the last

three decades (Alhathami et al., 2017). Depression continues to affect an individual's ability to perform daily (Barnacle et al., 2016). Screening and identify patients for depression using the PHQ-9 could have a positive outcome on the patient's health, particularly those who have been dealing with the burden of depression and a co-morbidity (Alhathami et al., 2017; Barnacle et al., 2016)

Theme 2-Tools used to screen for Depression

There were several tools used to screen for depression. The DAVOS project was a controlled cluster-randomized trial that used a stepped collaborative care model to improve the treatment of depression at several nursing homes in Germany (Udedi et al., 2019; Tesky et al., 2019). To determine the severity of depression, a baseline assessment was conducted. Findings concluded that there was a significant decrease in the rate of depressive symptoms (Udedi et al., 2019). A 15 questioned Geriatric Depression Scale (GDS) was used at an outpatient department at a hospital in Pakistan to determine the frequency of depression in the elderly population and assess its various risk factors. The GDS was also used in a nursing home in Surabaya, Indonesia, to determine the relationship between social support and incidence of depression in older adults (Minallah et al., 2019; Wahyuni et al. et al., 2019). Findings showed that persons screened for depression showed early signs, and the recommendation was to begin early treatment. The PHQ-2, an abridged version of the PHQ-9, has been used to screen for depression using the first two items of the PHQ-9 (Liu et al., 2016). The PHQ-2 has been used along with the PHQ-9 as a valid screening tool for depression in the Chinese rural elderly. In an item analysis, Cronbach's alpha was higher in PHQ-9 than in PHQ-2 (Liu et al., 2016). In other studies, the Patient Care Needs Assessment (PCNA) and the Health Buddy automated telehealth device have been used to screen

for Serious Mental Illness outside the healthcare facilities and inside mental health addictive settings (Cleverley et al., 2018; Pratt et al., 2015).

Subtheme- Specific Settings

Health-care practitioners were increasingly being encouraged to implement research evidence into practice to ensure optimal patient outcomes and provide safe, high-quality care (Johnston et al.,2016). In the primary care setting, the PHQ-9 had been utilized and was available at no cost, and had been validated in several settings to screen for depression (Molebatsi et al., 2020). The National Institute for Health and Clinical Excellence (NICE) guidelines on managing depression in primary and secondary care proposed a stepped-care approach to managing depression, beginning with the GP detecting depression in primary care (Vrublevska et al., 2018). There were many depression screening tools within the primary care setting. The Beck Depression Inventory (BDI), the Centre for Epidemiologic Studies Depression Scale (CESD), the Inventory of Depression (IDAS), and the Zung Self-Assessment Depression Scale (SDS) were four traditional instruments that were developed to identify depression (Vrublevska et al., 2018). All screening tools, if used appropriately within a primary care setting, could assist healthcare providers in identifying patients with depressive disorders and begin to initiate treatment (Molebatsi et al., 2020).

Theme 3-Patient Health Questionnaire and Implementation

The Patient Health Questionnaire (PHQ-9) is a brief, self-explanatory questionnaire and is half the length of many other tools/instruments used to measure depression (Kroenke et al., 2001; Liu et al., 2016). The self-explanatory questionnaire has been sed in rural settings in the United States, China, and Africa to study depression screening; using PHQ-9 in a rural setting has proven to show simplicity and time efficiency (Liu et al., 2016; Udedi et al., 2019). Although

in (Udedi et al., 2019), the study was to determine the sensitivity and specificity of the PHQ-9 in the detection of depression among patients with type-2 diabetes mellitus attending non-communicable diseases (NCD) clinics in Malawi, both studies' conclusion recognizes that the instrument demonstrated reasonable accuracy (Cronbach's alpha was 0.82 and 0.83) in identifying cases of depression and is a useful screening tool in both settings (Liu et al., 2016; Udedi et al., 2019).

The Patient Health Questionnaire (PHQ-9) was chosen for this project to see how screening for depression can impact diagnosis and treatment. The evidence-based practice tool was first featured in the PHQ-9: validity of a brief depression severity measure—*Journal of general internal medicine* (2001). The Intervention(s) being implemented was from the nine-item questionnaire's questions (Kroenke et al., 2001; Liu et al., 2016; Udedi et al., 2019; Chin et al., 2016). The interventions were based on collected information about crucial symptoms, interviewing patients, and information from other sources when they are admitted (Kroenke et al., 2001). Bipeta (2019) includes the legal aspect of the patient-physician relationship and finds that it was ideal for maintaining confidentiality, especially with a patient suffering from mental illness and was being screened by instruments to determine future treatment.

