Adolescent Depression Screening: A Care Guideline Approach in Primary Care

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Abstract

Adolescent depression is common. Numerous factors have been identified contributing to the increase in mental health illness in adolescents. Most adolescents continue to have some type of impairment related to depression as an adult. Identifying adolescents with depression has been suboptimal in the primary care setting. Primary care providers are placed on the forefront to identify at risk adolescents for depression. Current national guidelines suggest depression screenings in adolescents age 12-18 annually. An adolescent depression screening is essential to identify adolescents at risk and provide early intervention. In this quality improvement project, the PHQ-9 was implemented on all preventative exams aged 12-18 for depression screening at the project site which was a primary care clinic. The protocol development was supported by national guidelines and current evidence found in the literature. This quality improvement project evaluated if an adolescent depression screening guideline improved screening for adolescent depression during preventative exams. Statistically, the null hypothesis of the project was found insignificant, but overall, the project did find an improvement in advance practice providers performance with an increase in the number of adolescents screened for depression during preventative exams.

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Adolescent Depression Screening Guideline

Less than three decades ago, adolescent low mood swings were considered a normal behavior in development of teens and it was thought teens were too immature to express depressive disorders behavior (Maughan, Collishaw, & Stringaris, 2013). These assumptions have now been replaced with awareness of depression disorders existing in adolescents. Adolescent depression is now known to have lifelong consequences when not diagnosed and treated.

Adolescent depression is associated with a range of adverse effects. Outcomes from adolescent depression can include social and educational impairment, physical and mental health problems later in life, and suicide (Maughan, Collishaw, & Stringaris, 2013). Approximately two-thirds of young adults with depression show at least one other co-morbid condition. Clinical studies have shown adolescent depression is a chronic and recurrent condition (Dunn & Goodyer, 2006).

National recommendations suggest primary care prevention and intervention to identify these at-risk adolescents (Thombs et al., 2016). Currently in primary care, depression is addressed only if a symptom is expressed as a chief complaint or multiple somatic complaints with no identifying cause are noted. A self-reported depression instrument can assist with identifying these at-risk adolescents (Roseman, Kloda, Saadat, Riehm, Ickowicz, Baltzer, Thombs, 2016).

The project site was staffed by two full-time nurse practitioners with no physician available for 20 miles. A prescriptive authority agreement and collaborative agreement have been signed by two physicians in another rural area town. The nurse practitioners in this clinic take care of the community from newborn to geriatric ages. With an increase in the prevalence of adolescent

depression, the nurse practitioners have realized they have missed opportunities in screening for adolescent depression in the past. The focus of this project was adolescents ages 12-18 with an improvement in major depression screening utilizing a self-reported depression instrument, the Patient Health Questionnaire (PHQ-9). A quality improvement DNP project, adolescent depression screening guideline (ADSG), was implemented with well child visits in the clinic on adolescents aged 12-18 to assist in identifying at risk pre-teens and teens. This rural clinic recently received a grant for telepsychiatry communication and counseling through a university to offer psychotherapy counseling for individuals. The psychology department agreed to counsel adolescents at risk if parental consent was received for intervention.

Significance of ADSG

In the United States, it is recommended by the United States Preventative Service Task Force (USPSTF) to screen adolescents ages 12-18 for major depressive disorder (MDD) (Thombs et al., 2017). Depression symptoms can begin in early childhood and increase in adolescence. Adolescents have shown a progressive increase in major depression over the past few decades. Prevalence of adolescent girls with depression is higher than in boys. Hispanic youth tend to have higher incidence than non-Hispanic population (Merikangas, He, & Brody et al., 2010). Depression also increases with age. Lifetime depression increased from 8.4 percent (among adolescents ages 13 to 14 years), to 12.6 percent (among adolescents ages 15 to 16 years), to 15.4 percent (among adolescents ages 17 to 18 years) (Merikangas, He, & Burstein, et al. 2010).

Adolescents tend to seek medical care through a primary care provider for somatic complaints or treatment of chronic medical problems. Somatic symptoms such as abdominal pain, headaches or fatigue are common in adolescence who suffer from depression (Forman-Hoffman et al., 2016). Adolescents with chronic medical conditions such as diabetes or asthma tend to

have a higher rate of depression (Moreh & O'Lawrence, 2016). Suicide is the 3rd leading cause of death in adolescents and early adult. It is estimated than 1.8 million out of 2.5 million adolescents have had depression severe enough to contemplate suicide (Hewitt, Caelian, Chen, & Flett, 2014).

Depression is related to poor health quality of life that increases risk of disability as an adult. Depression is a risk factor for many chronic diseases as an adult such as cardiovascular disease, diabetes, and neurological disorders. Depression is associated with risky behaviors such as drug abuse, alcohol abuse and high-risk sexual behavior (Jia, Zack, Thompson, Crosby, & Gottesman, 2015).

Adolescent major depression disorders statistically relapse as young adults. Adult depression can be costly not only from a healthcare point of view but economically as well. Adult depression symptoms are associated with impairment in functioning and with both direct and indirect economic costs. These costs include related medical expenditures, reduced productivity, unemployment, and work and family absenteeism, estimated at more than $75 billion annually (Trudeau et al., 2016).

Early diagnosis and intervention for depression can improve outcomes, decrease morbidity and mortality rates, and enhance social and economic wellbeing (Cole, 2007). Performing routine screening with well child visits on adolescents in the primary care setting will assist to identify those adolescents with depression.

Problem Statement

Depression in adolescents is a significant problem that, when not addressed can result in a decreased quality of life for the patient and excessive medical and social expense burdens (Trudeau et al., 2016). Primary care providers are often the first to identify and treat depression.

Primary care providers at the clinic project site often see adolescents routinely for well child visits and could screen for depression during well child visit exams. This rural clinic, selected project site, began a quality improvement DNP project to implement ADSG. This clinic currently does not routinely screen adolescents for depression with well child visits. Depression screening was performed annually with well child visit exams on patients aged 12-18. Major depressive disorder was screened during annual exams utilizing the PHQ-9 screening instrument. The PHQ-9 screening instrument is proven to be valid and reliable in adolescent populations (Aggarwal, Taljard, Wilson, & Berk, 2017).

Purpose Statement

The purpose of this DNP project was to assist primary care providers to identify adolescents ages 12-18 with depression in alignment with national best practice standards. The aim of this DNP project was to increase the number of adolescents aged 12-18 who have been screened for major depression disorders annually to be treated and/or referred to telepsychiatry counseling appropriately. Adolescent depression can be treated with pharmacotherapy, psychotherapy and psychoeducation. Family therapy and support organizations are important measures to help an adolescent conquer depression (Santiago, 2015). Improvement in practice with implementation of ADSG assisted in identify depression in adolescents utilizing evidence-based practice.

This area in rural Texas, continues to have barriers in obtaining mental health care. There was no psychiatrist available for 1.5 hours. Telemedicine was a means to provide mental health care for the population residing in rural areas (Francisco & Archer, 2016). This rural clinic recently received grant approval for telepsychiatry communication that will be utilized from a private university in Texas psychology department with collaboration from the primary care clinic. This approval of psychotherapy counseling through telemedicine had overcome an

obstacle in care of mental health in rural areas (Lauckner & Whitten, (2016). An increase in referrals to telepsychiatry for counseling was an indicator of improvement in depression screening and treatment in the rural clinic setting

Project Objectives

By the end of the DNP Project, ADSG, the following have been completed:

- Staff education on annual depression screening for adolescents ages 12-18 years of age using the validated instrument PHQ-9 during well child visits
- Implementation of the ADSG at the project site
- Incorporation of reminders to complete screening through the electronic medical record system for appropriate patients
- Increase the number of adolescents aged 12-18 who are screened for major depression disorders annually
- Increases rate of those referred to telepsychiatry counseling when identified as at-risk adolescents with a PHQ9 score of 11 or greater
- Staff education on PHQ-9 results indicating at risk adolescent and further care needed
- Staff education on referral process to telepsychiatry provided by a private university in Texas utilizing their psychology department

Project Question

Will implementing ADSG with well child exams (ages 12-18) improve rates of adolescent depression screening and referral to telepsychiatry in high-risk adolescents with depression?

Population- Primary care providers and clinic staff

Intervention- Increase screening for depression utilizing validated tool (PHQ9) in practice annually with well child visit

Comparison- Current practice vs placement of annual screening with each well child exam routinely for ages 12-18.

Outcome- An increase in number of adolescents screened for depression annually with an increase in number of those referred to supportive services such as telepsychiatry counseling as identified at risk with a PHQ9 score of 11 or greater.

Time- Within 3 months would like to see an improvement in annual screenings of adolescents with well child exams and an increase in referrals to telepsychiatry.

Review of Scholarly Evidence

The literature review was guided by the question: Will improvement in adolescent depression screening utilizing PHQ-9 by primary care providers during annual well child exams ages 12-18 increase need for telepsychiatry intervention for high risk adolescents? The online databases PubMed, CINAHL, and Proquest were used in combination to search for relevant articles published between 2012 and 2018. The search was guided by the following keywords: adolescent, teenage, depression, prevention, PHQ-9, screening tool. No internal policy is developed on adolescent depression screening. No intranet is available at this clinic site.

A total of 124 articles were obtained with the initial search. Articles were excluded due to not meeting population criteria (age 12-18), prior diagnosis of depression and not being relevant to the guided question. Inclusion criteria met was population (ages 12-18), PHQ-9 screening tool utilized in study, no prior diagnosis of depression with population screened. After criteria of inclusion and exclusion completed, 5 full text articles remained for further review.

Review of Study Methods

The findings of the literature review were organized as follows: collaborative approach improves depression outcomes and interventions implemented improved depressive symptoms or

behavior. Interventions included psychotherapy, pharmacology and combination of both. All 5 articles reviewed discussed PHQ-9 as a reliable and valid tool for screening for depression. The literature review findings suggest improvement in functioning, behavior and depressive symptoms with interventions.

Collaborative Approach Improves Depression Outcomes

Collaborative care interventions have enhanced evidence-based treatment approaches and improved outcomes in depression (Richardson, Ludman, McCauley, et al., 2014). Unfortunately, most clinical trials are performed on adults and research findings on adolescents are limited. One clinical trial was found with supporting documentation on adolescents. A primary care setting approach was presented in a randomized clinical trial on adolescents ages 13-18. This randomized clinical trial was performed in 9 separate primary care clinics. Intervention with mental health professionals (intervention youth) verses a control group (provided usual care as given by primary care provider) was studied. Prior to the study, depression management caregivers were given education on adolescent depression, depression pharmacotherapy, suicide, motivational interviewing skills, and basic cognitive behavioral therapy (CBT) (Richardson, Ludman, McCauley, et al., 2014). Richardson et al. emphasized collaboration of care to improve depression outcomes. Mental health professionals involved did improve outcomes of the adolescents. Thirty-eight percent of intervention youth received psychotherapy only. Pharmacotherapy in interventional youth was 4% and both psychotherapy and pharmacotherapy were 54% of the group. Drop out of the trial was 4% in interventional youth documented. Depression outcomes were decreased significantly following 1 year of mental health intervention. This was monitored by utilizing Child Depression Rating Scale-Revised (CDRS-R). CDRS-R baseline scores were collected after screening PHQ-9 >10. The CDRS-R was

performed after 1 year of mental health collaboration in care and did show a moderate decrease in depression symptoms in the adolescents. Another improvement in depression outcome was an improvement in functional status 1 year following intervention monitored by the Columbia Impairment Scale (CIS). The CIS is a 13-item self-reported scale of functional impairment with scores ranging from 0 to 52. The CIS measures 4 areas of functioning. A CIS score of 16 or greater is considered an indicator of impairment (Olfson, Druss, & Marcus, 2015). The functional status percentage improvement from intervention youth 67.6% verses control group 38.6%. This randomized clinical trial did show collaboration with psychotherapy to improve depression outcomes with functional improvement in 1 year (Richardson, Ludman, McCauley, et al., 2014). Relevance and significance of this study to the current project is a planned approach of collaboration with mental health professionals with PHQ-9 screening >11. Interventions implemented with PHQ screening did improve depressive symptoms.

Interventions Improved Depressive Symptoms and/or Behavior Issues

A cross sectional descriptive study was performed on 150 adolescents ages 12-17 living in institutional homes. Of the 150 adolescents who completed the PHQ-9, 19 were considered high risk for depression with the screening tool. These 19 adolescents were diagnosed with clinical depression. Depression was significantly associated with gender and poor academic function (Vinnokota & Kaur, 2018). Girls in this study were found to have higher incident of depression with poor academic performance. Environmental risk factors and social deprivation result in vulnerability in adolescents for depression (Vinnokota & Kaur, 2018). Depression in adolescents puts an increase adverse effect of psychosocial outcomes such as addiction, increase suicide attempts, educational underachievement, and unemployment as an adult (Vinnokota & Kaur, 2018). Findings of this study also confirmed depression symptoms are not obvious. Mild

depression symptoms are more than likely to go unnoticed unless screened for (Vinnokota & Kaur, 2018). Internalizing behavior such as emotional or peer problems or external behaviors of hyperactivity and conduct problems can be signs of depressive disorders. Findings of this study confirmed adolescents with parental divorce, separation or death are more likely to have depression (Vinnokota & Kaur, 2018). Peer group support and therapeutic interventions showed improvement in depression and other problem behaviors ((Vinnokota & Kaur, 2018). Conclusion suggested improvement in screening, intervention and prevention (Vinnokota & Kaur, 2018). Significance and relevance to this project was depression screening assisted in identifying unnoticed depression in adolescents and intervention improved depressive symptoms and behavior.

