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# Generalized Anxiety Disorder: Management Practices Among Primary Care Providers in Northern Mississippi

Jennifer Bolen

Grace Henson

Sabrina McClain

Al Rayburn

Benjamin Spencer

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By

Jennifer Bolen

Grace Henson

Sabrina McClain

Al Rayburn

Benjamin Spencer

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The Graduate Committee of

Jennifer Bolen, Grace Henson, Sabrina McClain,

Al Rayburn, and Benjamin Spencer

hereby approves their research project as meeting

partial fulfillment of the requirements for the Degree of

Master of Science in Nursing

Approved: Suzanne M. Davidson DNP
Committee Chair

Approved: Glendatar DNP
Committee Member

Approved: Brenda Shelton DNP
Committee Member

Approved:

Director of Graduate Studies

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By

Jennifer Bolen, BSN, RN

Grace Henson, BSN, RN

Sabrina McClain, BSN, RN

Al Rayburn, BSN, RN

Benjamin Spencer, BSN, RN

Mississippi University for Women, 2019

Supervising Faculty: Sueanne Davidson, DNP, FNP-BC

**Abstract**

Generalized anxiety disorder (GAD) is a common mental health condition in the United States and significant in causing role impairment and decreased functioning in daily life for many patients (Ruscio et al., 2017). The American Psychiatric Association has yet to release standardized clinical guidelines for GAD (American Psychiatric Association, 2019a). Without standardized management of GAD, providers are at risk of prescribing benzodiazepines long-term for GAD sufferers, which is associated with many detrimental side effects. Review of related literature provides guidance for providers about the use of cognitive-behavioral therapy (CBT) and selective serotonin reuptake inhibitors (SSRIs) for patients of GAD (Maust, Kales, Wiechers, Blow, & Olfson, 2016). The purpose of this research was to assess the management practices of GAD among primary care providers in northern Mississippi. The theoretical framework for the study was Betty Neuman's systems model. Research questions were answered

regarding the use of appropriate treatment options for GAD patients, and descriptive statistics were used to present findings.

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# CHAPTER I

## Introduction: Dimensions of the Problem

Generalized Anxiety Disorder (GAD) is a common anxiety disorder affecting approximately 18% of the American population at some point in their lifespan. Characterized by excessive, irrational worry, GAD can be debilitating, causing role impairment and significant comorbidities (Ruscio et al., 2017). Patients with GAD are increasingly turning to primary care providers (PCPs) for the management of their anxiety symptoms (Weisberg, Beard, Moitra, Dyck, & Keller, 2014). Although there are evidence-based studies supporting the use of certain pharmacological treatments for the disorder, the American Psychiatric Association has not published clinical guidelines for PCPs to follow as of 2018 (American Psychiatric Association, 2019a). Without a standardization of treatment, evidence-based practices such as cognitive-behavioral therapy (CBT) are under-prescribed or unavailable, while the use of benzodiazepines, which cause dependence if prescribed long-term, continue to be prescribed for GAD patients in Mississippi (Mississippi Prescription Monitoring Program, 2018).

### Background Information

GAD is a recognized anxiety disorder, first acknowledged in 1980 in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-III*). Since that time the diagnosis has been revised. According to the fifth and current edition of the *DSM*, GAD is a diagnosis characterized by excessive, uncontrollable worry, with the potential for physical side effects, role impairment, and psychiatric comorbidities. The disorder is particularly prevalent in the United States, where it is estimated that 18% of citizens experience GAD at some point in their lifetime, whether a short-term or

long-term case (Ruscio et al., 2017). Another study estimated the prevalence of all anxiety disorders as high as 18% of the general population and at an annual cost of more than $42 billion (Greenberg et al., 1999). A systematic review showed that there is a high prevalence of anxiety across the globe and anxiety disorders are increasingly recognized as a determinant to poor health and major consumption of health services dollars (Remes, Brayne, van der Linde, & Lafortune, 2016).

The implications for role impairment are of particular interest to the consideration of GAD. This disorder can cause significant consequences for carrying out daily activities. In a global incidence study published in 2017, half of patients who experienced GAD for at least a year reported being unable to work or carry out normal activities on 40 days in the preceding year. The majority of GAD patients globally have a lifetime diagnosis (3.7%) as opposed to a 30-day (0.8%) or 12-month course (1.8%). Given the often long-term reality of the disorder, the economic implications of missed days of work alone should warrant attention from clinicians. Additionally, GAD is frequently comorbid with other psychiatric conditions including major depressive disorder (MDD) in 52.6% of lifetime cases. The comorbidity with MDD places GAD patients at an even greater risk of role impairment. Common sociodemographic correlates for GAD include female sex, age < 60 years old, and unmarried status (Ruscio et al., 2017).

Despite its status as a psychiatric disorder, GAD patients are increasingly turning to PCPs for treatment. Weisberg et al. conducted a study published in 2014 which found that half of GAD patients were using a PCP for their condition. Yet despite the great relevance to primary care, the American Psychiatric Association has

not published clinical guidelines to standardize the treatment of GAD or related diagnoses, such as agoraphobia or panic disorder (American Psychiatric Association, 2019a).

In spite of the lack of clinical practice guidelines from an authoritative body, research does provide guidance to PCPs for first-line treatment of GAD. Multiple studies have confirmed the efficacy of CBT for reducing patients' GAD symptoms. Although effective, CBT is not always prescribed to GAD patients. This could be due to lack of CBT centers or providers' lack of awareness of the usefulness of CBT for GAD. Pharmacological first-line treatment for GAD is considered to be selective serotonin reuptake inhibitors (SSRIs) according to current research (Maust et al., 2016). Notably, SSRIs are effective in treating not only GAD but also MDD, a common comorbidity. The extent to which PCPs prescribe SSRIs as first-line pharmacotherapy for GAD in the northern Mississippi region is unknown.

Although CBT and SSRIs have been established in research as first-line treatment options for GAD, many providers prescribe benzodiazepines long-term for patients with persistent anxiety. The use of benzodiazepines long-term is associated with poor outcomes for patients, including falls, cognitive decline, and drug overdose. Moreover, the drug class is noted for creating dependence and requiring increasing amounts of the drug over time to achieve the same effect. Populations most commonly correlated with developing dependence on benzodiazepines include the elderly and those with chronic medical conditions. One study found that 8.7% of American adults aged 65-80 years old were prescribed benzodiazepines over the course of a year often

for anxiety or insomnia and despite the fact that psychotherapy and alternative medications are preferential forms of treatment (Maust et al., 2016).

Despite the risks involved in prescribing benzodiazepines, as of July 9, 2019, there are currently no prescriptive guidelines for nurse practitioners in Mississippi regarding the drug (Mississippi Board of Nursing, 2018). However, the Mississippi State Board of Medical Licensure limits the prescription of benzodiazepines to 90 days and should not be taken in conjunction with opioids. Patients taking both an opioid and a benzodiazepine are to be weaned off one or both. Prescribers are furthermore required to verify controlled substance prescriptions for these patients from the Mississippi Prescription Monitoring Program (Mississippi State Board of Medical Licensure. 2018).

In 2017, 257,099 residents in Mississippi had at least one prescription of benzodiazepines filled with a total of 1,254,292 benzodiazepine prescriptions filled in that year. These figures translate to an average of 4.88 prescriptions of benzodiazepines per patient, indicating an excess beyond the recommended duration of treatment. Furthermore, 69,605 patients in Mississippi in 2017 filled prescriptions for both a benzodiazepine and an opioid in the same day (Mississippi Prescription Monitoring Program, 2018). These statistics are a local representation of a broader epidemic of controlled substance prescription abuse in the United States as implicated in criminal activity, substance-abuse disorders, and death due to overdose (Dineen & Dubois, 2016).

**Problem Statement**

The gravity of treating GAD according to evidence-based research is great. Research has shown that the disorder is significant due to its prevalence in the

American population, its implications for role impairment and decreased functioning, and the potential for comorbidities. Although credible research exists to direct care PCPs give patients diagnosed with GAD, there are no firmly established treatment guidelines. Without rigorous guidelines regarding benzodiazepines treatment in GAD, patients are placed at risk of receiving treatment with benzodiazepines that does not comply with contemporary research. This in turn places patients at risk for developing dependence on benzodiazepines.

**Statement of Purpose**

The purpose of this research was twofold. First, the research revealed the practices among primary care providers in northern Mississippi for treating GAD whether psychotherapy, pharmacological, or a combination. The specific modalities of psychotherapy and pharmacotherapy were listed. Second, the research revealed that these management practices are consistent with contemporary evidence-based research. If the study revealed that clinicians are not currently practicing in accordance with current research recommendations, the need for clinical guidelines to standardize care would be apparent. If data revealed that clinicians are already incorporating evidence-based research into their practice, this would provide a prediction of the relative ease for PCPs to transition to standardized guidelines. The study also addressed the titration of long-term benzodiazepines and interventions that can be used to facilitate the cessation. According to Vicens et al. (2016), there was supporting evidence that proved the interventions of structured intervention with follow-up visits or structured intervention with written instructions showed a reduction in the long-term use of benzodiazepines at 12 months by up to 30%.

## Significance of the Research Project

Approximately half of GAD cases are treated in the PCP setting. Therefore knowledge of how best to manage this condition is very pertinent for PCPs (Weisberg et al., 2014). The provider runs the risk of discipline for not following best practice, particularly related to the prescription of controlled substances. With increased attention on PCPs for prescription of benzodiazepines and opioids, clinicians should take note of imminent changes which could invite scrutiny on their practice (Dineen & Dubois, 2016).

Without appropriate treatment of their anxiety, the patient faces risks of continued role impairment and comorbidity with other psychological disorders. Role impairment leads to decreased productivity at work, missed days of work, and poor functioning in activities of daily life. Unfortunately, mismanagement of GAD can even lead to the development of dependence on benzodiazepines, which has been proven to be linked to a number of poor outcomes, including drug overdose, falls, and cognitive decline (Maust et al., 2016). With standardization of treatment for GAD according to current research, these poor outcomes can be prevented and patients will be treated in a way that will restore them to normal functioning.

## Conceptual Framework

Betty Neuman's systems model was used as a framework for this research. Some of the major concepts from this model include the uniqueness of the individual, adaptation to stress, and wholistic wellness promotion. Due to these major concepts, the systems model is frequently used to guide nursing research related to psychological

stress or dysfunction. Neuman wrote about four major assumptions pertinent to the application of the model: person, environment, health, and nursing (Lawson, 2018).

According to the systems model, the individual has innate protection against threats to homeostasis from two lines of resistance. The outer line of resistance is flexible; it is the first protection against stressors and can be weakened or strengthened by circumstances. The inner line of defense, or normal line, is built over time. The greater the normal line of defense, the more stable the individual is against threats to homeostasis. The nurse's role in the systems model is to prevent stress. Primary prevention involves avoiding the stressor. Secondary prevention is intervening to stabilize once stress has occurred. Tertiary prevention is the longer term adjustment and active treatment following stress (Lawson, 2018).