Subtheme- Validity and Reliability

The lack of validated instruments used for screening patients for depression contributes to poor detection of depression in primary care (Molebatsi et al., 2020; Johnston et al., 2016). This becomes a challenge for nurses when using evidence-based practice to translate research into practice due to a lack of time, training, and mentoring. (Johnston et al., 2016). Nurse leaders and policymakers may find research findings incompatible with the realities of their practice; nurses can also become concerned about how the integration of several tools can impact their patients'

care (Johnston et al., 2016). The PHQ-9 demonstrated excellent internal reliability with a Cronbach's α of 0.89 (Molebatsi et al., 2020). Primary care physicians have easily identified patients with depression and have successfully monitored changes in patients for the severity of symptoms while receiving treatment; the PHQ-9 rated the frequency of symptoms (from not at all to nearly every day) over the past two weeks on a scale from 0 to 3, with aggregate scores ranging from 0 to 27; additionally, it used simple statements without culture-specific phrases (Vrublevska et al., 2018).

Theme 4-Considerations and Challenges for Implementation

Implementation of a new tool into an organization can cause questions to arise among facilitators who had already inherited a work culture and may be resistant to change. Change can be a challenge and can create barriers for the implementation. Then there are ethical and legal considerations that could also be a barrier. Consents must be obtained for patients in a primary care facility to receive care for acute symptoms and depressive symptoms. A physician must also be assigned to the patient for treatment to continue. Much of the information will be from the patient or the patient's family, if any. Depression symptoms in older adults are often ignored and not addressed because of the low social support level. (Wahyuni et al., 2019). The patient-physician relationship is bound by the moral and ethical sanctity of confidentiality, more so in mental health (Bipeta, 2019). The legal aspects of patient care are determined by country-specific regulations, which are governed by medical ethics.

The diagnosis was of paramount importance to manage psychiatric patients effectively, which rests on adequate history from significant others, as psychiatrists cannot rely solely on mental status examination (Wahyuni et al., 2019; Bipeta. 2019). Depression symptoms in older

adults are often ignored and not addressed because of the low social support level. (Wahyuni et al., 2019)

Conclusions and Further Recommendations

Implications for Nursing Practice

This review revealed a need for screening patients for depression upon admission in a primary care setting to address early signs of depression. Studies indicated that depressive disorders are the second most common psychiatric illness, leading patients to be re-admitted back into long-term care settings following an acute illness treatment. Studies also indicated that primary care was the entry point of care. If depressive disorders were left untreated, it negatively influenced the course of active diseases such as diabetes and hypertension. Implications for nursing practice began with the staff's education for them to recognize the significance of identifying patients who were suffering from clinical depression. This could be done by learning how to screen the patient on admission using the patient health questionnaire to improve their admission process to screen patients for depression and begin early treatment. Once this is done, they could start to develop a plan of care based on the facility's guidelines for follow-up care when the PHQ-9 results show that the patient shows signs of depression. The proposed DNP project aimed to improve quality care through patient-centered care for those seeking treatment for depression. Following those objectives, a safe discharge could begin upon admission. Therefore, it was crucial for educators to have staff demonstrate competencies in understanding and implementing the PHQ-9 depression questionnaire to effectively identify and evaluate patients with depression in an acute care setting. The following objectives will support this purpose: (a) recognize the signification of identifying and treating patients admitted for depression; (b) apply the PHQ-9 depression questionnaire guidelines, along with practice

guidelines, for screening and diagnosing depression in patient care; (c) develop a nursing plan of care for the short-term and long-term care of patients with depression; (d) provide adequate education and counseling to patients with depression and their families.