A systematic review was performed on adolescents to update USPSTF guidelines (Forman-Hoffman et al., 2016). Five studies were found to meet the criteria of at least 100 adolescents screened for depression utilizing suggested tools considered valid and reliable. The last dated study found was 2009 with no other qualifying study performed on adolescents. The five studies reviewed did intervene in mental health disorder treatment. Intervention included pharmacotherapy, psychotherapy and a combination of both interventions (Forman-Hoffman, et al., 2016). Neither of the 2 psychotherapy intervention trials published demonstrated efficacy with CBT alone. Findings from this review continue to recommend annual screening of adolescents ages 12-18 for depression (Forman-Hoffman et al., 2016). Improvement noted with interventions of pharmacotherapy, mainly fluoxetine is studied. Improvement is noted with combination intervention of pharmacotherapy and psychotherapy. No efficacy in improvement of depression symptoms with psychotherapy alone. Significance and relevance to this project is recommendations continue to encourage routine annual screening of adolescents for depression

and no harm was found with screening adolescents for depression. Intervention provided to adolescents considered at risk did improve depression symptoms (Forman-Hoffman et al., 2016).

The South African Depression and Anxiety Group (SADAG) conducted a survey using PHQ-9 screening on over 2000 adolescents during a 2-year period. SADAG is a nongovernmental organization working in patient advocacy, education and de-stigmatization of mental health illnesses in South Africa (Aggarwal, Taljard, Wilson, & Berk, 2017). Suicide education and prevention is an initiative of this study. Goal of study was to assess functional impairment due to depressive symptoms in adolescents (Aggarwal, Taljard, Wilson, & Berk, 2017). Mental health presentations were provided to over 35 schools on peer pressure, signs of depression, warning signs of suicide, common myths associated with depression, information on support and resources and how to communicate with someone they are worried about (Aggarwal, Taljard, Wilson, & Berk, 2017). Rural areas and impoverished regions in South Africa were targeted for the study. Results from the screening disclosed 23% of adolescents were mildly depressed or more severe. Functional impairment was 64% of adolescents screened with depression symptoms with 9.3% being severe functional impairment (Aggarwal, Taljard, Wilson, & Berk, 2017). Socioeconomic difficulties are a variable addressed influencing elevated suicidal ideations and rates in this group study. This study stressed importance of preventative services due to high rates of suicide ideations, suicide attempts and functional impairment found in the adolescent group (Aggarwal, Taljard, Wilson, & Berk, 2017). Significance and relevance to current project is screening performed on adolescents did identify depressive symptoms. Poor socioeconomic influences increase risk of depressive symptoms and thus increase risk of suicide ideations and attempts.

A single randomized block design was utilized targeting adolescents ages 14-18 incarcerated.

Screening process included 312 individuals, 84 adolescents met criteria. In this study, PHQ was used to identify depression symptoms and initiating CBT with an elevated score of 9 to 19. The Guided Self-Help CBT Program with Therapist Support based on Beck's Cognitive Theory and the ADDIE model of Instructional Design by Seels and Glasglow (1998) was used as an intervention for the experimental group (Saranya, Darawan, Hunsa, Petsunee, & Surinporn, 2017). A goal of review was to show CBT can improve clinical symptoms of depression. Improvement of self-esteem, cognition and appropriate behavior would be indicators of improvement. Literature states that computer cognition behavioral therapy (CCBT) interventions have higher rates of adherence and positive outcomes (Saranya, Darawan, Hunsa, Petsunee, & Surinporn, 2017). This trial showed CBT immediately following intervention showed improvement in screening in experimental group verses control groups. Unfortunately, the following 1-2 months there was no significant changes in screening scores in either group (Saranya, Darawan, Hunsa, Petsunee, & Surinporn, 2017). CCBT intervention improved depression symptoms and behavior problems immediately after the program was completed. CCBT promoted positive influence and thoughts to decrease depression symptoms. (Saranya, Darawan, Hunsa, Petsunee, & Surinporn, 2017). Significance and relevance to current project found is CBT promotes a decrease in depressive symptoms and continued intervention is required to promote positive influences to continue with outcomes of decreased depression symptom.

Impact of Adolescent Depression

Adolescent depression is important to understand as symptoms may interfere with normal growth and development, educational achievement, interpersonal relationships, and lead to suicidality as an adolescent or young adult (McLeod, Horwood, & Fergusson, 2016).

Adolescents experiencing depression are at risk for mental health disorders, substance abuse and suicidality as a young adult. Consequences of depression in females as an adolescent to young adult may be greater in some aspects of functioning with unintended pregnancies, victimization and intimate partner violence (McLeod, Horwood, & Fergusson, 2016). While there is substantial evidence of long-term medical effects in adolescents with depression there is also long-term effects on society and economy as these adolescents become young adults. Mental health disabilities account for 40% of disability, absenteeism, and under performance at work (Layard, 2016).

Addressing Adolescent Depression in Primary Care

Depression is increasing worldwide and is listed forth as highest disease burden (Qin et al., 2015). There is a continuity between adolescent depression and remittance adulthood depression. Adolescents with mental health disorders often seek out treatment from primary care providers. Primary care providers can play a critical role in recognition of adolescent depression (Qin et al., 2015).

Adolescent Symptoms of Depression

Somatic symptoms exhibited by adolescents with depression in a primary care setting can include: recurrent headaches, chronic and intermittent abdominal pain, chronic fatigue, and musculoskeletal pain not explained by examination (Forman-Hoffman et al., 2016). After ruling out medical causes, depression must be considered if no significant findings and no cause of somatic symptoms are found. Symptoms often are not obvious as depression is misunderstood as normal teen attitude and acting out (Forman-Hoffman et al., 2016). Depression in adolescents can show a functional impairment with decreased academic performance, social interaction impairment, and troubled relationships with siblings and parents (Arthur & McNany, 2015).

Risk Factors for Adolescent Depression

In the United States, risks of adolescent depression include: gender (girls more than boys), family disruption or divorce, parental depression, traumatic childhood, loss of a loved one, exposure to violence or abuse (Moreh & O'Lawrence, 2016).

By the age of 14, girls are more than twice as common to have depression as boys, possibly due to coping styles in puberty (Bhatia & Bhatia, 2007). Body image, self-esteem, early developmental body changes, and hormone changes are all thought to be a factor influencing the increase in adolescent girls with depression (Moreh & O'Lawrence, 2016).

Adolescent depression is influenced by familial history of mental illness and exposure to family adversity throughout childhood. Approximately 15 million children in the United States grow up in a household where a parent has experienced one or more episodes of depression (Parent, Forehand & Compas, 2013). Divorce is a traumatic event for a child and is considered a common cause of adolescent depression.

Adolescent Screening and Early Detection for Depression

An adolescent depression screening protocol will serve to identify adolescents with depression who do not already have a diagnosis of depression. Identification of these adolescents with depression will engage them into treatments and interventions that have been proven to be effective (Olfson, Druss, & Marcus, 2015).

The American Academy of Pediatrics (AAP) sets guidelines to practice based on evidence-based research. The AAP guidelines use a combination of evidence based and consensus-based methods (Zuckerbrot, Cheung, Jensen, Stein, & Laraque, 2007). MDD is addressed in these clinical guidelines and support identification in adolescents through assessment, initial management treatment and ongoing management (Zuckerbrot et al., 2007). Recommendations

include all adolescents be screened for depression yearly (Zuckerbrot et al., 2007).

The USPSTF is an independent panel of non-federal national clinical experts supported by the Agency for Healthcare Research and Quality (AHRQ). USPSTF makes recommendations on preventative care for target populations based on evidence-based research and practices. Recommendations from the USPSTF are published worldwide on a database of evidence based clinical guidelines called the National Guidelines Clearinghouse (*#SubHealth examines U.S. preventive services task force,* 2016)

The USPSTF recommends screening of adolescents ages 12-18 for major depressive disorder to identify adolescents at risk for depression. The goal of screening for major depressive disorder is to identify and intervene whether that be pharmacotherapy or psychotherapy or a combination to treat those identified as at-risk adolescents. Treatment can include pharmacotherapy, psychotherapy or a combination of both treatments. Early identification of adolescent depression can assist with treatment and prevention of low self-esteem issues that produce chronic psychosocial damage (Tripkovic, Roje, Krnic, Nazor, Karin, & Capkun, 2015).

Reimbursement for Services

The State of Texas recommends screening adolescents during well child visits for depression with several different tools for reimbursement. Mental health screening tools recommended include: PHQ-9, Pediatric Symptom Checklist-17 (PSC-17), Pediatric Symptom Checklist-35 (PSC-35), Youth-Pediatric Symptom Checklist (Y-PSC) or Car, Relax, Alone, Forget, Friends, and Trouble (CRAFFT) (Texas Health Steps Quick Reference Guide, 2018). The screening tools recommended for use are all self-reported tools that can be completed by the patient or clinician during the visit.

PHQ-9

The PHQ-9 is a brief self-reported screening tool for depression. The screening instrument focuses on nine diagnostic criteria for DSM-IV depressive disorders: anhedonia, depressed, sleep problems, low energy, appetite problems, low self-esteem, trouble concentrating, psychomotor problem and suicidal ideation (Marc, Henderson, Desrosiers, Testa, Jean, & Akom, 2014). The PHQ-9 is acceptable to use in diverse clinical settings with adults and adolescents. The initial validation study reported a sensitivity of 88% and specificity of 89% (Gholizadeh, Khan, Vahedi, & Davidson, 2017). According to the developers of the screening tool, a score of 5, 10, 15, and 20 represent mild, moderate, moderately severe and severe depression (Gholizadeh, Khan, Vahedi & Davidson, 2017).

Management of Adolescent Depression

In 2015, the National Institute for Health and Care Excellence (NICE) updated guidelines developed by the National Collaborating Centre for Mental Health (NCCMH) (National Guideline Clearinghouse, 2015). A stepped care approach was recommended for adolescent depression. Mild depression, including dysthymia, advised watchful wait, non-directive supportive therapy, group cognitive therapy, and/or guided self-help (National Guideline Clearinghouse, 2015). Moderate to severe depression, a PHQ-9 score of 10-20, guideline recommends brief psychological therapy with/without fluoxetine (National Guideline Clearinghouse, 2015). Unresponsive depression, recurrent depression, or psychotic depression guidelines recommend intensive psychological therapy with/without fluoxetine, sertraline, citalopram, with/without an antipsychotic (National Guideline Clearinghouse, 2015). A NICE pathway titled “Depression Overview” is available from the NICE website https://pathways.nice.org.uk/pathways/depression (National Guideline Clearinghouse, 2015).

The World Health Organization defines telemedicine as “The delivery of healthcare services, where distance is a critical factor, by all healthcare professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of healthcare providers, all in the interests of advancing the health of individuals and their communities” (Francisco & Archer, 2016). Screening for depression is the first step in the overall management of adolescent depression. In the rural areas, telepsychiatry communications can assist to address the needs of high-risk adolescents screened during a well child exam. Early detection of adolescent depression can sustain significant improvement of depressive moods long-term to prevent undesirable remission as young adults (Richards, Marko-Holguin, Fogel, Anker, Ronayne, & Van Voorhees, 2016). Telepsychiatry will provide direct patient management by psychiatrists and/or psychology students from the university in Texas through video conferencing.

Controversy to Adolescent Screening

Limited trials and research have been performed on adolescents screened for depression and outcomes from early adolescent depression screenings. In the absence of trials, some suggest depression screenings can result in more harm than being helpful (Roseman, Kloda, Saadat, Riehm, Ickowicz, Baltzer, & Thombs, 2016). There are concerns of overestimating accuracy in screening tool use. This would likely lead to high false positives rates, unnecessary labelling, overtreatment in some cases, and the consumption of a scarce mental health resources that could otherwise be used for adolescents with undertreated mental health problems (Roseman et al., 2016).

Significance of Evidence to the Profession

Conduct problems, problematic behaviors, depressive symptoms all lead to low self-esteem issues. Low self-esteem increases suicidal tendencies. Early intervention in depression has been found to improve conduct problems, improve problematic behaviors and decrease depressive symptoms (Forman-Hoffman et al., 2016).

Theoretical Framework

This DNP project implemented a change in primary care practice. Kurt Lewin's Change Management Theory (1951) formed the framework of this project.

History

Kurt Lewin is considered the father of social psychology (Petiprin, 2016). During World War II (WWII), Kurt Lewin was the leader of a group of behavioral scientists assigned by the United States government to study how people form and transform their character (Larson, 2014). Research was collected from this group of behavioral scientists and continues to be applied in behavioral sciences today. Lewin's influence is everywhere in contemporary management: running meetings, work design, training, team development, systems change, leadership styles, participative methods, survey feedback methods, consultation skills, change theory, and action research (Coghlan & Brannick, 2003).