Neuman wrote about the application of the systems model to contemporary nursing practice in an article written in 2000, entitled *Leadership-Scholarship Integration: Using the Neuman Systems Model for 21st-Century Professional Nursing Practice*. Neuman wrote that, in the context of modern healthcare, leadership and scholarship should be considered as symbiotic rather than discrete concepts. Instead of the traditional view regarding leadership as the practice of nursing and scholarship as the theoretical or academic examination of nursing, Neuman proposed that the two should be fully integrated for the best delivery of healthcare. Neuman provided three rationales for how the systems model is ideal for joining nursing leadership with scholarship. First, the systems model is described as proven to be applicable to a myriad of organizational and healthcare systems. Second, the systems model facilitates a nurturing environment which promotes stress reduction and systemic stability. Third,

the systems model is compatible with nursing shared governance which has become prominent in healthcare organizations in the 21st century (Neuman, Newman, & Holder, 2000).

Neuman's systems model is an appropriate selection for the current research on GAD and management practices among primary care providers in northern Mississippi. The systems model has been proven to be a valid framework for nursing scholarship and is particularly helpful for research regarding anxiety or stress (Lawson, 2018). Specifically, Neuman's concept of stressors as coming from many systems is compatible with the definition of GAD as a condition of excessive, uncontrollable worry, regardless of the source of worry (Ruscio et al, 2017). Neuman's emphasis on the wholistic assessment of the patient is critical to a good understanding of how best to treat patients with GAD. For example, the current research evaluated physiological comorbidities with GAD that would factor in under the biological system of the wholistic understanding of stressors on the patient. Demographic data obtained in the current research provided an assessment of the patient's social system (Lawson, 2018).

By analyzing how healthcare providers are managing patients with the diagnosis of GAD, insight was gained regarding the best way to identify patients with anxiety and manage their symptoms (secondary prevention). Through effective prevention methods, the patient's flexible line of defense was strengthened. Neuman's four assumptions were addressed in the current research. *Person* is identified as patients with a diagnosis of GAD. *Health* is defined as the equilibrium of all systems within the person. *Environment* entails both internal and external factors influencing the patient's homeostasis. *Nursing* is defined as the unique role of the healthcare professional to care

for the person with compassion and competence. Through the information gained from the current research, primary care providers will be better informed on how to care for patients with GAD, which will actualize Neuman's systems model for leadership-scholarship integration (Neuman et al., 2000).

## Definitions of Terms

### Primary Care Providers

*Theoretical:* According to the American Academy of Physicians, primary care providers are licensed healthcare professionals who are trained and skilled in first contact with patients with healthcare needs and provide continuing care for established patients with healthcare treatment, health advocacy, or referral as appropriate (American Academy of Family Physicians, 2019b).

*Operational:* Nurse practitioners, physician assistants, or physicians (MD or DO) who provide care to patients in five primary care clinics in northern Mississippi.

### Generalized Anxiety Disorder

*Theoretical:* According to the American Psychological Association, an anxiety disorder in which the patient has excessive and persistent worry that affects the patient's daily activities. This continuing worry and strife may be in association with physical symptoms, such as restlessness, difficulty in concentration, sleeping problems, fatigability, muscle tension, or feelings of on the edge of something bad (American Psychiatric Association, 2009b).

*Operational:* A mental health concern diagnosed with the ICD-10 codes F41.1 (GAD) or F41.9 (Anxiety disorder, unspecified ) in the patient's chart or electronic health record.

**Benzodiazepine**

*Theoretical:* A class of psychoactive drugs whose core chemical structure is the fusion of a benzene ring and a diazepine ring. These drugs enhance the effect of the neurotransmitter gamma-aminobutyric acid (GABA) at the GABA receptor, resulting in sedative, hypnotic, anxiolytic, anti-convulsant, and muscle-relaxant properties (*Benzodiazepines: Uses, Side Effects, Interactions & Warnings*, 2019).

*Operational:* A class of drugs that acts as tranquilizers and are commonly used in the treatment of GAD F41.1 or Anxiety disorder, unspecified F41.9.

**Psychotherapy**

*Theoretical:* Therapy involves communication between patients and therapists that is intended to help people: (1) find relief from emotional distress, as in becoming less anxious, fearful, or depressed; (2) seek solutions to problems in their lives, such as dealing with disappointment, grief, family issues, and job or career dissatisfaction; (3) modify ways of thinking and acting that are preventing them from working productively and enjoying personal relationships (American Psychiatric Association, 2019b).

*Operational:* Also called "talk therapy," cognitive behavior therapy or just therapy is a process whereby psychological problems are treated through communication and relationship factors between an individual and a trained or lay mental health professional. For the purposes of this study, the term *therapy* was used in the place of a more specific term as there was limited access to specialized forms of psychotherapy in the region where the study took place.

### Controlled Substances

*Theoretical:* A controlled substance is an illegal drug that can have a detrimental effect on a person's health and welfare, as well as many drugs that are prescribed to the general public and sold through pharmacies and dispensaries for legitimate medical treatment. The federal government defines a *controlled substance* as any of the substances listed in the schedules of the Controlled Substance Act of 1970. The schedules are broken down into five categories: Schedule I, being illegal and the most addicting, to Schedule V, being primarily preparations that only contain a limited quantity of narcotics (Findlaw, 2018).

*Operational:* A Schedule IV medication, such as Valium, Ativan, Xanax, or Klonopin, prescribed by a physician, physician assistant, or nurse practitioner for the treatment of GAD.

## Research Questions

1. Are PCPs in northern Mississippi referring patients to psychotherapy for treatment of GAD?
2. What medications are PCPs prescribing for the treatment of GAD?
3. If PCPs are prescribing benzodiazepines to their GAD patients, are they limiting prescriptions to 3 months?

## Assumptions

The researchers assumed that information from retrospective chart review would be informative for the research project and that electronic medical records/charts would be organized, accessible, truthful, and up-to-date. If paper charts were used for data collection, a further assumption was that charts would be legible.

## Limitations

Multiple limitations to the research have been identified. Data were gathered from relatively few clinics in a limited geographic area. Because of this, the sample size was small. The small sample size and limited geographic area covered limited generalizability of findings to the broader Mississippi or southeastern American population. Another limitation was that since data were collected from retrospective chart reviews, any pertinent information outside of the chart would not be discoverable to the researchers. The data collection tool used to compile the findings was original to this study and had not been externally validated. Another limitation of the study concerned potential misdiagnosis of GAD. Due to prevalent comorbidity with depression and some common symptoms, it is possible for patients to be diagnosed with GAD who may more appropriately be diagnosed with depression. A further limitation was that PCPs in northern Mississippi may not have adapted practice to current Mississippi Board of Medicine mandates regarding benzodiazepine prescription in the time period of data collection for this study.

# CHAPTER II

## Review of Literature

The current researchers evaluated the management practices of GAD among primary care providers in northern Mississippi. After an extensive review of literature, the following articles were selected that most represented the current evidence-based research regarding GAD and appropriate treatment for the disorder. Betty Neuman's systems model was used as the theoretical framework to guide the research study.

### Health Promotion Model

Betty M. Neuman, RN, BSN, MS, PhD, PLC, FAAN, is known as a pioneer in the area of nursing involvement in mental health and creator of the Neuman Systems Model. Neuman created the model in 1970 to develop a student guide for college students to increase awareness of patients' variables beyond the accepted medical models of the time. Dr. Neuman's model was first published in 1972 and has remained relevant throughout the continuum of nursing. The model has remained true to the core of its vision but has evolved with the times and now has a fifth edition which was published in 2010.

The Neuman Systems Model (NSM) presents a framework that views the client as an open system that reacts and adapts to both internal and external stressors. In the NSM, the client may be a person, family group, community, or social entity. Clients are viewed wholly and all variables affect the client. Neuman identified variables within the client system: physiologic, psychological, sociocultural, developmental, and spiritual. Neuman identified the system of the client as an open system in which the client reacts and adapts to all stressors. The NSM also states that within the client

system, there are normal lines of defense and flexible lines of defense and all variables are addressed in these lines of defense. Stressors within the client system are classified as intrapersonal, interpersonal, or extrapersonal. Additionally, the model identifies three levels of nursing interventions within the system: primary prevention, secondary prevention, and tertiary prevention. With these levels Neuman proposes interventions in which primary prevention interventions strengthen the flexible line of defense, secondary prevention restores equilibrium, and tertiary prevention prevents further damage and maintains stability after the event. The NSM is a well-accepted framework for nursing clinical practice, nursing education, and nursing research (Memmott, Marett, Bott, & Duke, 2000).

The NSM is of great importance to the nursing profession as its concepts and framework have made many contributions to nursing. The greatest potential for the NSM is its focus on primary prevention, assessment of the client system, and interdisciplinary care concepts. The NSM has in the past served the nursing profession well, but with its broad and adaptable concepts the model may serve nurses well for the future. With every evolving healthcare system of today and the future, the NSM will help the nursing profession evolve as well (Alligood, 2018).

At the turn of the century, Neuman (in collaboration with Newman and Holder) published an article in which the timeless nature of the NSM was applied to developing a futuristic vision of how the nursing model will need to evolve in the 21st century. In this article the authors set out to define the terms *leadership* and *scholarship* and combine them for advancement of the nursing profession for the coming years. In the article the authors stated that wholism, reliability, flexibility, and comprehensiveness

are key components for nursing as nursing roles and responsibilities continue to expand. The NSM framework provides a solid base for the development of leadership and scholarship driven nursing process and provides scientific validity to their work. The authors imply that, when leadership and scholarship are combined with a true open system model as a base, the outcome will be nursing leadership that will support the client-driven movement of the new century and provide quality care, improved work situation, organizational effectiveness, and replace competition with collaboration. The authors also identified theoretical markers in leadership and scholarship system that are directives for using leadership knowledge and skills of scholarship. These markers consist of the following: (a) defining boundaries, (b) identifying normal lines of defense, (c) assessing the effects of the NSM five-client system variables in context to weaknesses and strengths of the systems line of defense, (d) identify external and internal stressors within the environment and their effects, (e) set realistic goals in which best client function is to be maintained, (f) create intervention plans that are addressing the three levels of prevention (primary, secondary, and tertiary) to wellness maintenance, and (g) identifying a system of evaluation to confirm goal attainment or needed additions (Alligood, 2018). The authors stated that leadership and scholarship are dependent upon each other and are to be used as a vehicle to move forward nursing in the coming future (Neuman, 2000).