Conclusions and Contributions to the Professions of Nursing

This project was conducted to determine the severity of depression for newly diagnosed patients screened using the PHQ-9, provide interventions, assess its predictors, and suggest recommendations for prevention. Throughout this review, it has shown that a patient can suffer from mental illness if they cannot function independently or suffer from a co-morbidity along with other issues that can affect the way they thrive within society. Patients admitted into a nursing home, or hospital had a higher chance of being re-hospitalized, receiving too many medications, being over-diagnosed and under-diagnosed. Mihaly et al. (2017) explained that patients stating complaints of lack of sleep, sleep disturbances, mood changes, and eating changes are not recognized as signs of depression early enough for them to receive help from a professional. Unfortunately, with the elderly, symptoms of depression could be noted as signs of confusion, and patients are diagnosed with dementia (Mihaly et al., 2017). Kroenke et al. (2001) show that implementation of the PHQ-9 is half the length of many other depression measures, has comparable sensitivity and specificity, and consists of the nine criteria upon which the diagnosis of DSM-IV depressive disorders is based (Appendix B)**.** When depression screening was performed using the PHQ-9 as a component of the original admission assessment in the acute care setting, 95% of the patients began early treatment compared to 75% of patients who were not screened for depression using the PHQ-9 before dissemination of the project. 85% of the patients who had a depressive disorder with a score of five or higher received treatment and had a follow-up plan.

IMPLEMENTATION OF THE PHQ-9

The PHQ-9 can be implemented as a dual-purpose instrument to establish a depressive disorder diagnosis and a grade depressive symptom severity. For the DNP project, the PHQ-9 was introduced in weeks two through eight to approximately forty newly admitted patients. The aim was to see if the implementation of early treatment for patients who diagnosed with depression after being screened using the PHQ-9 showed improvement of depressive symptoms within two weeks from the date of admission then eight to ten weeks before their discharge date. Other studies have shown the effectiveness of the PHQ-9 globally used in rural settings in the United States, China, and Africa to study depression screening; using PHQ-9 in a rural setting has proven to show simplicity and time efficiency (Liu et al., 2016; Udedi et al., 2019). The use of the PHQ-9 has also been considered for use in patients being treated for diabetes and hypertension. In Malawi, the study was to determine the sensitivity and specificity of the PHQ-9 in the detection of depression among patients with type-2 diabetes mellitus. Both studies' conclusion recognizes that the instrument demonstrated reasonable accuracy (Cronbach's alpha was 0.82 and 0.83) in identifying cases of depression and is a useful screening tool in both settings (Liu et al., 2016; Udedi et al., 2019). The PHQ-9 overall has proven to be a useful instrument to identify patients who have depression. The overall goal is to begin early treatment of depression upon patient admission and continue to provide follow-up and treatment upon the date of discharge and beyond to prevent relapse back into the primary care setting.

Recommendations

The purpose of the proposed Doctor of Nursing Practice (DNP) project was to improve quality care through patient-centered care for patients seeking treatment for depression upon admission to a Post- Acute Care Setting. The overall aim was to see if early treatment for patients diagnosed with depression after being screened using the PHQ-9 showed an

improvement of depressive symptoms within two weeks from date of admission, then eight to ten weeks before their discharge date. The integrative review study findings showed that primary care was the entry point for most patients diagnosed with depression and recommended using a depression screening tool in the waiting room to identify patients early who were high-risk for depression (Chin et al.,2016). Organizations could improve their competencies with basic depression screenings to provide health services to older adults, primarily when related to the provision of social support and the anticipated incidence of depression in the nursing home (Wahyuni, Shahdana & Armini, 2019). Adding the PHQ-9 to the current admission assessment tool at the practicum site could lead healthcare providers to treat early-onset depression with patients receiving follow-up while still at the facility. The DNP project focused on the practicum site issue of not screening and treating depressive symptoms in newly admitted patients using their current assessment tool and recommend that utilizing both current and PHQ-9 could a flexible and reliable tool to improve patient care. It was also suggested that nursing staff demonstrates competency in recognizing patients with mild, moderate, and severe depressive symptoms; when to notify a clinician to begin treatment on the patient; how to effectively answer questions regarding depression and provide education; and when to implement the nursing care plan specific to patient care. Other recommendations from the integrative review for depression screening were: to provide more validated screening instruments to local primary care facilities; social support to patients screened for depression; telehealth support and screening; using both PHQ-2 and PHQ-9; and the patient must seek professional help as it is a treatable condition (Molebatsi et al., 2020; Wahyuni et al.,2019; Pratt et al., 2015; Liu et al., 2016; Minallah et al. 2019).

