Improving Psychiatric Mental Health Nurse Practitioners’ Knowledge of Cognitive Behavioral Therapy and Benzodiazepines for the Treatment of Mild to Moderate Generalized Anxiety Disorder: A Quality Improvement Project

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Improving Psychiatric Mental Health Nurse Practitioners’ Knowledge of Cognitive Behavioral Therapy and Benzodiazepines for the Treatment of Mild to Moderate Generalized Anxiety Disorder:

A Quality Improvement Project

A Scholarly Project Presented to the Faculty of the Nicole Wertheim College of Nursing and Health Sciences

Florida International University

In partial fulfillment of the requirements

For the Degree of Doctor of Nursing Practice

by

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Approval Acknowledged:

_______________________________, DNP Program Director

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Abstract

Anxiety disorders are the most prevalent type of mental illness in the US. One type of anxiety disorder that is prevalent in adulthood is generalized anxiety disorder (GAD). This condition is characterized by excessive worry that has lasted for over 6 months. Other considerations in the diagnosis of anxiety include motor symptoms, such as trembling and restlessness. GAD is a significant burden on patients and reduces their quality of life. In addition, it contributes to the rise in the cost of health care in the country. Therefore, the appropriate management of the condition is important. Benzodiazepines were the earliest drugs that were used to manage GAD. Despite their effectiveness and tolerability, benzodiazepines can lead to dependence and have withdrawal effects that can exacerbate GAD. Cognitive behavioral therapy has also been used with much success to manage GAD. Ensuring that providers are knowledgeable in such areas is important for improving the management of GAD. This pretest and posttest project investigates a brief provider education on the combined approach to the management of GAD. The providers were given a brief presentation on the combined approach. They undertook a pretest to assess their knowledge of the management of GAD using the two methods. A posttest was also provided. The results indicate improved knowledge of GAD management following the delivery of the educational content.
Acknowledgments

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# Table of Contents

Abstract ................................................................................................................................. ii

Acknowledgements .............................................................................................................. iii

Introduction ............................................................................................................................. 1

Problem Statement/Identification .......................................................................................... 1

Background ............................................................................................................................. 2

Scope of the Problem ............................................................................................................. 4

Consequences of the Problem ............................................................................................... 4

Knowledge Gaps and Proposed Solution .............................................................................. 5

Measuring Outcomes ............................................................................................................ 5

Literature Review .................................................................................................................. 6

Methods – Inclusion Criteria .................................................................................................. 6

Search Strategy ....................................................................................................................... 6

Study Selection ....................................................................................................................... 7

Figure 1 ................................................................................................................................. 8

*Summary of Literature Search Process* .................................................................................. 8

Figure 2 ................................................................................................................................ 9

*Summary of Research Search Results* ................................................................................ 9

Summary of Review ................................................................................................................. 10

Discussion of the Literature ................................................................................................... 14
Purpose and PICO .............................................................................................................. 19
DNP Project Goal and Gap .......................................................................................... 19
SMART Goals ................................................................................................................ 20
Theoretical Framework .............................................................................................. 21
Methodology ............................................................................................................... 21
Approach and Procedures ......................................................................................... 22
Human Protection ....................................................................................................... 22
Data Collection and Data Management .................................................................. 22
Statistical Analysis ..................................................................................................... 23
Results ......................................................................................................................... 25

Figure 1 ....................................................................................................................... 27

Gender Survey Data .................................................................................................. 27

Table 1 ......................................................................................................................... 27

Gender Total Percentage Data .................................................................................. 27

Figure 2 ....................................................................................................................... 28

Ethnicity Graph Survey Data ..................................................................................... 28

Table 2 ......................................................................................................................... 28

Figure 3 ....................................................................................................................... 29

Overall Pretest Survey Questionnaire Data Results ................................................. 29

Table 3 ......................................................................................................................... 29
Introduction

Problem Statement/Identification

This project proposal focuses on improving mental health nurse practitioners’ knowledge of generalized anxiety management. Specifically, the project proposal focuses on ensuring that mental health providers understand the benefits that can be accrued from the combination of cognitive behavioral therapy (CBT) and benzodiazepines for the management of generalized anxiety disorder (GAD). Anxiety disorders are the most prevalent psychiatric disorders in the US. Garakani et al. (2020) noted that with a lifetime prevalence of 32% in the US, anxiety disorders are fast becoming a common psychiatric health issue in the country. They also reported that more than 260 million individuals worldwide suffer from anxiety disorders, representing a 15% increase in incidence and prevalence since 2005 (Garakani et al., 2020). Despite this high prevalence, anxiety disorders are the most misunderstood mental illnesses. In addition, while most anxiety disorders are highly treatable, only 39% of patients who seek treatment have their conditions managed effectively (Anxiety and Depression Association of America, 2018).

GAD is a common type of anxiety disorder whose management presents challenges. If poorly treated, GAD develops chronically, with patients relapsing from time to time if remission occurs. In addition, poorly managed GAD increases the risk of comorbidity with illnesses such as depression. Often, patients who are diagnosed with GAD are prescribed benzodiazepines as the primary pharmacotherapy. While fast acting in the management of GAD, benzodiazepines present the risk of dependence and other adverse outcomes. CBT can also be used in the management of GAD. This quality improvement project focuses on whether a combination of the two interventions can help manage anxiety and whether strengthening the knowledge of clinicians can be essential in improving the management of the condition. The aim is to improve
the management of anxiety, reduce the symptoms of anxiety, and reduce dependence on medication as the main intervention for the management of GAD.

**Background**

This section provides information that is relevant to understanding the issue of concern and why the potential solution can be important. Prior to 1987, GAD was part of a group of disorders referred to as anxiety neurosis. However, following studies to understand the pathogenesis and etiology of anxiety disorders, the term “general anxiety disorder” appeared as a primary diagnosis in the third revision of the *Diagnostic and Statistical Manual of Mental Disorders (DSM)*. The individualization of GAD into a singular disorder allowed for its differentiation from other anxiety disorders. For instance, when it was assigned a primary diagnosis state, the areas of difference from other diagnoses included excessive concern regarding critical key areas of one’s life and the intolerance of uncertainty. The current *DSM-5* defines GAD as the presence of excessive anxiety, as well as worry about a variety of topics, activities, or events. In addition, for a patient to qualify to be diagnosed with GAD, worry must be present more days than not for the past 6 months. The *DSM-5* also requires that excessive worry be accompanied by at least three other symptoms, which include restlessness or being on edge, difficulties concentrating or the mind going blank, irritability, being easily fatigued, muscle tension, and sleep disturbance.

