Treatment of Anxiety in Primary Care

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Table of Contents

Abstract

Anxiety occurs commonly in the general United States population and most patients present initially to their primary care provider (PCP) for initial diagnosis and management. Many PCPs have indicated that they lack training in anxiety management, and additionally, management has changed over the past decade with increasing research steering providers away from addictive benzodiazepines and to lifestyle modifications and non-addictive medication modalities. The goal of this project was to develop a decision tree to assist PCPs in implementing evidenced based care at initial presentation, and to evaluate the change in practice of providers once the decision tree was implemented. Results of this study indicate that the addition of an easy to follow decision tree changed provider practice to more closely align with current evidence and was met with overwhelming provider approval.

Keywords: anxiety, primary care, benzodiazepines, cognitive behavioral therapy, stress, music therapy, exercise therapy.

Introduction

Anxiety is a common occurrence in the general population with a lifetime incidence in the United States of roughly 11% (Strine, 2015). Many patients first present to their primary care providers (PCP) with symptoms of anxiety or with other symptoms indicative of an undiagnosed anxiety disorder, and PCPs have expressed that their formal education includes limited training of psychiatric disorders (Strine, 2015). This lack of formal education has resulted in ineffective treatment of anxiety by PCPs and oftentimes prescription of medications that can be detrimental to successful long-term treatment of anxiety, such as habit forming benzodiazepines (Bandelow, 2012). In many areas of the country there exists a longstanding lack of psychiatrists and psychiatric mental health nurse practitioners with commensurate long wait times for patients to see these specialists (Caccavale, 2012). In this light, it becomes imperative that PCPs treat patients appropriately and with current evidenced based standards of care, which at initial diagnosis first include psychotherapy, such as cognitive behavioral therapy (CBT), or appropriate pharmacotherapy such as a selective serotonin reuptake inhibitor (Weisberg, 2014).

It has been noted that there is an increase of PCPs ordering medications in the benzodiazepine category to treat anxiety which may result in incomplete resolution of symptoms; especially long term tolerance to benzodiazepines necessitating higher dosing, and decreased use of evidenced based methods for treating anxiety such as cognitive behavioral therapy, meditation and breathing techniques, exercise, sleep hygiene, and selective serotonin reuptake inhibitors (Bandelow, 2012). This treatment strategy has also been found to be ineffective at both treating anxiety in the long term and preventing patients from developing coping strategies (Bandelow,

2012). In addition, long-term benzodiazepine use has recently been associated with dementia and other cognitive issues (de Gage, 2015). This is a relatively recent finding with implications for PCPs in terms of following evidenced based guidelines in the treatment of anxiety disorders (de Gage, 2015). The project stemmed from a noted practice problem, one in which PCPs appear to have prescribed addictive pharmacological agents, such as benzodiazepines to treat anxiety.

Leadership in advanced practice nursing in a clinical setting will include transformational leadership, which brings committed members together to implement changes in care reflective of evidenced based guidelines (Stevens, 2013). This project seeks to develop a decision tree for care of patients with anxiety, which is based on current evidenced based practice.

Problem Statement

The literature supports the use of other modalities, such as the use of non-pharmacological choices and less addictive pharmacological therapies for the treatment of anxiety in patients who present to primary healthcare clinics. When certain pharmacological choices are made without these considerations, it may result in the over prescribing of addictive medications which are, over the long term, ineffective and potentially dangerous for patients (Strine, 2015; Weisberg, 2014). Patient outcomes may not be optimal when clinical practice is not supported by recent literature and updated information. The primary problem is that PCPs are not consistently utilizing or adhering to the present research and/or guidelines for the treatment of patients with anxiety presenting at primary care clinics. The intervention for this project is the development of an easy to follow decision tree for primary care clinicians including FNPs, physicians, and physician assistants (PA). The comparison would be usual practice,

which reveals inconsistent standardization and varies between provider groups, even amongst providers in the same group. The decision tree is concise in the stepwise approach recommended for the treatment of anxiety (Stein, 2010). Due to a shortage of mental health specialists in many parts of the United States, PCPs are providing care for patients in need of anxiety treatment (Caccavale, 2012).

The outcome of the project includes the evaluation of adherence to the newly developed decision tree for the treatment of patients with anxiety. Outcome data is evaluated to determine if implementation of the decision tree supports provider practice change to a stepwise approach to therapy utilizing fewer benzodiazepines and more cognitive behavioral therapy, exercise, breathing exercises, and selective serotonin reuptake inhibitors as first line treatment. Adherence to the decision tree is the outcome data that is measured. The timeline includes: the development of a decision tree that is supported by the literature, evaluation of current rate of adherence to evidenced based practice, and concludes with evaluation of practice change after the decision tree is implemented. The FNPs and physicians in the primary care practice reviewed the decision tree for final approval and then implementation began followed by a review of patient charts by the DNP student to determine the adherence to the decision tree.