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Appendices, Tables, and Figures

Appendix A

Johns Hopkins Nursing Evidence-Based Practice
Appendix G Individual Evidence Summary Tool

Article #	Author & Date	Evidence Type	Sample, Sample Size & Setting	Study findings that help Answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
1	Chin, W.Y., Wan, E.Y.E., Choi, E.P.H., Chan, K.T.Y., & Lam, C.L.K. (2016).	**Quantitative** Prospective cohort study	1-n=2,929 adult primary care patients with no past history of physician-diagnosed depression. 2-Waiting room in a Hong Kong clinic.	**Aim:** To estimate the 12-month cumulative incidence and predictors of a positive screen for depressive symptoms on the 9-item Patient Health Questionnaire-9 (PHQ-9) among primary care patients with no history of physician-diagnosed depression. ***Background of depression** 1-Primary care is the entry point for most patients diagnosed with depression. .2-Patients were not over-diagnosed or	-PHQ-9 Screening Status Over 12 months: Negative (n=2,782) Positive (n=147)	1-Cohort was self-selected, which leads to a risk of self-selection bias 2-Case findings were not confirmed by a clinical diagnostic interview, which would be the gold standard for the diagnosis of depressive disorders. 3- The sensitivity and specificity of the PHQ-9 for diagnosing depressive disorders needs to be taken into	Level I Quality B (Good quality)

				over-treated after successful screening ***Patient Health Questionnaire and Implementation** 1-Patients screened in the waiting room were identified early if they were high-risk for depression. 2-Primary care physicians were able to implement interventions 3- high-risk patients could be flagged for waiting room screening, with a subsequent clinical assessment performed by an experienced clinician in those who screen positive		consideration if scores are used as a surrogate measure for estimating the incidence of these disorders.	
2	Minallah, A., Azam, N., & Merani, I. (2019).	**Quantitative** Non-experimental 1-Cross sectional analytical study	1-Consenting Elderly, a sample of n= 347 2-Outpatient's departments of Pak Emirates Military Hospital (PEMH) and Benazir Bhutto Hospital (BBH) from January to	**Aim:** To determine the frequency of depression in elderly population visiting outpatient departments of tertiary care hospitals and assess its various risk factors. ***Background of Depression**	-Out of 347 patients, 51.6% (n=179) were depressed, according to GDS. -57% (n=102) of the depressed were between 61 to 70 years. 3) More than 50% of the	N/A	Level III Quality B (Good quality)

			March 2018.	1-The study shows the frequency of depression came out to be 51.6% 2-Planning to address depressive disorder at the primary care level is required ***Tools used to screen for Depression** 1-Data collection tool was an Interview-based structured questionnaire and geriatric depression scale (GDS) 2-Screening programs for early diagnosis/detection of depression must be initiated 3-It is recommended that in case of depression, must seek professional help as it is a treatable condition	elderly patients attending hospital OPD were found to be depressed, according to GDS. 71% of the depressed were diagnosed for the first time. Marital status, education, urban residence, and having no children were significantly associated with depression, while good relations with a spouse had a protective effect towards depression.		
3	Tesky, V.A., Schall, A., Schulze, U., Stangier, U., Oswald, F., Knopf, M., König, J., Blettner, M., Arens,	**Quantitative/Qualitative** Experimental 1-Controlled cluster-randomized trial Using a stepped-wedge design. This type of	1-Sample size: n =380; 125 with depressive symptoms 2-Ten nursing homes in	**Aim:** Interdisciplinary research project DAVOS is to implement an innovative and	-The hypothesis is that the intervention's implementation will lead to a decline in the	-Residents who have a clinical diagnosis of dementia (about 50%) cannot provide consent	Level I Quality B (Good quality)

	E., Pantel, J., & Trials [Trials]. (2019	waiting control group design employs repeated assessments	Frankfurt, Germany, will participate in the project	stepped structural case management program to improve depression treatment for nursing home residents by a modularized intervention and to assess it in terms of its effectiveness ***Background of Depression** 1-Questionnaires and psychometric instruments that have been validated in clinical and gerontology research will be used to collect data face to face ***Tools used to screen for depression** Data collection will be mainly quantitative but also supplemented by qualitative methods (e.g., interviews with case managers and use of focus groups)	prevalence of depression and a reduction in depression symptoms among the home residents.	or have known alcohol or substance-related disorder will be excluded from participation.	
4	Kroenke, K., Spitzer, R. L., &	**Qualitative** Systematic	1-Sample size n=292	**Aim:** To examine the validity of a	-The sensitivity of PHQ-9 in	1-The length of time elapsing	Level II