Over the years, the prevalence of GAD has been on the rise. According to Strawn et al. (2018), up to 5% of children and adolescents in the US are diagnosed with GAD, and 3% to 6% of adults suffer from the condition. In addition to the considerable individual, societal, and socioeconomic costs, GAD presents a risk for the development of secondary disorders, such as major depressive disorders. In addition, poorly managed GAD contributes to a higher rate of
suicide attempts and completed suicide across the life span. Benzodiazepines are the first-line pharmacological agent for the management of GAD. According to Roy-Byrne (2022), benzodiazepines are the preferred first-line treatment because of their high tolerability, limited adverse effects, rapid onset of action, and minimal interactions with other medications. However, Roy-Byrne (2022) also suggested that benzodiazepines may be less effective in the management of anxiety owing to a narrower spectrum of action, such as less efficacy against ruminative/cognitive symptoms. The cognitive side effects, risk of abuse, and withdrawal effects are also concerns associated with the use of benzodiazepines for the management of GAD.

According to Roy-Byrne (2022), the withdrawal symptoms of benzodiazepines are a significant cause for concern because they often mimic the symptoms of GAD, for which the medication is prescribed.

CBT is another intervention that can be used for the management of anxiety. CBT is a form of psychotherapy in which a psychotherapist guides the patients to recognize unhelpful and negative thoughts and patterns and how these behaviors manifest. According to Borza (2017), CBT is a mechanism through which pathological worries can be converted into worries, enabling patients to avoid anxiety when worries are present. Borza (2017) pointed out that CBT provides patients diagnosed with GAD with coping mechanisms for the various symptoms associated with the disorder. Owing to the challenges associated with pharmacological agents used in the treatment of GAD, clinicians are turning to CBT as the first-line treatment. Identifying the singular most effective mechanism for managing GAD remains imperative. Given the aforementioned benefits associated with both pharmacological agents—benzodiazepines and CBT—it is imperative to consider whether a combination of the two interventions can improve
the management of GAD. It is also critical to determine whether improving practitioner knowledge through focused education can result in improved management of GAD.

**Scope of the Problem**

Anxiety disorders are the most common form of mental disorder in the US and globally. According to Asarnow et al. (2017), anxiety disorders affect about 32% of youth. Impaired function because of anxiety disorders can manifest from childhood to adulthood, with the severity of symptoms increasing over time. Supporting this, Garakani et al. (2020) suggested that more than 260 million individuals suffer from anxiety disorders worldwide. According to Bandelow et al. (2017), GAD is the least common type of anxiety disorder, with a prevalence of 2.2% in the US. However, they also pointed out that GAD often runs a chronic course with periods of remission and relapse throughout one’s life (Bandelow et al., 2017). While there is a marked reduction in the prevalence of anxiety disorders as individuals age, the prevalence of GAD is still high in individuals over 50 years old (Bandelow et al., 2017). Given the prevalence and seriousness of GAD, and especially its chronic nature, it is imperative to ensure that providers are adequately prepared to meet the health-care needs of patients with the condition.

**Consequences of the Problem**

The failure to effectively manage GAD has a hefty cost. The lack of comprehensive knowledge of GAD management can negatively impact the effectiveness of interventions implemented by mental health providers. GAD is highly debilitating and can result in a loss of productivity. Patients who suffer from severe GAD are unable to maintain employment or manage businesses, resulting in their economic dependency. According to the *Lancet Global Health* (2020), loss of productivity owing to anxiety and depression costs the global economy more than $1 trillion annually. A study by Armbrecht et al. (2020) suggested that in 2010 alone,
more than $33.77 billion was incurred in the management of anxiety disorders. It is imperative to note that poorly managed anxiety is a risk factor for other mental conditions, such as major depressive disorders. GAD and major depressive disorders are especially comorbid. The management of both anxiety and depression significantly contributes to the cost of health care in the US. In addition to the financial cost of GAD, the poor management of the condition puts individuals at risk for suicide attempts and successful suicides.

**Knowledge Gaps and Proposed Solution**

Few studies have explored educating mental health nurse practitioners on interventions that can be effective in GAD management. While studies have focused on the role of different independent interventions in GAD management, few have addressed the benefits that can be accrued when CBT is implemented in conjunction with benzodiazepine and whether this can result in better management of GAD symptoms. In addition, a few studies have focused on how CBT affects the duration and dosage of benzodiazepines prescribed for patients with GAD. The project proposes a combination of CBT and benzodiazepines for the management of GAD. It proposes a brief provider education on the combined approach to GAD management and the benefits that can be accrued when this approach is adopted. For instance, providers will be educated on how dependence on benzodiazepines can be reduced through the use of CBT.

**Measuring Outcomes**

The outcome of interest is whether the brief provider education will help improve knowledge of GAD management. Providers will attend a presentation that will focus on the diagnosis and management of GAD. Prior to the implementation of the education, mental health-care practitioners will do a pretest that aims to determine their understanding of the topic of interest. Following the delivery of the educational material, the providers will be required to do a
posttest. This posttest will be used to determine which educational materials helped improve the providers’ knowledge of GAD management.

**Literature Review**

This section is a review of the literature on the topic of interest. The aim of the literature review is to highlight the prevailing knowledge on GAD management with a specific interest in the use of benzodiazepines and CBT. The PICO question—“Among mental health nurse practitioners, does a brief and focused education on the management of generalized anxiety disorder improve providers’ knowledge, resulting in more effective management of GAD in patients?”—guides the literature review.

**Methods – Inclusion Criteria**

The aim of the literature review was to search for and identify scholarly and peer-reviewed studies that have been conducted on the use of benzodiazepines and CBT for the management of GAD. Over the years, there has been an increase in scholarly work focused on the management of GAD using various methods. To adequately answer the research question, this literature review focused solely on studies that used only benzodiazepines, only CBT, and a combination of benzodiazepines and CBT. To ensure the currency of the information included in the literature, only articles that were published within the last 10 years were included in the review. In addition, to ensure that all the information was dependable and valid, only peer-reviewed articles were included in the project.

**Search Strategy**

Medical and nursing-based databases were used to search for research articles that matched the PICO question. The databases that were used include CINAHL, EMBASE, PubMed, the Cochrane Library, and MEDLINE. The PICO question guided the search strategy.
Search phrases included “mental health nurse practitioner education,” “benzodiazepines for GAD,” “treatment of GAD,” “CBT for GAD,” and “management of GAD.” The search terms were combined severally to obtain more hits. In addition, each of the databases has different filters and Boolean operators that can be used when searching for articles. The preliminary search identified several articles. A review of their headlines determined which articles were retrieved and further reviewed. A perusal of their abstracts determined which of the retrieved articles would be included in the literature review. The review of each article’s abstract targeted the year of publication and the subject of interest.