Project Purpose

The purpose of this project is to develop and implement a standardized approach based on current evidence based practice for anxiety for the patient with anxiety. A decision tree was developed and implemented for use within a primary health care clinic in which health care providers (HCP) will use the tool to guide their treatment of patients with anxiety. Currently there exists various approaches to anxiety treatment that are rooted in outdated prescribing

practices or incomplete approaches that result in incomplete resolution of symptoms when anxiety is treated in the primary care setting (Weisberg, 2014). According to Posmontier (2012), many PCPs lack sufficient training in mental health services. In addition, the current environment of limited time for primary care visits, and lack of clear and concise guidelines, there are patients with signs and symptoms of anxiety not receiving appropriate treatment in the primary care setting. PCPs are required to remain current and up to date in many areas of practice simultaneously, and may not have specialization in the treatment of psychiatric disorders, yet many patients present to primary care clinics with anxiety and may need treatment (Posmontier, 2012). Concise guidelines that are rooted in recent evidence based practice will assist PCPs in making choices that improve outcomes for patients and decrease the use and overuse of benzodiazepines (Weisberg, 2014). In addition, there may be an increase in the use of proven strategies to treat patients with anxiety such as cognitive behavioral therapy and exercise (Weisberg, 2014).

Project Objective

The objective of this project is to develop and implement a standardized approach based on current literature and evidence based practice for the treatment of patients with signs and symptoms of anxiety. In addition, a standardized approach may indirectly reduce the number of patients that are prescribed benzodiazepines as a first line treatment, and reflect current best practice by utilizing other strategies that are recommended as initial treatments. Examples of these first line strategies include cognitive behavioral therapy, exercise, breathing or meditation techniques, mindfulness exercises, and consideration of the use of selective serotonin reuptake inhibitors (Weisberg, 2014).

In discussing this topic with a variety of stakeholders including practicing PCPs, psychiatrists, psychiatric mental health nurse practitioners, administration, and patients, it is evident that this information would be a welcomed update to ensure quality of care for patients experiencing signs and symptoms of anxiety. DNP Leadership is perfectly poised to implement this project in that it blends the art and science of nursing; which aligns with the focus of the advance practice nurse's ability to engage effective communication and affect policy, and bring about practice change that considers the health care of individual patients, aggregates, and the entire community.

Review of Literature

Due to the high prevalence of anxiety, shortage of specialist providers, and utilization of benzodiazepines as first line treatment for patients presenting with signs and symptoms of anxiety, there is an increasing need for PCPs to be knowledgeable in evidence based practice recommendations to effectively provide care for these patients. With the ever-changing research there has been a shift in the ways in which the signs and symptoms of anxiety are treated, and there may be a lack of an updated, evidenced-based, concise algorithm for the treatment of the signs and symptoms of anxiety in the primary care setting. In searching for evidence related to the topic of anxiety, various databases were utilized including CINHAL, EBSCO, ProQuest, Cochrane Library, Google Scholar, JAMAevidence, and Ovid. Studies were included that were relevant to the topic of anxiety prevalence, treatment, trends, and algorithms for treatment in primary care.

In the United States, the lifetime prevalence of anxiety is 11% (Strine, 2015), with an increasing number of adults diagnosed with anxiety from 4.3% to 5.7% between 2006 and 2013

alone (Jacob, 2013). In the past year, 12.9 million U.S. adults experienced at least one or more anxiety disorders (Jacob, 2013). Inadequate or under-treatment for patients with signs and symptoms of anxiety creates difficulties for individuals to gain employment, have strong interpersonal relationships, hinders their quality of life and their ability to make contributions to their communities and families (Jacob, 2013). Lack of adequate treatment for anxiety also increases risks for suicide and (Weisberg, 2014). Additionally, anxiety is a major contributor to United States health care expenditures, with overall direct cost in 2013 reaching approximately 33.71 billion dollars (Shirneshan, 2013). These expenditures encompass mostly inpatient treatments, office visits, and pharmacotherapeutics (Shirneshan, 2013). This points to the need for effective and timely treatment of anxiety disorders.

Due to the shortage of mental health practitioners, such as psychiatrists, and psychiatric and mental health nurse practitioners, most patients initially present to their primary care providers when experiencing signs and symptoms of anxiety (Miller, 2015). In addition, at this time in many areas of the U.S., a specialist mental health provider may have long wait times for an initial visit often in excess of 12 or more weeks (Miller, 2015). Inpatient mental health services are not appropriate for patients with non-acute but still distressing mental health symptoms (Miller, 2015). It is important that PCPs are knowledgeable in evidenced based recommendations to be able to provide care to patients presenting with signs and symptoms of anxiety in the primary care setting.