Lewin's Contributions

It was obvious to Lewin, it was not enough to try to explain things (Coghlan & Brannick, 2003). He recognized the importance of involving others in the process of change. His first experiment involved the Harwood pajama factory (Coghlan & Brannick, 2003). Technological changes were being introduced with much resistance. This research approach was the beginning of the Change Management Theory (Coghlan & Brannick, 2003). He recognized involving

members into the process of change decreased resistance. The results of several similar experiments provided the foundation of his change theory (Coghlan & Brannick, 2003). Lewin's (1947) framework began the three-step change model (Ford & Greer, 2006). In 1951, the last year of his life, he introduced the unfreeze-change-refreeze concept (Rosch, 2002). Lewin's change theory has inspired research in the role of human behavior and began the groundwork of other change theorists (Al-Haddad & Kotnour, 2015).

Change Management Theory

Kurt Lewin's Change Management Theory involves three major concepts: resistant forces, driving forces, and equilibrium (Petiprin, 2016). Lewin's theory proposes individuals are influenced by restraining forces or obstacles that counter drive the normalcy in actions. Driving forces or positive forces push in direction of change to happen. Tension between the driving forces and restraining forces creates an equilibrium (Petiprin, 2016). Changing the status quo requires a changing action plan and implementation of three phases. Kurt Lewin's Change Management Theory consists of three phases or steps for movement in change: unfreezing, changing/moving, and refreezing (Petiprin, 2016).

Relevance of Change Management Theory to Nursing

Nursing is an ever-changing profession due to variations in healthcare policies, practices and patient outcomes. Leaders in nursing will face professional change challenges with an evolving healthcare system. These challenges will include: work design, training, team development, collaboration, systems change, and research. Implementation of new practices requires adjustment in workflow and processes. Most failures in the introduction of change occurs because of the lack of effective communication from the beginning coupled with the failure to involve those affected by the change process (Levasseur, 2001). In the unfreezing stage of

Lewin's Change Management Theory, involvement in the recognition and process of change by those affected can minimize the resistance to change (Levasseur, 2001). An example can be implementation of a new practice policy into clinic to improve outcomes. Involving the clinicians in recognizing the problem and the need for change can reduce resistance. Changing or moving stage takes place after people have bought into the need for change (Levasseur, 2001). The refreezing stage is successful with a commitment to remain actively involved until the required new behaviors or practices have replaced those that existed in the past (Levasseur, 2001).

Kurt Lewin's Change Management Theory assists to apply change in current practice successfully. His theory discusses distinct levels to apply change. Each level must be addressed successfully prior to movement forward (Wojciechowskin, Murphy, Pearsall, French, 2016). Change in practices can be complex with various aspects of collaboration amongst professionals to be met

Kurt Lewin's Change Management Theory Tenets

Unfreezing Stage

Unfreezing is recognizing change is needed and provide opportunities to make changes in practice (McGarry, Cashin & Fowler, 2012). Unfreezing stage does not create change but provides conditions to learn new behaviors (McGarry, Cashin & Fowler, 2012).

Resistant forces in clinical practice can include: resistance to change from individual and groups. Common practices can build up resistance to change current practice habits to what is viewed as best practices based on new findings from research and guidelines (McGarry, Cashin, & Fowler, 2012).

Changing/Moving Stage

Changing and/or moving stage is the second step in Lewin's Change Management Theory. Moving allows change on individual and group levels but does not ensure sustainability of the change (McGarry, Cashin & Fowler, 2012).

Driving forces in clinical practice can include: desire to provide best practices, influences to provide change in practice from colleagues, technological changes to promote an improvement in practice that will allow adherence in care.

Refreezing Stage

The third stage of Lewin's Change Management Theory is refreezing. This stage is re-establishing an equilibrium (McGarry, Cashin & Fowler, 2012). The new change behavior must be congruent with other influences on behavior (McGarry, Cashin & Fowler, 2012). Adjustment is required for change to be sustained (McGarry, Cashin & Fowler, 2012).

Application of Theory into DNP Project

Unfreezing Stage into Practice

Application of Lewin's first step in the Change Management Theory into this DNP project, ADSG, was accomplished through destabilizing the normal. An example in this project was realizing a recommended guideline by Texas health steps and USPSTF was not being performed routinely and a population of adolescent depression had been under identified due to lack of normal routine screening. Destabilizing began by discussing issues with the stakeholders in the DNP project and making them aware of the lack of screening related to guidelines in the selected population. It was imperative to educate the stakeholders on the practice guidelines to initiate change. In this unfreezing stage, critical steps included investigation of current practices and guidelines at the host site and comparing them to best practices standards. Stakeholders buy in was accomplished by showing best practices and guideline recommendations that have not been

met with current clinical practices. Motivation for change into practice was the influence to provide best practices in the clinical setting. Unfreezing stage does not create change, but it provides necessary conditions to learn new behaviors (McGarry, Cashin, & Fowler, 2012).

Changing/Moving Stage into Practice

The second step of Lewin's Change Management Theory was changing/moving stage. Application into this current DNP project was implementation of practice change as addressed in ADSG. Changing stage into practice was a result of trial and error through action research (McGarry, Cashin, & Fowler, 2012). Action research in this policy improvement project was problem solving by stakeholders and team members to improve clinical practice. Stakeholders actively participated in the change movement to improve healthcare outcomes. In this project, ADSG, the change stage was implementation of the screening tool, PHQ-9, for adolescents during wellness exams to identify at risk adolescents.

Refreezing Stage into Practice

Lewin's Change Management Theory's third step was refreezing. Application into current project was integrating depression screening into well child exams ages 12-18 routinely and monitoring progress through key performance indicators such as referrals to telepsychiatry. Development of an equilibrium after the change process was established. Refreezing was seen with policy changes related to ADSG at the clinical site.

Project Design

This project utilized a quality improvement design. Screenings were performed during the wellness exam for adolescent depression to assist with identifying adolescents at risk. Identifying at risk adolescents assisted with implementation of care to improve outcomes in this population and decrease long-term effects of untreated depression (Cole, 2007).

In this family practice setting, the ultimate goal was improvement in patient care and outcomes by increasing depression screening in primary care setting on adolescents. This was accomplished by developing and implementing ADSG, (See Appendix A) which includes screening adolescents with the PHQ-9 questionnaire with wellness visits on adolescents ages 12-18. This required a collaborative approach by all stakeholders including clinic staff and medical providers in the implementation of the ADSG. The method to meeting this goal in practice included: development and initiation ADSG protocol which served as a tool in implementing PHQ-9 screening during wellness exams annually and stakeholders buy in to the importance and need for the screening process on adolescents. Expected outcomes for goal was 90% of adolescents were screened for depression utilizing the PHQ-9 during wellness exams and 100% of providers implemented the screening process during wellness exams within one month.

A second goal of this project was to ensure those adolescents screened with the PHQ-9 identified as at risk received appropriate referral to mental health care. This clinic had a telemedicine program in place for mental health counseling. Adolescents who scored equal to or greater than 11 on the PHQ-9 were referred to appropriate services to be evaluated for mental health counseling. Follow up telephone calls were made by clerical staff to contact numbers in electronic medical records to ensure they were contacted, and an appointment had been set up for counseling services by telemedicine program. This follow up phone call was made within 2 weeks of initiation of referral to mental health counseling services. Methods to achieve this goal included: development of a referral plan for mental health and a follow up process after initiation of referral to ensure communication from counseling service was initiated. Development of referral plan included mental health services for counseling including telemedicine program provided through the university psychiatry department if family desires

services. Follow up process included ensuring an appointment had been set up with mental health counseling services. Expected outcomes for goal included: 100% of adolescents with a PHQ-9 score of 11 or higher was referred for mental health counseling and at least 90% of adolescents referred to mental health services received an appointment for mental health counseling from a mental healthcare provider within 30 days of the referral.

A third goal of this project was staff development through education. Education was provided through handouts discussing ADSG protocol and the use of the PHQ-9 during wellness exams and how to score the screening tool to identify at risk adolescents. Objectives for this goal included: discussion of screening tool PHQ-9 during staff meetings to allow staff to become familiar with screening tool and staff education on scoring of PHQ-9 to identify at risk adolescents. An expected outcome for this goal was staff awareness on use of PHQ-9 and scoring to identify at risk adolescents. Measurement of staff awareness was 100% staff attendance in staff development meeting.

Setting

The site selected for this project was a primary care clinic in Plains, TX. Plains is a small rural town in Yoakum County located in West Texas with a population of 1,616 in 2017. Those under 18 comprise 33% of the population (United States Census Bureau, 2017). No statistics are available on mental health illnesses in adolescents in Plains, TX. The number of children in Texas receiving community mental health services is 23,376. The cost per child in Texas for services monthly is $441.00. The number of Texas children on waiting list to receive community mental health services is 11% (Texas Health and Human Services, 2015).

Mental health is limited in Plains due to being a rural community. The nearest mental health facility was 80 miles away. Mental Health and Mental Retardation (MHMR) do assist with

mental crisis in Yoakum County but office location was 80 miles away with no provider locally. Mental health counseling appointments can take weeks to get scheduled and the commute of 80 miles was a barrier. Telemedicine has been provided out of this rural clinic to assist with mental health services from a public university psychiatry department to decrease some barriers in mental healthcare. Cost of services was also a barrier in mental health care. The university agreed to provide mental health services under a grant with a minimal fee of $25.00 to those who had no insurance available. Project site permission had been received to implement project.

Population of Interest

Clinic medical and support staff in this rural clinic were the selected population of interest for this project. This population of interest was selected to improve practice behaviors and increase depression screenings on adolescents in clinic. Stakeholders include: both providers and clinical staff members. Clinical team members included nurse practitioners, medication aides, and clerical staff. Medical providers included two nurse practitioners that provide family practice care to the public and wellness exams. Both nurse practitioners had a prescriptive authority agreement in collaboration with a physician 20 miles away. Staff members included 2 medication aides and 2 clerical staff members.

The stakeholders buy in for implementation of the project was an increase in adolescents screened for depression in current setting during well child visit exams. This increase in screening for depression assisted in identifying adolescents at risk or with depression and provide best practices through evidence-based research and practice in the community. Identifying adolescents at risk or with depression provided access to implement counseling services to decrease adverse outcomes of depression.

The clinical administrator located 20 miles away was contacted and approved permission to

use site for project.

Recruitment Methods

This was a quality improvement project and all medical and supportive staff participated in implementation of project into practice. Recruitment of population included both nurse practitioners in the rural clinic practice, two medication aides and two clerical staff. All agreed to implementation of project and participate in improvement in screening of adolescents for depression and referrals as indicated.

Tools

The ADSG project was developed and reviewed by the stakeholders at the project site prior to implementation. The ADSG protocol (Appendix A) incorporates evidence-based practice approaches to depression and guided the use of the PHQ-9 screening tool (Appendix B). Pfizer provides unrestricted copyright access to PHQ-9 mental health screening tool online. This screening tool was used for adolescent depression during the wellness exam. An education intervention was provided to the staff on adolescent depression screening during monthly staff meetings. The education intervention included a PowerPoint presentation planned in the November staff meeting. The education included information on utilizing the PHQ-9 with well child exams (Appendix F). The PHQ-9 is derived from the Primary Care Evaluation of Mental Disorders, an instrument based on diagnostic criteria from the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM)* that are specific to disorders most common to primary care: depressive, anxiety, alcohol, somatoform, and eating disorders (Phillips, 2012). The PHQ-9 has demonstrated high internal consistency and test-retest reliability as well as criterion and construct validity in large general medical populations and primary clinic populations (Phillips, 2012). Validated against a structured mental health professional interview, PHQ-9 scores of 10 or

greater have optimal sensitivity (88%) and specificity (88%) for detecting major depression (Phillips, 2012). The PHQ-9 is a structured questionnaire measuring whether a symptom has been present more than half the time over the past 2 weeks. The PHQ-9 uses a likert type response format ranging from 0 (not at all) to 3 (everyday), and the total score ranges from 0 to 27 with five severity categories: minimal (0-4), mild (5-9), moderate 10-14), moderately severe (15-19), and severe (20-27) (Marc, Henderson, Desrosiers, Testa, Jean, & Akom, 2014). The PHQ-9 is available free online through U.S Preventative Services Task Force website: www.uspreventiveservicestaskforce.org/Home/GetFileByID/218. (See Appendix B)

Educational pamphlets were selected to handout to adolescents and families in clinic for well child exams screened for depression with the PHQ-9 score of >10 (See appendix C). These pamphlets were derived from the National Institute of Mental Health (NIMH) in the public domain. Pamphlets may be reproduced or copied without permission from NIMH.

During a live training meeting a PowerPoint presentation was utilized to train staff. The presentation was reviewed for content validity prior to use by the project team and stakeholders at the project site.

Data analysis was performed utilizing electronic medical records of the adolescents seen in clinic for wellness visits. A random chart audit was performed using a chart audit tool developed for ADSG (See Appendix D). The audit form was reviewed prior to use by the project team members for content validity.

Data Collection Procedures

Comparison of data prior to initiating ADSG and 3 weeks following was collected. SPSS was used to provide statistical information. Random chart reviews were performed. Descriptive statistics were used to assess number of adolescents screened for depression in well child visits

prior to implementation of project and following implementation of project. Variables included: PHQ-9 performed, PHQ-9 score >11, referral initiated and follow up documented on mental health counseling appointment status. The PHQ-9 was the only screening tool utilized in the project to have consistency in screening adolescents with a valid and reliable tool.