	Williams, J. B. (2001).		2-Patients admitted to internal medicine units at the University Hospitals of Geneva	brief, new measure of depression severity ***Background of depression** 1-PHQ-9 testing took place within 0 to 4 days of admission 2-The psychologist inspected charts and records to detect any diagnosis of depression and any mention of antidepressant treatment prescribed by the unit's internists. ***Patient Health Questionnaire and Implementation** 1-Of the 292 patients who filled in a PHQ-9 form, 212 (72.6%) were also assessed by a psychiatrist for major depressive episodes (DSM-IV diagnostic criteria) and severity of depressive symptoms	detecting major depression was 50 and 65% for all depressive disorders. - Specificity (the ability to identify those subjects for whom psychiatrists did not make a DSM-IV diagnosis) was 76% for all depressive disorders and 86% for major depressive disorder, 89% for criterion A and 84% for minor depression. The positive predictive value is about 50% for all depressive disorders and markedly lower for major (31%) or minor (14%) depression	between PHQ-9 testing and psychiatric assessment is a limitation of this study and could be another explanation for the differences observed in the results 2-The PHQ-9 identifies many of the subjects defined as depressive by a psychiatrist as having 'minor depressive disorders,' and vice versa. These discrepancies are linked to differences in appreciating both the duration and the severity of symptoms. This may be a limitation of self-administered questionnaires compared with	Quality A (High quality)

						a psychiatric assessment.	
5	Liu, Z.W., Yu, Y., Hu, M., Liu, H.M., Zhou, L., & Xiao, S.Y. (2016).	**Quantitative** Non-experimental 1-Cross Sectional Study	1-Sample: n= 839 residents aged 60 years and above 2-Rural areas of Liuyang County in the northeast of Hunan Province, China, who lived there for 6 months	**Aim:** Explore cut-off scores of the 9-item Patient Health Questionnaire (PHQ9) and 2-item Patient Health Questionnaire (PHQ-2) for depression screening in Chinese rural elderly ***Background of depression** Depressive disorders were the second most common psychiatric illness. ***Patient Health Questionnaire and Implementation** 1-It has been proved that PHQ-9 was suitable for the elderly population with good reliability and validity ***Tools used to screen for depression** 2- Both PHQ-9 and PHQ-2 are valid screening instruments for	-In this study, the score of 8 showed the highest Youden's index with a better balance between sensitivity and specificity than on the score of 10. This indicates PHQ-9 may better identify MDD among the elderly in rural China when the cut-off is set at 8.	1-For each individual case, both PHQ-9 & SCID-I were conducted by the same interviewer. 2-Results of SCID-I may be influenced by the PHQ-9 due to the priming effect. Although in our study PHQ-9 scores were not calculated during the interview. There were 30-minute intervals between the administration of PHQ-9 and the talk of SCID-I; priming effects could not be excluded completely.	Level III Quality B (Good quality)

				depression in the rural elderly in China, with recommended cut-off scores of 8 and 3, respectively.-			
6	Udedi, M., Muula, A. S., Stewart, R. C., & Pence, B. W. (2019).	**Quantitative**	1-Sample size: n=323 2-Non-Communicable disease clinics in Malawi, East Africa the in Lilongwe district	**Aim:** To determine the sensitivity and specificity of the PHQ-9 in the detection of depression among patients with type-2 diabetes mellitus attending non-communicable diseases (NCD) clinics in Malawi ***Background of Depression** 1-Among the 323 patients, 127 (39.3%) had diabetes only while 196 (60.7%) had diabetes and hypertension. The mean patient age was 54 years (range, 21–79 years), with a standard deviation of 11.4 years; 75.5% were female. ***Tools used to screen for depression**	-The results suggested that a cut-point of 6 or higher on the PHQ-9 scale gave the best combination of sensitivity and specificity in detecting either minor or major depression	A limitation of this study is that the participants were drawn from only two specialized NCD clinics in Lilongwe, which may not be representative of the broader population	Level III Quality B (Good quality)

