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Implementing the evidence: Routine screening for depression and anxiety in primary care

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ABSTRACT

Background: Primary care providers are qualified to treat, diagnose, and manage common mental health issues like anxiety and depression. Anxiety and depression are common among college age students, with the average age of onset occurring in one's late teens to early 20s. Screening tools are commonly used to recognize patients who may be at risk for anxiety and depression. **Purpose:** The purpose of this evidence-based practice project was to (a) implement evidence-based guidelines for screening and management of college-aged patients with anxiety and/or depression and (b) to develop an algorithm that describes evidence-based management to guide providers at two student health centers. **Methods:** All patients who registered for a sick visit or other appointment at the project site were screened for anxiety and depression using two validated tools. An algorithm to help healthcare providers properly assess and better treat anxiety and depression was developed and implemented for this project. **Results:** A total of 366 patients were screened for depression and anxiety over a 3-month period. Using the created algorithm, patients received education on anxiety and/or depression and a counseling referral. If warranted, patients were prescribed medication therapy for depression and/or anxiety. **Conclusion:** Screening for anxiety and depression has become the standard of care in primary care clinics. Routine screening tools help healthcare providers identify patients with anxiety and depression. Early identification and diagnosis of anxiety and depression leads to better outcomes in treatment.

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KEYWORDS
Anxiety; anxiety screening; college students; depression; depression screening; screening tools

Background

One in 5 adults experienced a mental illness in 2019,[1] however, access to mental health services continues to be a problem in the United States. Fortunately, primary care providers can help fill the gap by treating patients with mental illness such as anxiety and depression. Anxiety and depression are two of the most common and debilitating conditions affecting people in the United States.[2] The United States Preventive Services Task Force[3] recommends that primary care providers use screening tools to assess depression. With the high incidence of anxiety amongst college students, indications and recommendations by the United States Preventive Services Task Force[3] are in process as a draft research plan to assess the need for increased screening to identify anxiety disorders in the early stages and begin treatment.[4,5] Because untreated anxiety can lead to the development of many negative outcomes, including substance use, lower education attainment, unemployment, lower reported quality of life, and an elevated risk for suicidal thoughts and behaviors.[4,5]

The average delay between onset of mental illness symptoms and treatment is 11 years[1]; therefore, early screening and identification of patients that require further intervention are essential and can potentially prevent negative outcomes. Primary care providers must be able to properly screen patients for anxiety and depression, interpret findings, and develop an efficient treatment plan.

The project site, two student health centers at a university in Texas, had no universal process to screen for anxiety and/or depression. The purpose of this project was to (a) implement evidence-based practice guidelines for screening and managing college-aged patients who suffered with anxiety and/or depression and (b) implement an algorithm that described evidence-based management to guide providers at the two centers. Approval from the clinic medical director was provided before project implementation was begun as well as university IRB approval was received.

Depression and anxiety

Generalized anxiety disorder (GAD) affects 6.8 million adults in the United States each year.[6] The average age of onset is usually before 20 years of age.[7] Symptoms of anxiety include fatigue, restlessness, difficulty concentrating, irritability, feelings of worry, and sleeping difficulties.[1] Anxiety symptoms can reduce quality of life, have an impact on

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occupational functioning, and may be associated with increased morbidity.[8] Approximately 14%–29% of people will experience an anxiety disorder at some point in their life.[8]

GAD is one of the most common psychiatric disorders on college campuses and often goes unidentified and untreated.[9] An anxiety disorder that is not treated or managed often leads to depression.[8] Furthermore, patients dealing with anxiety and/or depression can have a negative outlook on life, which may affect the patient's friends and family. It was reported[10] that as many as two out of three depressed adolescents are not identified by their primary care provider and do not receive appropriate treatment.

Depression is a common mental health disorder and one of the main causes of disability worldwide.[6] Globally, about 264,000,000 people are affected by depression.[6] The rate of major depression in preadolescents is 2% and increases two to three-fold by adolescence and into adulthood.[11] Depression signs and symptoms include feeling hopeless, persistent loss of interest, difficulty concentrating, loss of appetite, and thoughts of death or suicide.