**Study Selection**

The search of the three main databases yielded a total of 2,391 articles. Of these, 1,112 were from Psych Info, 842 were from CINAHL, and 437 were from MEDLINE. A review was undertaken using the Rayyan Mobile Application, which identified 970 duplicates. Thus, 1,421 articles remained. The screening and selection of the studies excluded a further 1,034 articles, and a review of the abstracts excluded a further 67 articles. A total of 60 articles were reviewed for eligibility, and only eight were included in the final review. Figure 1 provides a summary of the literature search process. It highlights all the literature that was searched and retrieved, and the final articles included in the review can be found in Table 1.
Figure 1

Summary of Literature Search Process

Articles identified from Psych Info
n = 1112

Articles identified from CINAHL
n = 842

Articles identified from MEDLINE
n = 437

Total articles retrieved from databases and duplicates removed
n = 1421

Records screened
n = 387

Records excluded
n = 320

Full articles accessed for eligibility
n = 60

Full articles excluded
n = 52

Full articles included in the literature review
n = 8
## Figure 2

### Summary of Research Search Results

<table>
<thead>
<tr>
<th>Article, Authors</th>
<th>Research Method</th>
<th>Study Design</th>
<th>Population</th>
<th>Sample Size</th>
<th>Intervention</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offidani et al. (2013)</td>
<td>Quantitative method</td>
<td>Systematic review</td>
<td>Adults diagnosed with GAD</td>
<td>22 articles were retrieved</td>
<td>Benzodiazepines vs. antidepressants</td>
<td>Benzodiazepines are better tolerated than antidepressant medications.</td>
</tr>
<tr>
<td>Takeshima et al. (2021)</td>
<td>Quantitative method</td>
<td>Systematic review</td>
<td>Adult patients diagnosed with GAD on benzodiazepines</td>
<td>3 studies were included in the review</td>
<td>CBT and benzodiazepines</td>
<td>CBT can be essential in discontinuing benzodiazepines.</td>
</tr>
<tr>
<td>Oldenhof et al. (2021)</td>
<td>Qualitative method</td>
<td>Online surveys and qualitative interviews</td>
<td>Patients on long-term use of benzodiazepines</td>
<td>22 patients</td>
<td>Strategies for de-prescribing long-term use of benzodiazepines</td>
<td>Providers should understand methods to reduce the long-term use of benzodiazepines.</td>
</tr>
<tr>
<td>Wang et al. (2017)</td>
<td>Quantitative method</td>
<td>Systematic review</td>
<td>Children diagnosed with anxiety disorders</td>
<td>115 studies were included in the review</td>
<td>Efficacy of CBT and pharmacotherapy</td>
<td>A combination of CBT (psychotherapy) and pharmacological methods can help in the management of GAD.</td>
</tr>
<tr>
<td>Nakajima et al. (2020)</td>
<td>Quantitative method</td>
<td>Retrospective observational study</td>
<td>Adult patients diagnosed with GAD</td>
<td>66 patients</td>
<td>CBT and pharmacotherapy</td>
<td>CBT is essential in reducing the long-term use of benzodiazepines.</td>
</tr>
<tr>
<td>Bajaj &amp; Malhotra (2014)</td>
<td>Quantitative method</td>
<td>Randomized controlled trial</td>
<td>Adult patients diagnosed with GAD</td>
<td>90 patients</td>
<td>CBT compared to pharmacotherapy</td>
<td>CBT is a more cost-effective method of managing GAD than pharmacotherapy alone. CBT, however, combined with pharmacotherapy.</td>
</tr>
</tbody>
</table>
Summary of Review

Several of the reviewed studies were systematic reviews. One systematic review that was included was undertaken by Offidani et al. (2013). The authors of this systematic review sought to compare the effectiveness of benzodiazepines versus antidepressants in the management of anxiety disorders. The authors contended that while both benzodiazepines and antidepressants have been found to be effective in the management of anxiety disorders, there has been a shift in the preference of practitioners, who now lean toward prescribing newer antidepressants over benzodiazepines. Seeking to investigate whether this shift was supported by research, Offidani et al. (2013) made use of a systematic review. They used databases, such as Web of Science, Cochrane, MEDLINE, PubMed, and CINAHL, to search for literature on the topic. The medications of interest included in the systematic review were tricyclic antidepressants and benzodiazepines. The authors selected 22 articles that met the inclusion criteria.

Offidani et al. (2013) reported that antidepressants were not more effective in the management of GAD when compared to benzodiazepines. According to the authors, the use of benzodiazepines is associated with several benefits, including fewer withdrawal effects. They also reported that benzodiazepines had fewer side effects during the intake period compared to tricyclic antidepressants. Offidani et al. (2013) concluded that the shift toward the prescription of antidepressants over benzodiazepines in the management of GAD is not supported by the literature.

Takeshima et al. (2021) also conducted a study that incorporated the use of a systematic review for GAD. The authors sought to determine whether the incorporation of CBT can help when discontinuing benzodiazepines in patients being treated for GAD. They contended that owing to the risk of dependency, benzodiazepines should not be used in the long-term
management of GAD. They also noted that CBT has been successfully used in the management of GAD. As such, they sought to determine whether the inclusion of CBT would be essential in helping patients discontinue the use of benzodiazepines without affecting treatment outcomes.

Like Offidani et al. (2013), Takeshima et al. (2021) preferred to use Cochrane and PubMed to search for literature on the topic of interest. Takeshima et al. (2021) also included EMBASE in the list of databases. The authors restricted their search to only randomized controlled trials. Their search yielded only three randomized controlled trials that satisfied the inclusion criteria. The review of the randomized controlled trials revealed that the use of CBT was effective in helping patients discontinue the use of benzodiazepines. The authors reported that in the groups in which the gradual tapering off of benzodiazepines was supported by CBT, the patients were able to achieve the required treatment outcomes and successfully stopped taking benzodiazepines. This study provides important support for the position that it may be necessary to combine benzodiazepines and CBT when treating patients diagnosed with GAD.

Wang et al. (2017) carried out a systematic review and meta-analysis to determine the possible benefits of the use of pharmacological interventions, CBT, and a combination of both to manage GAD in children. This study is important because the systematic review focused on different pharmacological approaches to the management of GAD. For instance, the review sought to determine the effectiveness of benzodiazepines, SSRIs, and SNRIs. The databases that were searched included PsychInfo, EMBASE, Cochrane, and MEDLINE. One of the strengths of this project is that the researcher reviewed several studies on the topic of interest. A total of 115 studies were included in the systematic review. The combination of the number of patients in all the studies was 7,719; this large sample size can allow for the generalization of the study results.
Wang et al. (2017) made several findings that are of interest in this current study. The authors reported that a combination of sertraline and CBT provided the most effective treatment method compared to any individual treatment. This finding suggests that it may be imperative to combine pharmacological and non-pharmacological methods in the management of GAD. The authors also reported that benzodiazepine was the most effective pharmacological method used for the short-term management of GAD. Wang et al. (2017) also reported that CBT alone was effective in reducing the symptoms of GAD.

Unlike the researchers of the first three studies, Bajaj and Malhotra (2014) used an experimental research design. They employed the use of a randomized controlled design to determine the effectiveness of CBT alone, pharmacotherapy alone, and a combination of CBT and pharmacotherapy in the management of GAD. Bajaj and Malhotra (2014) randomized 90 patients into three groups. The first group received CBT alone, the second received a combination of CBT and pharmacotherapy, and the third received pharmacotherapy alone for the management of GAD. In all three groups, the Becks Anxiety Inventory was used in the pre- and posttest measures of anxiety levels. The patients received interventions for a period of 3 months. After data collection, quantitative data analysis methods, such as ANOVA and paired t-tests, were used to analyze the data.