Data collection was provided by using electronic medical records used in the rural clinic. A report was printed using patient list by diagnosis. There were 2 search diagnoses used on the patient list diagnosis report to perform data collection: CPT codes 99394 (preventative care ages 12-18 established patient) and 99384 (preventative care ages 12-18 new patient). Chart reviews were performed on random selection of well child exams listed on report to view if ADSG had been implemented during visit and scoring of PHQ-9 had been completed with appropriate referral initiated if score 11 or greater. A follow up phone call was made and documented by clerical staff on clinical note addendum to verify appointment had been made for counseling services and family was contacted to verify contacted by referral services within two weeks.

Privacy and confidentiality were maintained with review of charts. All members of the project were employees of the medical clinic and were aware of importance of patient confidentiality and maintained privacy during project.

Intervention/Project Timeline

Dates	**Project Actions**
October 17-26, 2018	EMR accessed with crystal reports using ICD-10 codes selected for well child visits for chart review ADSG protocol and documents were given to leadership for approval of implementation

October 29, 2018	Random charts reviewed on well child exams to evaluate PHQ-9 use and mental health referrals prior to implementing ADSG protocol
Week 1 DNP Project III November 7-13, 2018	Staff training and development with November staff meeting. Planned date of staff meeting is November 7, 2018. ADSG protocol was implemented. Well child packet used with PHQ-9 in packets.
Week 2 DNP Project III November 14-20, 2018	Evaluation of protocol implementation using random chart reviews to see if improvement in depression screenings in adolescents and increase in number of referrals to mental health counseling
Week 3 DNP Project III November 21-27, 2018	Continued evaluation of protocol implementation using random chart reviews to see if improvement in depression screenings in adolescents and increase in number of referrals to mental health counseling
Week 4 DNP Project III November 28-December 4, 2018	Continued evaluation of protocol implementation using random chart reviews to see if improvement in depression screening

	and increase in number of referrals to mental health counseling
December 11, 2018	Project site staff meeting discussing results of protocol implementation and quality improvement project

Ethics and Human Subjects Protection

ADSG was a staff quality improvement project that was not collecting private information about an individual to perform data analysis. Institutional Board Review (IRB) determination forms were submitted per Touro University of Nevada (TUN) policy and the ADSG project fell under the category of a TUN quality improvement project which did not require IRB review. The project site did not require IRB review for the project. Clinic manager of project site approved access to EMR with protocol implementation without the need for IRB approval. An email was received with project approval (Appendix E). -

During data collection, human subjects were protected by password requirements to collect information from electronic medical records. A password was recorded with access to electronic medical records with access to patient chart to prevent unauthorized use of health information. Names were not obtained from electronic medical records and no identifying information of patient was obtained. There were no risks to participation in this project. Benefits of the project were to assist medical providers to identifying adolescents with depression and refer care if needed to appropriate counseling services.

Plan for Analysis/Evaluation

Project evaluation was performed by collection of data prior to implementation of ADSG

protocol in the clinic and were compared to data collected following intervention of the protocol. The non-parametric statistical test used after data input into SPSS was Fisher's Exact Test. In a Fisher's Exact Test, the numbers are put into a contingency table that is two rows by two columns (Connelly, 2016). If the Fisher's exact test gives a significance level less than 0.05, the difference is greater than chance variation alone (Connelly, 2016). In ADSG, if the null hypothesis is true, the Fisher's Exact Test would show after implementation of protocol an increase in adolescent depression screenings performed on adolescents by medical providers in clinic. The Fisher's Exact Test would also be able to show after initiating ADSG protocol an increase in referrals by medical providers to mental health counseling when indicated by a PHQ-9 score equal to or greater than 11. A TUN stats specialist was utilized to ensure analysis and evaluation was performed correctly.

Significance/Implications for Nursing

A recent governmental audit indicated this rural clinic was lacking in adolescent mental health screenings performed. ADSG protocol assisted medical providers and staff in identifying adolescents with depression and assisted with mental health referrals. The use of the PHQ-9 in primary care practice during well child exams helped to identify depressed adolescents ages 12-18 and assist with improvement in referral process to telepsychiatry counseling. The depression screening on adolescents provided an opportunity to improve depressive symptoms and behavior. Nurse's contribution promoted health and wellness in the community through screenings are visible. Depression is ranked fourth, as highest disease burden (Qin et al., 2015). This burden includes behavior and conduct issues such as: addiction, suicide, educational underachievement, unemployment and low self-esteem (Quin et al., 2015). A collaborative approach with other team members, especially psychotherapy, improved the long-term outcomes of the adolescent

identified as at high risk. Following intervention, adolescents would have an improvement in functioning, behavior and depressive symptoms. Early intervention improves long-term outcomes. Current literature can correlate an increase in adolescent depression screening to decrease the effects in adolescents of depression acutely and long-term. Primary care providers can be the first to identify adolescents at risk for depression with PHQ-9 screening tools used during well child visits. ADSG improved primary care screening for depression in adolescents and provided a means of assistance for those found at risk with a referral to mental health counseling services.

Data Analysis

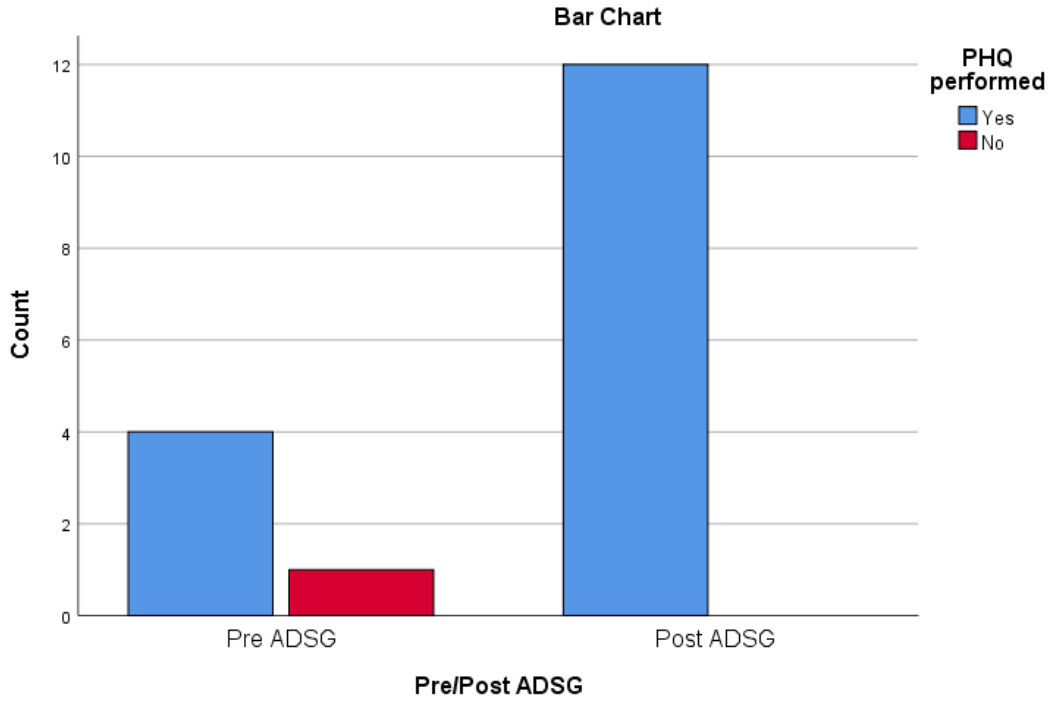
The ADSG protocol was based on evidence-based practice (EBP) guidelines and changes in clinical practice were implemented using a validated tool, the PHQ-9, to ensure a clinical quality improvement process was performed routinely with each adolescent preventative exam in the clinical setting at this facility. The purpose of this quality improvement project was to answer the clinical question: Will implementing ADSG with well child exams (ages 12-18) improve rates of adolescent depression screening and referral to telepsychiatry in high-risk adolescents with depression? The United States Preventative Services Task Force (USPSTF) seeks to address this question with recommendations in clinical practice. The recommendations from USPSTF and Texas Health and Human Services Texas Health Steps influenced the formation of the ADSG guidelines.

The ADSG protocol had two medical providers, two medication aides, and two clinical staff members participate in training and implementation. The ADSG protocol was implemented for three weeks into practice and auditing was performed on the two medical providers who practice at this facility. Data was collected from EMR provided by a crystal report on

preventative adolescent exams performed prior to initiating the ADSG protocol and with implementation of the project into practice. The EMR served as the primary source of information to evaluate the progress of the ADSG protocol. Information was gathered using the ADSG protocol audit form. A codebook was developed for data editor to assist with identifying variables in data entry. Data was submitted into SPSS statistical software and analysis performed using a fisher's exact test due to a small sample size (n=17) collected in this rural facility. The null hypothesis was the probability that implementation of ADSG into clinical practice improved provider screening of adolescent depression and improved mental health referrals when indicated by the PHQ-9 score. When the null hypothesis is true, a significant p value (<0.05) will be found. Unfortunately, the fisher's exact test showed the p value to be >0.050 in all variables tested and the null hypothesis was insignificant (See addendum G). The aim of the project was to demonstrate initiating an adolescent depression screening protocol into practice would improve medical providers adolescent screening annually during well child exams and referrals would be initiated when indicated utilizing the PHQ-9. Reorganization in clerical areas and providing education to staff and medical providers improved the consistency of mental health screenings on adolescents, but no significant findings noted with the fisher's exact test using the variables identified and the null hypothesis was found to be insignificant.

Evaluation of the ADSG project revealed encouraging results with the crosstabulation findings of an increase in percentage of adolescents screened in the clinical setting. In the following graphic chart, prior to ADSG protocol implementation, 4 out of 5 charts (80%) reviewed had a PHQ-9 performed. Following ADSG protocol implementation, the graphic chart demonstrates 12 out of 12 EMR (100%) audited had a PHQ-9 performed. This finding indicated a 20% increase in EMR audited having an adolescent mental health screening performed

utilizing the PHQ-9 tool.



Limited findings were noted on psychiatry referrals due to only 1 chart qualified for a referral with the PHQ-9 findings. A small number in this rural clinic limited the findings of adolescents in need of depression screenings. The staff reviewed the adolescents acute care visit charts to see if a well child exam was due and encouraged a preventative exam during the same or following week to increase the amount of adolescent preventative exams performed during implementation of ADSG.

Discussion of the Findings and Significance for Nursing

Overall, the ADSG protocol implementation was effective in increasing the number of adolescents screened for depression during the preventative exams at this rural clinic. Initially, the results of the chart audits prior to implementation of ADSG did not surprise the medical providers with 80% of adolescents screened for depression during the preventative exams. A previous governmental review had been performed within the clinic showing marked deficits in

depression screenings in adolescents prior to ADSG. The medical providers had been making a conscious effort to implement a depression screening during the preventative exams due to this review. Using the prior review findings and the Lewin's Change Management Theory, efforts were made to assist the medical providers in having a best practices-based guideline in making a sustainable change in the clinic. The ADSG protocol was created to guide the medical providers in creating a successful change in practice. A controversy identified during the literature review was a concern of overestimating adolescent depression with routine screenings. This controversary was not supported in the ADSG findings using the PHQ-9 screening tool during the preventative exams. One adolescent, out of seventeen, had a PHQ-9 screening score >11 that warranted referral to a mental health provider. The accessibility of mental health care in the rural area continues to be an identified barrier with adolescent depression treatment, but with recent telemedicine options in the rural clinic setting, this barrier was being addressed.

During the ADSG planning stage, verbal feedback from all stakeholders was valued. The ADSG implementation process required a practice change from all members in the clinic setting. The intention of ADSG was to create a workflow into the clinic setting utilizing a depression screening tool during the adolescent preventative exams. This change in workflow increased the number of adolescents screened for depression annually and assist in identifying adolescents at risk for depression.

The purpose of this quality improvement project was to answer the clinical question: Will implementing ADSG with well child exams (ages 12-18) improve rates of adolescent depression screening and referral to telepsychiatry in high-risk adolescents with depression? The findings supported an increase in the number of adolescents screened for depression with implementation of ADSG in the rural clinic and an appropriate referral was made with the

adolescent scoring higher than the selected threshold to a mental health provider. To implement a successful change in adolescent depression screening, a structured plan must be in place to evaluate depression in adolescents and provide treatment or referrals if indicated with a validated screening tool. The ADSG protocol provided this structured plan for consistency in care and evaluation of mental health needs for the adolescent during the annual preventative care visit.

Limitations and Dissemination

ADSG had some limitations identified during implementation at this rural clinic. One limitation to this project was the small number of participants pre-intervention and post-intervention. The sample size was smaller than desired due to being implemented in a rural clinic. Another limitation to the project was the suggestion of implementing the ADSG protocol on an annual adolescent preventative exam. Since the depression screenings were performed annually on the adolescents, a continuity of depression screenings performed on the same individual was impossible during the timeframe of the project.