The NSM has been utilized as a theoretical framework for many studies. In 1993 Waddell and Demi developed a study, entitled "Effectiveness of an Intensive Partial Hospitalization Program for Treatment of Anxiety Disorders." In this study the authors utilized the NSM for the theoretical framework. The authors chose the NSM

because the model acknowledges clients as being an open system and is a part of the environment in which the client finds themselves in. In the study, Waddell and Demi (1993) identified anxiety disorders as widespread and treatment-resistant disorders that can be great stressors to those who are affected. This study was developed to evaluate the effectiveness of utilizing intensive partial hospitalization as a treatment for anxiety disorders. The study assessed the treatment modalities of combining biological, psychological, and social modalities in a 5-week intensive outpatient setting. The study's hypotheses stated the following: "Fear of fear" (anticipation of a panic attack) is significantly lower posttreatment than pretreatment; severity of impairment will be lower posttreatment than pretreatment; and general emotional distress (any one of the six recognized subconcepts of anxiety) is significantly lower post-treatment than pretreatment (Waddell & Demi, 1993). Within the study the authors utilized the NSM and identified each participant as a unique individual and that approach was utilized with individual treatment plans. The study also followed the NSM by categorizing stressors into the three NSM of interpersonal, extrapersonal and intrapersonal categories. The study developed a comparative design methodology to assess the effectiveness of the program in reducing symptoms of anxiety disorders. The design of the study identified 32 patients that fully met inclusion criteria, and their progress was evaluated after a 5-week treatment plan. The study excluded patients who were active with drug or alcohol abuse, psychosis, and potential danger to self, others, or property. The researchers utilized tools of evaluation for each proposed hypothesis. For the "fear of fear" category, the researchers used the Agoraphobic Cognitions Questionnaire (ACQ) and the Body Sensations Questionnaire (BSQ). These tools were developed by

Chambless, Caputo, Bright, and Gallagher in 1984. To evaluate the severity of impaired functioning question, the researchers used the Mobility Inventory for Agoraphobia (MI) developed by Chambless, Caputo, Jasin, Gracely, and Williams (1985). The MI tool was given to patients and asked the patients to complete a MI in context of impairment when alone and an additional survey of impairment when accompanied with others. The study considered the total number of attacks reported and the two global numbers as well. To measure the question of psychological symptom distress, the researchers utilized the Symptom Checklist 90-Revised (SCL90-R) developed by Derogatis (1983). The demographics of the study showed 84% of the participants were women, and the mean age of female participants was 35.9 years. The male patients' mean age was 39.0 years, and the total mean age in the study was 36.4 years. Of the participants, 73.3% were married, 13.3% were never married, 10% divorced, and 3% were widowed. Within the study, 84% of participants had a diagnosis of panic disorder with agoraphobia. The other diagnoses consisted of agoraphobia without panic attacks, obsessive compulsive disorder, and major depression. Another finding showed that 16% of participants had a diagnosis of alcohol or benzodiazepine addiction (Waddell & Demi, 1993).

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The data supported all of the hypotheses as described by the study in which each category showed significant lower scores on the tools post-treatment than pretreatment. Waddell and Demi (1993) stated that several of the propositions of the NSM were validated with their findings. Data showed that, with strengthening of personal lines of defense, the integrity of a person as a whole is protected. The study supported the NSM proposition that levels of prevention can make great contributions to returning a client to effective functioning. The secondary level of prevention strategies within the study (treatment of symptoms) showed marked reduction of the MI scores indicating treatment success. The tertiary prevention level was served by efforts to find recovery

and the lower SCL90-R scores proved a good sign of recovery. Primary level prevention was promoted with educational efforts in the treatment plan, but were not measured, an identified need for additional study. Waddell and Demi (1993) identified the following limitations to the study: (a) the lack of a control group, (b) the small number of actual patients who were fully measured in the study, (c) the lack of follow-up data on patients' progression after the 5-week treatment plan, and (d) the fact that some of the participants were being simultaneously treated for benzodiazepine addiction which has a withdrawal symptom of increased anxiety and agitation. An additional limitation that may have been identified was the possibility of bias with the results from patients' attempts to please the staff. The researchers identified several areas for future research in this area and that a comparison or control group would help determine effectiveness of treatments. Follow-up of patients post-interventions should also be studied. The researchers also stated that future studies need to balance the gender of participants and if there are differences with varying the types of medications in treatment plans. The study indicated that IPHP treatment plans do decrease agoraphobic symptoms, but the long-term effect of the treatment still remains an unknown (Waddell & Demi, 1993).

In another NSM study, Inan and Ustun (2018) utilized the model to determine the effects of home-based psychoeducational programs on distress, anxiety, depression, and quality of life in breast care survivors. The study titled, Home-Based Psychoeducational Intervention for Breast Care Survivors, identified breast cancer as one of the most frequently diagnosed cancer in women. The study was based in the country of Turkey where statistically breast cancer patients are younger and have more

advanced stages of breast cancer as compared to developed countries. With advances in treatment and early detection and diagnosis, the 5-year survival rate for breast cancer in Turkey now sits at 77%. With the increase in breast cancer survival, breast cancer survival-related issues also have increased. Many times, the treatment of cancer creates problems, such as fatigue, physical dysfunction, body image distortion, pain, fear of recurrence, and many other long-lasting issues. These and other issues many times lead to anxiety and depression states. The study utilized the NSM as its framework in order to identify reactions of clients to the stressors of breast cancer survival. The focus of the study was identified as a tertiary prevention strategy of strengthening breast cancer survivors with the use of psychoeducation. The study sought to investigate the effectiveness of home-based psychoeducational programs on quality of life (QOL), distress levels, anxiety, and depression levels of breast cancer survivors in Turkey. The hypotheses of the study stated that breast cancer survivors will have reduced scores in distress, anxiety, depression, and quality of life. Inan and Ustun (2018) utilized a one-group pretest and posttest quasi-experimental design to determine the effectiveness of intervention. The study utilized participants who were at least 3 months post-breast cancer treatment. The demographics of the participants showed a mean age of 53.71 years. The majority of the participants were married (84.4%), and 84.4% were unemployed. The participants of the study treatment regime showed that 78.1% had breast preserving surgery, 93.7% had chemotherapy, 96.9% had radiation therapy, and 87.5% had hormonal therapy. Participants' treatment programs had a mean of 12.09 months to complete their therapy, and most survivors had stage II breast cancer (62.5%) (Inan & Ustun, 2018).

The home-based education material was a booklet developed by the researchers of a qualitative study who were experts in psycho-oncology, breast cancer, and the NSM. The booklet was reviewed by a registered nurse who had 15 years of experience working with breast cancer patients and two expert clinicians who had experience with clinical and academic experience with psycho-oncology and breast cancer. The interventions were home-based sessions that lasted one to one-and-a-half hours in length and were held at one-to-two-week intervals depending on whether or not major problems were found. There were four total sessions with each participant, and researchers evaluated and discussed each participant weekly. Data were collected during a 16-month time period, and participants completed the pretest after consent was established. The study utilized the Distress thermometer (DT), a scale used to identify common problems experienced by cancer patients to measure psychological distress. The study also utilized the Hospital Anxiety and Depression Scale (HADS-D) for depression measurement and the HADS-A for anxiety measurement. To establish quality-of-life measurement, the study utilized the Turkish version of the World Health Organization Quality of Life Instrument (short form). Inan and Ustun (2018) indicated that the intervention home-based psychoeducational program was effective in reducing levels of anxiety, distress, and depression. The researchers also stated that the intervention increased perceived QOL in the participants of the program, but no more than interventions in previous studies. The major problem identified by the participants was fear of recurrence. This problem was consistent with the literature reviewed and points to the only slight increase in QOL perception of the participants.

The researchers identified the limitation that this study was not a randomized control study and that improvements noted in this study cannot be based upon the interventions alone. The researchers also identified the fact that the study had a small sample size in Turkey, and results may not be generalizable to other countries. The study concluded that nurses have a critical role to play in survivorship care and development. The study asserted that many times in Turkey survivors of breast cancer post-treatment care is physician-led, and the treatment plan many times lacks psychosocial support. The researchers stated that Turkish oncology nurses should assess survivors for distress domains and advocate for psychoeducational interventions so patients may cope with these symptoms. The researchers also stated that nurses should encourage spouses and family members to support survivors in their posttreatment period (Inan & Ustun 2018).

The NSM's focus on how stressors precipitated reactions in the client system was a central key to the studies reviewed above. Both studies looked at the client as an open system that is constantly looking for homeostasis and will adapt either negatively or positively to the stressors around the client system. The model requires nurses to perform primary, secondary, and tertiary prevention interventions that strengthen the client's ability to respond to stressors and obtain system stability (Inan & Ustun, 2018). In addition, the NSM states that stressors must be classified in order for nurses to support clients in their return to stability. In the model stressors that are interpersonal, intrapersonal, and extrapersonal must be identified, and the nurses should play an important role in helping the client find and adapt to these stressors (Waddell & Demi, 1993).

The NSM was used as a framework for the current study. The current research was conducted to ascertain plan of treatment for general anxiety by healthcare providers in Mississippi. Even though no general clinical practice guidelines existed, the researchers determined by data compilation the plan of treatment that five primary care clinics in Mississippi had used to treat GAD. With possible new restrictions for certain pharmacological treatments looming, the researchers were interested in what treatments providers are utilizing and what methodology they use to prescribe treatment.

The research group chose the NSM based on its broad nature, adaptability, and the model's representation of the client as an open system that is in constant interaction with the environment. With new restrictions for the use of some of the treatment plans that may be introduced in the near future, many patients will be faced with new stressors in their general anxiety treatment plan. With utilization of the NSM and its open system, the current researchers are committed to identifying possible new stressors that could be added to the treatment of GAD with the new changes. With the NSM, the patient is to be assessed in a holistic manner that includes all aspects of the patient and their environment. By utilizing the wholistic approach, this research focused on defining what the current treatment ideology is for GAD in northern Mississippi. The questions the study may answer will provide the researchers and perhaps others with data that may help bring about change in the treatment plans and provide patients with firm adaptation answers that will reduce these patients' stressors and return them to stability in management of their general anxiety.

**Review of Related Research**

Ruscio et al. developed a study to close the knowledge gap about the incidence and seriousness of GAD in the world. Although GAD is a recognized mental disorder, little to no epidemiological data about the condition exist. Ruscio et al. surveyed adults in 26 countries over a period of 11 years to supplement information regarding the disorder in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-5*). The results of the study provided information about the prevalence of GAD worldwide, as well as information about the gravity of the condition as a debilitating mental health disorder with implications for role impairment and comorbid conditions.

The research objective of Ruscio et al. (2017) was to provide global epidemiological data about GAD, including its incidence, impact, and health correlates. Ruscio et al. listed an analysis of competing hypotheses. First, they speculated that although existing data suggested GAD was prevalent in industrialized countries, it would also be prevalent in developing nations where poverty, political instability, and fear for the future are rampant. Second, Ruscio et al. hypothesized that GAD could be less prevalent in developing countries where anxiety is typically characterized by somatic rather than cognitive symptoms. The researchers did not credit a theoretical framework with guiding their research.

The study by Ruscio et al. (2017) was conducted among 147,261 adults from 18 to 99 years old in 26 countries over 11 years from 2001-2012. Although the authors do not elaborate on details of the sampling process, they stated that a nationally or regionally representative sample of the average household population was achieved.

The sample was categorized by income level relative to each country: low to lower-middle, upper-middle, and high income. The study was then conducted using a cross-sectional general population survey with a two-phased interview process. In the first phase, the subject was assessed for a core set of mental disorders, including GAD. Subjects identified as having a mental disorder were assessed with the second interview phase, which analyzed for comorbidities and additional mental disorders. The interview tool used was the World Health Organization Composite International Diagnostic Interview (CIDI), a validated, structured interview tool administered by laypeople to determine epidemiological data about GAD (Ruscio et al., 2017).