The results indicate the benefits that can be accrued from the use of CBT and pharmacotherapy. The authors reported that the group that received CBT and pharmacotherapy had the most improvement after the 3-month period, indicating the superiority of the combined approach. The group that received CBT alone was the second closest in terms of symptom improvement, while pharmacotherapy alone was the least effective method. The authors pointed
out that CBT is a cost-effective intervention that can be used by itself or with pharmacological agents to help manage the symptoms of GAD.

Nakajima et al. (2020) used a retrospective observational study to measure the effectiveness of CBT in reducing the use of benzodiazepines in the management of GAD. The authors reported that while the short-term efficacy of benzodiazepines has been identified in research, studies report a lack of efficacy in their long-term use in the management of GAD. In addition, Nakajima et al. (2020) suggested that benzodiazepines have several side effects when used in the long-term management of GAD. Nakajima et al. (2020) indicated that the efficacy of CBT in the management of GAD has also been demonstrated by past studies. The authors, however, reported a scarcity of literature identifying the benefits that can be accrued if CBT is included in the management of GAD for patients who are already on benzodiazepines.

The author reviewed the medical records of 66 patients who were on benzodiazepines. The review focused on the prescription of benzodiazepines with subsequent CBT therapy sessions. Nakajima et al. (2020) observed benzodiazepine prescription at four intervals: when the patient was first interviewed to determine adaptation to CBT, during the first CBT session, during the final CBT session, and three months after the final CBT session. Each patient received an average of 14 CBT sessions. The results indicated that 13 out of the 66 patients discontinued their prescription of benzodiazepines with positive patient outcomes following the introduction of CBT therapy. A further 21 out of 66 patients reduced their prescription of benzodiazepines by over 50% during the period of therapy. Three months after the introduction of CBT therapy, patients reported significantly reduced use of benzodiazepines. The authors concluded that the use of CBT can be important in reducing the use of benzodiazepines in patients diagnosed with GAD.
Unlike the five studies that were reviewed, the study by Oldenhof et al. (2021) involved a qualitative research method. In this study, the authors sought to determine the role of practitioners in deprescribing benzodiazepines in patients diagnosed with GAD. The authors sought to determine patients’ perceptions of their practitioner’s advice on deprescribing benzodiazepines and whether they were willing to follow their practitioner’s advice with regard to discontinuing the use of benzodiazepines for GAD management.

Oldenhof et al. (2021) recruited 22 patients who were using benzodiazepines long term for the management of GAD. Half of the patients were in the process of reducing their prescription, while the other half did not intend to do so. The authors used an online survey and interview to collect data. The data were transcribed, and common themes were identified. The authors reported that deprescription efforts by a practitioner would be successful if barriers to discontinuing benzodiazepines were met. Patients reported a number of barriers, such as a return of symptoms of anxiety, as a possible hindrance to discontinuing benzodiazepines. Patients also reported that being involved in the process and the decision to discontinue benzodiazepines influenced their decision to adhere to the advice presented by their practitioner. This article highlights approaches that clinicians can take in regard to the use of benzodiazepines to manage patients diagnosed with GAD.

**Discussion of the Literature**

There has been agreement in the literature that the understanding of GAD and its management practices has improved significantly. This is partly because of the recognition of the burden associated with anxiety disorders, as well as the challenges associated with their poor management. Brayne et al. (2016) noted that providing a definitive definition of anxiety disorders can be important in differentiating it from other mental disorders. In their study,
Brayne et al. (2016) stated that the lack of distinction between anxiety disorders and other mental illnesses has contributed to increasing challenges in the management of these conditions. Thibaut (2017) pointed out that defining anxiety disorders and determining the specific disorders that fall into this category are important in the diagnosis and management of these conditions. Thibaut (2017) also pointed out that the complexity of the definition and types of anxiety disorders often results in misdiagnosis and is one reason why anxiety disorders remain underdiagnosed in the US. Brayne et al. (2016) defined anxiety as excess worry, hyperarousal, and fear that is counterproductive and debilitating. The author suggests that fear is the primary commonality associated with anxiety disorders. Bandelow et al. (2017) relied on the DSM-5 to define anxiety disorders as a group of mental disorders that are associated with intense fear and worry. Bandelow (2017) listed GAD, panic disorder, agoraphobia, social phobia, and separation anxiety as types of disorders that fall under anxiety disorders.

In terms of prevalence, Aquin et al. (2017) pointed out that anxiety disorders are the most prevalent mental disorders in the US and across the globe. The authors reported a global prevalence of between 3.8% and 25%. In regard to the US, Aquin et al. (2017) reported a lifetime prevalence of 16% for all anxiety disorders. Remes et al. (2016) indicated that the prevalence of anxiety disorders in the US is 18%. Thibaut (2017) put the worldwide prevalence of anxiety disorders at 7.3%. The author further presented the prevalence of specific types of anxiety disorders. According to Aquin et al. (2017), specific disorders are the most prevalent types of anxiety disorders, with a 10.3% global prevalence rate. Panic disorder has a prevalence rate of 6.0%, social phobias 2.2%, and GAD 2.2% (Aquin et al., 2017). This is supported by Bandelow (2017), who indicated that specific or isolated phobias are the most prevalent (10.3%), while GAD are the least prevalent types of anxiety disorders (2.2%). In terms of burden, Thibaut
(2017) reported that there is a high comorbidity between anxiety disorders and other mental disorders, especially depression. Remes et al. (2016) pointed out that anxiety contributed to 28.6 million disability-adjusted life years. Remes et al. (2016) also pointed out that the US spends at least $42.3 billion annually on the management of anxiety disorders.