It is vital to disseminate evidence-based practice findings to stakeholders and other healthcare professional so that innovations for practice can be replicated (Forsyth, Wright, Scherb, & Gaspar, 2010). Dissemination of findings can improve practice decisions based on current project evidence. A presentation of findings was delivered through power point to advanced practice providers at a sister facility 15 minutes away from the site of the project to inform the advanced practice providers of the success of ADSG. There is a plan for an abstract submission to Nursing World and Congress Healthcare (NWH) for a poster presentation at a conference being held in Las Vegas, NV on September 17-19, 2019. The completed project was submitted to www.doctorsofnursingpractice.org.

The ADSG project was a sustainable initiative for this clinical practice site. Adolescent

depression screenings during wellness exams will be continued as a standard practice. The ADSG was accepted at the site as a permanent guideline that has remained and continues ongoing evaluation. The medical providers agreed to continue using the protocol into practice for depression screening in adolescents.

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Appendix A

Adolescent Depression Screening Guideline

Purpose: Assist primary care providers to identify adolescents ages 12-18 with depression in alignment with national best practice standards

Objectives: Increase the number of adolescents aged 12-18 who are screened for major depression disorders annually and increases rate of those referred to telepsychiatry counseling when identified as at-risk adolescents with a PHQ9 score of 11 or greater

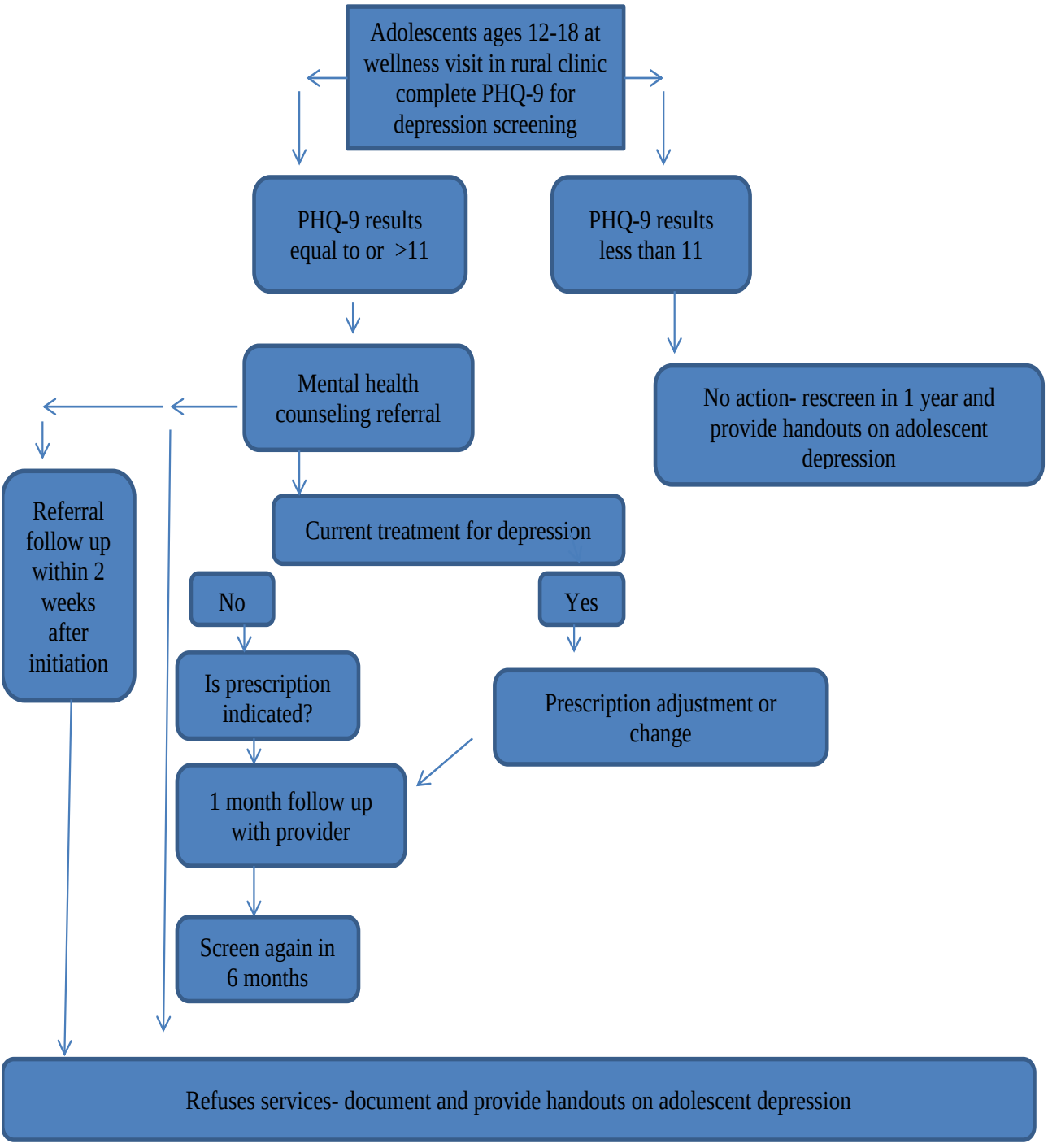
Indications: Adolescents in rural clinic for well child exams ages 12-18

Contraindications: None

Steos: See Below Protocol

Appendix A

Adolescent Depression Screening Guideline Protocol



Appendix B

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME: _____ **DATE:** _____

Over the last *2 weeks*, how often have you been bothered by any of the following problems?
(use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so figety 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	0	1	2	3
	add columns		+	+

(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card). TOTAL: _____

10. If you checked off *any problems*, how *difficult* have these problems made it for you to do your work, take care of things at home, or get along with other people?

- Not difficult at all _____
- Somewhat difficult _____
- Very difficult _____
- Extremely difficult _____

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PHQ-9 Patient Depression Questionnaire

For initial diagnosis:

1. Patient completes PHQ-9 Quick Depression Assessment.
2. If there are at least 4 ✓s in the shaded section (including Questions #1 and #2), consider a depressive disorder. Add score to determine severity.

Consider Major Depressive Disorder
- if there are at least 5 ✓s in the shaded section (one of which corresponds to Question #1 or #2)

Consider Other Depressive Disorder
- if there are 2-4 ✓s in the shaded section (one of which corresponds to Question #1 or #2)

Note: Since the questionnaire relies on patient self-report, all responses should be verified by the clinician, and a definitive diagnosis is made on clinical grounds taking into account how well the patient understood the questionnaire, as well as other relevant information from the patient.
Diagnoses of Major Depressive Disorder or Other Depressive Disorder also require impairment of social, occupational, or other important areas of functioning (Question #10) and ruling out normal bereavement, a history of a Manic Episode (Bipolar Disorder), and a physical disorder, medication, or other drug as the biological cause of the depressive symptoms.

To monitor severity over time for newly diagnosed patients or patients in current treatment for depression:

1. Patients may complete questionnaires at baseline and at regular intervals (eg, every 2 weeks) at home and bring them in at their next appointment for scoring or they may complete the questionnaire during each scheduled appointment.
2. Add up ✓s by column. For every ✓: Several days = 1 More than half the days = 2 Nearly every day = 3
3. Add together column scores to get a TOTAL score.
4. Refer to the accompanying **PHQ-9 Scoring Box** to interpret the TOTAL score.
5. Results may be included in patient files to assist you in setting up a treatment goal, determining degree of response, as well as guiding treatment intervention.

Scoring: add up all checked boxes on PHQ-9

For every ✓Not at all = 0; Several days = 1;
More than half the days = 2; Nearly every day = 3

Interpretation of Total Score

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

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CUESTIONARIO SOBRE LA SALUD DEL PACIENTE-9 (PHQ-9)

Durante las últimas 2 semanas, ¿qué tan seguido ha tenido molestias debido a los siguientes problemas? *(Marque con un "☐" para indicar su respuesta)*	Ningún día	Varios días	Más de la mitad de los días	Casi todos los días
1. Poco interés o placer en hacer cosas	0	1	2	3
2. Se ha sentido decaído(a), deprimido(a) o sin esperanzas	0	1	2	3
3. Ha tenido dificultad para quedarse o permanecer dormido(a), o ha dormido demasiado	0	1	2	3
4. Se ha sentido cansado(a) o con poca energía	0	1	2	3
5. Sin apetito o ha comido en exceso	0	1	2	3
6. Se ha sentido mal con usted mismo(a) – o que es un fracaso o que ha quedado mal con usted mismo(a) o con su familia	0	1	2	3
7. Ha tenido dificultad para concentrarse en ciertas actividades, tales como leer el periódico o ver la televisión	0	1	2	3
8. ¿Se ha movido o hablado tan lento que otras personas podrían haberlo notado? o lo contrario – muy inquieto(a) o agitado(a) que ha estado moviéndose mucho más de lo normal	0	1	2	3
9. Pensamientos de que estaría mejor muerto(a) o de lastimarse de alguna manera	0	1	2	3

FOR OFFICE CODING: 0 + _____ + _____ + _____

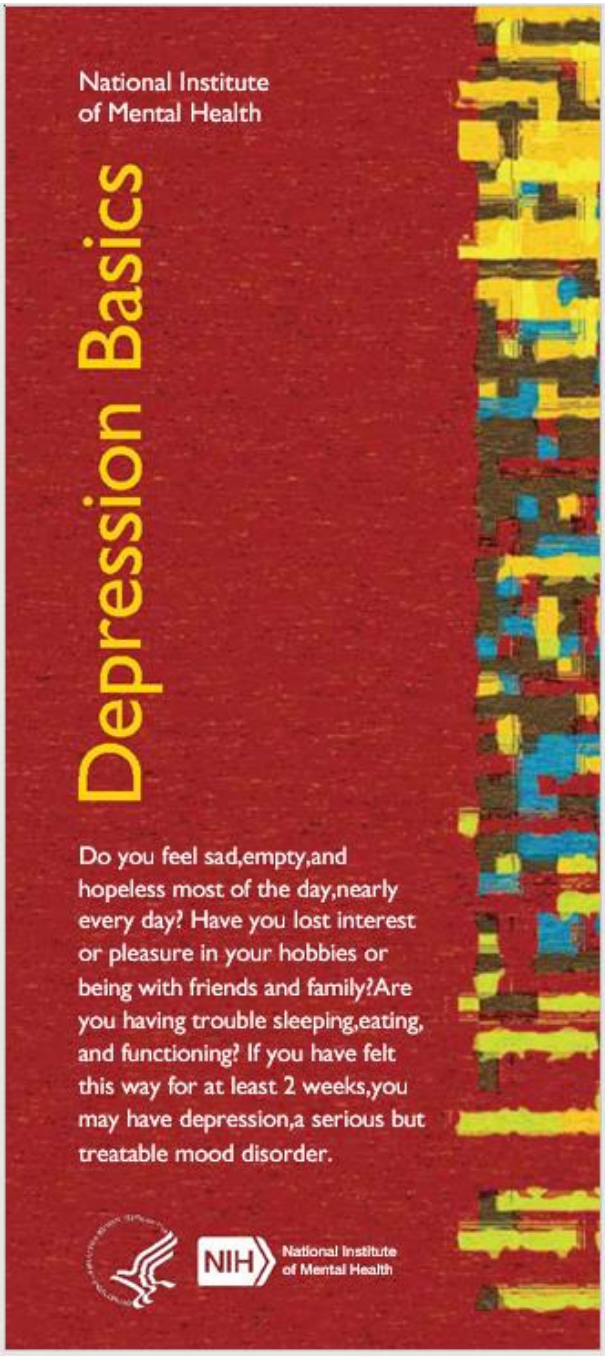
=Total Score: _____

Si marcó cualquiera de los problemas, ¿qué tanta dificultad le han dado estos problemas para hacer su trabajo, encargarse de las tareas del hogar, o llevarse bien con otras personas?

No ha sido difícil	Un poco difícil	Muy difícil	Extremadamente difícil
☐	☐	☐	☐

Elaborado por los doctores Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke y colegas, mediante una subvención educativa otorgada por Pfizer Inc. No se requiere permiso para reproducir, traducir, presentar o distribuir.

Appendix C



What is depression?

Everyone feels sad or low sometimes, but these feelings usually pass with a little time. Depression—also called "clinical depression" or a "depressive disorder"—is a mood disorder that causes distressing symptoms that affect how you feel, think, and handle daily activities, such as sleeping, eating, or working. To be diagnosed with depression, symptoms must be present most of the day, nearly every day for at least 2 weeks.

What are the different types of depression?

Two of the most common forms of depression are:

- **Major depression**—having symptoms of depression most of the day, nearly every day for at least 2 weeks that interfere with your ability to work, sleep, study, eat, and enjoy life. An episode can occur only once in a person's lifetime, but more often, a person has several episodes.
- **Persistent depressive disorder** (dysthymia)—having symptoms of depression that last for at least 2 years. A person diagnosed with this form of depression may have episodes of major depression along with periods of less severe symptoms.

Some forms of depression are slightly different, or they may develop under unique circumstances, such as:

- **Perinatal Depression:** Women with perinatal depression experience full-blown major depression during pregnancy or after delivery (postpartum depression).
- **Seasonal Affective Disorder (SAD):** SAD is a type of depression that comes and goes with the seasons, typically starting in the late fall and early winter and going away during the spring and summer.
- **Psychotic Depression:** This type of depression occurs when a person has severe depression plus some form of psychosis, such as having disturbing false fixed beliefs (delusions) or hearing or seeing upsetting things that others cannot hear or see (hallucinations).

