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Depression Screening for Bariatric Surgical Patients

Cova Teresa Stidham
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Cova Stidham

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Barbara Niedz, Committee Chairperson, Nursing Faculty
Dr. Diane Whitehead, Committee Member, Nursing Faculty
Dr. Eric Anderson, University Reviewer, Nursing Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2019

Abstract

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MS, Western Kentucky University, 2009

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Project Submitted in Partial Fulfillment

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Abstract

Obesity in the United States has increased to epidemic numbers over the last decade. Practitioners need to reverse the trend. To address the problem of depression in obesity, a practice guideline from a bariatric clinic for underserved populations was proposed to an expert panel. The Spell Out on First Use (PHQ-9) screening is a valid and reliable self-screening tool to assist the practitioner in determining the level of depression if any. The PHQ-9 has nine questions. No formal screening existed at the bariatric clinic, and the practice guideline (with algorithm and revised workflow) was proposed for use at the clinic. The expert panel consisted of the medical director, a surgeon, a psychiatrist, and a nurse practitioner at the clinic. The expert panel reviewed the materials and made one recommendation: to implement the PHQ-9 upon intake when the patient is being admitted to the program, and the panel recommends administering PHQ-9 prior to assessment by practitioners All panel members were in agreement about full implementation of the practice guideline, provided that an educational program on the revised workflow in the clinic was first presented. The expert panel also reviewed and approved the algorithm and the treatment pathways identified for patients to use in the practice after the results of the PHQ-9 are compiled. It is expected that use of the depression screening tool and recommended guidelines in the bariatric clinic will result in more effective treatment for the patients and thus better outcomes—a significant positive social change.

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Dedication

Dedicated to my family for love and caring during this journey. I could not have made it through this journey in life without my GOD and the love of my family. I can never thank you all enough. The Lord has all the glory and praise. I am blessed.

Acknowledgments

I would like to acknowledge my family for support and standing by me through my illness with love and care. I could have never done any of this without your help and support. I also want to acknowledge my professors for the help and encouragement given to achieve a dream.

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Section 1: Nature of the Project

Introduction

This project involved the prevalence of obesity and depression. Obesity has become a major global public health problem. The problem focus was on identifying depression related to obesity. The potential of positive implications in using the depression screening with the obese patients will be the focus of the project (Stevelos, 2014). The bariatric clinic used a screening tool to help determine depression in obese patients and, based on an algorithm, to provide referrals, as needed, to address it.

The costs of obesity and depression are estimated in the billions of dollars of direct medical expense for all stakeholders in the United States (Centers for Disease Control and Prevention, National Center for Health Statistics, 2014). Depression increases the cost of health care and treatment, and hampers patient progress with obesity (Kessler, 2012). In addition to the cost of depression, the impact on the patient's quality of life can be significant. Nurse practitioners help proactively identify depression early on, before it becomes debilitating. Identifying undiagnosed depression is expected to contribute to positive social change by improving the quality of life of patients who are obese.

Problem Statement

The local nursing practice has not adequately addressed the problem of screening for depression in patients being managed at the bariatric clinic. The clinic, located in a metropolitan area of southeast United States, was established in August of 2012. It has seen over 2,500 patients and performed over 1,000 surgical weight loss procedures. The

correlation between obesity and depression has been identified in some practices by means of a screening tool, but the target bariatric clinic has not done so. The project will use the patient health questionnaire, with nine questions (PHQ-9), in the bariatric clinic upon admission to the program (Stevelos, 2014). The follow up screenings will be completed as needed, as but not longer than a period of 6 months after the initial screening. Prior to and after surgery, these patients have routine visits to the clinic. The average patient will return for follow-up visits at 1 month, 3 months, 6 months, 9 months, and 12 months. The patient will then return yearly for the next 5 years. Presently, no screening tools or processes are used in the target bariatric clinic. In the bariatric clinic using depression screening and a practice guideline with an algorithm should contribute to positive social change by providing optimal treatment for the patient and improving her or his quality of life (Stevelos, 2014)

This project is significant because it can determine the extent of depression in the obese patients served by the clinic and by enhancing the quality of nursing practice for each patient's individual treatment plan. This project will allow opportunities for the nurse practitioners to manage individual patients with a specialty care plan to improve their physical and mental behavior (Stevelos, 2014). Typical bariatric clinics serve an obese patient who has already been on antidepressant medication: This is the case in 85% of the clinic population (Sharp & Lipsky, 2002). A weight loss reduction program post bariatric surgery becomes compromised when the patient is hampered by depression (Stevelos, 2014). Nurse practitioners have an opportunity to work within the bariatric clinic to identify patients with undiagnosed depression using a tool, PHQ-9, with

established reliability and validity to screen for depression. Identification of depression in obese patients will assist in the treatment plan and the overall success of the bariatric program. This success will then increase patient satisfaction with their overall progress.

Purpose

The purpose of this practice project is to increase the number and percentage of patients with undiagnosed depression by developing a practice guideline for implementation at the clinic. The purpose of this project was to develop a practice guideline for depression screening in obese patients and revised workflow for an expert panel review with the intention of implementing it within a bariatric clinic Thus, the ultimate goal for the project includes full implementation of a practice guideline including an algorithm for better treatment for the bariatric patients in the program. This practice guideline will potentially be met outside the scope of the project. Presently, there is no formal process to screen for depression or any other mental illness. Yet, the incidence of depression accompanying obesity is common (Stevelos, 2014).The presence of depression in an obese patient hampers compliance with the weight loss regimen, so the screening will allow the practitioners to treat the patients both mentally and physically (Stevelos, 2014). The tool proposed for the staff is the PHQ-9, which will identify levels of depression (Kroenke, Spitzer, & Williams, 2001). The screening and treatment for bariatric patients will improve the quality of care and patient outcomes. The results of the project will add to the knowledge base of other practitioners in helping to establish proper depression treatment for other bariatric clinics.

The doctoral project will provide other practitioners the tool to close the gap in practice with development of a practice guideline which includes the use of a screening tool (PHQ-9). The PHQ-9is an established reliability and validity tool to determine depression for the bariatric clinic patients with implementation of proper treatment plan and referral to additional medical and psychological services. This system will assist these patients and all stakeholders involved in treatment at the bariatric clinic.

The practice question is as follows: Will an algorithmic practice guideline that includes the use of the PHQ-9 be approved for implementation at the clinic to identify bariatric patients with undiagnosed depression? Follow-up activities outside the scope of the DNP project include additional staff education and full implementation of the practice guideline.