The literature shows that signs and symptoms of anxiety can be adequately treated utilizing both nonpharmacological and pharmacological means, however currently there exists few treatment algorithms with updated guidelines, and the few that do focus on pharmacological

treatment and leave out other methods of effective nonpharmacologic treatment (Stein, 2012; Weisberg, 2014). For instance, Kaufmann (2016) found that while the current recommendations are to use non-benzodiazepine medications such as the selective serotonin reuptake inhibitors (SSRIs) for first line treatment, benzodiazepines continue to be over prescribed without regard to their long term ill-effects including dependence, addiction, and Alzheimer's dementia even when much safer options exist (Yaffe, 2014).

Controversy exists regarding these recent studies concerning benzodiazepine use and many providers are not current with literature suggesting these risks. Benzodiazepines are one of the most abused prescription drug classes in the United States and are dangerous and no longer recommended to be prescribed with opioid pain medications (Worley, 2012). In addition, mitigating these risks with proper prescribing practices that are rooted in evidenced based practice is imperative (Worley, 2012). There are safer and more effective long-term treatment options that exist. However, these options are sometimes underutilized as either primary treatment or adjunctive therapies (Miller, 2015). According to Miller (2015), individualized therapy, cognitive behavioral therapy, breathing exercises, mindfulness exercises, and managing stressors were effective in decreasing anxiety. In addition, other forms of therapy including exercise (Asmundson, 2013), music (Shirani, 2015), and sleep hygiene training (Williams, 2013), are all effective nonpharmacological treatments that can be used either alone or in conjunction with appropriate medications for the treatment of anxiety. These nonpharmacologic therapies have fewer risks and side effects than medications, yet are not used consistently, and no current primary care algorithms for anxiety treatment exist that detail these as first line therapies. According to Mavranezouli (2015), cognitive behavioral therapy was the most cost effective first

line treatment for anxiety, even when compared to appropriate pharmacologic therapies, and it is one of the most underutilized in primary care.

Multiple studies confirm the anti anxiolytic effects of non-pharmacologic interventions such as cognitive behavioral therapy, exercise, and spirituality, as efficacious and cost effective treatments for anxiety. In addition, therapies such as cognitive behavioral therapy have the benefit of long-term effectiveness (Mavranezouli, 2015).

According to the Beck Institute (2016), Cognitive Behavioral Therapy (CBT) encompasses a variety of therapy techniques based on the cognitive model wherein the patient's perception of a situation is causing their distressing reaction. CBT aims to change the patients' thinking that is causing their mood alteration. There are a variety of therapy types that fall under the CBT umbrella and should be tailored to the specific needs of the patient and situation. CBT can be administered by a variety of therapists or by appropriately trained primary care clinicians in the primary care setting (Beck Institute, 2016). According to Toumey (2015), there were statistically significant benefits from CBT for the treatment of anxiety in the primary care setting with decreased anxiety symptoms and concomitant increases in patients' perception of their quality of life. The same study, which is a meta analysis of prior randomized control trials with stringent admissions criteria, shows the efficacy as well as cost effectiveness of CBT as a long standing, though under utilized treatment for anxiety because it can be administered in the primary care setting along with the other medical needs of the patient in a familiar environment (Toumey, 2015). If primary care clinicians do not have the time in their schedules or the training for CBT, access to therapists that provide CBT are generally more accessible than trained psychiatrists, and with the passage of the Affordable Care Act, mental health services, including

therapy, are a required benefit (Caccavale, 2012). Effective long-term and short-term treatment of anxiety can be achieved with CBT versus medications such as benzodiazepines which, while they may work for a short period, they have both negative side effects and do not provide patients a mechanism to deal with their anxiety symptoms (DiMauro, 2013). The goal of treatment for anxiety in CBT is to effectively help patients to learn coping mechanisms so that they may help themselves when anxiety symptoms occur and this has proven to be effective for the long term management of anxiety without the side effects of medications (DiMauro, 2013). The positive effects of exercise on anxiety stem from a variety of potential mechanisms ranging from neurobiological changes from release of naturally occurring endorphins, exposure and tolerance with adaptation to feared bodily sensations, higher fitness levels and confidence building with mastery of new skills, social exposure, improved sleep (Asmundson, 2013). In a review of 37 meta analyses by Wegner (2014) moderate exercise consisting of various types was found to have an anxiolytic effect, as well as a significant positive effect for depression which is often a comorbidity of anxiety, and on quality of life. Ensari (2015) conducted a meta analysis spanning 25 years and found that even a single bout of exercise results in a statistically significant decrease in anxiety. Li (2012) found even low impact exercise such as yoga showed significant decreases anxiety symptoms. There are difficulties encountered when recommending exercise as a treatment strategy to patients but many can be overcome with personalized and creative examples of how to increase daily exercise while taking the patients' specific situation into account. Exercise need not be expensive, time consuming, or location specific and can be done in the patient's own home or community at little to no cost. A variety of insurance plans

reimburse patients for gym memberships when a prescription is written for exercise therapy as well.