The first phase of CIDI formed the basis for the epidemiological data regarding GAD worldwide. Results were further refined by length of GAD symptoms: 30 days, 12 months, or lifetime. Subjects identified as having 12-month or lifetime GAD were further assessed for role impairment with the Sheehan Disability Scale. The second phase of CIDI provided data related to comorbidities of GAD, including other anxiety disorders, mood disorders, behavioral disorders, and substance-abuse disorders. Sociodemographic variables were also obtained, including age, sex, employment status, income, marital status, and educational background. Subjects were interviewed about seeking treatment in the previous 12 months, whether from primary care, psychiatric care, human services, or alternative medicine practices.

Ruscio et al. (2017) performed statistical analysis with cross-tabulations to discover prevalence, comorbidity, impairment, and treatment for GAD. Logistic regression, actuarial analysis, and further statistical analyses were performed to determine age-of-onset data and sociodemographic correlation. Statistical significance

was determined through Wald and McNemar chi-square tests. A standard statistical significance of $p < .05$ was used.

Statistical analysis from the study revealed a plethora of information about GAD, its prevalence, and sociodemographic correlates. The worldwide prevalence of GAD was found to be 3.7% for lifetime, 1.8% for 12 months, and 0.8% for 30 days. Lifetime prevalence of GAD was discovered to be higher in upper-income countries, with Australia and the United States having the greatest prevalence at approximately 8%. Sociodemographic correlates for GAD included female sex, age < 60 years, and unmarried status. Lower educational level, lower income, and underemployment were strongly correlated with GAD. The typical age-of-onset for the disorder was cumulative throughout the lifespan: 25% of cases emerged by age 25 years, 50% by age 39 years, and 75% by age 53 years. Earlier age-of-onset was correlated to persistence of the disorder. Although overall incidence of GAD was higher in upper-income countries, lifetime cases of GAD were more persistent in low-income countries.

Results from this study yielded information regarding comorbidity, role impairment, and treatment-seeking of GAD. In total, 81.9% of subjects with lifetime GAD and 70.8% of subjects with 12-month GAD were found to have a comorbid psychiatric condition. Major depressive disorder was the most common comorbid condition with GAD discovered to be present in 52.6% of GAD lifetime cases and in 40.9% of 12-month GAD cases. Half of patients with 12-month GAD reported severe disability in one or more life domains, with an average reporting of being unable to work or carry out daily activities on 40 days in the preceding 12 months. Complaints of role impairment related to GAD were highest in high-income countries, including the

United States. Regarding treatment-seeking, only approximately half of subjects with 12-month GAD received some form of mental health treatment in the previous year. Subjects with comorbid conditions were more likely to seek treatment than patients with GAD alone. Treatment rate for GAD was higher in upper-income countries, but there was a global trend of more patients seeking treatment for GAD symptoms (Ruscio et al., 2017).

The findings of the study justified the objective for the research. Global prevalence of lifetime GAD cases was 37-90% greater under the *DSM-5* criteria than it had been under the *DSM-4* criteria. The higher comorbidity of GAD with major depressive disorder is also notable for primary and psychiatric care providers. The researchers stressed that patients with GAD require systematic assessment and appropriate management. The authors' second hypothesis that prevalence of GAD would be higher in more economically prosperous nations proved correct. However, Ruscio et al. (2017) wrote that further research in developing nations was warranted to exclude the possibility of underreporting of symptoms or overlooking non-cognitive symptoms of anxiety.

One of the greatest strengths from this study was the large and diverse sample. The large sample size allowed for rigorous statistical analysis, which in turn permitted broad application to primary care practice. Another asset to this study was the clear, succinct writing style with easily summarized findings. Overall, the findings from this study by Ruscio et al. (2017) filled a large knowledge gap about a significant medical problem.

However, there are some weaknesses in the study as well. It is unclear why the Riscio et al. (2017) decided not to elaborate on the sampling procedure. More information about the sampling process would boost trustworthiness in the methodology. Also, the authors stated that the face-to-face interviews with subjects were administered by laypeople with consistent training and field quality control procedures. The reader would be more confident in these assertions if they were explained in detail. The authors themselves stated limitations in the study related to statistical analysis, namely that the measure of persistence could not distinguish between chronic and recurrent or resolved cases of GAD and that prevalence estimates using the CIDI tool tend to be conservative. Ruscio et al. (2017) also acknowledged the possibility of methodologic variation due to large differences in prevalence from country to country.

There were multiple implications from this study for the current research. First, Ruscio et al. (2017) revealed the widespread prevalence of GAD in the American population as well as the myriad significant accompanying symptoms. Even simply the economic implication of missed days of work due to GAD is noteworthy. Second, the findings of Ruscio et al. reinforced the importance of recognizing and treating GAD in the patient population. Given the study's findings, namely the high prevalence of GAD among Americans and the fact that only half of patients with 12-month GAD spontaneously seek treatment, primary care providers will need to be prepared to adjust their practice. By incorporating the findings of this study by Ruscio et al. (2017) with evidence-based practice regarding treatment of GAD, American healthcare providers

will be able to improve quality of life for a significant portion of the population suffering from the disorder.

Remes, Brayne, van der Linde, and Lafortune (2016) performed a systematic review of current studies regarding prevalence of anxiety disorder in adult populations using Preferred Reporting Items for Systematic Reviews and Meta-Analysis statement (PRISMA). Within this systematic review, the authors were seeking definitive answers that would produce a wide and descriptive view of the prevalence of anxiety disorders in the general adult population as well as inpatient and outpatient groups burdened by physical disability and psychiatric disorders. Within the United States alone, anxiety disorders are estimated to be as high as 18% of the general population and at an annual cost of more than $42 billion (Greenberg et al., 1999). In the European Union (EU), there were estimates of 60 million people affected by anxiety disorders each year making this condition the most prevalent psychiatric condition in the EU (Wittchen et al., 2011). With the stated results of what anxiety disorders cost as far as quality of daily lives lived and the monetary costs derived from these disorders, this review proposed to provide a quality comprehensive look at the fragmented areas of previous studies and combine their data to promote other studies and provide a template for review of the burden of anxiety in the world.

Remes et al. (2016) proposed that the data reviewed in their study would answer questions as to what groups are most affected by anxiety disorders. The researchers hoped that results would define areas of anxiety disorders that need additional research and prompt more studies on the condition.

This systematic review was derived from a PRISMA and Cochran collaboration model of reviews to meet the quality of the data mission statement. The search yielded 48 systematic reviews that met inclusion criteria. The inclusion formula looked for reviews that reported prevalence of generalized anxiety disorder (GAD), obsessive-compulsive disorder (OCD), social anxiety disorder (SAD), panic disorder (PD), and anxiety not otherwise specified (NOS). In this formula, reviews were utilized regardless of sampling framework and regardless of tool type for assessment of anxiety disorders. Techniques such as interviews administered by clinicians or trained professionals, symptom checklists, and clinician diagnosis were all included in the formula. Interviews and self-reported questionnaires that were included must have utilized standard systems of classification from the Diagnostic and Statistical Manual of Mental Health Disorders (DSM) (American Psychiatric Association, 2010) or the International Classification of Diseases (ICD) (World Health Organization, 2016) exclusively. In assuring a quality review, all articles meeting inclusion guidelines must have met at least five of the criteria established by AMSTAR, a quality assessment that defines whether an article utilized a prior knowledge design and whether a duplicate study and or data extraction were utilized. In addition, this standard required a comprehensive literature search as part of the parameters and quality of the primary studies. In the review, data extraction and analysis were centered on five common themes and prevalence was established in the context of:

> (1) addiction, (2) other mental and neurological disorders, (3) chronic physical diseases, (4) trauma, and (5) vulnerable population sub-groups and if a study on chronic physical disease had fewer than three reviews it was grouped as other

chronic physical disease or placed with other chronic physical diseases in end state. (Remes et al., 2016, p. 3).

Within some of the reviews, prevalence of anxiety disorder was classified as male or female, and these data were included, but the standardized inclusion method did not include having data quantified by sex. This information was thought to be relevant and opens the door for future research as well.

Upon inspection, the reviewers utilized 48 total reviews to help identify the prevalence of anxiety disorders in population sub-groups and environments as listed by these combined reviews. Even though there was a large amount of differences in the prevalence reporting of these reviews, there was compelling evidence that shows a large prevalence of anxiety disorders around 3.8 to up to 25% among the general population. Prevalence numbers, as defined by sex, age, and chronic disease in the review, also identified some of the sub-groups which brought about future research needs as all reviews did not identify sub-groups. The prevalence numbers identified within the sub-groups were as follows: 5.2 – 8.7% for women, 2.5 – 9.1% for young adults, and 1.4 – 70% for those with chronic disease processes. These sub-groups, combined with the general population data, show that prevalence numbers have a wide range of differences, especially in the sub-group populations. These discrepancies, even in a highly systematic review, showed the need for routine screening methodology when searching for prevalence numbers in anxiety disorders. Within this review, many recommendations for future studies were unearthed. Recommendations included utilization of longitudinal design studies to define acute states versus chronic states of anxiety disorders. Studies of diagnostic standardizations with respect to measurement

of psychiatric disorders were also found as well as studies that incorporated standardized tools for screening for the possibility of anxiety disorders. The lack of quality studies on treatment or interventions to alleviate anxiety were also identified. Finally, the review showed a need for further research on anxiety levels pre-treatment and post-treatment to prompt a thorough assessment of what treatments are relieving anxiety (Remes et al., (2016).

This systematic review has shown that there is a high prevalence of anxiety across the globe and anxiety disorders are increasingly recognized as a determinant to poor health and major consumer of health services dollars. The review also revealed many different avenues of critical research that needs to be continued in order to plan a prompt and quality attack on anxiety disorders and research on treatment modalities that best suit each disorder in the anxiety disorder heading. The limitations of having a high degree of different methods of anxiety assessments played a big part in the differences in prevalence estimates as reported. This unfortunate variable limited the study's ability to draw specific conclusions that would show the specific burden anxiety disorders placed on individual patients and groups within the globe.

The reviewers identified limitations to the review. The reviewers found that even though large databases were used in identifying reviews, it is possible that some reviews were not found and missed. In addition, another limitation identified was the large degree of difference in the anxiety assessment tools and the sampling methods of the primary studies which made it hard to accurately draw conclusions in regard to the burden of anxiety disorder. Another limitation was a large number of the reviews were studies that were taking place in the western setting which made it challenging to

compare the results with other parts of the world. The greatest strengths of the review were the amount of diversity the review considered. By being inclusive of sub-groups and utilizing worldwide studies, the results showed that anxiety disorder is not only a United States problem but a world-wide problem. The focus placed by being inclusive of all parts of the world and multiple cultures and races help bring awareness to the burden anxiety disorder is to all people across the globe.