Depression and anxiety are different conditions that commonly occur together.[6] Healthcare providers who are familiar with evidence-based screening tools can better identify and treat college-age students who may meet criteria for an anxiety or depressive disorder.[7]

Screening recommendations

Primary care providers have available two valid and reliable tools to screen for depression and anxiety: the Patient Health Questionnaire-9 (PHQ-9)[12] and the Generalized Anxiety Disorder-7 (GAD-7).[8] These two screening tools help providers identify patients who are currently experiencing or may be at risk for anxiety or depression. The PHQ-9 and GAD-7 are evidence-based and validated tools that help clinicians better understand how a patient may be feeling over the previous 2-week period. These screening tools gather pertinent patient information that helps providers formulate a diagnosis; however, the patient must also meet the criteria in the Diagnostic and Statistical Manual of Mental Disorders to receive a proper diagnosis of anxiety and or depression.[12]

Methods

An evidence-based practice implementation and evaluation was utilized for this project. Nursing staff and clinic providers received education on how to screen patients using the GAD-7 and PHQ-9. Two evidence-based algorithms were created, one for anxiety and one depression, and recommended cutoff scores were identified to aid providers with the management decision-making process. Patients whose screening scores correlated with the developed algorithm were qualified to receive (a) educational information and resource information about anxiety and depression disorders, (b) a referral to a counseling center if appropriate, and (c) medication therapy depending on their algorithm score.

The project took place at two student health centers at a university in South Texas. Patients were required to complete the GAD-7 and PHQ-9 as a part of the appointment intake process. Front desk clerical staff received patients upon arrival in the clinic and gave them the depression and anxiety screening tools to complete in the waiting room. Clinic nursing staff then called the patient into the triage room where they obtained patient vital signs, health history, and verified completion of GAD-7 and the PHQ-9. Scores on both forms were calculated and verified by the intake nursing staff, and the information was communicated to the center's nurse practitioner, physician assistant or physician who was scheduled to see the patient.

The created algorithms provided recommendations based on patients' GAD-7 and PHQ-9 scores (see Figures 1 and 2). If the GAD-7 patient score was greater than 3 but less than 5, the recommendation was to provide patient education and university and community resources on anxiety disorders. If the GAD-7 score was greater than 5 but less than 7, the recommendation was to refer the patient to university counseling services to complete an intake evaluation and receive further counseling therapeutic interventions. For GAD-7 scores greater than 10, the recommendation was for the patient to be immediately evaluated by one of the clinic nurse practitioners, physician assistants, or medical physicians on staff. Patients with GAD-7 scores greater than 10 were also considered for medication therapy.

For the PHQ-9, it was recommended that patients who received a score greater than 3 but less than 10 be provided with patient education and university and community resources on depressive disorders. If the PHQ-9 score was greater than 10 but less than 20, the recommendation was to refer the patient to university counseling services to complete an intake evaluation and receive further counseling therapeutic interventions. For PHQ-9 scores greater than 20, the recommendation was for the patient to be immediately evaluated in greater depth by the provider. The imminent goal for patients with PHQ-9 scores greater than 20 would be for the patient to receive counseling therapy and consider medication therapy. The first line of medications includes selective serotonin reuptake inhibitors, as deemed appropriate by the provider. Patients who pose safety risks to themselves or others were considered for immediate behavioral health intervention and evaluation for inpatient admission.

Results

Initially, a total of 966 study subjects had completed either the GAD-7 and or the PHQ-9, however, the target of this study was to focus on those subjects that had completed both the GAD-7 and the PHQ-9. A total of 366 study subjects completed both the GAD-7 and the PHQ-9 screening forms over a 3-month period. The university students ranged from 17 to 50 years of age. A total of 277 (75.68%) patients were female and 89 (24.31%) were male. A total of 277 (75.68%) of patients who were screened for the GAD-7 met the criteria to receive patient education during their visit