A growing body of knowledge finds that religion or spirituality is inversely related to anxiety symptoms (Reutter, 2014). It is possible that through this lens, patients have a path for resiliency and coping mechanisms. For some patients, examining spirituality as it relates to their lives and well-being can decrease anxiety symptoms (Chaves, 2015). This does not need to be in relation to any specific, or any defined religion, but can be if that can provide a source of support or a support network for patients (Chaves, 2015). Spirituality can be defined in many ways and tapping into this source of strength and coping is beneficial to the treatment of anxiety. To illustrate this point, Amrhein (2016) found that ocean surfers experienced a sense of spirituality akin to being at one with nature that offered a protective mechanism for anxiety and depressive symptoms. Religion and spirituality are yet another evidenced based, non-pharmacological tool in the clinician's toolbox in the evidenced-based treatment of anxiety that can be easily examined in the primary care setting.

The reasons for the omission of non-pharmacologic therapies or use of non evidenced based first line medications are unclear, though could be due to lack of provider educational preparation, changing evidence, new medications, and the limited time that primary care clinicians have to spend with their patients (Kaufmann, 2016). Currently there are limited guidelines that are based on the most current evidenced based practices. This project aims to develop and educate PCPs on an evidenced based decision tree that guides care in managing anxiety in patients for use in the primary care setting.

Theoretical Framework

Leadership is an important part of organizations, from business to medicine to leading nations, and can influence how well that organization functions, reaches goals, and in the case of healthcare, provides care to patients (Odemeru, 2013). Leadership also serves to improve knowledge management within the healthcare organization (Gowen, 2009). In fact, in the ever-changing landscape of healthcare, effective leadership is critical from both a clinical as well as organizational standpoint for viability, efficacy, and efficiency (Spinelli, 2004).

Transformational leadership is considered one of the best leadership frameworks for nursing and medicine in that it empowers followers by inspiring a common vision or goal, and motivates others by communicating the importance of working together for the interests of all (Welford, 2002; Drenkard, 2013). In the seminal research on Transformational Leadership, Bass (1985) opined that transformational leaders bring about a cultural change within their organizations by first evaluating and understanding the current culture, and second, with motivation and inspiration, actualize change by valuing input from followers and stakeholders, a set of shared values, and, ultimately craft an improved vision for the future.

An important distinction in the current proposed research project is that the leadership framework must be amenable to peer-to-peer leadership, as the author is a Family Nurse Practitioner who works with three physicians. The current research project will require leadership that motivates and inspires change in other clinicians, such as physicians and Family Nurse Practitioners within a health care clinic, to first recognize that evidenced based practices are not currently being followed for the treatment of anxiety in primary care, second, to visualize

the common goal of improving treatment to align with current best practices, and third, empower these clinicians with evidenced based guidelines to accomplish the shared vision of treating patients with current best practice guidelines. Mavrinac (2005) found that transformational leadership is an effective strategy in this environment as it promotes learning culture, interaction, and the clinical change process necessary for the move to following evidenced based guidelines.

Project Design

Central to this DNP project is the development and implementation of a decision tree that is based on evidence from current literature and will be used in the primary care setting for care of patients with a diagnosis of anxiety. This project has two parts; the first being development of the decision tree for the care of patients with anxiety, the second to evaluate implementation of the decision tree utilizing metrics to determine if a practice change has occurred.

The development of the decision tree occured in three phases (Appendix). First, the DNP student reviewed and synthesized the evidenced based research to create the stepwise plan for the care of anxiety in the primary care setting. Second, a review and feedback occurred with the providers at the primary care office. Third, the final copy of the decision tree was developed and utilized for the project. Following implementation, findings were evaluated to determine if practice change occurred.

Data analysis measures were performed utilizing SPSS software with guidance by the SPSS Survival Manual 6th Edition by Pallant (2016), and will include descriptive statistics and the Wilcoxon Signed Rank Test to evaluate the practice change after the implementation of the decision tree. The data were stratified into discrete variables of adherence versus non-adherence

to evidenced based practice. The means will be compared with the Wilcoxon Signed Rank Test to evaluate change for statistical significance.