Other examples of depressive disorders include disruptive mood dysregulation disorder (diagnosed in children and adolescents) and premenstrual dysphoric disorder. Depression can also be one phase of bipolar disorder (formerly called manic-depression). But a person with bipolar disorder also experiences extreme high—euphoric or irritable—moods called "mania" or a less severe form called "hypomania."

You can learn more about these disorders on the National Institute of Mental Health (NIMH)'s website (**www.nimh.nih.gov**).

What causes depression?

Scientists at NIMH and across the country are studying the causes of depression. Research suggests that a combination of genetic, biological, environmental, and psychological factors play a role in depression.

Depression can occur along with other serious illnesses, such as diabetes, cancer, heart disease, and Parkinson's disease. Depression can make these conditions worse and vice versa. Sometimes medications taken for these illnesses may cause side effects that contribute to depression symptoms. For more information on ongoing research on depression, visit **www.nimh.nih.gov**.

What are the signs and symptoms of depression?

Sadness is only one small part of depression and some people with depression may not feel sadness at all. Different people have different symptoms. Some symptoms of depression include:

- Persistent sad, anxious, or "empty" mood
- Feelings of hopelessness or pessimism
- Feelings of guilt, worthlessness, or helplessness
- Loss of interest or pleasure in hobbies or activities
- Decreased energy, fatigue, or being "slowed down"
- Difficulty concentrating, remembering, or making decisions
- Difficulty sleeping, early-morning awakening, or oversleeping
- Appetite and/or weight changes
- Thoughts of death or suicide or suicide attempts
- Restlessness or irritability
- Aches or pains, headaches, cramps, or digestive problems without a clear physical cause and/or that do not ease even with treatment

Does depression look the same in everyone?

No. Depression affects different people in different ways. For example:

Women have depression more often than men. Biological, lifecycle, and hormonal factors that are unique to women may be linked to their higher depression rate. Women with depression typically have symptoms of sadness, worthlessness, and guilt.

Men with depression are more likely to be very tired, irritable, and sometimes angry. They may lose interest in work or activities they once enjoyed, have sleep problems, and behave recklessly, including the misuse of drugs or alcohol. Many men do not recognize their depression and fail to seek help.

Older adults with depression may have less obvious symptoms, or they may be less likely to admit to feelings of sadness or grief. They are also more likely to have medical conditions, such as heart disease, which may cause or contribute to depression.

Younger children with depression may pretend to be sick, refuse to go to school, cling to a parent, or worry that a parent may die.

Older children and teens with depression may get into trouble at school, sulk, and be irritable. Teens with depression may have symptoms of other disorders, such as anxiety, eating disorders, or substance abuse.

How is depression treated?

The first step in getting the right treatment is to visit a health care provider or mental health professional, such as a psychiatrist or psychologist. Your health care provider can do an exam, interview, and lab tests to rule out other health conditions that may have the same symptoms as depression. Once diagnosed, depression can be treated with medications, psychotherapy, or a combination of the two. If these treatments do not reduce symptoms, brain stimulation therapy may be another treatment option to explore.

MEDICATIONS

Medications called antidepressants can work well to treat depression. They can take 2 to 4 weeks to work. Antidepressants can have side effects, but many side effects may lessen over time. **Talk to your health care provider about any side effects that you have. Do not stop taking your antidepressant without first talking to your health care provider.**

Please Note: *Although antidepressants can be effective for many people, they may present serious risks to some, especially children, teens, and young adults. Antidepressants may cause some people, especially those who become agitated when they first start taking the medication and before it begins to work, to have suicidal thoughts or make suicide attempts. Anyone taking antidepressants should be monitored closely, especially when they first start taking them. For most people, though, the risks of untreated depression far outweigh those of antidepressant medications when they are used under a doctor's careful supervision.*

Information about medications changes frequently. Visit the ***U.S. Food and Drug Administration (FDA)*** *website for the latest warnings, patient medication guides, or newly approved medications.*

PSYCHOTHERAPY

Psychotherapy helps by teaching new ways of thinking and behaving, and changing habits that may be contributing to depression. Therapy can help you understand and work through difficult relationships or situations that may be causing your depression or making it worse.

BRAIN STIMULATIONTHERAPIES

Electroconvulsive therapy (ECT) and other brain stimulation therapies may be an option for people with severe depression who do not respond to antidepressant medications. ECT is the best studied brain stimulation therapy and has the longest history of use. Other stimulation therapies discussed here are newer, and in some cases still experimental methods. For more information on these treatment options, visit **www.nimh.nih.gov/health**. To find clinical trials, visit **www.clinicaltrials.gov**.

How can I help myself if I am depressed?

As you continue treatment, you may start to feel better gradually. Remember that if you are taking an antidepressant, it may take 2 to 4 weeks to start working. Try to do things that you used to enjoy. Go easy on yourself. Other things that may help include:

- Trying to be active and exercise
- Breaking up large tasks into small ones, set priorities, and do what you can as you can
- Spending time with other people and confide in a trusted friend or relative
- Postponing important life decisions until you feel better. Discuss decisions with others who know you well
- Avoiding self-medication with alcohol or with drugs not prescribed for you

How can I help a loved one who is depressed?

If you know someone who has depression, first help him or her see a health care provider or mental health professional. You can also:

- Offer support, understanding, patience, and encouragement
- Never ignore comments about suicide, and report them to your loved one's health care provider or therapist
- Invite him or her out for walks, outings, and other activities
- Help him or her adhere to the treatment plan, such as setting reminders to take prescribed medications
- Help him or her by ensuring that he or she has transportation to therapy appointments
- Remind him or her that, with time and treatment, the depression will lift

Where can I go for help?

If you are unsure where to go for help, ask your health provider or check out the NIMH Help for Mental Illnesses webpage at **www.nimh.nih.gov/findhelp**. Another Federal health agency, the Substance Abuse and Mental Health Services Administration (SAMHSA), maintains an online Behavioral Health Treatment Services Locator at **https://findtreatment.samhsa.gov/**. You can also check online for mental health professionals; contact your community health center, local mental health association, or insurance plan to find a mental health professional. Hospital doctors can help in an emergency.

If you or someone you know is in crisis, get help quickly.

- Call your or your loved one's health professional.
- Call 911 for emergency services.
- Go to the nearest hospital emergency room.
- Call the toll-free, 24-hour hotline of the National Suicide Prevention Lifeline at 1-800-273-TALK (1-800-273-8255); TYY: 1-800-799-4TTY (4889).

Reprints

For More Information

For more information on conditions that affect mental health, resources, and research, go to MentalHealth.gov at **www.mentalhealth.gov**, or the NIMH website at **www.nimh.nih.gov.** In addition, the National Library of Medicine's MedlinePlus service (**www.nlm.nih.gov/medlineplus/**) has information on a wide variety of health topics, including conditions that affect mental health.

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¿Qué es la depresión?

Todos nos sentimos tristes de vez en cuando, pero estos sentimientos generalmente desaparesen después de unos días. Cuando una persona padece de depresión, tiene problemas en su vida cotidiana durante semanas a la vez. La depresión es una enfermedad grave que necesita tratamiento.

¿Cuáles son los diferentes tipos de depresión?

Existen varios tipos de depresión.

Depresión grave—síntomas severos que interfieren con su habilidad para trabajar, dormir, estudiar, comer y disfrutar la vida. Un episodio de depresión grave puede ocurrir sólo una vez en la vida de una persona, pero frecuentemente, una persona padece varios episodios.

Trastorno distímico o distimia—síntomas de depresión que duran mucho tiempo (2 años o más) pero son menos graves que los de la depresión grave.

Depresión leve—similar a la depresión grave y distimia, pero los síntomas son menos graves y pueden durar menos tiempo.

¿Cuáles son los signos y síntomas de la depresión?

Diferentes personas tienen diferentes síntomas. Algunos de los síntomas de la depresión incluyen:

- Sentimientos de tristeza o "vacío"
- Sentimientos de desesperanza, irritabilidad, ansiedad o culpa
- Pérdida de interés en las actividades favoritas
- Sentirse muy cansado
- Dificultad para concentrarse o recordar detalles
- No poder dormir o dormir mucho
- Comer demasiado o no querer comer nada
- Pensamientos suicidas, intentos de suicidio
- Dolores o malestares, dolores de cabeza, retortijones en el estómago (cólicos) o problemas digestivos.

¿Qué causa la depresión?

Varios factores o una combinación de factores pueden conducir a la depresión.

Los genes—quienes tienen antecedentes familiares de depresión pueden ser más propensos a desarrollar la enfermedad que aquellos en cuyas familias no se ha padecido la enfermedad.

La química cerebral—quienes padecen de depresión tienen una química cerebral diferente a la de aquellos que no la padecen.

El estrés—la pérdida de un ser querido, una relación difícil o cualquier situación estresante puede provocar la depresión.

¿Tiene la depresión las mismas características en todas las personas que la padecen?

No. La depresión afecta a diferentes personas de diferentes maneras.

Las **mujeres** sufren de depresión con más frecuencia que los hombres. Esto puede relacionarse con los factores biológicos, hormonales, o del ciclo de vida que son únicos de las mujeres. Las mujeres que padecen depresión suelen tener síntomas de tristeza, inutilidad y culpa.

Los **hombres** que padecen de depresión tienden más a estar muy cansados, irritables, e incluso, a veces, enojados. Ellos pueden perder interés en sus trabajos o en las actividades que alguna vez disfrutaban, y pueden sufrir trastornos del sueño.

Los **ancianos** que padecen de depresión pueden tener síntomas menos evidentes o pueden ser menos propensos a admitir sentimientos de tristeza y pena. Ellos también son más propensos a tener condiciones médicas como la enfermedad cardíaca o un derrame cerebral, los cuales pueden causar o contribuir a la depresión. Algunos medicamentos también pueden tener efectos secundarios que conducen a la depresión.

Los **niños** que padecen de depresión pueden fingir estar enfermos, negarse a ir a la escuela, aferrarse a uno de los padres o preocuparse de que uno de sus padres pueda morir. Los niños más grandes o adolescentes pueden meterse en problemas en la escuela y ser irritables. Dado a que estas señales pueden también ser parte de los cambios normales del estado de ánimo asociados con ciertas etapas de la niñez, puede ser difícil diagnosticar con precisión la depresión en una persona joven.

¿Cómo se trata la depresión?

El primer paso para obtener el tratamiento correcto es visitar a un médico o profesional en la salud mental. Él o ella le hará un examen o pruebas de laboratorio para descartar otras condiciones médicas que pueden tener los mismos síntomas de la depresión. Él o ella también puede determinar si ciertos medicamentos que usted está tomando pueden estar afectando su estado de ánimo.

El médico debe obtener un historial completo de sus síntomas, por ejemplo, cuándo comenzaron, cuánto han durado y cuán graves son. Él o ella también debe saber si sus síntomas han ocurrido antes, y de ser así, cómo se los trató. Él o ella también debe preguntar si existen antecedentes de depresión en su familia.

Los **medicamentos** llamados antidepresivos pueden ser buenos para tratar la depresión. Puede ser necesario tomarlos durante varias semanas para notar su efecto. Los antidepresivos pueden causar efectos secundarios como los siguientes:

- Dolor de cabeza
- Náuseas—sentirse mal del estómago
- Dificultad para dormir y nerviosismo
- Ansiedad o inquietud
- Problemas sexuales

La mayoría de los efectos secundarios disminuyen con el tiempo. **Consulte a su médico sobre cualquier efectos secundarios que usted tenga.**

Es importante saber que, aunque los antidepresivos pueden ser seguros y efectivos para muchas personas, pueden presentar riesgos graves para otras, en especial para los niños, adolescentes y adultos jóvenes. En las etiquetas de los medicamentos antidepresivos, se ha agregado una "advertencia de caja negra"—el tipo más grave de advertencia que puede tener un medicamento recetado. Estas etiquetas advierten a la gente que los antidepresivos pueden hacer que algunas personas, en especial aquellas que se pusieron inquietas/ansiosas cuando empezaron a tomar el medicamento y antes de que este comenzara a hacer efecto, tengan pensamientos suicidas o cometan intentos de suicidio. Se debe vigilar de cerca a cualquier persona que toma antidepresivos, en especial cuando comienza a tomarlos. Para la mayoría de las personas, los riesgos de una depresión no tratada son mucho mayores que los de los medicamentos antidepresivos, siempre y cuando se los tomen bajo la supervisión estricta de un médico.

La **psicoterapia** también puede ayudar a tratar la depresión. La psicoterapia ayuda porque le enseña a una persona nuevas formas de pensar y comportarse, y porque ayuda a cambiar los hábitos que pueden contribuir a la depresión. La terapia puede ayudar a entender y solucionar relaciones o situaciones difíciles que pueden estar causando la depresión o empeorándola.

La **terapia electroconvulsiva.** Cuando es difícil tratar la depresión grave y el paciente no responde a los medicamentos o la terapia, se suele utilizar la terapia electroconvulsiva (TEC). Aunque la TEC alguna vez tuvo una mala reputación, ha mejorado mucho y puede brindar alivio a las personas que no han podido mejorar con otros tratamientos. La TEC puede causar efectos secundarios como confusión y pérdida de la memoria. Aunque estos efectos son generalmente de corto plazo, a veces pueden durar mucho tiempo.