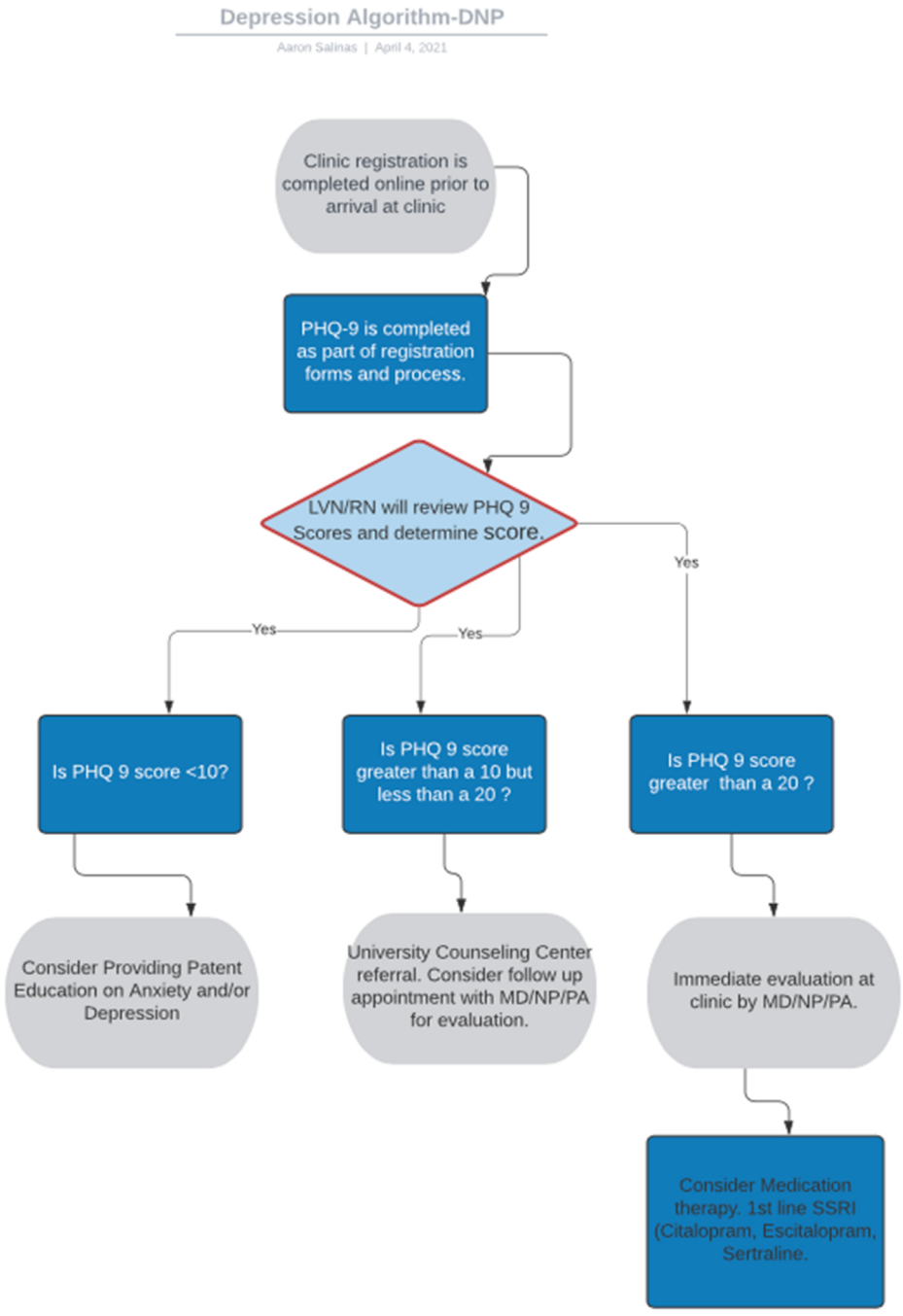

Figure 1. Depression screening algorithm.

(see Table 1). In the results for the PHQ-9, a total of 277 (75.68%) patients who were screened with that PHQ-9 met the criteria to receive patient education during their visit (see Table 1). Looking at the GAD-7 scores a total of 131 (35.79%) patients were referred to counseling based on their scores (see Table 2). The PHQ-9 results for patients that were referred to counseling had similar results with a total of 131 (35.79%) patients having been referred (see Table 2). A total of 30 patients (8.19%) had scores in the GAD-7 where medication therapy was initiated (see Table 3). For the PHQ-9, a total of 30 patients (8.19%) of patients were started on medication therapy during the three-month period of this project (see Table 3).