Population of Interest and Stakeholders

The population of interest is primary care clinicians who will be using the decision tree to care for patients with anxiety. There are three physicians and one Family Nurse Practitioner in practice at the primary care facility. The setting is a busy primary health care office in a suburban town of approximately 40,000 people, located near Silicon Valley, California with approximately 80 patient care visits per day between 4 primary care providers. Permission from the project site was obtained prior to implementation of the decision tree. Even though patients are not considered a population of interest in this DNP project, the decision tree will be implemented at this setting for adults age 18 and over who have been diagnosed with anxiety. Exclusion criteria will include the presence of other severe mental health diagnoses such as schizophrenia or bipolar disorder, or patients who are on medications for these diagnoses.

Key stakeholders include the primary care providers in the office, office manager and medical assistants. The PCPs were involved to both review and implement the decision tree, the office manager needs to be appraised that this is a practice change which may require more time initially due to longer visits, and the medical assistants are responsible for disseminating appropriate information and referrals for patients so will need to be apprised of the change and willing to make changes to practice. Non-monetary incentives to staff were given for attending staff meetings when discussion of project implementation or evaluation occurred, and included snacks and beverages.

Recruitment Methods

Due to the DNP project design, and ability to collect data anonymously, the individual patients are not involved in this project and will not need to be recruited.

The PCPs recruited for the project are three physicians and one FNP. Recruitment will took place during DNP decision tree development phase, which included the communication of the need for practice change, and for implementation of the decision tree. The PCPs were encouraged to attend informational staff meetings with snacks and beverages provided, and also met with the DNP student specifically to review and provide feedback for the final decision tree product implemented for use in the clinic. Verbal agreement from these providers was given and no formal agreement was deemed necessary by the organization.

Staff was asked to voluntarily participate in the DNP project, which included the implementation of the newly developed decision tree and consider practice changes.

Data Analysis Tool

The DNP student conducted the chart reviews and created a codebook to assess for changes in adherence to evidence-based guidelines. SPSS was utilized for statistical analysis. Chart review occurred both prior to implementation of the new protocol as well as for one month following implementation. A codebook was created utilizing an Excel spreadsheet and data will be analyzed with SPSS software.

Data Collection Procedures

Data collection occurred in an anonymous fashion by the DNP student by assigning numerical values, beginning with the number 1, to designate each case patient and utilizing only the specific ICD-10 anxiety codes at diagnosis with chart review to determine if appropriate first-line treatment was chosen. Data will be stratified into either “2” for appropriate first-line

treatment given, or "1" for inappropriate treatment given. The means were compared between pre and post-guideline implementation. Utilizing the office Electronic Medical Record system "Allscripts" in the office setting to create a code book and Excel spreadsheet without patient names or identifiers, the diagnosis database was searched for the 3 most common ICD-10 codes: F41.3 (other mixed anxiety disorders), F41.8 (other specified anxiety disorders), F41.9 (anxiety state). Once located, the chart was evaluated to determine if this was the patient's first presentation to the office for anxiety evaluation. If so, the appropriateness of treatment was determined using the discrete variables listed; a "2" was given for appropriate treatment, and a "1" was given if the treatment does not meet the initial evidenced based guideline treatment.

Intervention Timeline

This intervention of the DNP project took place over a two-month timeframe. The DNP project included three phases. Phase one was the development of the decision tree. Prior to implementation of the project the DNP student developed a decision tree to be used in the primary care setting for the care of patients with a diagnosis of anxiety. Phase one also included the data collection from past patient charts to determine pre-implementation practices of PCPs in the care of patients with a diagnosis of anxiety. The second phase consisted of educating the participants on the new decision tree and implementation. The final phase consisted of an evaluation of the use of the decision tree with one to two meetings with the primary care providers for feedback and questions, as well as post-implementation data collection utilizing the same ICD 10 codes to evaluate for practice changes.

More specifically, phase one entailed the DNP student working on the development of the decision tree and data collection with feedback from other providers. When determining the

content of decision tree development, the DNP student used evidence based practice guidelines and current literature for the treatment of anxiety. Once the decision tree was developed, other PCPs in the primary care office, which include three physicians and one FNP, had the opportunity to review the decision tree and offer feedback. The DNP student then had an expert reviewer, a psychiatric mental health nurse practitioner, review the final draft of the decision tree.

In addition, during the first phase, initial data was collected on the prior clinical practices of providers by evaluating treatment selection via the electronic medical record system for ICD 10 codes F41.3 (other mixed anxiety disorders), F41.8 (other specified anxiety disorders), F41.9 (anxiety state).