This article review puts into context the prevalence of general anxiety in adult populations. Within the review, data were identified that showed women are almost 2 times more likely to suffer with anxiety disorder than men (Baxter et al., 2013; Somers et al., 2006; Steel et al., 2014). In addition, the review revealed that individuals under the age of 35 years are more likely to be affected by anxiety disorders (Baxter et al. 2013, 2014). The results from this review, although limited in some context, will provide some much-needed statistical data that has been stratified through a quality systematic review model to eliminate as much bias as possible and provide quality data. Although the current study concentrated in the northern Mississippi area, the study is in one of the categories identified as areas of future research. Northern Mississippi is an area of unique culture and diverse population in which the review identified as an area for future research in the prevalence of anxiety disorder. The current research study sought to evaluate healthcare providers treatment of anxiety disorders and data gathered from this review was invaluable in helping the current research team determine patient groups to include in the study.

Roberge et al. (2015) performed a qualitative study for the purpose of determining usage of mental health services, exploration of recommendations from

clinical practice guidelines being followed involving GAD, and examining treatment adequacy. GAD is a significant problem in primary care settings presented with persistent anxiety and worry that can debilitate a patient psychologically, physically, emotionally, and even financially. GAD is very challenging to detect, especially in primary care settings and this has been credited to the vague symptoms associated with GAD. Symptoms often are perceived as somatic physical symptoms and do not necessarily point to GAD. Patients often have comorbid conditions that overlap, thus creating a challenge for primary care providers. Data sources used for this research project included the "Dialogue" project, a large primary care study conducted in 67 primary care clinics in Quebec, Canada (Roberge et al, 2015, p. 1). Data were obtained using the waiting room questionnaire survey. The researchers utilized the Anderson's Behavior Model of Health Care as the framework for the evaluation of the individual and contextual characteristics correlated with service use. This framework helped the researchers view treatment adequacy while taking into consideration predisposing, enabling, and need for care factors.

Roberge et al. (2015) identified the hypothesis, "GAD recognition and the presence of comorbid depression would improve the likelihood of treatment adequacy for primary care patients" (Roberge et al, 2015, p. 2). The researchers sought to achieve increased awareness of the inadequacy of the recognition and, therefore, treatment of GAD in primary care. Since it is preferred to diagnose and treat GAD in primary care, adequate recognition and adequate treatments are necessary.

A large cohort study, the "Dialogue," supplied portions of data for this research, and the remainder of data were retrieved from a questionnaire survey. The

questionnaire was placed in 67 waiting rooms of primary care clinics at random times during the data collection period. A total of 22,600 eligible patients were approached to determine if they met initial criteria. Individuals needed to be at least 18 years old, able to read the questionnaire in English or French, and at the clinic to consult a provider for themselves. Out of the 22,600 approached, 67.4% completed the screening questionnaire. The screening questionnaire gathered information about medication, demographics, heath status, and consultations with providers.

After the initial communication at the clinics, the participants were asked to participate in a survey if they met certain criteria. Criteria included "elevated anxiety or depressive symptoms, anxiety or depression medication in the past 12 months, diagnosis of anxiety or depression, or consultation for mental health illness in the past 12 months" (Roberge, et. al., 2015, p. 3). The survey was divided into two portions. The first portion included a psychiatric evaluation that focused on the DSM IV criteria for common mental illness disorder's diagnostic criteria. If the participant did not meet criteria for diagnosis, then they were not allowed to continue. The second portion included 1,956 out of 4,506 individuals who agreed to participate. These participants needed to have any of the following to meet criteria to continue: diagnostic criteria of GAD, social phobia, panic disorder, agoraphobia or depression via DSM IV in the last 12 months, high anxiety and depression levels despite medication use, healthcare professional diagnosis, and diagnostic criteria of depression or anxiety in the past 24 months. The second portion of the survey included questions regarding experience of the care received, resources utilized, medication usage, and perceived needs for care. The final sample used for the present study included 373 adults that met the criteria for

GAD. Roberge et al. (2015) further investigated indications and detection of GAD, service utilization and treatment adequacy by utilizing the information from the survey. These researchers discussed adequate pharmacological treatments as using a first-, second-, or third-line agent and to have a minimum of three visits with the provider. The researchers noted that benzodiazepines are not labeled as adequate treatment for GAD as they are only recommended for short-term adjunct medications. The researchers defined adequate psychotherapy by a provider at a clinic as having a minimum of 12 sessions with the same provider and a cognitive behavior treatment. Adequacy of treatment was met if the patient received one or both treatments.

The information gathered was used to determine if patients with GAD and comorbid depression would improve adequacy of treatment. The variables of interest for the study was the influence of comorbid depression on adequacy of treatment and recognition of GAD in primary care.

Following analysis, Roberge et al. (2015) determined that the hypothesis was supported with evidence: "71% of participants also met criteria for major depression, and 60.6% had a comorbid anxiety disorder" (p. 4). The results also showed that 82.6% of participants had a chronic physical condition. The survey showed the most common healthcare professionals consulted for GAD treatment were primary care providers. The results also showed that individuals who were divorced, widowed, or separated were more likely to obtain pharmacological treatment than single individuals. Psychotherapy adequacy of treatment showed a low percentage in that only 19.2% of reported psychotherapy actually qualified as an adequate treatment. The researchers stated that a high number of patients were taking benzodiazepines long-term despite

clear guidance from the Canadian Psychiatry Association stating they should not be used for long-term treatment. Researchers also stated that "improving recognition of GAD in primary care could lead to an increase in guideline-concordant care" (Roberge et al, 2015, p. 8).

Several weaknesses were identified by the researchers in the study. Research relied on self-reporting data and differences between self-reporting data and administrative data have revealed significant differences in previous studies. Results also only offered a partial view of treatment adequacy and did not take into consideration that service utilization therapy could have affected needs for care. Indicators of treatment adequacy did not acknowledge characteristics, such as patient preference and other factors associated with care quality. Roberge et al. (2015) recommended further research be conducted on GAD screening and diagnosis.

This study by Roberge et al. (2015) was relevant to the current study as it provided evidence of the challenges faced with management of GAD. In the literature, Roberge et al. noted that benzodiazepines were not to be used as long-term treatment, yet they still observed significant usage in long-term treatments. GAD management remains a challenge; but, with better recognition and utilization of evidence-based treatments, outcomes can be optimized for patients with GAD.

Weisberg, Beard, Moitra, Dyck, and Keller (2014) developed a study to evaluate whether or not patients with anxiety disorders were receiving adequate care for their anxiety from primary care providers. The study was developed due to a perceived need for increased attention to anxiety disorders. Anxiety disorders make up the most frequently diagnosed mental health condition and are highly correlated to role

impairment, decreased quality of life, and suicide. Moreover, anxiety disorders are increasingly diagnosed and managed in the primary care setting rather than psychiatric setting. While pharmacologic treatment of anxiety disorders in the primary care setting has become somewhat standardized, many areas of the United States have inadequate access to psychotherapy clinics where patients may have access to cognitive-behavioral therapy (CBT), an efficacious, first-line treatment for anxiety.

The research objective of the study by Weisberg et al. (2014) was to close a knowledge gap about adequacy of mental health services for patients who present with anxiety in the primary care setting. Weisberg et al. (2014) stated that there was scarce literature regarding this topic, and none that specifically addressed the region in which the study was conducted—northeastern United States. No specific hypotheses were given, and Weisberg et al. (2014) did not credit a theory with guiding their research.

Research conducted by Weisburg et al. (2014) was an observational, longitudinal study among 539 patients of 15 primary care practices in Vermont, Rhode Island, Massachusetts, and New Hampshire from 1997-2001. Inclusion criteria for the study included the following: a general medical appointment that same day, proficiency in English, aged 18 years or above, and a diagnosis of an anxiety disorder according to the fourth edition of the *Diagnostic and statistical manual of mental disorders* (*DSM-4*). This included panic disorder with or without agoraphobia, social anxiety, generalized anxiety disorder (GAD), posttraumatic stress disorder (PTSD), agoraphobia without panic disorder, mixed anxiety-depressive disorder, or GAD symptoms exclusively during a mood disorder. Criteria for exclusion were pregnancy, active psychosis, or no current address or phone number. Eligible participants were told they were being

recruited for a study on stress or nervousness and were screened for anxiety using a validated anxiety screener.

Following confirmation from the screening tool, subjects were given a diagnostic interview using the Structured Clinical Interview for *DSM-4* (SCID). Subjects were interviewed at the initiation of the study, at 6 months, 12 months, and then annually for up to 5 years. Most participants were female and Caucasian with an average age of 39-years-old. Panic disorder and PTSD were the most common primary anxiety disorders.

Participants were questioned about four domains related to anxiety. First, psychosocial functioning was evaluated through the Global Social Adjustment (GSA) tool from the Longitudinal Interval Follow-up Evaluation for *DSM-4* (LIFE). Non-psychiatric medical problems were assessed through an original medical history form. The second domain measured was treatment. Subjects were questioned about any treatment for anxiety in the preceding 3 months at the beginning of the study, and then throughout the study the participants were questioned about treatment since the previous interview. Pharmacological treatments were recorded in the psychotropic intake form of the LIFE tool, while psychotherapy treatment was recorded using the Psychosocial Treatment Interview-Revised (PTI-R). Weisberg et al. also recorded whether the prescribing clinician was a primary care provider or psychiatrist. The third domain of measurement was potentially adequate pharmacotherapy. Definitions for adequate pharmacotherapy were borrowed from the findings of a previous study. Participants were considered to be receiving adequate pharmacological treatment if they were taking a selective serotonin reuptake inhibitor (SSRI), serotonin norepinephrine

reuptake inhibitor (SNRI), benzodiazepine, buspirone, gabapentin, or pregabalin. The same study's findings were used to determine if the dosages of the drugs were appropriate. Adequate duration of pharmacological treatment was considered to be 8 weeks' duration at a minimum. The fourth and final domain studied in the research was potentially adequate psychotherapy. Weisberg et al. considered potentially adequate therapy to be cognitive therapy (CT), behavioral therapy (BT), or combined cognitive-behavioral therapy (CBT).

Weisberg et al. (2014) used descriptive statistics to summarize the results of the study. Statistical methods included chi-square analysis of treatment adequacy. Six dependent variables were created to evaluate predictors of potentially adequate pharmacotherapy: (a) adequate medication therapy at intake, (b) adequate psychotherapy treatment at intake, (c) any adequate treatment (medication or psychotherapy) at intake, (d) adequate pharmacologic treatment at follow-up, (e) adequate psychotherapy treatment at follow-up, and (f) any adequate treatment modality (medication or psychotherapy) at follow-up. Predictors for each outcome were examined, including age, sex, race, college education (yes or no), insurance type, income (whether less than or greater than $20,000 per year), marital status, and function level according to GSA. Comorbidities of other illnesses were examined, including: major depressive disorder, substance-use disorder, other anxiety disorders, and non-psychiatric medical illness. Age of onset of the anxiety disorder was also evaluated. Logistic regression examined all of these dependent variables with a standard significance level of 0.05.