Nature of the Doctoral Project

To develop and implement the practice guideline, including the screening tool and referral process, a thorough and comprehensive review of published outcomes [word(s) missing here]. For the review of the scholarly evidence, the following databases were used: CINAHL, Medline, and PubMed databases will be presented. The following keywords were used in the searches: *depression, obesity, depression screening, PHQ-9, depression management in obesity*. The literature review supported the validity of the problem, and nursing theory provided the framework for the project.

To treat bariatric patients holistically, it is necessary to treat their mental health as well as their physical well-being. The nature of this doctoral project involves developing an algorithmic practice guideline to guide the treatment plan for the patient.

The tool for the staff to use in the clinic is the PHQ-9 (Kroenke, Spitzer, & Williams, 2001). The scope of this DNP project is a practice guideline for patients who are obese and screening them to determine clinical depression. The practice guideline has been presented to an expert panel made up of the medical director, a surgeon, a psychiatrist, and a nurse practitioner at the clinic. The expert panel reviewed the materials and the recommendations within the practice guideline. The expert panel approved the algorithm and the treatment pathways identified for patients after the results of the PHQ-9 are compiled. The education and training program will be provided to the nurse practitioners working at the clinic on the administration and use of the screening tool and on implementing the practice guideline, which will include a referral process for patients who score greater than 10 on the PHQ-9.

Significance

The patient is the most important stakeholder in this DNP project as their success with the treatment plan is at risk. Patients who are obese often have depression, which hampers their ability to be successful in reducing their weight before and after they experience bariatric surgery (Stevelos, 2014). In addition, family members of an obese patient need to be able to understand the issues facing their loved one and the role that depression plays in weight loss. Family dynamics may be impacted by addressing the problem of depression as it is with obesity.

The nurse practitioners at the site are important stakeholders in the project. They will adhere to the procedure of giving each patient the depression screening survey, which is the PHQ-9 at intake to determine level of depression if any and provide

additional opportunities in the patient treatment plans., at additional opportunities as the treatment plan This may include more frequent monitoring, maintaining medication compliance, and an active referral list of psychiatric offices within the community. The staff will take part in an informative session to implement depression screening for new bariatric patients on admission to the clinic. The intervention will be to provide adjunctive referral for the treatment of depression according to the algorithm, and the score on the PHQ-9. This individual treatment plan allows for counseling, group therapy, and education, and medication management. The staff will use proper evaluation tools to assist in determining depression with obese patients, and guidance on implementing the practice guideline in referring the right patients for treatment.

The positive social change for the stakeholders should have a domino effect with the success of the patient. The purpose of this project was to develop a practice guideline for depression screening in obese patients and revised workflow for an expert panel review with the intention of implementing it within a bariatric clinic. The patients will have better treatment plans within the bariatric clinic and the staff will be better educated in working with a proper tool for evaluation of depression in the clinic (Engstrom, 2016). The nurse practitioners will be impacted by implementing the practice guideline: determining the significant level of depression, and following through with proper referral to complete the treatment plan for each bariatric patient within the clinic.

Summary

The development of a practice guideline to identify undiagnosed depression in bariatric patients with approval by an expert panel is a worthy goal for the DNP project. By

completing the PHQ-9 depression screening tool, there will be a systematic approach that the nurse practitioners can use to evaluate for depression. This evaluation will allow the nurse practitioner and physicians to have patients referred to what exactly? According to the practice guideline algorithm and thus receive treatment for depression. This will allow the patients a more complete treatment plan for better outcomes within the bariatric program and for their success.

Section 2: Background and Context

Introduction

Depression represents a persistent problem for the obese patient. The nature of this project is related to the prevalence of obesity and mental health issues. Obesity has become a major global public health problem (Stevelos, 2014). The problem focus is to identify depression in the obese patient in the bariatric program. The potential of positive social change in using the depression screening with the obese patients will be the focus of the project.

Concepts, Models, and Theories

The Health Belief Model

The health belief model (HBM) theory was developed in the 1950s by a group of U.S. Public Health Service social psychologists. The HBM helps to explain why so few people were participating in programs that help to prevent disease (Banning, 2008). The framework is an ideal model for developing a process using the PHQ-9 survey with the obese patients in the bariatric clinic. The severity described in the model relates to the how serious the consequences of the behavior can be for the individual. The result of depression for the obese patient can produce serious consequences in physical health (Pratt & Brody, 2014). Pratt and Brody (2014) explained that obesity and depression often co-exist in the patient, and result in a vicious, self-destructive cycle.

Stevelos (2014) explained that obese people are about 25% more likely to suffer from mood swings and depression as compared with those who do not have a weight problem. Obesity can result in poor view of the self and can be socially isolating. These

characteristics are known to contribute to depression. People who are obese often find that they are left out, stereotyped, or discriminated against.

Pratt and Brody (2014) explained that people with depression are more likely to overeat or make poor food choices, avoid exercising, and become more sedentary. They have also found that depressed people with decreased levels of serotonin may eat in an attempt to self-medicate and restore their serotonin levels to normal (Pratt & Brody, 2014).

As practitioners attempt to understand the link between depression and obesity, there are efforts to determine a way to treat both conditions that will produce positive results overall. For example, Pratt and Brody (2014) conducted a study of people who underwent bariatric surgery for their obesity and found that as they shed pounds, they also shed their depression. A year after surgery, the subjects had experienced a 77% loss of excess body weight, and an accompanying 18% reduction in symptoms of depression. Younger people, women, and those who experienced greater weight-loss results were more likely to feel less depressed (Pratt & Brody, 2014). The negative psychosocial effects of obesity can cause financial burden, problems with family members or significant others, and other relationships. Family dynamics and stress play an integral role in mental health (Pratt & Brody, 2014).

The HBM will provide the framework for the project. It centers on an individual's beliefs about their health, which can predict specific behaviors. The model's predictive ability varies according to the ability to judge various factors in the individual, including but not limited to the presence of perceived susceptibility, perceived severity, and

perceived benefits of action, perceived barriers to action, cues to action, and the sense of self-efficacy among the target population (Pratt & Brody, 2014).

HBM is one of the oldest and widely used health behavior theories in the health field (Glanz, Rimer, & Lewis, 2002). The effect of lifestyle training based on the HBM for obese patients produce a realization regarding obesity-related behaviors that need to be changed to break the cycle (Glanz, Rimer, & Lewis, 2002). The HBM focuses changing behavior and reinforcement of the behavior to affect the individuals' lifestyle. The three main categories of this model is perception, modification of behavior and reinforcement of behavior to maintain the change (Glanz, Rimer, & Lewis, 2002).