During phase two, the DNP student held a meeting with the participants in the primary care office to review the decision tree and implementation plan. During this meeting questions were answered and written copies of the decision tree were distributed. Copies were also placed in the protocol binder that is centrally located in the office for easy reference as well as emailed to each participant.

Additionally, during phase two, the newly developed decision tree was implemented and reminders were given in the weekly office meetings for participants to ask questions or to review the protocol as needed. The DNP student instituted an open-door policy so that the participants had ongoing access to the student for any questions during this phase.

The final 30 days, which is phase three, included data evaluation to compare practices pre- and post-guideline implementation. In addition, one to two follow up meetings with the PCPs occurred during this phase to review questions and outcome data.

Ethics and Human Subjects Protection

This project was conducted at a private, community-based primary care office near the Silicon Valley area of California. The participants of this project are the primary care clinicians which include physicians and nurse practitioner, in the primary care office setting. Privacy for participants was maintained and no identifying criteria was collected. Even though individual patient data was collected for statistical analysis based on the treatment choice by the provider, the patient is not a participant, though this data is part of the findings and outcome of the practice changes for this project. This information was anonymized utilizing a number and no identifiable personal information. Data was collected only by the DNP student and only in the privacy of the office setting. There was minimal risk involved to the participants of this project. The primary care office site does not require IRB approval for the project but verbal agreement to implement the project at the primary care office was obtained from the office manager and providers. Per IRB guidelines, the project meets exempt status because the activity involves no more than a minimal risk to the participants as the clinic staff are voluntarily participating in the DNP project. Compensation for the providers was limited to snacks and beverages offered at staff meetings when providing the information about the DNP project. This included reviewing decision tree information or implementation guidelines that were used in the DNP project.

Plan for Analysis

Analysis was completed utilizing the office electronic medical record system "Allscripts" in the office setting to create a code book and Excel spreadsheet without patient names or identifiers, the diagnosis database was searched for the 3 most common ICD-10 codes: F41.3

(other mixed anxiety disorders), F41.8 (other specified anxiety disorders), F41.9 (anxiety state). Once located, the chart was evaluated to determine if this was the patient's first presentation to the office for anxiety evaluation. The appropriateness of treatment was determined using the discrete variables as follows: "2" was given for appropriate treatment, and a "1" was given if the treatment did not meet the initial evidenced based guideline treatment. A Wilcoxon Signed Rank test was used to evaluate the difference between the means of adherence from pre-protocol implementation to post-protocol implementation to determine if a significant practice change occurred.

Implications for Nursing

Anxiety is a common problem affecting nearly 11% of the U.S. population (Strine, 2015). Because there is a lack of mental health professionals both regionally as well as nationally, many patients present to the PCP for evaluation and treatment of their anxiety (Caccavale, 2012). Currently there exists a lack of evidenced based decision tree for the treatment of anxiety in the primary care setting which decreases the effective treatment of this common condition (de Gage, 2015). Unfortunately, lack of appropriate training, lack of access to evidenced based protocols, time limitations in primary care, and poor prescribing practices have led to not only ineffective but possibly dangerous treatment of patients with anxiety by utilizing long term prescribing of habit forming benzodiazepines and low utilization of more effective SSRIs, therapy, referrals to ancillary mental health professionals, exercise, etc. (Bandelow, 2012; Weisberg, 2014). Most patients with anxiety should be effectively treated in the primary care setting with current evidenced based practices utilizing an easy to follow decision tree. This will eliminate the need for costly visits to a specialist when basic primary care services are needed. This will reserve the

limited specialist visits for patients with refractory symptoms or unclear diagnosis after initial treatment failure. It will also decrease the use of inappropriate treatment strategies that can be harmful to patients' long term health and well being both on the individual and aggregate level. PCPs would benefit by using an evidenced based tool to guide care as medicine changes rapidly. A protocol for a common and troubling condition can affect many patients' lives in a positive and meaningful way.

Analysis

The Statistical Package for Social Sciences version 24.0 (SPSS, Inc., Armonk, NY) was used for data analysis. Descriptive statistics were undertaken looking at means, frequencies, and a Wilcoxon Signed Rank Test was utilized to compare the average of the two dependent samples. A total of 30 each pre and post implementation chart audits were included in the analysis. The chart audits were scored with either a "1" for non-adherence to evidenced based practice, or a "2" for adherence to evidenced based practice. The pre decision tree implementation mean was 1.14 (standard deviation = .37). The post decision tree implementation mean was 1.43 (standard deviation = .51). The frequency distribution revealed that prior to implementation of the decision tree, evidenced based practice was followed in 37% of cases, whereas after implementation evidenced based practice was followed in 77% of cases, Figure 1.