¿Cómo puedo ayudar a un ser querido que está deprimido?

Si conoce a alguien que está deprimido, primero ayúdelo a que consulte a un médico o profesional en la salud mental.

- Ofrézcale apoyo, comprensión, paciencia y ánimo.
- Hable con él o ella y escúchelo/a cuidadosamente.
- Nunca ignore los comentarios acerca de un suicidio, hágaselos saber al terapista o médico de su ser querido.
- Invite a la persona a caminar, pasear o hacer otras actividades.
- Recuérdele que con el tiempo y tratamiento la depresión se irá.

¿Cómo puedo ayudarme si estoy deprimido?

A medida que avance el tratamiento, poco a poco empezará a sentirse mejor. Recuerde que si usted está tomando antidepresivos, pueden pasar varias semanas para que comiencen a hacer efecto. Intente hacer cosas que solía disfrutar antes de tener depresión. Tome las cosas con calma. Otras cosas que puede hacer para mejorar son las siguientes:

- Divida las tareas grandes en tareas pequeñas y haga lo que pueda cuando pueda. Trate de no hacer demasiadas cosas a la vez.
- Comparta tiempo con otras personas y hable con un amigo o familiar acerca de sus sentimientos.
- Cuando haya encontrado un tratamiento, trate de seguirlo. Tomará tiempo para que el tratamiento comience a hacer efecto.
- No tome decisiones importantes en su vida hasta que se sienta mejor. Hable sobre sus decisiones con otras personas que lo conozca bien.

¿Dónde puedo ir para obtener ayuda?

Si no está seguro a dónde ir para obtener ayuda, pregúntele a su médico de familia. También puede buscar profesionales en la salud mental en las guías telefónicas. Los médicos de los hospitales pueden ayudarlo en una emergencia.

¿Qué sucede si yo o alguien que conozco está en crisis?

Si usted o alguien que conoce está en crisis, busque ayuda inmediatamente.

- Llame a su médico.
- Llame al 911 (servicio de emergencia de los Estados Unidos) para obtener servicios de emergencia.
- Acuda a la sala de emergencias del hospital más cercano.
- Llame gratis (la llamada es gratuita para quienes viven en los Estados Unidos) las 24 horas del día a la línea de emergencia de la Red Nacional de Prevención del Suicidio al 1-888-628-9454; número de teléfono de texto/teletipo: 1-800-799-4TTY (4889).

Instituto Nacional de la Salud Mental
División de Redacción Científica, Prensa, y Difusión
6001 Executive Boulevard
Room 8184, MSC 9663
Bethesda, MD 20892-9663
Teléfono: 301-443-4513 o 1-866-615-NIMH (6464)*
Teléfono de texto/teletipo: 301-443-8431 o 1-866-415-8051*
FAX: 301-443-4279
Correo electrónico: **nimhinfo@nih.gov**
Sitio web: **http://www.nimh.nih.gov**

*Las llamadas a los números telefónicos que empiezan con 1-866 son gratuitas para quienes viven en los Estados Unidos.

DEPARTAMENTO DE SALUDY SERVICIOS HUMANOS
DE LOS ESTADOS UNIDOS
Institutos Nacionales de la Salud
Publicación de NIH Núm. SQF 11-3561
Traducido en octubre del 2010

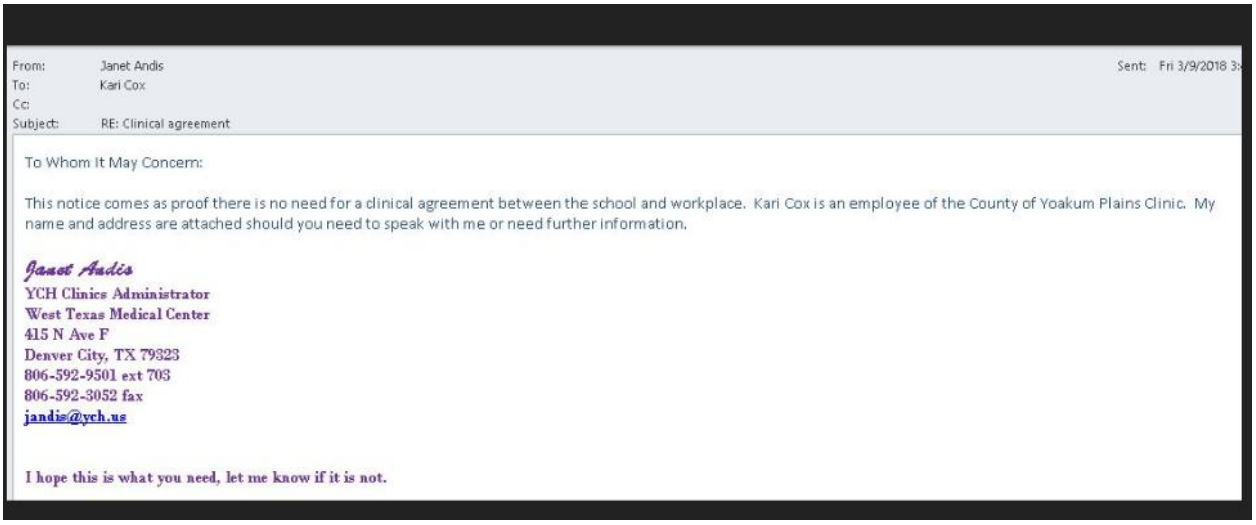
Appendix D

ADSG protocol audit form

Audit prior to ADSG/Audit after ADSG (circle)	Chart 1	Chart 2	Chart 3	Chart 4	Chart 5	Chart 6	Chart 7	Chart 8	Chart 9	Chart 10
PHQ-9 performed with well child visit	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
PHQ-9 score > or = to 11	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
Referral Initiated if above yes	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
f/u documented in EMR	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N

Audit prior to ADSG/Audit after ADSG (circle)	Chart 11	Chart 12	Chart 13	Chart 14	Chart 15	Chart 16	Chart 17	Chart 18	Chart 19	Chart 20
PHQ-9 performed with well child visit	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
PHQ-9 score > or = to 11	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
Referral Initiated if above yes	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
f/u documented in EMR	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N

Appendix E



From: Janet Andis
To: Kari Cox
Cc:
Subject: RE: Clinical agreement
Sent: Fri 3/9/2018 3:

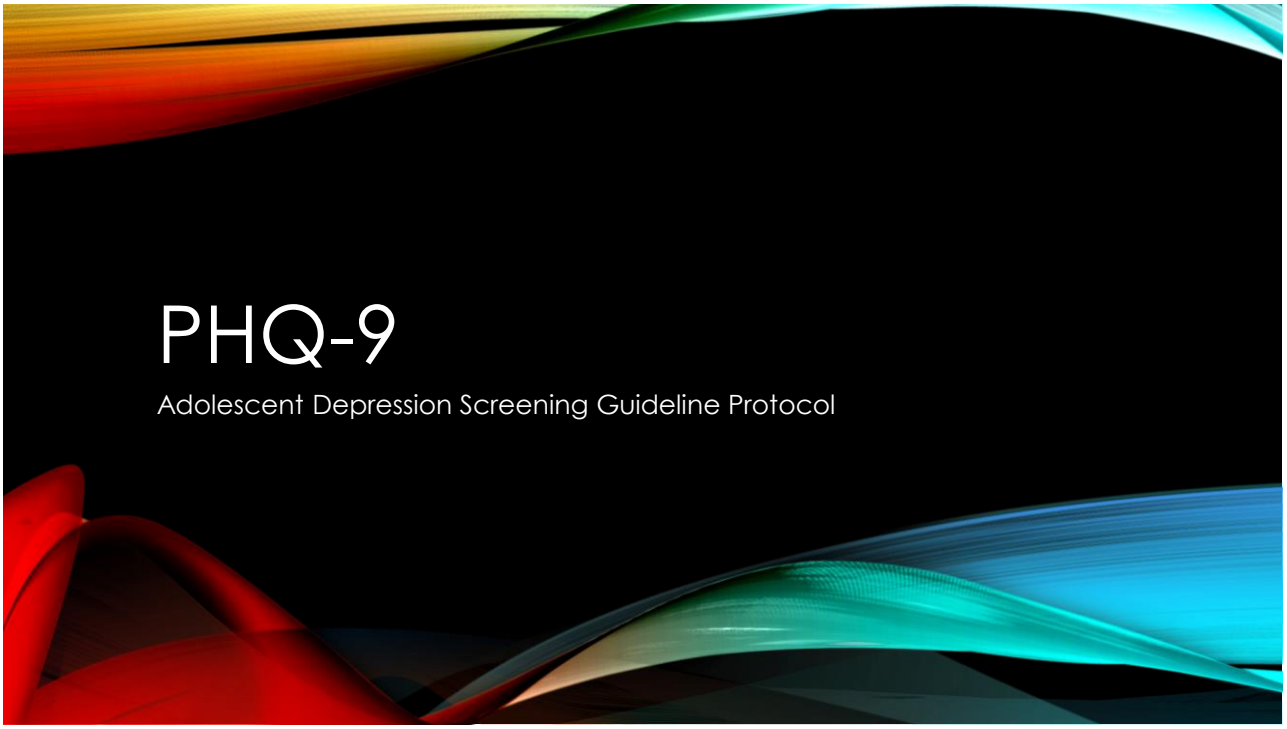
To Whom It May Concern:

This notice comes as proof there is no need for a clinical agreement between the school and workplace. Kari Cox is an employee of the County of Yoakum Plains Clinic. My name and address are attached should you need to speak with me or need further information.

Janet Andis
YCH Clinics Administrator
West Texas Medical Center
415 N Ave F
Denver City, TX 79323
806-592-9501 ext 703
806-592-3052 fax
jandis@ych.us

I hope this is what you need, let me know if it is not.

Appendix F


PHQ-9
Adolescent Depression Screening Guideline Protocol

Addendix G

Crosstabs

Notes

Output Created		05-DEC-2018 20:34:52
Comments		
Input	Data	C:\Users\matth\Downloads\ADSG.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	17
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=ADSG BY PHQ PHQ11 REF FUDOC /FORMAT=AVALUE TABLES /STATISTICS=CHISQ RISK /CELLS=COUNT EXPECTED ROW COLUMN TOTAL /COUNT ROUND CELL /BARCHART.
Resources	Processor Time	00:00:04.73
	Elapsed Time	00:01:03.92
	Dimensions Requested	2
	Cells Available	524245

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Pre/Post ADSG * PHQ performed	17	100.0%	0	0.0%	17	100.0%
Pre/Post ADSG * PHQ score >11	17	100.0%	0	0.0%	17	100.0%
Pre/Post ADSG * Referral initiated	17	100.0%	0	0.0%	17	100.0%
Pre/Post ADSG * Documented f/u	17	100.0%	0	0.0%	17	100.0%

Pre/Post ADSG * PHQ performed

Crosstab

			PHQ performed		
			1 Yes	2 No	Total
Pre/Post ADSG	1 Pre ADSG	Count	4	1	5
		Expected Count	4.7	.3	5.0
		% within Pre/Post ADSG	80.0%	20.0%	100.0%
		% within PHQ performed	25.0%	100.0%	29.4%
		% of Total	23.5%	5.9%	29.4%
	2 Post ADSG	Count	12	0	12
		Expected Count	11.3	.7	12.0
		% within Pre/Post ADSG	100.0%	0.0%	100.0%
		% within PHQ performed	75.0%	0.0%	70.6%
		% of Total	70.6%	0.0%	70.6%
Total		Count	16	1	17
		Expected Count	16.0	1.0	17.0
		% within Pre/Post ADSG	94.1%	5.9%	100.0%
		% within PHQ performed	100.0%	100.0%	100.0%
		% of Total	94.1%	5.9%	100.0%

Chi-Square Tests

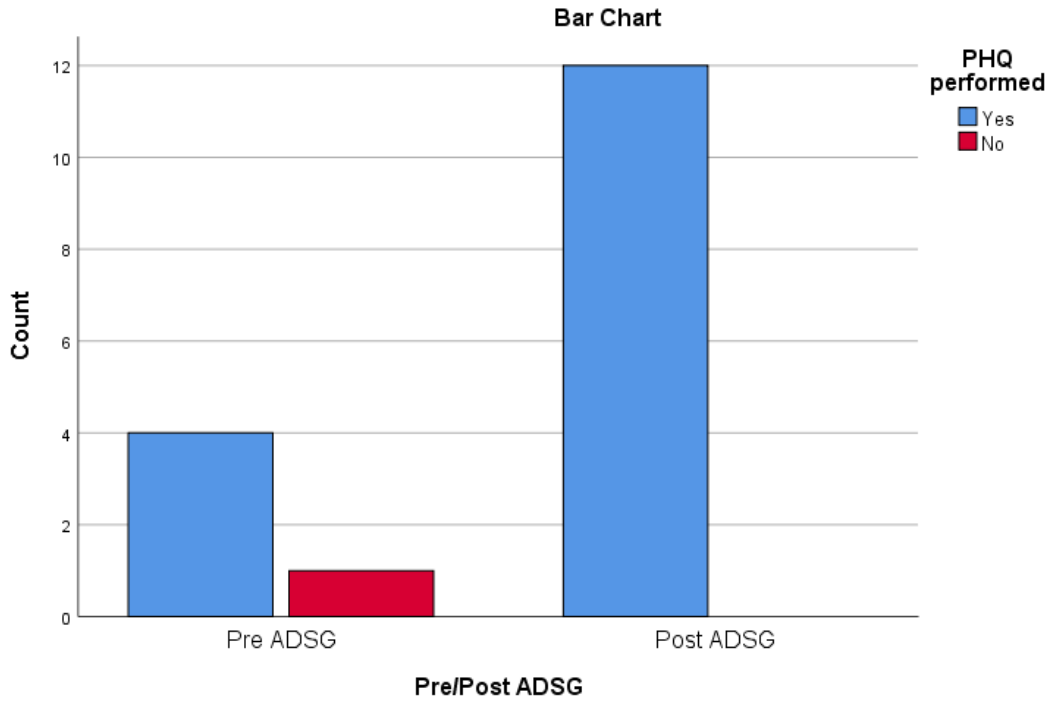
	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.550[a]	1	.110		
Continuity Correction[b]	.217	1	.641		
Likelihood Ratio	2.602	1	.107		
Fisher's Exact Test				.294	.294
Linear-by-Linear Association	2.400	1	.121		
N of Valid Cases	17				

a. 3 cells (75.0%) have expected count less than 5. The minimum expected count is .29.