Obesity and Depression

The incidence of obesity and depression impact the population yielding needs to manage depression and obesity in practice. The detection rates in hospital and practices indicate the lack of education and training among staff regarding the need for screening procedures to identify the patients at risk (Arroll, Khin, & Kerse, 2003). There are not enough screenings being done within the hospital or primary care offices to detect possible depression in patients (Kolotkin et al., 2012). Depression before bariatric surgery has subsequent health related outcomes such as stress which increases blood pressure, insomnia, IBS (Albert, 2016). Bariatric surgery will improve self-esteem and decrease depressive symptoms after weight loss (Mitchell et al., 2014).

Kolotkin et al., (2012) indicated that detection of depression in the outpatient area is poor due to lack of education regarding symptoms and lack of time to evaluate and treat patient in this setting. In Kolotkin et al. (2012) there were 347 obese patients who

were being evaluated for bariatric surgery and of this sample, 25% had symptoms of depression, however there was no consistency in depression screening by providers, as only 10% were actually screened. Despite recommendations to assess all adults for overweight and obesity with body mass index measurement, many primary care providers underdiagnose and undertreat patients (Kolotkin et al., 2012).

Obese patients have issues with low self-esteem and depression. When these mental health conditions are treated by the primary care physician with medication alone, this represents inadequate treatment (Kroenke, Spitzer, & Williams, 2001). Stevelos (2014) conducted a longitudinal assessment of 204 bariatric surgery patients over a one-year period of time and found that obese patients who lost weight before and after a bariatric surgical procedure had reduced symptoms of depression, some to the extent that antidepressant medication was no longer needed in some members of the sample. In summary, when providing psychotherapy for patients with depression the patients self-esteem and moods improve.

Obese people are about 25% more likely score a positive screening for depression compared with those who are not obese (Kroenke, Spitzer, & Williams, 2001). Kroenke, Spitzer and Williams (2001) suggested that active participants in weight loss programs that include counseling and behavioral management result in positive and long-term outcomes for patients with obesity. Obesity can cause poor self-image, low self-esteem, and social isolation, all known contributors to depression (Luppino, Wit, & Bouvy, 2010).

Screening Tools

According to the American Psychiatric Association (APA, 2017), a diagnosis of major depression is based on the identification of at least one of two core symptoms. Depression screening instruments must be able to identify depressive symptoms in the obese patient. Screening instruments are broken down into two categories: categorical or diagnostic interview screening instruments and dimensional or self-reporting instruments (Kroenke, Spitzer, & Williams, 2001). Categorical depression screening instruments are used by a systematically trained interviewer; however, dimensional instruments are based upon self-reporting and ranking of symptom severity by the patient (Cassin et al., 2013) The PHQ-9 analyzes depression for the bariatric patients using the patient report, dimensional approach. Depression is the most common psychiatric disease and the depression found in obese patients had been noticed by physician providers within the clinic; however, no standardized approach to the use of any screening tool has been implemented at the DNP project site.

The PHQ-9 is recommended for bariatric candidates and assessment of the presence or absence of depressive symptoms (Pratt & Brody, 2014). The PHQ-9 depression screening tool denotes severity of depression on a scale of 0 to 3, identifying the frequency of each of the nine *DSM-IV* criteria which diagnose depression as "0" (not at all) to "3" (nearly every day). The total score for each individual patient is summed across all of the nine items, (a) 0-4 indicates that no depression is present, (b) a score between 5 and 9 indicates mild depression (c) a score between 10 and 14 would indicate the presence of moderate depression, (d) scores higher than 15 but 19 or less indicates

moderately severe depression (e) and scores between 20 and 27 predict the presence of severe depression (Mulder, 2017). The PHQ-9 has been validated for use with high risk patients for depression with 61% sensitivity and 94% specificity in adults (Mulder, 2017). PHQ-9 remains a good choice of a screening tool for depression. The PHQ-9 would enable practitioners to screen a large number of patients, and refer a fair number of patients who are positive in the tool as a diagnosis of depression (Mulder, 2017). Clearly, the results of the PHQ-9 can point the direction to treatment options and a referral pathway depending on patient severity. These scoring guidelines will form the basis of the practice guideline algorithm which will be customized to the site.

Agree II and Grade

Guidelines are designed to support the decision process in patient care (Singleton & Levine, 2008). In order to appraise the standard of practice the Appraisal of Guidelines for Research and Evaluation (AGREE II) tool is used by policy makers and healthcare providers to guide evaluation (Singleton & Levine, 2008). According to Singleton and Levin (2008), the AGREE II instrument which includes a seven point scale (the scope, the purpose, the stakeholders, involvement, development, clarity and presentation, application, and summary or editorial). The AGREE II consists of 23 key items organized by a seven-point scale followed by 2 global rating items ("Overall Assessment"). Each one of the seven points improves the guideline and overall quality. Overall assessment includes the rating of the overall quality of the guideline and whether the guideline would be recommended for use in practice (Brouwers et al., 2010). A summary of the literature

presented in Section 2 can be found in Appendix A, with scoring using the GRADE method (Terracciano, Brozek, Compalati, & Schunemann (2010).

Relevance to Nursing Practice

Patients with depression do not make as much progress in their weight loss program as patients who are not depressed (Stevelos, 2014). The mental health screening tool forming the basis of the practice guideline to be developed in this DNP project is the patient questionnaire instrument used as screening tool for depression. Patient outcomes, including significant weight loss, can be achieved if the patient is managed holistically. Effective screening measures including the PHQ-9 have been shown to help identify symptoms of depression. This identification can improve treatment for individual patients (Stevelos, 2014).

Depression is associated with social stressors, and chronic medical problems such as fatigue, chronic pain, migraine headaches. Research in the recent past, however, has uncovered many mediating variables that relate depression and obesity. The local bariatric clinic is not currently using a screening tool for depression. The practice in treatment of the patients has a holistic goal of treating the mental and physical well-being of the patient. The management of depression will be enhanced by using the screening tool in the bariatric clinic (Singleton & Levine, 2008).

The PHQ-9 screening tool is a valid and effective tool that can be used to screen for depression symptoms in patients presenting at the bariatric clinic (Albert, 2016). This screening tool detects if the depression symptoms increase or decrease allowing the nurse practitioner to monitor and guide the patient treatment plan. The PHQ-9 can also be

linked to the patient electronic health record so the communication and multi-interdisciplinary areas will be able to assess and provide additional information on the treatment plan (Sharp & Lipsky, 2002).