A Wilcoxon Signed Rank Test revealed a statistically significant improvement in adherence to evidenced based practice after the decision tree was implemented, $z = -3.207$, $p < .001$, with a medium effect size ($r = .41$). The median changed from non-adherence to adherence following implementation.

These finds suggest that the implementation of the decision tree resulted in a practice change by the providers as evidenced by their adherence to evidenced based practice following implementation.

Figure 1: Change in Adherence to Evidenced Based Protocol

Discussion and Significance

The principal finding of this study is that the implementation of a simple decision tree improved PCP adherence to evidenced based practice to treat patients presenting for an initial evaluation for anxiety. Due to the significant improvement in adherence from 37% to 77% over the course of the four-week implementation of the decision tree, it is apparent that when providers are given tools to improve patient care they will do so. A statistically significant change in practice occurred over the course of the study period indicating increased adherence to evidenced based practice, and additionally, the PCPs in the study group expressed confidence in the decision tree and their ability to adhere to it within the primary care setting.

A majority of patients will first present to their PCP for anxiety symptoms and the decision tree provides sound practice guidelines to initiate appropriate treatment (Posmontier, 2012). Because one of the main concerns regarding treating anxiety in the primary care setting has been that PCPs are inadequately trained in this area, the decision tree provides guidelines which are easy to follow and allow for appropriate initial treatment along with the ability to escalate care as needed (Strine, 2015). Because there is a lack of local mental health specialists, appropriate treatment initiation in the primary care setting may improve overall outcomes and

leave appointments open for those with refractory cases or uncertain diagnosis after initial treatment (Bandelow, 2017; Caccavale, 2012).

These findings are clinically relevant as adherence to evidenced based practice for anxiety treatment has been shown to improve treatment outcomes, decrease use of costly specialist care, and avoid use of possibly harmful and addictive medications in this population (Bandelow, 2017; de Gage, 2015). The data suggest that PCPs are willing and able to adhere to evidenced based guidelines if they are readily available and fit into the paradigm of the primary care visit.

Limitations and Dissemination

The project design with an overall low number of clinician participants and the fact that all practice within one primary care office in one geographical area in this DNP project, hamper the ability to make widespread associations as to how the practice of other clinicians in different offices and geographical locations would change with the addition of the decision tree. Additionally, the data does not differentiate between FNP and physician in this DNP project, so may not be generalizable to both types of clinicians in other settings. Because participation was both voluntary and the clinicians had input into the final form of the decision tree, this may have added to the motivation to change their practice and to follow the decision tree when considering other clinicians not involved in the process. Further evaluation would be needed in different settings and geographical areas, and additionally, it would be beneficial for data analysis to differentiate between primary care clinician types.

Areas for dissemination of this project are clear. It has the potential to reach clinicians through publishing in peer-reviewed journals that support research and development of clinical

decision making tools, such as the Journal for Nurse Practitioners, as well as medical journals such as Consultant, which publishes on a wide variety of clinically relevant topics for clinicians in primary care. Additionally, locally this decision tree will be utilized in eight of the primary care offices that are under the umbrella organization of the office involved in this DNP project. The decision tree was well received by clinicians and management alike, and will be assimilated into the policies and procedures manuals of these offices.

The end result of this project has been twofold, and discussions on sustainability must reflect both areas. First, a decision tree that reflects the most evidenced based practice for the treatment of anxiety in primary care has been developed. As data changes, it is possible to make changes to the decision tree to reflect the most current best practice guidelines, and thus evolve the decision tree to reflect the evidence. In this way the decision tree model is sustainable for the long term in that it is not a rigid construct but a malleable tool. Second, this project determined if clinician practice changed due to the availability and implementation of a decision tree. The results indicated that practice change occurred due to the implementation of the decision tree, thus it should be a sustainable goal that includes up-to-date guidelines via a decision tree that will enhance, inform, and improve practice decisions.