b. Computed only for a 2x2 table

Risk Estimate

	Value	95% Confidence Interval	
		Lower	Upper
For cohort PHQ performed = 1 Yes	.800	.516	1.240
N of Valid Cases	17		



Pre/Post ADSG * PHQ score >11

Crosstab

			PHQ score >11		
			1 Yes	2 No	Total
Pre/Post ADSG	1 Pre ADSG	Count	0	5	5
		Expected Count	.3	4.7	5.0
		% within Pre/Post ADSG	0.0%	100.0%	100.0%
		% within PHQ score >11	0.0%	31.3%	29.4%
		% of Total	0.0%	29.4%	29.4%
	2 Post ADSG	Count	1	11	12
		Expected Count	.7	11.3	12.0
		% within Pre/Post ADSG	8.3%	91.7%	100.0%
		% within PHQ score >11	100.0%	68.8%	70.6%
		% of Total	5.9%	64.7%	70.6%

Total	Count	1	16	17
	Expected Count	1.0	16.0	17.0
	% within Pre/Post ADSG	5.9%	94.1%	100.0%
	% within PHQ score >11	100.0%	100.0%	100.0%
	% of Total	5.9%	94.1%	100.0%

Chi-Square Tests

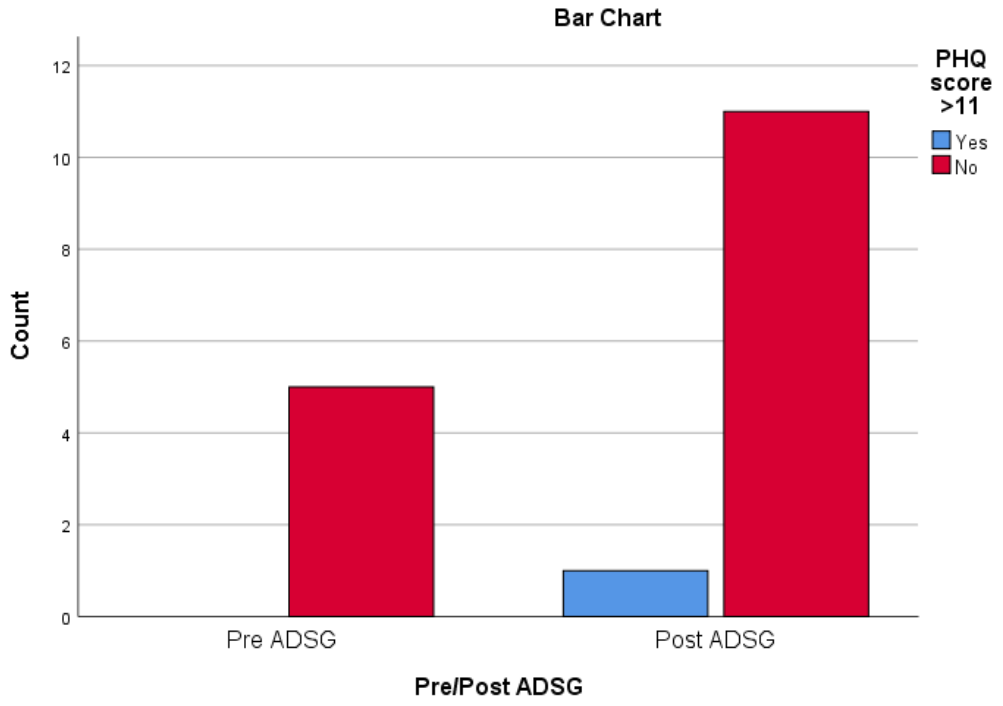
	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.443[a]	1	.506		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.722	1	.395		
Fisher's Exact Test				1.000	.706
Linear-by-Linear Association	.417	1	.519		
N of Valid Cases	17				

a. 3 cells (75.0%) have expected count less than 5. The minimum expected count is .29.

b. Computed only for a 2x2 table

Risk Estimate

	Value	95% Confidence Interval Lower	95% Confidence Interval Upper
For cohort PHQ score >11 = 2 No	1.091	.920	1.294
N of Valid Cases	17		



Pre/Post ADSG * Referral initiated

Crosstab

			Referral initiated		
			0	1 Yes	Total
Pre/Post ADSG	1 Pre ADSG	Count	5	0	5
		Expected Count	4.7	.3	5.0
		% within Pre/Post ADSG	100.0%	0.0%	100.0%
		% within Referral initiated	31.3%	0.0%	29.4%
		% of Total	29.4%	0.0%	29.4%
	2 Post ADSG	Count	11	1	12
		Expected Count	11.3	.7	12.0
		% within Pre/Post ADSG	91.7%	8.3%	100.0%
		% within Referral initiated	68.8%	100.0%	70.6%
		% of Total	64.7%	5.9%	70.6%

Total	Count	16	1	17
	Expected Count	16.0	1.0	17.0
	% within Pre/Post ADSG	94.1%	5.9%	100.0%
	% within Referral initiated	100.0%	100.0%	100.0%
	% of Total	94.1%	5.9%	100.0%

Chi-Square Tests

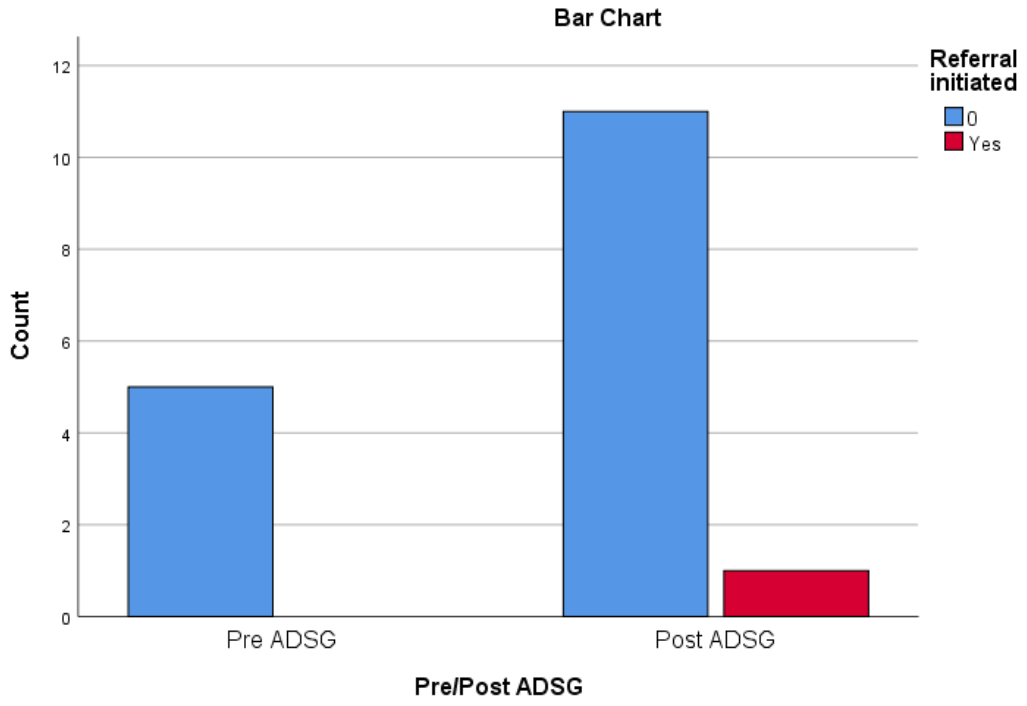
	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.443[a]	1	.506		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.722	1	.395		
Fisher's Exact Test				1.000	.706
Linear-by-Linear Association	.417	1	.519		
N of Valid Cases	17				

a. 3 cells (75.0%) have expected count less than 5. The minimum expected count is .29.

b. Computed only for a 2x2 table

Risk Estimate

	Value	95% Confidence Interval Lower	95% Confidence Interval Upper
For cohort Referral initiated = 0	1.091	.920	1.294
N of Valid Cases	17		



Pre/Post ADSG * Documented f/u

Crosstab

			Documented f/u		
			.0	1.0 Yes	Total
Pre/Post ADSG	1 Pre ADSG	Count	5	0	5
		Expected Count	4.7	.3	5.0
		% within Pre/Post ADSG	100.0%	0.0%	100.0%
		% within Documented f/u	31.3%	0.0%	29.4%
		% of Total	29.4%	0.0%	29.4%
	2 Post ADSG	Count	11	1	12
		Expected Count	11.3	.7	12.0
		% within Pre/Post ADSG	91.7%	8.3%	100.0%
		% within Documented f/u	68.8%	100.0%	70.6%
		% of Total	64.7%	5.9%	70.6%

Total	Count	16	1	17
	Expected Count	16.0	1.0	17.0
	% within Pre/Post ADSG	94.1%	5.9%	100.0%
	% within Documented f/u	100.0%	100.0%	100.0%
	% of Total	94.1%	5.9%	100.0%

Chi-Square Tests

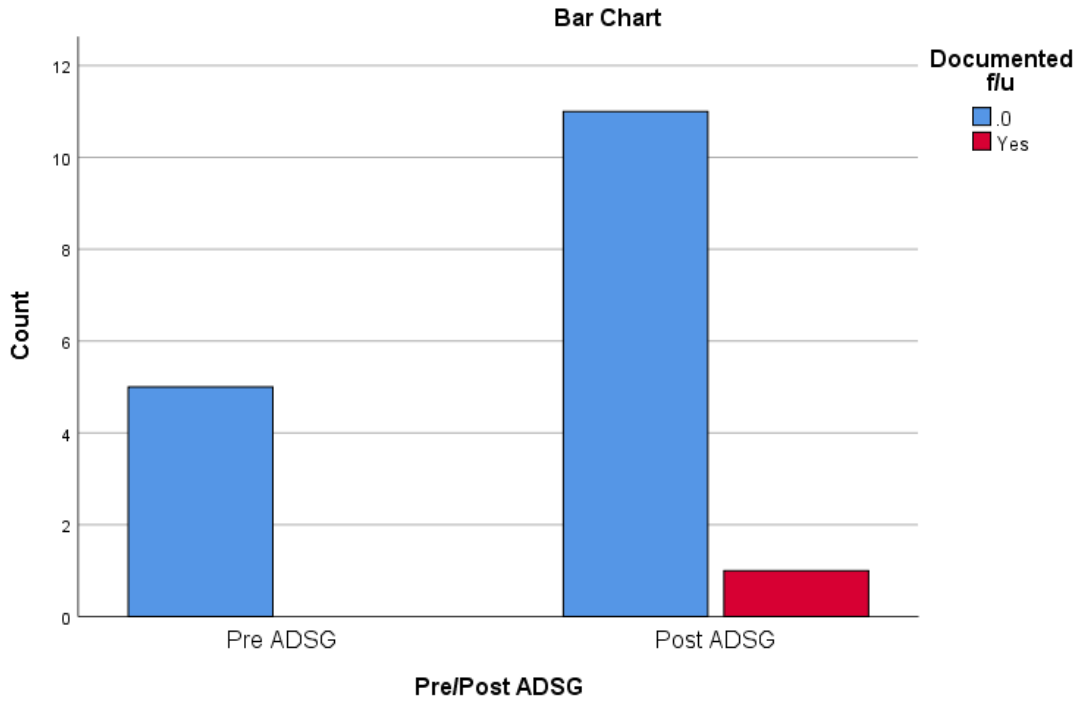
	Value	Df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.443[a]	1	.506		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.722	1	.395		
Fisher's Exact Test				1.000	.706
Linear-by-Linear Association	.417	1	.519		
N of Valid Cases	17				

a. 3 cells (75.0%) have expected count less than 5. The minimum expected count is .29.

b. Computed only for a 2x2 table

Risk Estimate

	Value	95% Confidence Interval Lower	95% Confidence Interval Upper
For cohort Documented f/u = .0	1.091	.920	1.294
N of Valid Cases	17		


Bar Chart
Documented f/u
.0
Yes
Count
12
10
8
6
4
2
0
Pre ADSG
Post ADSG
Pre/Post ADSG