Despite many types of treatments, depression has an estimated prevalence of 5.4–8.9% within the United States, and affects 5–13% of patients seen in primary care settings (Pratt & Brody, 2014). Depression is projected to become the second largest cause of disability by 2020 (CDC, 2016). The Patient Health Questionnaire (PHQ)-2 and PHQ-9 are commonly used and validated screening tools. The PHQ-2 has 97%sensitivity and 67%specificity in adults, whereas the PHQ-9 has 61%sensitivity and 94%specificity in adults (Pratt & Brody, 2014).

Local Background and Context

The clinic is located centrally in a metropolitan area of a southern state and was established in August of 2012. There are a total of five bariatric clinics within the organization. This clinic has since seen over 2,500 patients and performed over 1,000 surgical weight loss procedures. The staff within the clinic consists of 10 employees. The volume seen within the year is approximately 850 with 300 gastric surgeries performed. The correlation of obesity and depression has been identified with the use of a screening tool for some practices, but not for this bariatric clinic (Onyike et al., 2010). Prior to and after surgery, these patients have routine visits to the clinic, and the screening tool will be administered to patients according to the practice guideline. The average patient will return for follow up visits at one month, three months, six months, nine months, and twelve months. The patient will then return yearly for the next five years. Presently, no

screening tools or processes are used in the bariatric clinic that is the subject of this DNP project.

Role of the DNP student

In the past, I had experience at a neighboring bariatric clinic and helped to ensure that all of the bariatric patients were screened using the PHQ-9 tool upon intake and at follow up for the sixth month. I have motivated the program to use the screening tool to identify the depression for patients and provide treatment necessary for this mental health issue. The practice guideline has been approved by an expert panel at the DNP project site. The education of the staff and implementation of the practice guideline will begin upon intake of the bariatric patients. The potential bias with the project is a risk of the patients not answering the screening tool honestly because they do not want to disappoint the nurse practitioners or other staff members in the program.

Summary

The practice guideline will describe the usefulness of the PHQ9 in the bariatric patient population and will provide guidance for the staff on how to use it, when to refer and how to better manage depression in the bariatric patient population. However, once the practice guideline is in full implementation mode, the gap in practice at the site will close and identification of the bariatric patient with undiagnosed depression helping the nurse practitioners in the program better treat the obese patients with evidence-based research. The patients will be treated holistically, both physically and mentally (Pratt & Brody, 2014).

The key to success of the project will be utilizing the expert panel to approve the practice guideline and implement it in the practice, which will ultimately result in screening all the obese patients within the bariatric clinic for depression and utilizing the algorithm as direction in treating appropriately. Depression cannot be ignored in this population and must be addressed by providers. Once the policy change is complete and the depression screening in place, there will be a better treatment plan assigned to the obese patients within the bariatric clinics. The outcomes should reveal a higher level of compliance and success for the patients. Further studies will be implemented to continue the improved quality of care (Chisholm, 2001). The treatment needs to be timely in treatment for the depressed patient. The focus treating both the mental and physical of the bariatric patient will enhance the behavior changes needed in promoting healthy lifestyle changes. Identifying depression in bariatric patients using a valid screening tool will assist the practitioner in diagnosis and proper referral for treatment.

Section 3: Collection and Analysis of Evidence

Introduction

The development of an algorithmic practice guideline for approval by an expert panel is the primary focus of this DNP project. The use of the PHQ-9 to screen for depression in the bariatric patient population, and thus identify underdiagnosed patients, provides a holistic approach and will be a prominent feature in the practice guideline (Pratt & Brody, 2014). The algorithmic approach solidifies a treatment plan with options linked to each level of depression and provides the nurse practitioner with a sanctioned approach.

Practice-Focused Question

The practice-focused question that guided this doctoral project is: Will an algorithmic practice guideline that includes the use of the PHQ-9 be approved for implementation at the clinic to identify bariatric patients with undiagnosed depression? The gap-in-practice is with the use of the practice guideline and algorithmic procedure, which includes the use of a screening tool for depression of the obese patient. A screening tool will help the staff to develop a focused, individualized treatment plan for each bariatric patient. The newly developed practice guideline will include the use of the PHQ-9 to screen for depression among obese patients with each assessment of new patients admitted to the program. The implementation of the practice guideline and the use of the algorithm will allow the practitioners to properly guide the bariatric patients in the resources needed for complete treatment in the clinic. The use of this depression screening will allow obese patients to be treated effectively; however, the scope of the

DNP project includes the development of the guideline and approval by an expert panel. The project provides a treatment algorithm derived from the PHQ-9 screening to guide practitioners in the evaluation, prevention, and management of obesity and depression in their patients at the bariatric clinic. The algorithm incorporates recommendations for referral and treatments for depression.

The expert panel has served as the resource to clarify the roles of team members and to define the proper referral method with the help of the algorithm. Staff meetings are planned so all staff can share important patient information and promote effective teamwork.

Sources of Evidence

Depression is a common condition in bariatric surgery candidates and approximately 85% of the bariatric patients are already clinically depressed, which is a significant indicator of poor quality of life (Mitchell et al., 2014). Updated evidence-based practice guidelines are needed to guide practitioners. The tool used for screening will help identify and treat depression. Obese patients are 25% more likely to experience depression compared to those without obesity (Gilbody, Richards, & Barkham, 2007). From the evidence, the PHQ-9 has been shown to be useful in primary care clinics and in bariatric clinics (Gilbody, Richards, & Barkham, 2007). The screening instrument recommended in the practice guideline is the PHQ-9, which is used to obtain input from patients regarding their symptoms related to depression. Generally, these tools are self-administered and then reviewed by the practitioner. Treatment of depression is needed to improve compliance and to manage the course of this condition (Gilbody, Richards,

Barkham, 2007). Early recognition and appropriate identification will allow the practitioner to improve management of depression with compliance in weight reduction, thereby enhancing quality of life (Mitchell et al., 2014). The primary outcome of the project, full implementation has the potential to improve the health and overall well-being of the obese patients.

Published Outcomes and Research

For the review of the scholarly evidence, numerous electronic searches and these databases were used: CINAHL, PubMed and Medline. A systematic, computerized, literature review was performed searching for studies on depression and obesity from March 2008 up to March 2018, combining the following key words and medical subject headings: *depression, PHQ-9, depressive disorders, depression, metabolic syndrome, obesity, body mass index.* A computerized literature search using the abovementioned databases and using the search terms revealed a total of 4,287 publications. Many of these articles were excluded because there were not published in English, did not include peer reviewed research or addressed co-morbidities other than depression which were also related to obesity. Excluding these articles yielded 10 articles that were specific to obesity and depression and were selected to develop the practice guideline. The evidence-based research presented in this project supports the use of a specific tool to identify depression in obese patients which should improve the health of this population (Stevelos, 2014).