				Findings concluded that there was a significant decrease in the rate of depressive symptoms ***PHQ-9 & Implementation** the study was to determine the sensitivity and specificity of the PHQ-9			
7	Cleverley, K., Bartha, C., Strudwick, G., Chakraborty, R., & Srivastava, R. (2018).	**Qualitative** Using a modified Delphi approach	1-Sample: Expert panel consisted of 15 members representing nursing (n = 7), social work (n = 6), and psychology (n = 2) 2-The Centre for Addiction and Mental Health (CAMH) in Toronto, at a variety of clinical settings at CAMH	**Aim**: Presents the development of mental health and addictions settings-specific Client Care Needs Assessment (CCNA) tool. ***Tools to screen for Depression** 1-The CCNA was developed using the Synergy Model as its conceptual framework, which allowed for a structure from which the tool could be adapted. Although the model was developed initially for use in critical care environments, an	-Summary of Delphi rounds and indicators Round one-78 Round two-44 Round three- 31 Likert Scale + 13 Yes/No Questions	1-The authors aimed to include other mental health and addictions settings in this project; only four were selected. Therefore, the tool's generalizability may be limited to these settings until further testing of the tool is conducted. 2- The CCNA was generated to support staffing and skill mix	Level III Quality B (Good quality)

				expert panel determined that the model domains are applicable to any care setting 2-The use of the CCNA tool may provide mental health and addictions administrators with value both by conducting the assessment on the various units and obtaining the different evaluations' results.		decisions in inpatient mental health and addictions settings. Although the tool could potentially be useful in community care and outpatient settings, it would need to be trialed before being implemented.	
8	Pratt, S. I., Naslund, J. A., Wolfe, R. S., Santos, M., & Bartels, S. J. (2015)	**Qualitative** Pilot trial	1-Sample size: n=53 2-Setting: participants home	**Aim:** To evaluate the effectiveness of an automated telehealth intervention supported by nurse health care management to improve psychiatric illness management and reduce acute service use among individuals with SMI and psychiatric instability. **A-Tools used to screen for depression**	-Participants experienced an 82% decrease in hospital admissions, from 76 hospitalizations during the six months before baseline to 14 hospitalizations at 6-months & a 75% decrease in emergency room visits, from 63 visits during the six months before baseline	1-There was no comparison group, and the sample size was small 2-Unable to evaluate cost-savings, anticipate reduced costs given savings reported in other trials using this automated telehealth device 4-The sample	Level III Quality B (good quality)

				1-Study demonstrates that automated telehealth supported by a nurse care manager can be delivered within a public sector mental health setting and is potentially useful for improving mental health outcomes within this high-risk population.	to 16 visits at 6-months	was predominantly white, limiting the generalizability of the results to ethnically diverse populations 5-The intervention consisted of automated telehealth supported by a nurse, thus it was not possible to determine the relative effectiveness of either component alone	
9	Wahyuni, S.D., Shahdana, S., & Armini, N.K. (2019).	**Quantitative** 1-Correlation design with a cross-sectional approach	1-Sample size n=20 2-Surabaya Dedali Hargo Nursing Home	**Aim:** To explain the relationship of social support with the incidence rate of depression in older adults ***Tools used to screen for depression** 1-The higher the social support of the older adult, the lower the incidence	-The analysis conducted using the Spearman rho statistical test obtained a significance value of p = 0.037 of α <0.05. This shows that there is a significant relationship between social	None noted	Level III Quality B (Good quality)

				of depression in the older adult. Older adult people who feel that they get good social support within the normal category (not depressed) totaled as many as 8 people (40%). ***Considerations & Challenges for Implementation** Depression symptoms in older adults are often ignored and not addressed because of the low social support level	support and the incidence of depression.		
10	Bipeta, R. (2019)	**Quantitative** 1-Retrospective chart review	1-Sample:female forensic inpatients Sample size:73.9% of the sample was referred from prisons and 26.1% from the Honorable courts. 2-Setting: Psychiatric hospital	***Patient Health Questionnaire and Implementation** 1-Disability in mental illness is a state where the patient has shown symptomatic recovery with the available treatment modalities, however, has deficits that lead to significant problems with self-care, interpersonal, social, and	-Honorable Court did not feel the need for the psychiatrist's evidence (24 cases), or in those six cases where the psychiatrist optioned that there was no mental illness, the accused was not acquitted on the grounds of mental illness.	None noted	Level III Quality C (Low quality)