Munir and Takov (2022) noted that GAD as a diagnosis was first recognized in the 1980s in *DSM-3*. Prior to this period, GAD was categorized as part of anxiety neurosis. The recognition of GAD as a separate diagnosis allowed for a definition of the condition and spurred further research on the disorder. Munir and Takov (2022) identified excessive worry and anxiety that has lasted for more than 6 months as the main diagnostic consideration for GAD. Locke et al. (2015) also identified excessive and recurrent worry that significantly impacts the patient’s quality of life as the main diagnostic consideration for GAD. Toledo-Chávarri et al. (2020) suggested that patients who suffer from GAD present with worry and often assume the presence of a threat or danger even in the absence of a cause. Tiwari et al. (2017) pointed out that in addition to excessive worry, GAD is associated with motor tension symptoms, such as restlessness, trembling, and the inability to relax. Autonomic symptoms, such as lightheadedness, dry mouth, tachypnea, tachycardia, and sweating, are also characteristics that are associated with GAD (Tiwari et al., 2017). Munir and Takov (2022) indicated that sleep disturbances, irritability, and ease of fatigue are also symptoms that are associated with GAD. Toledo-Chávarri (2020) maintained that an accurate diagnosis of GAD relies on a combination of the symptoms of excessive and recurrent worry and any of the various physical manifestations of the condition. According to Toledo-Chávarri et al. (2020), the accurate diagnosis of GAD is critical for the adoption of appropriate pharmacological or non-pharmacological management.
In terms of epidemiology, Aquin et al. (2017) suggested that GAD is the least common type of anxiety disorder in the US. The authors reported a prevalence rate of 2.2% among the general population (Aquin et al., 2017). Bandelow et al. (2017) also indicated that it has a prevalence of 2.2% across the population. However, as Munir and Takov (2022) noted, GAD becomes more prevalent as individuals age. For instance, according to Munir and Takov (2022), at least 20% of adults have GAD. Bandelow et al. (2017) noted that the high prevalence of GAD among adults is because it often runs a chronic course with periods of relapse experienced in adulthood.

In terms of management, the literature review indicated the benefits that can be accrued from the use of benzodiazepines in the management of GAD. In an evidence-based treatment review, Strawn et al. (2019) reported that benzodiazepines were the earliest medications developed for the treatment of GAD. However, the authors suggested that benzodiazepines were initially developed for the management of anxiety disorders before the classification of GAD as a separate diagnosis. According to Strawn et al. (2019), the mechanism of action makes it effective for the management of GAD. Strawn et al. (2019) reported that benzodiazepines bind to the GABAA receptors, thereby potentiating the effects of endogenous GABA, resulting in the alleviation of anxiety and worry. This is echoed by Melegrano (2021), who, reviewing how benzodiazepines work in the management of GAD, reported that they potentiate the CNS inhibitory effects of GABA. In terms of selecting medications for the management of GAD, Melegrano (2021) pointed out that assessing their efficacy, tolerability, dependence, and withdrawal effects is important. Melegrano (2021) reported that benzodiazepines are effective in the management of GAD, especially when efficacy is not achieved through SSRIs. Louvet et al. (2015) reported that benzodiazepines are effective for patients who are unable to tolerate first-
line medications such as SSRIs for the management of benzodiazepines. This is supported by the results of a study undertaken by Strawn et al. (2019), who found that benzodiazepines have fewer side effects and are therefore more tolerable. Louvet (2021) recommended benzodiazepines for patients who are unable to tolerate first-line medications for the management of GAD. However, Louvet (2021) also indicated that benzodiazepines should be prescribed only for short-term use for acute GAD and reported a higher risk of dependency when benzodiazepines are prescribed for long-term use. Supporting this position, Melegrano et al. (2021) indicated that benzodiazepines should be prescribed for a period not exceeding 3 months. One reason for this is that patients who use benzodiazepines can become dependent on it. Melegrano (2021) also reported that benzodiazepine withdrawal can present symptoms that can exacerbate anxiety.

Psychotherapy has been identified as an intervention that can help in the management of GAD either independently or alongside pharmacotherapy. Borza (2017) suggested that CBT is an intervention that can help patients identify and react better to anxiety triggers. In the review, Borza (2017) pointed out that the functional analysis aspect of CBT arms patients with the knowledge of triggers for anxiety and worry. Borza (2017) also indicated that the psychoeducation component of CBT empowers patients diagnosed with GAD to adopt different thinking when faced with anxiety triggers. Hirsch et al. (2019) found that 74% of patients diagnosed with GAD recovered when CBT was used as the first line of treatment. The patients in the study reported that CBT helped them better understand the causes of anxiety and react better to circumstances that had previously led to anxiety.
Purpose and PICO

The following PICO question will guide the project: “Among mental health nurse practitioners, does a brief and focused education on the management of generalized anxiety disorder improve providers’ knowledge, resulting in more effective management of mild to moderate GAD in patients?”

Population: Mental health nurse practitioners

Intervention: Brief but focused education on the management of GAD

Comparison: No provider education

Outcome: Improved knowledge of the management of GAD

DNP Project Goal and Gap

The effective management of GAD is critical to the well-being of the patient and the reduction of health-care costs. According to Thibaut (2017), GAD is a debilitating condition that results in disability and reduced life expectancy. This is because GAD is highly comorbid and is associated with other mental illnesses, such as depressive disorders and dependence on licit and illicit drugs. The US spends at least $42.3 billion annually on the management of anxiety-related disorders (Remes et al., 2016). The identification of optimal methods for the effective management of GAD is, therefore, critical. Ensuring that providers understand these management strategies and apply them in the clinical setting is also important.

An assessment of the clinical setting indicates several gaps that the project can help fill. The pharmacological approach is the most commonly applied intervention in the management of GAD. This, however, poses many challenges. First, while remission is high when medication is prescribed for GAD, patients on medications such as benzodiazepines often present with anxiety
once they stop taking them. This is supported by Melegrano et al. (2021), who suggested that the withdrawal effects of medications such as benzodiazepines often result in symptoms associated with GAD. Few patients have also indicated poor tolerance of medications used in the management of GAD. While benzodiazepines are associated with fewer side effects than the SSRI class of medications, Strawn et al. (2019) indicated that benzodiazepines can lead to dizziness, confusion, memory problems, and muscle weakness, among other side effects. Finally, the risk of dependence is another challenge associated with the exclusive prescription of medications for the management of GAD. According to Louvert (2021), benzodiazepines can be prescribed in only the short run because of the risk associated with dependence. These shortcomings in the clinical setting highlight the importance of assessing the need to change the methods used to manage GAD. The clinical setting uses only CBT for several patients diagnosed with GAD. These patients do not receive a combined pharmacological–CBT intervention. The goal of the intervention will be to successfully introduce a combination of the two approaches to the management of GAD. In addition, the goal of the program is to help reduce the long-term prescription of benzodiazepines for the management of GAD. The aim is to ensure that providers gain knowledge of effective management.

**SMART Goals**

Generating specific, measurable, attainable, realistic, and timely goals can be important in directing the change initiative. In quality improvement initiatives, it is imperative to ensure that the developed goals are specific. Measurable goals can be evaluated to determine whether the milestones that were set were achieved. Metrics can be adopted to establish the extent to which the goals were met. The overall goal of the project is to realize the effective management of GAD in patients diagnosed in a clinical setting. This will be supported by the following
specific goal: to educate mental health nurse practitioners on the use of CBT and benzodiazepines for all patients diagnosed with GAD within 6 months.