Evidence Generated for the Doctoral Project

Participants. The ultimate beneficiaries of the practice guideline will be the obese patients at the bariatric clinic upon admission to the practice. The practice

guideline was presented to expert panel which consists of five key individuals. These five people are in ownership and in positions of authority at the bariatric clinic to change the practice pattern and adopt the use of the practice guideline. The members of the expert panel include: (a) a physician medical director (b) a physician co-owner of the practice (c) a PRN (d) a psychiatric physician. The primary purpose of this project is to use the algorithmic practice guideline using the PHQ-9 and to implement the guideline in the clinic to improve care of the obese patient.

Staff members at the clinic will be on the receiving end of the practice guideline and will put it to use in the day to day. The staff members who will be impacted by the implementation of the practice guideline include two surgeons, two nurse practitioners, and two registered nurses, and ultimately, the obese patients managed in the bariatric clinic. There are also three medical assistants who work at the clinic and will have a role in facilitating patient completion of the PHQ-9. The medical assistants will help give the PHQ-9 screening tool to each patient at intake. Though these participants will all benefit from an educational program on the implementation of the practice guideline.

Procedures. The practice guideline with its accompanying algorithm will be presented to the expert panel in a 1-hour meeting (see Appendix B).

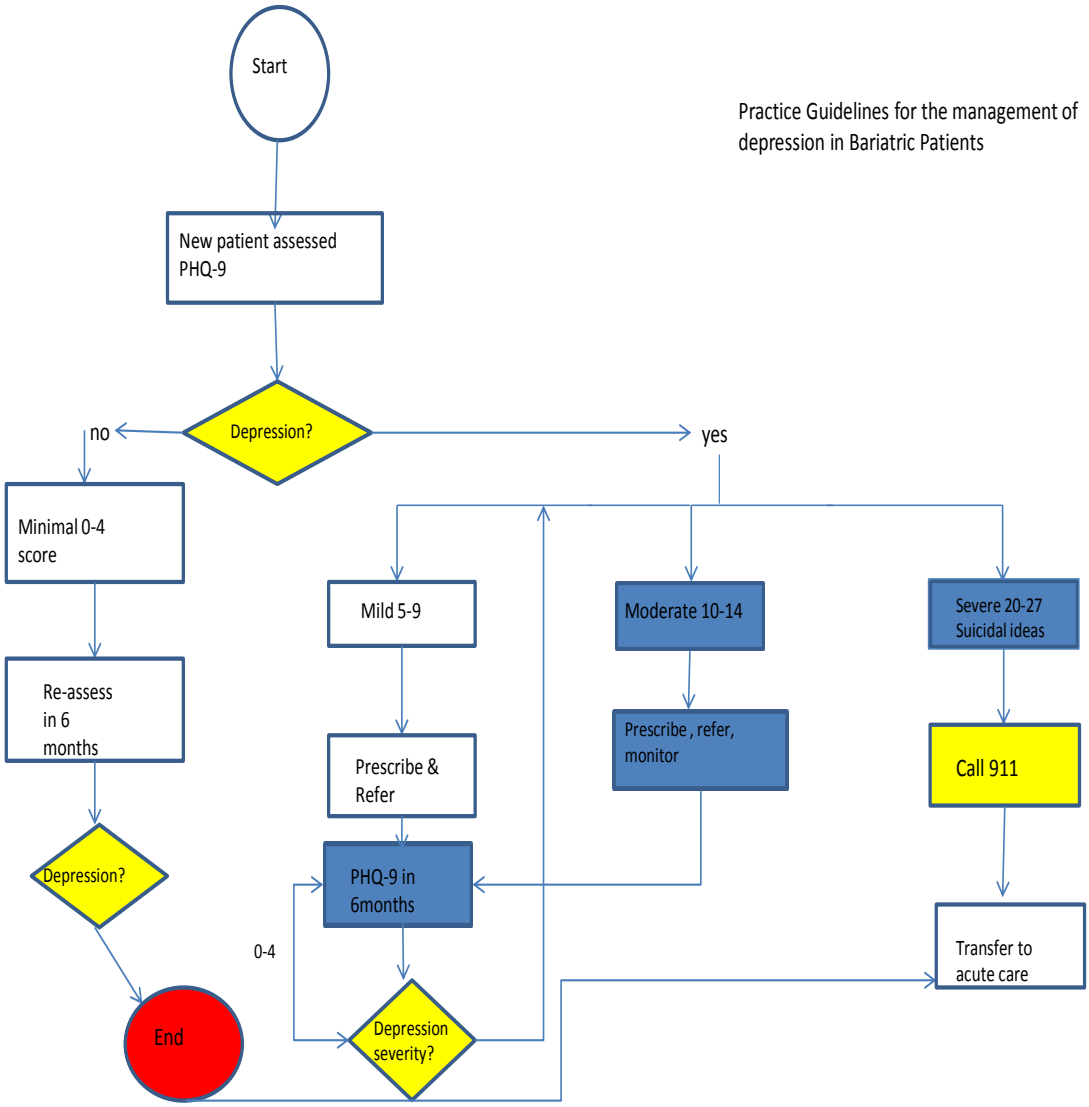

Figure 1. Screening bariatric surgery patients with the PHQ-9.

The practice guideline, with its supporting evidence and algorithm are compiled in a descriptive PowerPoint presentation that will be used to review its key components and to trigger discussion with the expert panel (see Appendix B).

To facilitate consensus on the practice guideline for implementation, the expert panel will use the Delphi technique (See Appendix C) and use this to explore pros and cons of implementation, an implementation project plan, and consider educational needs of the staff (Dalkey & Helmer, 2017). All recommendations for changes to the practice guideline will be captured and the practice guideline will be revised, as needed. The group will be able to use the decision- making process to provide others with shared information and less bias. In addition, the result becomes more accurate as biases may be removed from the expert panel's decision-making process. The expert panel session can use the Delphi technique to achieve agreement and consistency in decision making process. The responses of the expert panel, the details of the discussion, and any changes needed to the practice guideline will be captured qualitatively, summarized as evidence generated for the doctoral project and presented in Section 4.

Protections. The expert panel's anonymity will be protected as all notes will be de-identified. The clinic will be protected from identification, and all data collected in the expert panel presentation and discussion will be held as confidential information. Furthermore, I assure that all requirements in the Walden manual for practice guideline development will be met, and the project will be submitted to the Walden institutional review board (IRB) for required approvals.