At the end of the study, 419 participants were qualified to be analyzed for treatment adequacy at follow-up. The remaining 120 participants, who had dropped out of the study, were analyzed for potential factors affecting dropout. These subjects were typically younger but did not have any other statistically significant demographic characteristics, baseline GAF score, or inadequate treatment for anxiety (Weisberg et al., 2014).

Regarding adequacy of treatment received at intake, 37.45% of participants reported receipt of an appropriate anti-anxiety medication. Of these, 26.4% were taking a SSRI or SNRI, 17.42% were taking a benzodiazepine, and 0.19% were taking buspirone. No subjects were taking gabapentin or pregabalin. Only 19.1% of subjects had been on an adequate medication treatment for the appropriate duration of 8 weeks. Data were analyzed on 193 participants to discover which kind of provider had prescribed the pharmacotherapy treatment and was revealed to be divided evenly between primary care and psychiatric clinicians. Related to psychotherapy, only a third of subjects had received any kind of psychotherapy in the preceding 3 months before intake. Of these, 12.76% had received CT, 5.26% had received BT, and 14.42% had received another mode of psychotherapy. Overall, 28.28% subjects had received any kind of adequate anxiety treatment, whether from medication, psychotherapy, or a combination (Weisberg et al., 2014).

Predictors for receipt of adequate treatment at intake were evaluated using logistic regression. Individuals with panic disorder or insurance were more likely to have received adequate medication therapy. Improved scores on GSA, unmarried status, and college education were predictors of adequate psychotherapy at intake.

Racial minorities were less likely to have received adequate psychotherapy. Predictors of adequate treatment of any modality were diagnosis of panic disorder, college education, worse scores on functioning, and income < $20,000. Participants with married status, no insurance, and ethnic minority membership were less likely to have received adequate care.

At 3 months' follow-up from intake, 70.41% of participants reported taking an appropriate pharmacological agent. Of these, 62.05% were taking an SSRI or SNRI, and 34.37% had taken a benzodiazepine. Among subjects diagnosed with GAD, 5.34% were taking buspirone, and 0.89% were taking gabapentin. Overall, 60.38% of subjects were taking adequate anti-anxiety medication for the minimum 8 weeks. Regarding adequate psychotherapy, 60.38% of participants had received some form of therapy in the 3 months since intake. Of these, 33.89% received CT, and 21.48% received BT. Altogether, 36.27% of subjects had received potentially adequate psychotherapy of any kind during the time since intake. Considering psychotherapy and pharmacological therapy together, 69.21% of the participants had received any modality of potentially adequate treatment at the 3-month follow-up period.

Predictors for patients receiving adequate pharmacological therapy at follow-up included a diagnosis of panic disorder, social disorder, or major depressive disorder at intake and income < $20,000. Patients of ethnic minorities were less likely to have potentially adequate pharmacotherapy. Predictors for adequate psychotherapy included college education, worse scores of functioning on the GSA, income < $20,000, and diagnosis of PTSD at intake. Ethnic minorities were less likely to have received adequate medication treatment for anxiety. Predictors for adequate anxiety treatment of

any modality at follow-up included having a diagnosis of major depressive disorder, panic disorder, and coverage under Medicaid or Medicare insurance. Once again, participants who were in ethnic minorities were less likely to have received potentially adequate care of any kind at follow-up.

Altogether, participants in the study were found to be undertreated for anxiety at intake. However, over the years of follow-up, studied from 2002-2007, patients began to be more adequately treated. Adequate pharmacological treatment increased from 19.1% at intake to 60% at the end of the 5 years. Potentially adequate psychotherapy increased from 14.42% to 36% in the same timeframe. The total adequacy of treatment of any modality increased from 28.28% to 69%. Weisberg et al. (2014) proposed a few rationales to explain the increase in treatment. First, patients with subacute anxiety might have begun to have more severe manifestations over time which prompted clinicians to seek active treatment. Second, many primary care providers are likely to refer patients to CBT only after other treatments are considered unsuccessful. Third, the increase in treatment might reflect a broader effort in healthcare to address anxiety, including influence from direct-to-consumer marketing of medications and guidelines from the Food and Drug Administration (FDA). Moreover, the researchers admitted that the increasing time intervals of follow-up may have falsely portrayed an increase in treatment over time. It may be the case that when longer time intervals are studied, the likelihood is higher that the patient has eventually received adequate care.

Participants with panic disorder were among the most likely to receive adequate pharmacotherapy. This was attributed to the fact that the FDA has standardized guidelines for medication treatment of this disorder. Higher educational level was

associated with adequate psychotherapy, which the authors attributed to possible bias on behalf of the providers for which kind of participants were likely to benefit from CBT. The authors suggested that increased attention be given to adapting CBT for patients of lower educational levels. Significantly, ethnic minorities were less likely to receive adequate care overall but this was not associated with low income levels. The authors suggested that perhaps cultural beliefs regarding mental health treatment was the explanation for this disparity.

The authors identified multiple limitations in the research. First, the study was localized to a specific geographic location, the northeastern region of the United States. Interestingly, CBT is more abundant in this location and thus the level of psychotherapy treatment adequacy might be higher in this region than it would be elsewhere in the United States. Second, the measure of psychotherapy from the research did not include newer modalities of treatment such as mindfulness meditation and acceptance. The number of psychotherapy sessions and the length of those sessions were also not covered in this research. Third, the researchers stated that their inclusion of benzodiazepines as a potentially adequate pharmacotherapy could have altered the results. Given that benzodiazepines are controversial as a treatment for anxiety disorders, the inclusion of this class of drugs might have falsely raised the levels of adequate pharmacological treatment for participants. Fourth, the use of retrospective self-report might not be an accurate method of data interpretation. Considering that two-thirds of the primary care patients at the beginning of the study declined to be screened for the study and that 40% of subjects who screened positive for anxiety disorders did not follow-up for the SCID, there is a possibility that the subjects who

completed the study were receiving higher quality treatment and thus skewed the results. A fifth limitation identified from the study is that there was a concerted effort to support integrated care at the primary care level during the follow-up time period (2002-2007), which might have altered the results of adequate treatment for anxiety disorders.

In addition to the limitations identified by Weisberg et al. (2014), there are a few other weaknesses in this study. While the statistical analysis of data were strong, the authors' summarization of the findings was obtuse at times. Information about the sample and methodology were scattered throughout the article, which confuses the reader. For example, the dates of the intake and the dates for the follow-up should have been in one statement. Additional tables and figures illustrating the statistical findings would facilitate more ease in reviewing the data.

However, there are many strong elements to the study. The research objective was fulfilled by closing an established knowledge gap regarding adequacy of treatment of anxiety disorders in the primary care setting. The authors' anticipated finding that treatment was inadequate was confirmed. The length of the study was an asset to the research as it allowed for a wealth of information to be accumulated. Notably, despite the long-term nature of the study, the sample size of the study remained sufficiently large for good data analysis to be completed. Performance of dropout analysis gives the reader confidence in the integrity of the study and confirms that the lack of completion did not skew the final results. The tools used to collect the data, including the anxiety screener, SCID, GSA, and LIFE interview, were validated and reliable instruments.

Finally, in spite of the sensitive nature of research involving anxiety, the methodology of the study seems to have avoided causing harm or distress to the participants.

The findings of this study by Weisberg et al. (2014) were relevant to the current research. First, the study confirmed that the management of anxiety disorders is relevant for primary care practice. Primary care clinicians must be well-versed in recognizing and treating these disorders in order to prevent bad outcomes for their patients. Second, the study illustrated how treatment of anxiety disorders should be approached with consideration of multiple modalities. While the decision to pursue one modality over another might be left to the discretion of the provider and the patient, careful consideration should be given to both pharmacotherapy and psychotherapy. However, the study highlighted the inadequacy of CBT treatment for patients with anxiety disorders. In fact, Weisberg et al. (2014) admitted the abnormal availability of CBT in the northeastern United States. It is likely that access to CBT is scarcer in other regions, including northern Mississippi. Increased resources must be allocated to providing CBT for primary care patients across the United States in order to treat anxiety disorders effectively. Third and finally, it is notable that Weisberg et al. (2014) credited academic studies with defining adequate psychotherapy and pharmacotherapy. While there was no reason to doubt the credibility of these studies, it is noteworthy that there was no established clinical guideline from an authoritative body to determine what constituted adequate treatment for anxiety disorders. With the development of a standardized set of clinical practice guidelines from an authoritative body, it is possible that more patients suffering from anxiety would receive adequate treatment.

Muntingh et al. (2014) performed a cluster randomized control trial for the purpose of determining the effectiveness of collaborative stepped care (CSC) to care as usual (CAU) treatment of general anxiety disorder (GAD) by primary care providers in the Netherlands. In the primary care setting, Muntingh et al. identified GAD and panic disorder (PD) as two of the costliest and disabling diagnoses within anxiety disorders. GAD and PD were identified as chronic conditions in which many times patients diagnosed with these disorders continue to suffer 5 years post-treatment. The research stated that most patients who suffer from GAD and/or PD will seek care from their primary care provider, and many times these providers may be ill equipped to provide psychotherapy, pharmacotherapy, and means of monitoring effectiveness of the therapy and the prevention of possible relapse. In a response to the possible shortcoming of primary care treatment for GAD and PD, the study revealed the development of collaborative care models that provide general practitioners (GP) a model that delivers evidence-based care that is continuous in nature. The participants of the study were selected by meeting the inclusion criteria by answering the following parameters; patients had to be at least 18 years old with an existing diagnosis of panic disorder with or without agoraphobia and/or generalized anxiety disorder. Exclusion criteria was as follows: patients with suicidal idealizations, dementia, or other severe cognitive disorders, inability to understand the Dutch language, drug or alcohol dependency, psychotic disorders, bipolar disorder, those with unstable medical conditions, or those receiving psychological treatment that included at least 2 or more visits per month. In addition, the study allowed patients who were already receiving antidepressant medications prior to and during the study to continue their prescription.

Within the review of literature, the group identified studies that concluded collaborative care is a better treatment plan for GAD and PD patients than typical treatment plans. Within the collaborative care approach, the GP treats the patient with collaborative effort from a consulting psychiatrist and/or other trained care managers, such as psychiatric nurse or psychologist. The collaborative care effort as found in the reviews included many combinations. The reviews found that with collaborative care methods the GP may or may not prescribe antidepressants with consultation with a psychologist. In regard to psycho-education, the group found that a collaborative psychiatrist with assistance from a trained care manager developed and implemented the interventions for the participants that may include one-on-one interventions as well as computer-based cognitive behavior therapy. The group also identified some studies in which medication therapy in conjunction with psycho-education were utilized with a combined effort of the GP and the consulted psychiatrist. These studies implied that with collaborative care approach promising improvements may be seen in anxiety disorders (especially in the USA) (Muntingh et al., 2014).