**Theoretical Framework**

Kurt Lewin’s change theory was adopted as the theoretical framework for the implementation of the program. According to Lewin’s theory, change can be implemented in three phases. The first phase involves identifying a challenge or weakness in the delivery of health-care services. The potential clinical issue is analyzed and the potential causes determined. In this case, the identified clinical issue is the ineffective management of GAD. Lewin’s theory calls for the involvement of all stakeholders in the identification of the clinical issue and in the suggestions for practical solutions (Burnes, 2020). The second phase of the theory involves determining the most appropriate intervention for implementation. This step requires consideration of the pros and cons of each intervention to ensure that the most appropriate and effective one is adopted. The final step of Lewin’s change theory is refreezing. Under refreezing, the organization undertakes steps to ensure that the selected intervention becomes the usual way of operating in the clinical setting. This stage involved training all the clinicians on the new intervention. New employees were also trained in the adopted intervention to ensure that it becomes the primary intervention for the management of GAD.

**Methodology**

A quantitative chart review was used in this project. The project, which was conducted in a clinical setting, aimed to improve mental health nurse practitioners’ knowledge of GAD management. To ensure that their participation in the project was voluntarily, the providers were asked to give their consent. The project was based on a pre- and posttest questionnaire, which
involved the provision of a detailed education plan. The pretest was done before the education, and the posttest followed the intervention.

**Approach and Procedures**

The project required the recruitment of mental health-care nurse practitioners with knowledge of mild to moderate GAD. It began with a brief explanation of its aim and the signing of the consent forms. The participants were then required to do a pretest. This was followed by a brief education session that focused on the combined use of benzodiazepines and CBT to manage GAD. Finally, the participants completed a posttest. The analysis of the difference between the pretest and posttest questionnaires was used to form the conclusions on the effectiveness of the educational materials.

**Human Protection**

As the project involved humans, the institution review board provided the required permission for it to be undertaken. The researcher provided the details of the investigation to the institution review board, including the information that was required from the participants. When the institution review board allowed the project to proceed, the clinicians were tasked with setting aside time to participate. Express written consent was required from the individuals who agreed to participate in the quality improvement project. The consent was taken as express permission to use the participants’ personal information. The data were used solely for research purposes, and only authorized parties were given access to the information.

**Data Collection and Data Management**

A pre- and posttest were used for data collection through SurveyMonkey.com. The questions were derived from the content of the education plan, which included the use and dosage of benzodiazepines, as well as how to implement CBT, for the management of GAD. The
main data that were collected were the results of the pretest and posttest. The results were transferred to Microsoft Office for analysis and to create tables and graphs. The researcher’s email address and phone number were provided to participants so that they could raise any questions or concerns at any time during the project. Survey Monkey has several privacy and security measures in place, such as encryption and password protection, to prevent unauthorized users from accessing data and hackers from breaching information. Because the researcher administered the tests anonymously, the participants did not have to enter any personal information, thereby reducing the risk of compromise. Additionally, all data were kept on a password-protected laptop. After the project was concluded, all questionnaire information was discarded from the Survey Monkey server and the password-protected laptop.

**Statistical Analysis**

Quantitative data analysis was employed. The Statistical Package for Social Sciences was used for data analysis to determine whether there was a significant difference between the results of the pretest and posttest. As expected, the results of the data analysis showed a significant improvement in the posttest results in some questions after the educational intervention. The responses received from both the pretest and posttest were kept anonymous. The results were password protected and kept confidential. Only the researcher and her mentor were allowed to view the initial results. After all the responses were received, the results were transferred to Microsoft Office for analysis and to create tables and graphs. The researcher’s email address and phone number were provided to participants to enable them to raise any questions or concerns that arose at any time during the project. Survey Monkey has several privacy and security measures in place, such as encryption and password protection, to prevent unauthorized users from accessing data and hackers from breaching information. Because the researcher
administered the tests anonymously, the participants did not have to enter any personal
information, thereby reducing the risk of compromise. Additionally, all data were kept on a
password-protected laptop. After the project was concluded, all questionnaire information was
discarded from the Survey Monkey server and the password-protected laptop.
Results

Six mental health nurse practitioners participated in the project: Five (83.3%) were female, and one (16.7%) was male (see Figure 1). For an assessment of the gender distribution data in terms of frequency and total percentage, see Table 1. In terms of race, 33.3% of the participants were Latino, 16.67% were White, 16.67% were African American, and 33% were categorized as other (see Figure 2). Regarding their level of education, five participants had obtained a master’s degree, and one was categorized as other (see Table 2). The participants answered 17 questions on the diagnosis and management of GAD (see Figure 3). The pre-education questions highlighted their understanding of the diagnosis of GAD and medications that can be used to manage the condition (see Table 3). For instance, in response to Question 12, which aimed to determine the length of worry associated with GAD, all the participants indicated that worry that lasted more than 6 months could be categorized as GAD. In response to Question 14, which quizzed participants on the first-line medication for the treatment of GAD, all mental health providers indicated the correct choice of the options provided. One area in which the providers faced a challenge was the use of CBT for the management of GAD. For instance, Question 18 sought to determine whether the participants were aware of the reasons for the adoption of CBT for the management of GAD. While some mental health providers chose the correct response, other participants failed to do so. The posttest results indicated a marked improvement in the providers’ understanding of the management of GAD (see Figure 4). For Question 9, for instance, all the participants responded that benzodiazepines are the most likely medication used in the management of acute and short-term GAD. All the participants also indicated that they understood that benzodiazepines can increase the risk of addiction. However, the participants still had challenges with regard to the length of prescription of benzodiazepines,
as some indicated that they could be prescribed for the long-term management of GAD (see Table 4). The overall results based on the data revealed that after the education session, the mental health practitioners’ knowledge and awareness regarding the treatment of mild to moderate GAD increased. The participants scored the lowest on Questions 10, 11, and 14: “Which of the following is not why cognitive behavioral therapy is used for the management of GAD?” (Multiple choice), “How long are benzodiazepines usually prescribed for?” (Multiple choice), and “Can benzodiazepines be used in the long-term management of generalized anxiety disorder?” (True or false), respectively. Although the participants scored the lowest on these questions, the overall score on the other questions was 100%, and when compared to the pretest, there was a significant improvement in participants who answered these questions correctly (see Table 5).
Figure 1

Gender Survey Data

![Gender Distribution Among Psychiatric Nurse Practitioners](image)

Table 1

Gender Total Percentage Data

<table>
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</thead>
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Note. Distribution among psychiatric mental health nurse practitioners
Figure 2

Ethnicity Graph Survey Data

Table 2

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<td>Doctoral Degree</td>
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<tr>
<td>Other</td>
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<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>99.97%</td>
</tr>
</tbody>
</table>

Note. The participants’ levels of education ranged from master’s to doctoral degree.
Figure 3

*Overall Pretest Survey Questionnaire Data Results*

![Pretest Survey Data Chart](chart.png)

Table 3

*Pretest Questionnaire Percentage Data*

<table>
<thead>
<tr>
<th>Pretest Survey Questionnaire</th>
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<th>Answer 2</th>
<th>Answer 3</th>
<th>Answer 4</th>
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<tr>
<td>Q 4</td>
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<tr>
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Figure 4