				occupational functioning, and impaired quality of life that may need aggressive rehabilitation ***Considerations & Challenges for Implementation** The patient-physician relationship is bound by the moral and ethical sanctity of confidentiality, more so in mental health	-16 out of 56 accused (28.57%), who had mental illness as per psychiatrists' opinion, were acquitted on the grounds of mental illness		
11	Molebatsi, K., Motlhatlhedi, K., & Wambua, G.N. (2020).	**Quantitative** Cross-sectional	1-n=257 adult 2-primary care setting	**Aim:** To determine the validity and reliability of PHQ-9 for screening depression in a primary care population in Botswana. ***Tools used to screen for depression (subtheme)** -The lack of locally validated screening instruments contributes to poor detection of depression in primary care	-The International Neuropsychiatric Interview (MINI) depression module was used as a gold standard to assess criterion validity. - Primary care clinicians in Botswana may use the PHQ-9 to screen for depression with a cut–off score of nine.	1-A limitation of this study is that the participants were drawn from only two primary health care facilities in the capital of Gaborone, which may not represent the wider population.	Level I Quality B (Good Quality)

					-Further studies should focus on integrating routine depression screening in primary care.		
12	Vrublevska, J., Trapencieris, M., & Rancans, E. (2018).	**Qualitative** A pilot study was conducted within the framework of the Latvian National Research Programme BIOMEDICINE	1-n=272 2-primary care settings in Latvia.	**Aim:** Establish the validity and cutoff score of the Patient Health Questionnaire-9 (PHQ-9) among primary care patients in Latvia. ***Patient Health Questionnaire and Implementation -four tools used to identify depression (subtheme)**	-Overall, the PHQ-9 items showed good internal (Cronbach's alpha 0.84) reliability. -A cutoff score of 10 was established for the PHQ-9 (sensitivity 86.49%, specificity 89.36%), correctly classifying 86.4% of patients with current depression	1-The small number of subjects is a limitation of this study. Additionally, not all Latvian regions were covered. 2-Another limitation is its cross-sectional design; longitudinal studies are needed to establish the sensitivity to change	Level III Quality B (Good Quality)
13	AlKhathami A.D., Alamin M.A., Alqahtani A.M.,Alsaeed W.Y., AlKhathami M.A. & Al-Dhafeeri A.H. (2017)	**Quantitative** Cross-sectional study	1-n=368 2-AlKhobar city, Kingdom of Saudi Arabia between April and May 2015.	**Aim:** Assess the frequency and severity of depression and anxiety and identify the risk factors among chronic disease patients.	-Frequencies, cross-tabulations, and logistic regression tests were performed. -Patient's perception of chronic diseases	1-The cross-sectional design, by nature, limits the study's ability to assess the temporal relationship between	Level III Quality B (Good Quality)

				***PHQ-9 and implementation (subtheme)** Diabetic or hypertensive patients have a high risk of developmental disorders such as depression and anxiety.6	control was significantly associated with the presence of depression and anxiety,	associated variables. 2-Explanation of some associations revealed by the study, such as obesity and depression, depends basically on knowing the preceding factor, which had not been tested by the study. 3-The study included both type 1 and type 2 diabetes with no discrimination between them in the questionnaire. This has limited the ability of the study to assess the association between different factors and diabetes type.	
14	Barnacle, M., Strand, M.A., Werremeyer,	**Quantitative** Retrospective observational study	1-n=1817 patients with T2DM	**Aim:** To examine depression screening patterns among a primary	-Both sites had higher rates of PHQ-9 screening among	As a cross-sectional study, it is not possible to determine the	Level III Quality B (Good Quality)

	A., Maack, B., & Petry, N. (2016).		2- Regional health center and a federally qualified health center (FQHC)	care population with T2DM through the Patient Health Questionnaire-9 (PHQ-9). ***Background of depression (subtheme)** -Diabetic or hypertensive patients have a high risk of developing mental disorders such as depression or anxiety	individuals with a history of MDD (64.82%) vs. those without MDD (11.39%). -Individuals from the FQHC without a history of depression have a higher mean PHQ-9 score (10.11) than those with a previous MDD diagnosis at both RHS and FQHC (7.16 and 9.85, respectively).	directionality or causality of the variables studied. Furthermore, because we only collected data from the two sites referenced, we do not know how care received outside of the respective facilities may have influenced outcomes.	
15	Johnston, B., Coole, C., Narayanasamy, M., Feakes, R., Whitworth, G., Tyrell, T., & Hardy, B. (2016).	**Qualitative** approach an exploratory, descriptive qualitative study	1-n=22 2- Community health setting	**Aim:** identify barriers and facilitators to community nurses implementing research into practice ***Tools used to screen for depression (subtheme)** Health-care practitioners were increasingly being encouraged to implement research evidence into practice to ensure optimal patient	-Findings suggest that there are barriers at a personal, professional, and organizational level. Strategies are suggested to overcome these obstacles.	N/A	Level III Quality B Good Quality