Muntingh et al. (2014) stated that their research found no studies in which the collaborative care approach to GAD and PD involved a stepped care approach. Stepped care approach as identified by the researchers is a least invasive and cost-effective intervention that promotes self-management of GAD and PD. The researchers identified the concerns about initializing antidepressants later for anxiety disorders. With stepped care, medications would be a later step in the treatment plan for GAD and PD after psychological interventions were utilized first. The researchers stated that the stepped care had received some validity as the National Institute of Clinical Excellence

for GAD and PD guidelines now include the stepped care method (Muntingh et al. 2013). Even with the acceptance as a promising approach to GAD and PD treatment, there have been no studies as to the effectiveness of CSC in GAD and PD treatment. To answer the questions of CSC effectiveness, the group conducted a study in which the effectiveness of CSC treatment of GAD and PD were measured against the effectiveness of CAU treatment of the disorders.

To evaluate the possibilities, the researchers developed a CSC model using 3 identified interventions from their research efforts into primary care setting. The three that the group chose to incorporate in their study was guided self-help as a first step approach, cognitive behavioral therapy as a second step, and antidepressant medication as a third step if needed. The study's objective was to compare the effectiveness of utilizing CSC treatment model versus CAU treatment for DSM-IV diagnosis of GAD and PD.

The study was conducted in 43 primary care facilities with 63 physicians, 31 psychiatric nurses, and 6 consulting psychiatrists. Each psychiatric nurse had established contracts with one or two of the 43 selected facilities. The clusters utilized for this study consisted of patients in the study that were previously served by the psychiatric nurse at the same facilities the patients were already using. The 31 nurses were then assigned a group of patients using an automated random sequence obtained from an established algorithm (Muntingh et al. 2013). The process developed an intervention group that had 23 facilities served by 16 psychiatric nurses and a control group that had 20 facilities which had 15 psychiatric nurses to serve the patients. The recruitment of patients was an 18-month process that utilized two methods of

determination. The first method involved patients that were selected by participating GPs of whom were patients that the GPs encountered with anxiety disorder issues. The second method involved patients selected by research assistants from electronic medical records who had previously seen the participating GPs in the past 4 months for symptoms possibly related to anxiety disorders. From these groups, participants were screened with a Patient Health Questionnaire anxiety module (Muntingh et al. ,2014). All participants who screened positive were then contacted and participated in a phone interview process by an independent research assistant who was kept blind to group assignments. This interview consisted of a MINI-PLUS International Neuropsychiatric Interview, a short form diagnostic interview process to determine DSM-IV and ICD-10 psychiatric disorders to define inclusion or exclusion in the study (Muntingh et al., 2014).

From the inclusion/exclusion parameters, 183 patients were included in the study. Of the 183 patients, 114 were grouped into the intervention group (CSC), and 66 patients were grouped into the control group (CAU). The mean age of participants was 46.5 years, and the majority (68%) were female. To determine outcomes, the study utilized the Beck Anxiety Inventory (BAI) at the baseline of the study and again at 3, 6, 9, and 12 months. Data from these questionnaires were compiled and processed by a research assistant who remained blind as to whether participants were in the control or intervention group. In addition to the BAI, the researchers also administered the Overall Anxiety Severity and Impairment Scale questionnaire (OASIS) at the start of the study to have as a proxy if needed. The goal of the study was to determine if utilizing CSC in the treatment of GAD and PD reduced anxiety symptoms based on the

BAI score. A secondary outcome measurement was the time to first remission as identified by a BAI $\leq 11$ on the scale. In addition, the group wanted to identify the time it took for first positive response to the treatment if no remission was found. To maintain consistency, the study also assessed an adherence to treatment and control of care checklist to all GPs and care managers of the participants in the CSC group. This checklist ensured that CSC components of treatment were utilized and that proper monitoring with the BAI was being conducted. A CAU checklist was also created to provide data about types of care, medications, and referrals that were offered for each of the CAU participants.

To ensure that the intervention group treatment had consistency with methodology, the psychiatric nurses were trained in a 3-day workshop that trained the nurses in the collaborative care methods of guided self-care and cognitive behavior therapy. The GPs were provided a 3-hour workshop on collaborative care, recognition of anxiety disorders, and the prescription algorithm for antidepressant medications. In addition, the 6-consulting psychiatrists were also educated in the CSC model, prescription algorithm, and the consultation process. Within the CAU model, the providers and nurses received no additional training and followed the Netherlands national primary care treatment guidelines for anxiety (Muntingh et al., 2014).

After completion of data analysis, Muntingh et al. (2014) found a significant difference in BAI score reduction with the CSC group as compared to the CAU group at 3-, 6-, 9-, and 12-month follow up screenings. This finding answered the primary outcome measure as proposed by the research group. With the secondary outcome measure, the study found that there were no significant differences between the CAU

group and the CSC group as pertaining to length of time required for first remission or the length of time required for first response to treatment. In addition, the study found no significant difference in the number of participants who either had no response to the treatment or never achieved remission. Data from the adherence to treatment and content of care in CSC checklist showed that half of the CSC participants had achieved remission after guided self-help intervention and that 12 received referral to a psychiatrist. For the CAU group, the content of care checklist showed that 27% of the participants received antidepressant medications, 16% were referred to mental health care specialists, 13% were referred to primary care psychologist, 12% received counseling by either GP or psychiatric nurse, 8% were given antidepressants and referred, and 24 % refused or had no desire for mental health treatment (Muntingh et al., 2014).

The study indicated that CSC did provide reduced anxiety symptoms more often than the CAU model in this study. The researchers concluded that the largest difference between the two models of care came at the 12 months post baseline scores which pointed to the conclusion that anxiety worsened in CAU participants and remained improving with the CSC participants. With the second outcome measurement, the study found no great difference in response and remission rates. The researchers identified that a large part of the CAU participants either did not improve or had worsening symptoms and that fact may explain the reasoning for no difference. A strength of this study was the utilization of professional working care managers throughout the study. By utilizing working care providers, the study was performed in a natural health care setting in which the participants as well as care providers were

comfortable with and mirrored everyday practice events. Another strength was the study's use of multilevel analysis and its avoidance of variability with the healthcare professionals. Muntingh et al. identified several limitations to this study with the first being differences at baseline within the two groups. Even with the randomized clusters CSC participants had a more severe anxiety and took less antidepressants at the start of the study than those in the CAU group. Another identified limitation was that the study relied completely on self-report and not utilizing a combination of self-report and clinical judgment. The researchers also identified that even though special attention was given to train GP and care managers in the stepped care model, the implementation could have been better. Data that showed a low rate of participants who continued to the second step suggested that possible additional steps may be needed to optimize participant participation. The researchers also identified areas for future study and improvement for the area of study. The group suggested that future studies offer participants choice in what method they would receive such as self-help options (e.g., exercise training, internet-based CBT, or guide books to utilize with the sessions in the clinic). The group also suggested future study of the cost effectiveness of the CSC model to establish feasibility of the treatment plan.

Muntingh et al. (2014) provided relevance to the current study by providing clinical data in the management of general anxiety disorder. It was the goal of the current researchers to determine if primary care providers in northern Mississippi are utilizing best practice methods in the treatment they deliver to their patients. With proposed new guidelines in limiting benzodiazepines as a first-choice method in

management of anxiety disorders, practitioners will need to find alternative tools in the management of GAD that best treat their patients.

Gaurdreau, Landreville, Carmichael, Champagne, and Camateros (2015) performed a study to determine the acceptability of cognitive behavioral therapy (CBT) in patients diagnosed with GAD. The first-line treatment of GAD involves Selective Serotonin Reuptake Inhibitors (SSRIs) and benzodiazepines; however, SSRIs have many adverse effects including fatigue and somnolence. The anxiolytic action of SSRIs is often slower than the action of the benzodiazepines and hinder the long-term observance of the illness. GAD is often undertreated in the elderly, and oftentimes the elderly population will not seek help from healthcare professionals. The American Journal of Geriatric Psychiatry stated that only 18% to 20% of older adults affected will seek help from healthcare professionals. This issue is a new and rising topic for treatment of GAD. No clear theoretical framework was identified for guidance of this study.

Gaurdreau et al. (2015) evaluated the rate of acceptability in psychological vs. pharmacological therapy, more specifically evaluating CBT, CBT-GSH (Guided Self-Help) and SSRIs. Gaurdreau et al. identified an hypothesis that stated, "CBT would be more acceptable than pharmacotherapy" (p. 69). The sample consisted of participants from social/leisure clubs, retirement homes, day centers, and a medical clinic. A total of 458 individuals were approached about participation, 205 agreed to participate, and only 88 completed the questionnaire.

Persons in charge at day centers, social/leisure clubs, and retirement centers were approached for consent in regard to recruitment. They were asked not to include

anyone with significant cognitive deficits. In medical clinics, brochures were left in waiting rooms with information to contact the primary researcher if interested in participation.

After a brief discussion of the study's objective and procedure, signed consent was obtained. Participants were given an identification sheet, the Geriatric Anxiety Inventory (GAI) and the Generalized Anxiety Disorder seven item scale (GAD7) used to measure the severity of the symptoms of anxiety. Included also was the Penn-State Worry Questionnaire (PSWQ-A). This tool is used to assess worry, which is a common symptom associated with GAD. Also included was the 15-item Geriatric Depression Scale (GDS) used to assess and measure depressive symptoms. Three copies of the Treatment Evaluation Inventory (TEI) were included to evaluate the treatments (descriptions included) used during the case study. Clinical characteristics were collected in the identification sheet including episodes of anxiety during lifetime, experience of treatments for anxiety during lifetime, and knowledge of what causes anxiety attack. Participants were asked what degree of various elements (e.g., cost, side effects, convenience, acceptability) could influence their choice of treatment for GAD. This was asked on an 11-point scale ranging from *no influence* to *very large influence*.

The Treatment Evaluation Inventory was a tool used to measure treatment acceptability. Eight items in this tool evaluated the positive aspects, general acceptability (GA, 8), and three items identified the negative effects (NE, 3). The two subscales were analyzed separately.

Analysis of the data showed that the average age of the participant was 74 years, and the majority of the persons participating had minimal health issues requiring

medical attention. Almost half reported having an episode of anxiety in their lifetime and less than half reported seeking medical attention for the anxiety. For the ones who reported seeking medical attention for the anxiety, most reported receiving pharmacotherapy. Knowledge and education regarding causes of anxiety were low among the overall population. Participants who stated that they did not know what caused an anxiety disorder rated treatments more unacceptable than individuals who indicated that they did understand the cause of anxiety. The factor that had the most influence on treatments for anxiety was the doctor's recommendation, followed by side effects, inconvenience, and acceptability. The researchers noted that this is especially important in light of primary care providers' low recognition, treatment, and referral rates for older patients with GAD (Muntingh et al., 2014).

The average score on the TEI was 44, which indicated moderate acceptability. The results significantly differed by treatment type, but not GAD severity. Results showed that older adults find all three GAD treatments at least moderately acceptable. This information is in line with results from research including younger adults. The results supported the hypothesis and was consistent with other results from research with younger and older adults. When comparing CBT and GSH, CBT was more favorable, which is interesting because they share the same principles and techniques. It was noted, however, that CBC-GSH was more favorable when SSRI negative treatment effects were taken into consideration. Muntingh et al. (2014) noted an implication to the study would likely be that the under-treatment of GAD in older persons is unlikely due to the perceptions of treatment of GAD. Muntingh et al. noted that other possible factors could be difficulty traveling and patient characteristics.