Overall Posttest Survey Questionnaire Data

Table 4

Posttest Questionnaire Percentage Data

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</tr>
<tr>
<td>Q 5</td>
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<td>Q 6</td>
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<td>Q 9</td>
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<td>Q 15</td>
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</table>
Figure 5

Compared Pre- and Posttest Survey Data

Note. Participant average before and after educational intervention.
Discussion and Conclusion

Plan for QI Next Step

The next step of the quality improvement project is to roll out the recommendations in the clinical setting. A presentation will be made to the stakeholders to highlight the recommendations and how they were achieved. This will entail explaining the initial motivations for the project; the research process, including the methodology, data collection, and analysis; and how the organization stands to benefit if the QI project recommendations are adopted. It is imperative to note that the data collection stage of the project included only a few mental health nurse practitioners. The next step will entail developing educational training for all the mental health providers and other clinicians and health-care workers who will be involved in providing health-care services to patients diagnosed with mild to moderate GAD. The aim is to ensure that all clinicians, especially the mental health providers, are well versed with the recommendations. Specifically, it will be critical to ensure that the clinical team understands how best to incorporate benzodiazepines and CBT into the management of mild to moderate GAD. After the training, it is expected that the clinical center will roll out the use of combined benzodiazepines and CBT for the management of mild to moderate GAD. This will be followed by a period of evaluation to determine whether the recommendations are being planned as provided and whether the intended results are being achieved (Fernandez et al., 2019). A probation period of 6 months will be used for evaluation purposes. If the intended results are achieved, the recommendations will be wholesomely adopted, and external dissemination of the project will commence. When a provider is well versed in how to identify and treat mild to moderate GAD, they can accurately assess patients’ mental health status and identify any underlying issues that may be present. This leads to proper diagnosis, treatment plans, and better outcomes. Providers
can use evidence-based practice to establish a unique care plan that addresses the patient’s needs. They can also provide education and support not only to the patient but also to their families and community. Being well versed also allows for improved collaborative efforts with other health-care providers for a comprehensive, thorough approach. Additionally, advanced practitioners can help prevent mental health issues from arising or lessen the burden by encouraging healthy behaviors, educating on risk factors, and providing support. To overcome the numerous barriers associated with pursuing mental health care, educating and training providers is fundamental to successful outcomes. Interprofessional education has been shown to strengthen collaborative efforts among health-care professionals. Additionally, it improves their willingness and ability to work effectively.

**Plan for Sustaining Practice Change**

Following the adoption of practice changes, such as the recommendations made in the project, it is imperative to come up with a plan of action that can sustain the implementation of the recommendations in the clinical setting. One of the ways in which a researcher can ensure that the change becomes a standard part of the organization’s processes is through organizational change. The organizational setting in which the research took place should be the first to adopt and use the practice change. Organizational change includes coming up with a team that will monitor whether the practice change is being implemented as desired or planned. The implementation team should also conduct frequent training for all members of the organization that were affected by the change (Fernandez et al., 2019). This is to ensure that all the members of the organization understand what is expected of them when it comes to the implementation of the practice change. Training should also be undertaken by all new members of the organization. New members should also be guided on the implementation of the practice change until they are
competent. Following the implementation and success of the practice change in the initial clinical setting, the researcher can seek to disseminate the results to other clinical settings or health-care providers. The researcher can also seek to gain the support of stakeholders, such as legislators, in having the practice change adopted as health-care policy. The researcher can use the data collected during the initial research and the success in the clinical setting to support the adoption of the results as part of the health-care policy.

**Implications for Advanced Practice Nursing**

The results have important implications for advanced practice nursing and especially for practice. The recommendations apply not only to nurse practitioners who provide primary care patients who present with signs of GAD but also to psychiatric nurse practitioners who specialize in the provision of mental health-care services. Based on these recommendations, psychiatric nurse practitioners will have to change the medications that they prescribe to medical providers. For instance, based on the recommendations, benzodiazepines will be prescribed primarily for the short-term management of GAD. In addition, the project emphasized the benefits that can be accrued from the combination of benzodiazepines and CBT in the management of GAD. Psychiatric nurse practitioners will have to be well versed in CBT. The project also has implications for education, especially that of prospective psychiatric mental health providers. Practitioners will also be expected to attend educational seminars or sessions to ensure that their mental health providers can benefit from the project recommendations. When discussing mental health care, various barriers are associated with the treatment of GAD. There is a stigma associated with the medications, uncertainty vis-à-vis the mental health practitioners prescribing them, and side effects. However, if providers are educated on the array of treatment options that are available to help with symptoms of generalized anxiety, it may lead to less reluctance to seek
care. This will also lead to better outcomes and confidence in therapists, patients, nurse practitioners, and physicians who treat mild to moderate generalized anxiety in a variety of settings. It is crucial to address mild to moderate anxiety before it becomes severe and requires more complicated treatment. If providers are well versed in CBT and medication management, it will lead to increased trust in psychiatric mental health nurse practitioners and reduce the stigma associated with seeking care.
References


https://www.ncbi.nlm.nih.gov/books/NBK441870/


https://doi.org/10.31887/DCNS.2015.17.2/proybyrne


Timeline

Project Tasks

1. Develop the education intervention
2. Develop the demographics questionnaire
3. Choose an electronic database
4. Write consent if needed
5. Request IRB approval
6. Create and send study invitations
7. Administer pretest questionnaires
8. Perform educational intervention
9. Administer posttest
10. Analyze data

Project Timeline
Appendix A: IRB Approval Form

FIU Research & Economic Development
FLORIDA INTERNATIONAL UNIVERSITY

MEMORANDUM

To: Dr. Charles Buscemi
CC: Adrienne Davis
From: Carrie Bassols, BA, IRB Coordinator
Date: March 10, 2023

Proposal Title: “Improving knowledge in psychiatric nurse practitioners on CBT and/or Benzodiazepines in the treatment of mild to moderate anxiety disorder: A Quality Improvement Project.”

The Florida International University Office of Research Integrity has reviewed your research study for the use of human subjects and deemed it Exempt via the Exempt Review process.

IRB Protocol Exemption #: IRB-23-0115 IRB Exemption Date: 03/10/23
TOPAZ Reference #: 112702

As a requirement of IRB Exemption you are required to:

1) Submit an IRB Exempt Amendment Form for all proposed additions or changes in the procedures involving human subjects. All additions and changes must be reviewed and approved prior to implementation.
2) Promptly submit an IRB Exempt Event Report Form for every serious or unusual or unanticipated adverse event, problems with the rights or welfare of the human subjects, and/or deviations from the approved protocol.
3) Submit an IRB Exempt Project Completion Report Form when the study is finished or discontinued.

Special Conditions: N/A

For further information, you may visit the IRB website at http://research.fiu.edu/irb.
Appendix B: Pretest and Posttest Survey Questions

INTRODUCTION

The primary aim of this QI project is to improve providers’ knowledge of the use of CBT and benzodiazepines in the treatment of mild to moderate anxiety disorders in the adult population.