Discussion

As with any change in an organization, employees may have difficulty with the transition period. During this project implementation, the clinic staff felt comfortable with the algorithm, and it was received well by most clinic staff as a method to help screen and implement a treatment plan for patients with anxiety and depression. Several challenges were encountered while implementing this evidence-based project. First, the electronic health record system used at the student health centers presented challenges. Specifically, patients were able to complete the registration process without having completed both the GAD-7

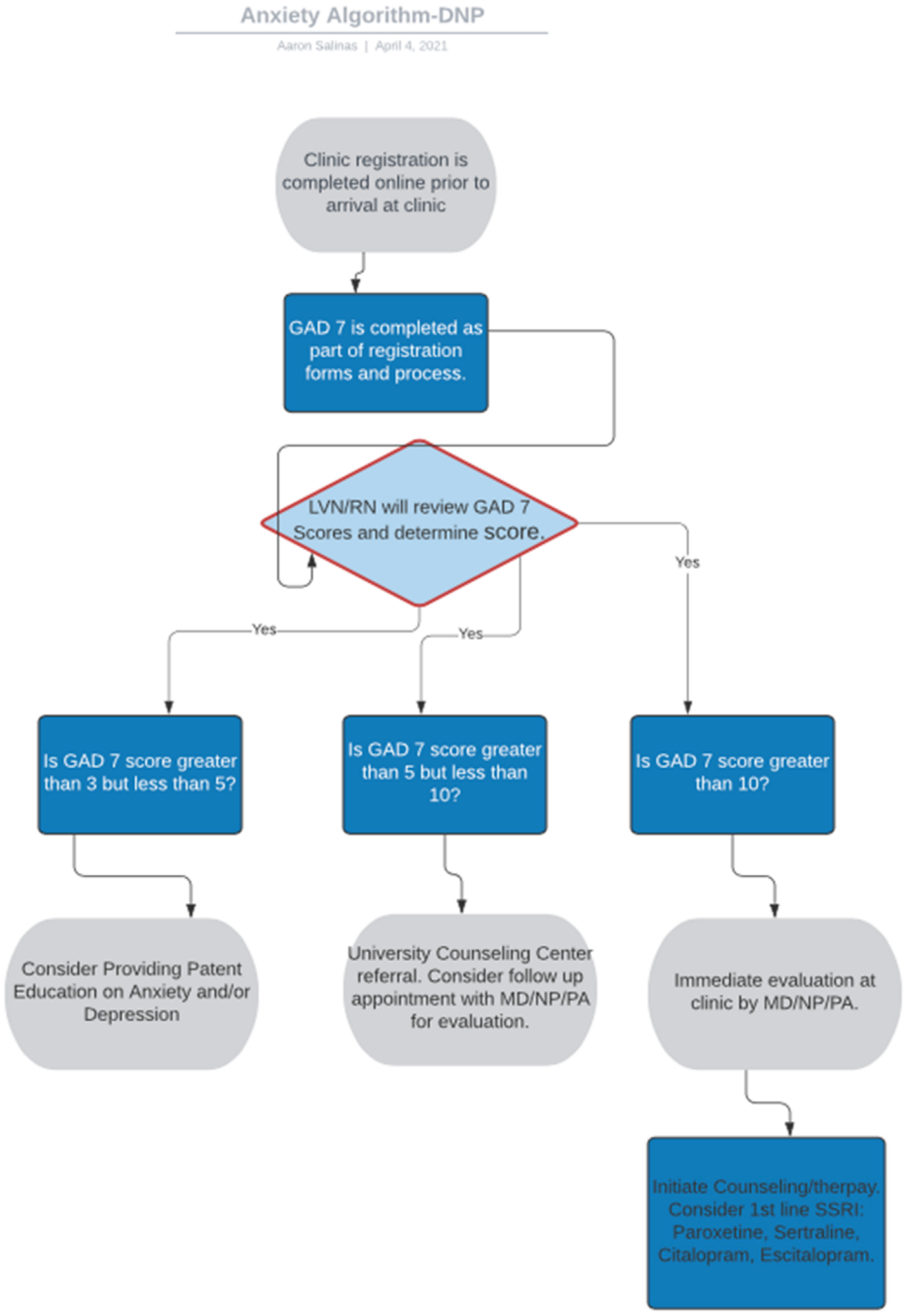

Figure 2. Anxiety screening algorithm.

Table 1. Screening for anxiety and depression during 366 patient encounters in two student health clinics.