Analysis and Synthesis

The Delphi Technique will be used with the expert panel to achieve consensus regarding the details of the practice guideline and agreement on its implementation. The Delphi technique consists of open-ended questions discussion about a given topic

(Mulder, 2017). Multiple rounds of discussion may be needed to allow all members of the expert panel to air their concerns, identify barriers to implementation as well as suggesting ways to overcome these obstacles. The goal of the Delphi technique discussions is to achieve consensus about the practice guideline and an implementation plan. The Delphi Method allows individuals to think about the problem and see a better solution. As members of the expert panel are all in leadership positions at the site, they have a shared decision making about the practice guideline implementation. The technique will allow the group to make changes in the practice guideline needed which can guide better decisions about the identification and care of the depressed patient (Mulder, 2017).

Summary

The need for screening for depression to construct a positive health outcome for the bariatric patient is crucial in holistic (Engstrom, 2016). This change in practice with the development and approval of an evidence-based practice guideline advocating for the use of the PHQ-9 and the algorithm will influence positive outcomes for both the patient and the bariatric clinic. Ignoring the issue of the linkage between obesity and depression can compromise the patient's overall health when depression in the bariatric patient is not identified and not properly (Engstrom, 2016).

Add preview of Section 4?

Section 4: Findings and Recommendations

Introduction

The purpose of this project was to develop a practice guideline for depression screening in obese patients and revised workflow for an expert panel review with the intention of implementing it within a bariatric clinic. Developing a practice guideline can result in effective treatment and care plans for the bariatric patients who are screened positive for depression (Engstrom, 2016). The practice guideline helps to plan for successful treatment both on admission to the bariatric program and every 6 months thereafter. The practice guideline was presented to an expert panel which consisted of five key individuals who were in ownership and in other positions of authority at the bariatric clinic and thus able to change the practice pattern and adopt the use of the practice guideline.

Findings and Implications

The need for clinical practice guidelines in bariatric clinics has never been greater than now due to the increase in the obesity in our community. The obesity epidemic has been described by the National Center for Health Statistics (2016) as the No. 1 preventable disease in the United States. Obesity in America has increased to epidemic numbers over the last ten years. Practitioners need to address the need for patients to reverse this trend. This project was developed and presented to an expert panel. The project is intended for initiation in practice in the bariatric clinic to address the problem of depression in obesity where underserved populations are treated. An established clinical practice guideline for the bariatric clinic, algorithm, and revised workflow will

help the practitioner to (a) better determine the presence of depression with the use of the PHQ-9 screening tool upon admission to the program and then (b) treat it. The medical director was very interested in the outcomes of this project, "I would like to submit the outcomes as a podium presentation to the American Society for Metabolic & Bariatric Surgery national conference within the year." I will request to be a co-author as part of the presentation. I will present this project to the Obesity Coalition as a poster presentation at the national conference this summer.

Recommendations

In the bariatric clinic, using depression screening and a practice guideline with an algorithm is expected to contribute to positive social change by providing optimal treatment for the patient and by improving quality of life (Stevelos, 2014). This project is significant because it can determine the extent of depression in the obese patients served by the clinic and enhancing the quality of nursing practice for each patient's individual treatment plan. This project will allow opportunities for nurse practitioners to manage each individual patient with a specialty care plan to improve physical and mental behavior (Stevelos, 2014). The development of this practice and use of the guidelines will improve the outcome measurements and patient satisfaction measurements. As a result of the positive response from the expert panel, an implementation date for the practice guideline has been set after the educational program for the staff members and a review of the revised workflow and algorithm have been completed. The other issue emerged during the expert panel presentation as staff was concerned about time constraints during assessment of the new patient in the program and the workflow associated with this new

process. Thus, the panel recommended that the PHQ-9 survey be self-administered during the wait time before the practitioner sees the patient.

Strengths and Limitations

The evaluation of depression using the PHQ-9 screening tool will be used in the bariatric clinic upon initial patient assessment and every six months thereafter. The goal of screening is to identify people who have depression so that they can get the help they need. The accompanying algorithm provides guidance and a referral path. The common screening test for depression is the PHQ-9. The PHQ-9 is a short questionnaire that asks patients to report how often they are bothered by problems such as a lack of pleasure in doing things, sad or hopeless feelings, sleep problems, or trouble concentrating. People who screen positive for depression should be further evaluated to determine how severe their depression is, whether they have any physical illness that may be contributing to the symptoms, and if they have any other mental health disorders, such as anxiety. There are many different approaches for treating depression, including psychotherapy, medications, or a combination of these approaches.

One limitation within the project is the lack of full implementation within the scope of the project at this time. I will continue to work with the medical director to improve in our bariatric clinic as well as the other four clinics within the organization. In addition, the clinic will institute a quality improvement project to count the number of patients with undiagnosed depression and follow up with referrals to make sure that needy patients are getting the care they need.

Section 5: Dissemination Plan

Singleton and Levin (2008) clearly show that interventions are frequently overlooked; hence, these authors advocate for the use of practice guidelines. The practice clinical guideline was developed, reviewed and presented to expert panel for use in all the bariatric clinics within the organization. The expert panel accepted the practice guideline and the algorithmic procedure without further revisions. An implementation plan has been devised and an educational plan for the staff is currently underway. My plans for disseminating the project include providing the education and implementing the clinical practice guideline placed in all five of the bariatric clinics. The PHQ-9 will be used on entry into the bariatric program, and every six months thereafter across all five of the bariatric clinics in the system (Engstrom, 2016). We will track all referrals made to a higher level of care depending on the outcome of the PHQ-9 to measure and monitor progress with the implementation across all of the bariatric clinics in the organization.

I also believe that the practice guideline for bariatric patients will be a useful diagnostic tool implemented and available for all the bariatric patients within the primary care offices near the facility. According to Singleton and Levin (2008), dissemination does not occur unless it is shared among scholarly audiences. I believe that treatment plans for the bariatric patients will benefit from the administration of depression screenings upon admission into the program (Engstrom, 2016). I plan on offering the presentation and sharing the project with other programs at the seminars and annual conference of the Obesity Coalition which is a national organization for bariatric clinicians and bariatric patients.

My goal as a DNP within the bariatric clinic is to see the clinical practice guideline implemented for obese patients and successful outcomes. The obese patients' screening for depression upon intake will improve treatment plans and outcomes related to this project in a systematic manner. I will continue to be a patient advocate and leader within the bariatric program. I want to use the clinical practice guideline to improve healthcare in the bariatric clinic and with each individual patient.

I will focus on improving the care provided to the obese patients. I will continue to evaluate the findings of this project, measure the use of the PHQ-9 at the bariatric clinics, count the number of referrals and track the progress of patients in both their depression levels and their weight loss, as these are intricately linked (Cassin et al., 2013). As a DNP-prepared NP, I will continue to use my knowledge and expertise in the bariatric practice. I have a positive outlook on implementing other important health care projects based on the outcomes from this project.