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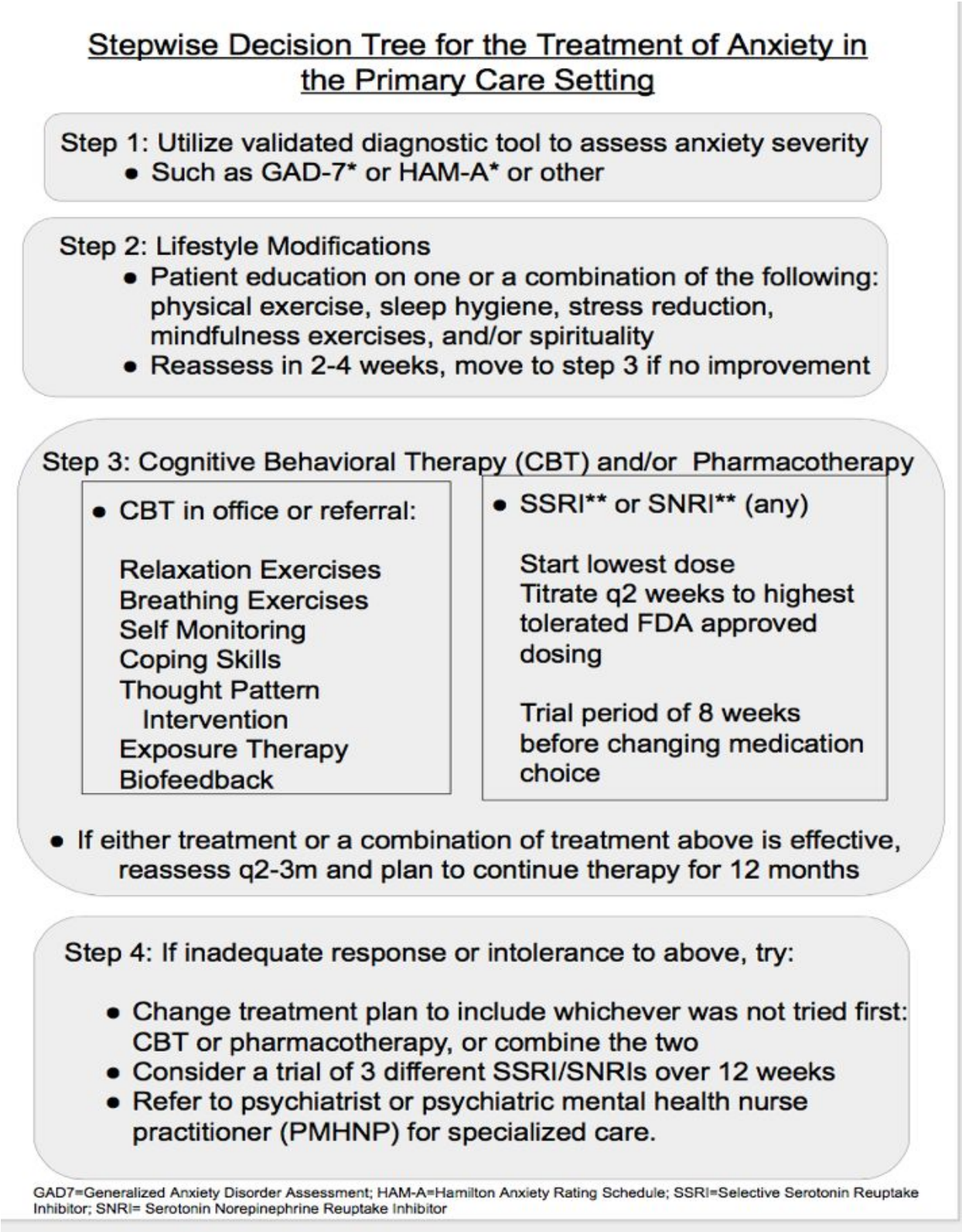
Appendix


Stepwise Decision Tree for the Treatment of Anxiety in the Primary Care Setting
Step 1: Utilize validated diagnostic tool to assess anxiety severity
Such as GAD-7* or HAM-A* or other
Step 2: Lifestyle Modifications
Patient education on one or a combination of the following: physical exercise, sleep hygiene, stress reduction, mindfulness exercises, and/or spirituality
Reassess in 2-4 weeks, move to step 3 if no improvement
Step 3: Cognitive Behavioral Therapy (CBT) and/or Pharmacotherapy
CBT in office or referral:
Relaxation Exercises
Breathing Exercises
Self Monitoring
Coping Skills
Thought Pattern Intervention
Exposure Therapy
Biofeedback
SSRI** or SNRI** (any)
Start lowest dose
Titrate q2 weeks to highest tolerated FDA approved dosing
Trial period of 8 weeks before changing medication choice
If either treatment or a combination of treatment above is effective, reassess q2-3m and plan to continue therapy for 12 months
Step 4: If inadequate response or intolerance to above, try:
Change treatment plan to include whichever was not tried first: CBT or pharmacotherapy, or combine the two
Consider a trial of 3 different SSRI/SNRIs over 12 weeks
Refer to psychiatrist or psychiatric mental health nurse practitioner (PMHNP) for specialized care.
GAD7=Generalized Anxiety Disorder Assessment; HAM-A=Hamilton Anxiety Rating Schedule; SSRI=Selective Serotonin Reuptake Inhibitor; SNRI= Serotonin Norepinephrine Reuptake Inhibitor