Screening	Screening scores	No education on anxiety/depression no	Received education on anxiety/ depression
GAD 7 $n = 366$	<5	88 (24.04%)	99 (27.04%)
	5–10	1 (0.27%)	101 (27.59%)
	11–21	0	77 (21.03%)
PHQ $n = 366$	<10	88 (24.04%)	189 (51.63%)
	10–20	1 (0.27%)	80 (21.85%)
	>20	0	8 (2.18%)

Note. GAD 7 = Generalized Anxiety Disorder 7; PHQ 9 = Patient Health Questionnaire 9.

Table 2. Screening for anxiety and depression during 366 patient encounters in two student health clinics.

Screening	Screening scores	No counseling referral	Received counseling referral
GAD 7 $n = 366$	<5	177(48.36%)	10 (2.73%)
	5–10	57 (15.57%)	45 (12.29%)
	11–21	1 (0.27%)	76 (20.76%)
PHQ $n = 366$	<10	233 (63.66%)	44 (12.02%)
	10–20	2 (0.54%)	79 (21.58%)
	>20	0	8 (2.18%)

Note. GAD 7 = Generalized Anxiety Disorder 7; PHQ 9 = Patient Health Questionnaire 9.

Table 3. Screening for anxiety and depression during 366 patient encounters in two student health clinics.

Screening	Screening scores	No medication therapy- Anxiety/ Depression	Received medication therapy-Anxiety/ depression
GAD 7 $n=366$	<5	187 (51.09%)	0
	5–10	97 (26.50%)	5 (1.36%)
	11–21	52 (14.20%)	25 (6.83%)
PHQ $n=366$	<10	273 (74.59%)	4 (1.09%)
	10–20	63 (17.21%)	18 (4.91%)
	>20	0	8 (2.18%)

Note. GAD 7 = Generalized Anxiety Disorder 7; PHQ 9 = Patient Health Questionnaire 9.

and PHQ-9 forms. Second, one of the health care providers chose not to follow the algorithm. The provider was hesitant to care for patients with mental health issues or concerns and felt at the time of the study that all such evaluations must be done by a mental health provider. During educational sessions, evidence was provided on the level of mental health care that primary care providers—including advanced practice registered nurses, physician assistants, and medical doctors—can provide to patients with anxiety and/or depression. One-on-one educational sessions were provided to all clinic nursing staff, nurse practitioners, physician assistants and physicians to discuss the use of the GAD-7 and the PHQ-9 in a primary care setting. The focus of the educational sessions was to acknowledge the importance of early screening of patients for anxiety and depression and detailed how this screening process allows healthcare providers to better assess patients for these critical mental health concerns.

The project results indicated that having a standardized process for screening for anxiety and depression is essential for college-age students. Without the screening tools, 366 students with depression or anxiety would not have been identified and treated.

Limitations

Limitations of this project include the short data collection period and the use of only two project sites. As a convenience sample of students who presented at the student health centers for acute and primary care, the subjects may not be representative of all students on this university campus or of college students in other universities or other parts of the country. In addition, there were several issues experienced with the electronic health record early in the implementation of the project. One of the main issues was that the electronic health record system allowed patients to complete the entire registration process regardless of whether the patient had completed the GAD-7 or PHQ-9. As a result of the information technology issues experienced early on, patients who had not completed one of the screening forms were excluded from the data analysis. The final limitation that was noted in this project was the ability to track and allow for multiple patient visits. The data revealed that a small number of patients had up to three clinic visits during the 3-month period and were therefore duplicate study subjects.

Application to practice

The use of these screening tools will ensure that healthcare providers are using evidence-based practice recommendations to identify, diagnose, treat, and manage patients with anxiety and/or depression. The baseline algorithm of this project has led to the creation and development of standardization screening processes in 23 additional primary and specialty care clinics in South Texas.

Conclusion

Primary care providers have the knowledge and training to screen, assess, diagnose, and treat most college-aged patients with anxiety and depression. This evidence-based practice and implementation project demonstrated the beneficial impact of routine screening for anxiety and depression. In addition, the project results demonstrate that having an effective process, such as embedded screening within an electronic health record and the use of evidence-based algorithms to guide provider management, can improve the quality and effectiveness of care among those university students with depression and anxiety.

Conflict of interest disclosure

The authors have no conflicts of interest to report. The authors confirm that the research presented in this article met the ethical guidelines, including adherence to the legal requirements of the United States and received approval from the Institutional Review Board of University of Texas Rio Grande Valley.

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