Summary

The practice guideline developed to screen obese patients for depression is an effective way of treatment for mental illness (Albert, 2016). The implementation of the practice guideline for practitioners to use in the bariatric clinic will improve the treatment plan and outcomes for the patients. Future research and potential projects will be part of the bariatric clinics' quality improvement endeavor. The development of a follow-up treatment plan after bariatric surgery is necessary to monitor patients' outcomes. Therefore it is strongly recommended that each patient receive education about depression and proper referral using the algorithm provided with this project.

Preoperative education should be provided for all patients, along with steps to take following the algorithm if they do become depressed. The practice guideline for the bariatric clinics and depression screenings will include follow up care and re-evaluations with the algorithm developed from the project will continue to provide quality care for each patient.

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Appendix A: Literature Matrix

Authors	Year	Title	Journal	Purpose	Agree II	GRADE*
Albert, L.	2016	Screening for Depression in Adults	JAMA	Determining a valid screening tool for depression in adults	6	2
Arroll, B. Khin, N. Kerse, N.	2017	Screening for depression in primary care with two verbally asked questions: cross sectional study	BMJ	Study of a cross sectional research in primary care and screening for depression using two verbal questions.	4	2
Banning, M.	2008	Clinical reasoning and its application to nursing. Concepts and research studies.	Nursing Education and Practice	Application of using clinical reasoning in nursing research.	6	4
Brouwers, M., Kho, M. Browman, G., Cluzeau, F., Feder, G. Fervers, B. Hanna, S. Makarski, J.	2010	AGREE II: advancing guideline development, reporting and evaluation in healthcare.	Canadian Medical AssociatioAssociation n Journal	Guideline for development of AGREE II use in literature reviews.	7	2

Cassin, S. Sockalingam, S Hawa, R. Wnuk, S. Royal, S. Taube-Schiff, M Okrainec, S	2013	Psychometric Properties of the Patient Health Questionnaire (PHQ-9) as a Depression Screening Tool for Bariatric Surgery Candidates	American Psychiatric Journal	This article described the use of the PHQ-9 as screening for Bariatric surgery	7	2
Centers for Disease Control and Prevention (CDC).	2016	National Health Statistics	CDC	The actual facts for National Health in obesity statistics described for research.	7	2
Chisholm, D.	2001	The economic costs of Depression.	Depression and Social Economics	The description of the economics costs increasing due to the obese epidemic.	6	3
Dalkey, N Helmer, O.	2017	The economic costs of depression.	Management Sciences 1963 original	The application of experiments using the Delphi method by experts	7	2
Engstrom, D	2016	Obesity and Depression	Obesity Action Coalition	Description of obesity and depression related to	7	2

				adult patients		
Gilbody, S. Richards, D. Barkham, M.	2007	Diagnosing depression in primary care using self-completed Instruments.	Journal of General Practice	Validation of PHQ-9 for diagnosing depression as a self-complete Tool.	7	2
Glanz, K., Rimer, B.K. Lewis, F.	2002	Health Behavior and research Techniques.	Health Behavior and Education	Descriptions of the theory and health behavior in Research.	5	1
Kroenke, K., Spitzer, R., Williams, J.	2001	The PHQ-9 validity of brief depression	Journal of internal Medicine	Measurement of screening tool	7	2
Kolotkin, R. Davidson, L. Crosby, R. Hunt, A. Adams, T.	2012	The comparison of gastric bypass patient of 6 years	Surgical Obesity Related disorders	six year changes in health related life of gastric patients.	6	2
Luppino F., Wit, L., Bouvy, P.	2010	Overweight and obesity and depression	General Psychiatry	Studies in obesity and depression	5	3
Mitchell, J., Selzer, F. Kalarchian, M Devlin, M., Strain, G. Elder, K. Yanovski, S.	2012	Psychopatholo gy before surgery in Longitudinal assessment of bariatric surgery	Surgery for obesity and related diseases	Assessment of long term study related to physical and mental relationship	6	3
Mulder, P.	2017	Delphi technique	Tools Hero	Use of the Delphi tech. decision making	7	2
Onyike, C., Crum, R., Hochang, B. Lyketos, C. Eaton, S.	2010	Is Obesity Associated with major depression?	Journal of Health and Medicine	Results and discussion of health exam survey related to obesity and depression	6	2
Prat, L.,	2014	Screening for	National	Description	7	2

Brody, D.		depression across the lifespan	Health	of increase in obesity in US		
Sharp, L., Lipsky, M.	2002	Strategies for learning evidence based practice	American Family Physician	Critical review of measurement screenings in primary care setting	7	3
Singleton, J. Levin, R.	2008	Combating weight bias and working with health care	Journal of Nursing Education	study looking at weight bias with obesity	7	2
Stevelos, J.	2014	Screening accuracy for late life depression	Obesity Coalition Journal	Systematic review of accurate screening performed	6	2

*Key: for AGREE II use in the Literature Review

All AGREE II items are rated on the following 7-point scale:

1 strongly Disagree 2 3 4 5 6 7 Strongly Agree Score of 1 (Strongly Disagree).

A score of 1 should be given when there is no information that is relevant to the AGREE II item or if the concept is very poorly reported. Score of 7 (Strongly Agree). A score of 7 should be given if the quality of reporting is exceptional. A score between 2 and 6 is assigned when the reporting of the AGREE II item does not meet the full criteria or considerations.

A score is assigned depending on the completeness and quality of reporting.

Key: Grade information used in the literature review matrix

The GRADE system entails an assessment of the quality of a body of evidence for five factors:

- (1) Within-study risk of bias (methodological quality)
- (2) Directness of evidence
- (3) Heterogeneity (any kind of variability among studies)
- (4) Precision of effect estimates

- (5) Risk of publication bias

Appendix B: Practice Guideline Overview for Presentation to Expert Panel

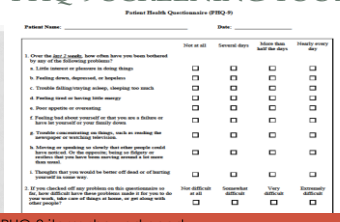
DEPRESSION SCREENING CLINICAL GUIDELINES FOR BARIATRIC PATIENTS

PRESENTATION FOR EXPERT PANEL
DNP PROJECT WALDEN UNIVERSITY
JANUARY 2019
COVA T. SIGMAN

PHQ-9 SCREENING TOOL

Screening Test—The PHQ-9 is a 9-item depression screening and diagnostic questionnaire for MDD based on DSM-IV criteria (Kroenke et al., 2001b, Spitzer et al., 1999). **Screening Test—**The PHQ-9 is a 9-item depression screening and diagnostic questionnaire for MDD based on DSM-IV criteria (Kroenke et al., 2001b, Spitzer et al., 1999).