Please answer the questions below to the best of your ability. The questions are either in multiple-choice or true/false format. These questions are meant to measure knowledge and perceptions of identification, referral, management, and patient education on generalized anxiety disorder.

PERSONAL INFORMATION

1. Gender: Male       Female       Other
2. Age: ______
3. Ethnicity:
   Hispanic       Caucasian       African American       Asian       Other
4. Position/Title: ____________________________
5. Level of Education: Associate’s       Bachelor’s       Master’s       Other
6. Certification in Specialty (e.g., RNC): Yes       No
7. How many training courses (in any format: in person, online, WINK, class, BHU, etc.) that focused on the management of generalized anxiety disorder have you attended in the past year?

   None 1 2 3 More than 3 I don’t know/I don’t remember

8. If you did attend a training course, did the content include conditions OTHER THAN the management of generalized anxiety disorder?

   N/A No Yes, a little Yes, some of the content Yes, a lot of content
1. Which of the following is the central clinical feature of generalized anxiety disorder?
   a. Excessive chronic worry
   b. Restlessness
   c. Irritability
   d. Muscle tension

2. Which of the following characteristics of anxiety is not associated with generalized anxiety disorder?
   a. Worry that is excessive
   b. Anxiety that is difficult to control
   c. Anxiety that is associated with physical tension, such as muscle tension
   d. Anxiety that is limited to only one activity, object, or situation

3. Generalized anxiety disorder can coexist with which of the following conditions?
   a. Agoraphobia
   b. Depression
   c. OCD
   d. Schizophrenia

4. A diagnosis of GAD requires that patients present with worry for at least how long?
   a. 3 months
   b. 8 weeks
   c. 6 months
   d. 1 year
5. What is the GAD score rating for the diagnosis of moderate anxiety disorder?
   a. 0–4
   b. 5–9
   c. 10–14
   d. 15 and above

6. Which of the following medications is not used as a first-line treatment for GAD?
   a. Sertraline
   b. Paroxetine
   c. Venlafaxine
   d. Imipramine

7. Which of the following medications is not used as a second-line treatment for GAD?
   a. Buspirone
   b. Hydroxyzine
   c. Duloxetine
   d. Aripiprazole

8. A 65-year-old patient presents with newly diagnosed generalized anxiety disorder. Patient also suffers from high blood pressure and takes lisinopril and tizanidine. Which of the following medications would be a desirable choice for management?
   a. Paroxetine
   b. Citalopram
   c. Sertraline
   d. Fluoxetine
9. Which class of medication is likely to be used for the management of acute GAD?
   a. SSRIs
   b. Benzodiazepines
   c. SRNIs
   d. Tricyclic antidepressants

10. Which of the following is not why cognitive behavioral therapy is used for the management of GAD?
    a. Exposes patient to worry triggers to get used to them
    b. Changes the chemical composition of the brain
    c. Changes worry patterns
    d. Develops healthy coping mechanisms in patients

11. How long are benzodiazepines usually prescribed for?
    a. 3 months
    b. 8 weeks
    c. 6 months
    d. Can be prescribed for the long-term management of generalized anxiety disorder.

12. Which of the following medications used in the management of GAD has an elevated risk of addiction?
    a. SSRIs
    b. Tricyclic antidepressants
    c. Benzodiazepines
    d. SNRIs
For Questions 13–15:

Answer the following questions using true or false

13. Benzodiazepines are preferred to SSRIs because they are less addictive.
   True  False

14. Benzodiazepines can be used for the long-term management of generalized anxiety disorder.
   True  False

15. Cognitive behavioral therapy aims to change worry beliefs to allow patients to develop healthy coping mechanisms.
   True  False
CONSENT TO PARTICIPATE IN A QUALITY IMPROVEMENT PROJECT

Combined benzodiazepine and cognitive behavioral therapy for the management of generalized anxiety disorder.

PURPOSE OF THE PROJECT

You are being asked to participate in a quality improvement project. The goal of this project is to improve providers’ knowledge of mild to moderate generalized anxiety disorder management. Specifically, the project will aim to deliver an educational initiative that improves providers’ knowledge on the use of benzodiazepines and cognitive behavioral therapy for the management of mild to moderate generalized anxiety disorder.

NUMBER OF PROJECT PARTICIPANTS

If you decide to participate in this project, you will be one of six participants.

DURATION OF THE PROJECT

Your participation will require about five minutes of your time in the first pretest assessment session and five minutes in the second posttest assessment session. The educational session is expected to last approximately 10 minutes, and the total amount of time for the online educational module will be 20 minutes.
PROCEDURES

If you agree to be in the project, we will ask you to do the following:

1. At your first session, you will complete a demographic questionnaire, which will include general information such as age, gender, and position in practice, and a five-minute pretest covering knowledge of the pharmacological and non-pharmacological management of mild to moderate generalized anxiety disorder.

2. In the next session, you will receive 10 minutes of online education about mild to moderate generalized anxiety management guidelines, including the use of benzodiazepines and cognitive behavioral therapy.

3. Four weeks later, you will be asked to complete a five-minute online GAD management posttest.

RISKS AND/OR DISCOMFORTS

There are no foreseeable risks associated with your participation in this project.

BENEFITS

The following benefits may be associated with your participation in this project: increased knowledge of generalized anxiety and generalized anxiety management using pharmacological and non-pharmacological approaches. The project aims to improve the quality of care that GAD patients receive by improving the efficacy of intervention while at the same time reducing the side effects and harms associated with the pharmacological management of GAD.
ALTERNATIVES

Other than not taking part in this project, there are no known alternatives available to you. However, if you would like to receive the educational material given to the participants in this project, it will be provided to you at no cost.

CONFIDENTIALITY

The records of this project will be kept private and will be protected to the fullest extent provided by law. In any sort of report we might publish, we will not include any information that will make it possible to identify you as a participant. Records will be stored securely, and only the project team will have access to them.

COMPENSATION & COSTS

There is no cost or payment to you for receiving health education and/or participating in this project.

RIGHT TO DECLINE OR WITHDRAW

Your participation in this project is voluntary. You are free to participate or withdraw your consent at any time during the project. Your withdrawal or lack of participation will not affect any benefits to which you are otherwise entitled. The investigator reserves the right to remove you without your consent at such time that they feel it is in the best interest.

RESEARCHER’S CONTACT INFORMATION

If you have any questions about the purpose, procedures, or any other issues related to this research project, you may contact…
IRB CONTACT INFORMATION

If you would like to talk with someone about your rights with regard to being a subject in this project or about any ethical issues related to this project, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

PARTICIPANT AGREEMENT

I have read the information in this consent form and agree to participate in this project. I have had a chance to ask any questions I have about this project, and they have been answered for me. I understand that I will be given a copy of this form for my records.

_____________________  ________________
Signature of Participant       Date

_____________________
Printed Name of Participant

_____________________  ________________
Signature of Person Obtaining Consent       Date