				outcomes and provide safe, high-quality care			

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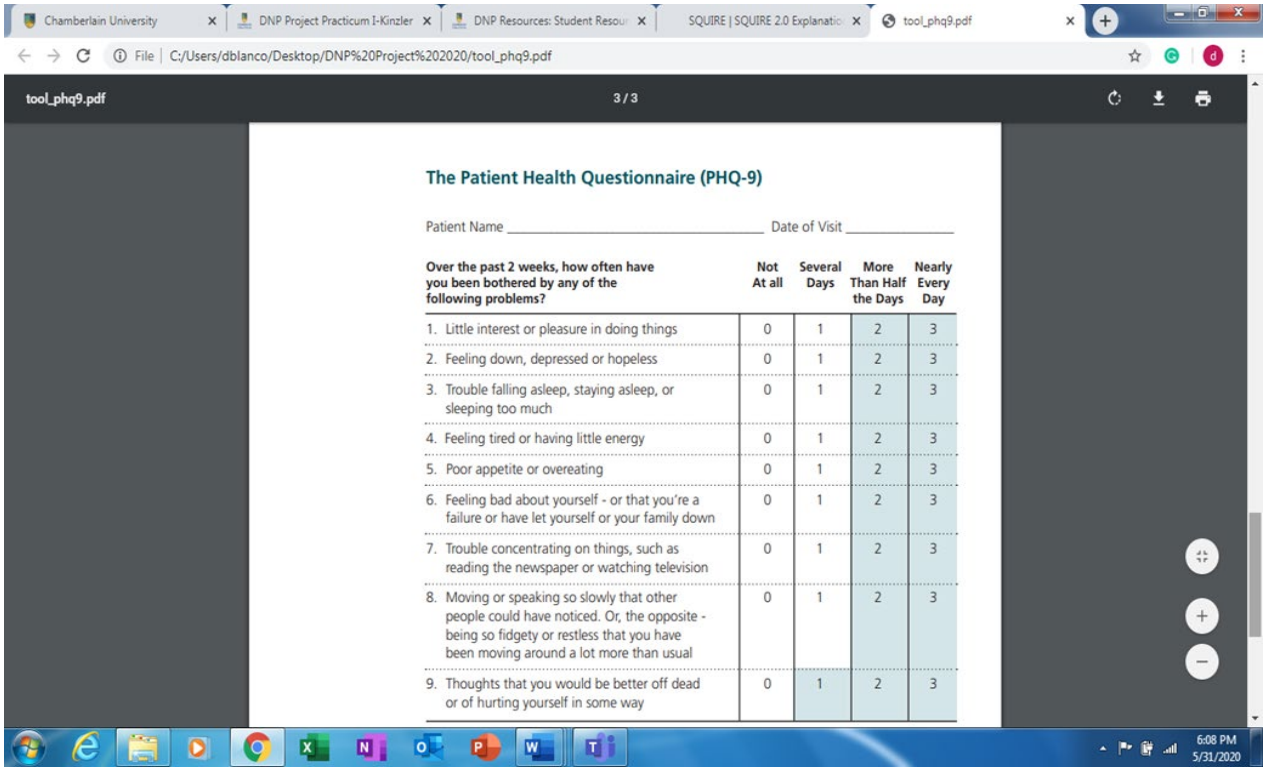
Appendix B



The Patient Health Questionnaire (PHQ-9)

Patient Name _____ Date of Visit _____

Over the past 2 weeks, how often have you been bothered by any of the following problems?	Not At all	Several Days	More Than Half the Days	Nearly Every Day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed or hopeless	0	1	2	3
3. Trouble falling asleep, staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself - or that you're a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or, the opposite - being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

Total Score	Depression Severity

1-4	Minimal depression
5-9	Mild depression
10-14	Moderate depression
15-19	Moderately severe depression
20-27	Severe depression