PHQ-9 SCREENING TOOL



Patient Health Questionnaire (PHQ-9)

Patient Name: _____ Date: _____

	Not at all	Several days	More than half the days	Nearly every day
1. Over the last 2 weeks, how often have you been bothered by any of the following problems?				
a. Little interest or pleasure in doing things	☐	☐	☐	☐
b. Feeling down, depressed, or hopeless	☐	☐	☐	☐
c. Trouble falling/staying asleep, sleeping too much	☐	☐	☐	☐
d. Feeling tired or having little energy	☐	☐	☐	☐
e. Poor appetite or overeating	☐	☐	☐	☐
f. Feeling bad about yourself or that you are a failure or have let yourself or your family down	☐	☐	☐	☐
g. Trouble concentrating on things, such as reading the newspaper or watching television	☐	☐	☐	☐
h. 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	☐	☐	☐	☐
i. Thoughts that you would be better off dead or of hurting yourself in some way	☐	☐	☐	☐

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
2. If you checked off any problem on this questionnaire so far, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?	☐	☐	☐	☐

Overall, the PHQ-9 items showed good internal (Cronbach's alpha=0.85) and test re-test reliability (intraclass correlation coefficient=0.92). The PHQ-9 appears to be a reliable and valid instrument that may be used to diagnose major depressive disorders

DELPHI TECHNIQUE

- The aim is to clarify and expand on issues, identify areas of agreement or disagreement and begin to find consensus.
- Step 1: Choose a Facilitator
- The first step is to choose your facilitator. You may wish to take on this role yourself, or find a neutral person within your organization. It is useful to have someone that is familiar with research and data collection.
- Step 2: Identify Your Experts
- The Delphi technique relies on a panel of experts. This panel may be your project team, including the customer, or other experts from within your organization or industry. An expert is, any individual with relevant knowledge and experience of a particular topic. [1]
- Step 3: Define the Problem
- What is the problem or issue you are seeking to understand? The experts need to know what problem they are commenting on, so ensure you provide a precise and comprehensive definition.

EVALUATION OF SCREENING TOOL USING THE DELPHI TECHNIQUE

- The Delphi method is a structured communication technique or method, originally developed as a systematic, interactive forecasting method which relies on a panel of experts.
- The experts answer questionnaires in two or more rounds.

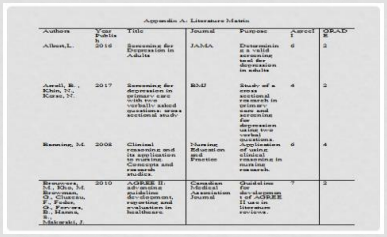
OBESITY AND DEPRESSION

- Kroenke, Spitzer, & Williams described in their article that obese patients have issues with low self esteem and depression.
- The guidelines within the program using the PHQ-9 as the initial screening tool for the bariatric patient will allow patients to be identified and treatment to begin when needed.
- Engstom best described that ignoring issues and linkage between obesity and depression will compromise the overall health of patients.

SUMMARY

- The project is depression screening for Bariatric Surgical Patients
- The tool used on initial assessment is valid measurement in depression screening which is the PHQ-9
- The advise and recommendations will be graciously accepted from the expert panel on use of the guidelines for depression screening in the bariatric patient.
- Re-evaluation will continue within the program to maintain optimal care of the Bariatric patient.
- QUESTIONS?

LITERATURE MATRIX



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Banning, M.	2008	Clinical reasoning and its application to nursing: Concepts and research studies.	Nurse Education in Practice	Application of using clinical reasoning in nursing research.	6	4
Brouwers, M., Kho, M. Browman, G. Cluzeau, F., Feder, G., Fervers, B. Hanna, S., Makarski, J.	2010	AGREE II: advancing guideline development, reporting and evaluation in healthcare.	Canadian Medical Association Journal	Guidelines for development of AGREE II use in literature review.	7	3

Buchwald,H., Avidor, Y., Braunwald, E., Jensen, M., Pories, W., Fahrbach, K., Scholles, K.	2004	Bariatric Surgery Systematic Review and Meta-analysis	JAMA	Review of Bariatric Surgery and how it affects obesity rates in the adults.	4	2
Cassin, S., Sockalingam, S., Hawa, R., Wnuk, S., Royal, S., Taube-Schiff, M., Okrainec, A.	2013	Psychometric Properties of the Patient Health Questionnaire (PHQ-9) as a Depression Screening Tool for Bariatric Surgery Candidates	American Psychiatric Journal	This article described the use of the PHQ-9 as screening for Bariatric surgery.	7	2
Centers for Disease Control and Prevention (CDC)	2016	National Health Statistics	CDC	The actual facts for National Health in obesity statistics described for research.	7	2
Chisholm, D.	2001	The economic costs of depression.	Depression and Social Economics	The description of the economics costs increasing due to the obese epidemic.	6	3

Dalkey, N. Helmer, O.	1963, 2017	The Delphi methodology	Management Science	The application of experiments using the Delphi method by experts.	7	2
Engstrom, D.	2016	Obesity and Depression	Obesity Action Coalition	Description of obesity and depression related to adult patients.	7	2
Folstein, M.F., Folstein S.E., McHugh P.	1975, 2016	Mini mental Health Exam use as a practical method of grading the cognitive state of patients for the clinician.	Journal of Psychiatry	Use of Mini mental health exam in grading psychiatric patients' levels.	4	4
Gilbody, S. Richards, D. Barkham, M.	2007	Diagnosing depression in primary care using self-completed instruments.	Journal of General Practice	Validation of PHQ-9 for diagnosing depression as a self-completed tool.	7	2
				Descriptions of theory		

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Appendix C: Delphi Questions to be used with Expert Panel

In order to facilitate consensus on the practice guideline for implementation, the expert panel will use the Delphi technique (Dalkey & Helmer, 2017).

Round 1 Questions:

1. What type of depression screening would you recommend for patients?
2. Would you consider PHQ-2 or PHQ-9 as a depression screening tool?
3. Do you think that patients should be screened for depression in the bariatric clinics?

Round 2 Questions:

1. Are there potential benefits for screening depression in patients?
2. How often should depression screenings be done in patients?
3. What are the final recommendations for the depression screening tool use?

Summary:

Collate and summarize the results, removing any irrelevant material and look for the common ground from the expert panel.