Raising public awareness and implementing better access to resources would help increase treatment rates. Recommendations for future research was to evaluate individual's treatment regimen during and between treatment to determine if they are perceived as acceptable.

A strength of this study by Muntingh et al. (2014) was that the different levels of severity in GAD were addressed. Also, the treatment plans for the case study were defined along with the side effects of the treatment. A weakness of this study was the level of difficulty of the questionnaires. The elderly population may have had difficulty filling out the forms. Another weakness was that the researchers had no way to evaluate if the older adults actually read the case and treatment descriptions before they completed the ratings. Another area that was noted was that the size of the sample was small, and the participants were mostly non-anxious, healthy adults which limited generalizability.

Muntingh et al. (2014) provided useful insight regarding the patient's perception of CBT. This study supported our current research interest by shedding light on the patients' acceptability of CBT, obstacles that may interfere with recommendation regarding pharmacological treatment of GAD, and barriers regarding CBT application to treatment plan.

Bernard et al. (2018) used an observational study to assess the patterns of benzodiazepine use in primary care for management of anxiety or depressive disorders. There was no theoretical framework identified for this study. In the management of anxiety disorders, benzodiazepines have been identified as one of the most prescribed drugs for anxiety disorders. Clinical guidelines for management of anxiety disorders

state that benzodiazepines are indicated for short term use in the management of anxiety disorders. However, studies have shown that patterns of long-term usage of benzodiazepines are found for many patients. With long-term benzodiazepine use, studies show that many side effects from benzodiazepine therapy have become problematic. This study set out to identify benzodiazepine use patterns as prescribed by primary care providers and the correlation of long-term utilization of benzodiazepines for anxiety disorder management. This study utilized a sample size of 740 participants who were gathered from 64 primary clinics and their patients that met the inclusion criteria from the providence of Quebec, Canada. The study utilized a mental health screening tool given in the waiting rooms of the 64 primary care clinics as its initial contact with samples. From that contact, the study moved forward with the World Health Organization World Mental Health (WHO WMH) tool and the Composite International Diagnostic Interview-Simplified (CIDIS) to identify participants who met diagnosis inclusion. Those participants who met diagnosis requirements as set forth by the Diagnostic and Statistical Manual of Mental Disorders (4$^{th}$ edition) (DSM-IV) published by the American Psychiatric Association (APA) for Generalized Anxiety Disorder, Panic Disorder, or Social Anxiety Disorder within the past 12 months were selected to move forward with the T1 structured interview to define final participants. Of the 4,506 participants who agreed to participate in the study, the T1 interview produced the final participant count of 740 adults who met all inclusion criteria.

Bernard et al. (2018) examined benzodiazepine use patterns in primary care patients suffering from anxiety disorder. In addition, Bernard et al. explored the correlation of long-term benzodiazepine use in primary care patients suffering from

anxiety disorders with sociodemographic factors, clinical factors (severity of anxiety disorder, comorbid mental health conditions, and physical comorbid conditions), medication factors (what class of drugs, sleep aide drugs), and visits for mental health status within the past 12 months to mental health physicians or general practitioners (Bernard et al., 2018). Within the study, the researchers hypothesized that patients who were prescribed benzodiazepines for short-term management for anxiety disorders for known and unknown reasons remain on benzodiazepines for long-term therapy in place of other treatment modalities. The researchers identified anxiety disorder as one of the most prevalent mental disorders in the general population. This study utilized the Canadian clinical practice guidelines for the management of anxiety, post-traumatic stress, and obsessive-compulsive disorders as published by BMC Psychiatry. Evidence-based treatment guidelines for anxiety disorders identified benzodiazepines as effective in treatment of anxiety disorders, but only as an adjuvant short-term option.

Benzodiazepines and their tendency to cause sedative/hypnotic effects, dependence, and potential of abuse limit benzodiazepines to use for short-term management only. Clinical practice guidelines for pharmacological management of anxiety disorders state selective serotonin reuptake inhibitors (SSRIs) and serotonin and norepinephrine reuptake inhibitors (SNRIs) are first-line treatment for anxiety disorders due to their safety and tolerability profiles. Despite benzodiazepines' short-term definition, many studies have identified as many as one in four patients diagnosed with anxiety disorders could be using benzodiazepines for long-term therapy.

The study found 4,506 participants who agreed to participate in the study initially; after inclusion and exclusion properties were assessed, 740 participants were

identified for the final sample size. The inclusion criteria required participants to meet the following: (a) age 18 years or older, (b) consult a primary care provider for themselves, and (c) ability to complete the questionnaire. The questionnaire included self-reported status of sociodemographic characteristics, overall health status, primary care provider, psychotropic medications, and chronic health issues. In addition, Hospital Anxiety and Depression scale (HADS) and the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2,0; self-reported 12 item version) were part of the questionnaire. With completion of the surveys, participants who were patients at one of the participating clinics and who met at least one of the final inclusion standards were invited to participate in the telephone/web interview. The final inclusion standards were as follows: (a) current anxiety or depression symptoms, (b) anxiety or depression medication in the past 12 months, (c) depression or anxiety diagnosis made by a physician, and (d) consulted for mental health issues within the past 12 months (Bernard et al., 2018). After the original screening, the interview portion of the methodology began. The interview process consisted of completion of the CIDIS by a lay-interviewer, a review of each patient's experiences with past care provided, medications, and self-identified status of mental health. The medication usage was broken down in two parts with the first section consisting of usage of medications either prescribed and/or over-the-counter for anxiety, depression, sleep issues, mood stabilization, psychotic disorders, and stimulants. The second part of the medication screening was completed for those who indicated *yes* to anxiety or antidepressant medications. In this section participants were assessed for name of medication, dosage, doses per day, PRN or daily use, duration of therapy and last follow-up visit with the

prescriber. The final sample produced 740 adults meeting the criteria for GAD or social anxiety disorder during the previous 12 months of the survey. Bernard et al. (2018) defined the study participants as those who utilized at least one benzodiazepine with evidence-based recommendations for any of the anxiety disorders as defined by Canadian Psychiatric Association's (2006) clinical practice guidelines. In defining the term *long-term benzodiazepines*, Bernard et al. stated long-term was any utilization of benzodiazepines for a period > 12 weeks which included regular and as-needed use. In finding potential correlates of long-term benzodiazepine use, sociodemographic factors of age, sex, education level, marital status, economic situation as described by participants, and self-pay or insurance coverage for the cost of care including medications cost were categorized. Data were also stratified to take in account clinical factors, such as patients' perception of their mental health, comorbid major depression, severity of their anxiety and depressive symptoms, medications for sleep disorders or other psychotropic drugs prescribed with evidence-based recommendations for anxiety disorders, and consultation for mental health services within the past 12 months.

After data collection, the study found that 76% of the participants were female and the mean age of participants was 42.6 years. Education level of the participants showed that 49% of participants had at least a college or university education. Over 30% of participants reported their economic status as being poor or very poor. Over 50% of participants were either married or living with a partner. Of the total sample, 83% reported having a family physician, and 66% reported they had access to insurance that covered medications and/or health services. Data also revealed that participants were prescribed benzodiazepines both short-term and long-term, recorded HADS-

anxiety score in the abnormal category with a score of 14.1 for short-term usage and 12.1 for long-term users showing that benzodiazepines did very little to reduce the participants' anxiety disorder. Data also showed that of the total sample 38.8% had at least three comorbid chronic physical conditions. The study did show that 86.1% of those identified in the sample have had at least one visit with a family physician for a mental disorder within the 12 months preceding the study. Data also identified evidence-based recommended drug class usage as follows: Benzodiazepines, 22.6%; SSRI, 27.4%; atypical antipsychotics, 8.9%; 4.5%, monoamine oxidase inhibitors; 2% for tricyclic anti-depressives and anticonvulsants; and 25% for other agents.

Benzodiazepine use as reported in the survey shows 22.6% of those surveyed had utilized benzodiazepines within the past 12 months in their treatment of their anxiety disorders and that included both regular (daily, BID, TID, etc.) and as needed utilization (PRN). Of those identified, 88% met the parameters as set by the survey for long-term benzodiazepine use. Of those identified as long-term users, those 30 years and older were much more likely to use benzodiazepines as a long-term therapy. Those aged 45 years or greater made up over two thirds of long-term users; of that group, those aged > 60 years made up a large portion of those found. With the data, the study showed that, of those prescribed benzodiazepines for treatment for their anxiety disorder, 88.4% of them were long-term benzodiazepine users for anxiety which indicated inadequate use of clinical practice guidelines by primary care providers. This study has shown that there is a public health concern for the inadequate use of benzodiazepines as many times short-term regimens morph into long-term usage and with long-term use comes serious implications of abuse/dependence potential, rebound

and recurrence symptoms, and the adverse effects of benzodiazepine withdrawal. Bernard et al. (2018) also showed that many times those who are on long-term benzodiazepine therapies are the elderly population and those who have comorbid considerations as well. Benzodiazepine use has long been associated with increased risks for falls and fractures within the elderly population and many times affect mobility and activities of daily living. Another finding of the study was that many of those currently utilizing benzodiazepines were also prescribed SSRIs. Many times SSRIs produce side-effects, and benzodiazepines are indicated as an adjunctive therapy for treatment of these side effects. Benzodiazepines are also indicated in an acute crisis state or while waiting on the SSRI to reach efficacy rate but always for a short-term. Another finding by Bernard et al. (2018) was that many times those identified with anxiety disorder along with a diagnosis of major depressive episode were prescribed benzodiazepines as a monotherapy for which there is no evidence-based guidance that benzodiazepines are effective for depressive symptoms. The study found that in clinical practice benzodiazepines can be useful tools in the management of anxiety disorders, but the use of long-term benzodiazepines can promote the opportunity of poor outcomes for many patients. General practitioners should consider identifying those at a high risk for prolonged use and consider this in their planning, management, and prescription activation. General practitioners must explain to patients in detail the adverse effects of benzodiazepines, such as risks of motor vehicle accidents, fall risks, ADL possible limitations, amplified effects associated with alcohol use, dependence risk, tolerance, and difficulty stopping the medication. Providers must also explain to patients that benzodiazepines are prescribed for short-term use only and should be discontinued after

acute episodes are under control or alternative drugs have reached their effective levels. Patients are to be closely followed, and benzodiazepine use is to be closely reviewed whether acutely or when long-term use cannot be avoided and consider discontinuing benzodiazepines at each follow-up visit. Results found by Bernard et al. (2018) indicated there is a need for continued clinical awareness of this problem, and patients need to be informed of the risks and prevalence of long-term benzodiazepine use in anxiety disorders when making decisions about their pharmacological treatment of their anxiety disorder. In the study, Bernard et al. (2018) discovered many patients with comorbid conditions along with their anxiety disorders impacted clinical providers' decision making in the use of benzodiazepines within this group of patients. This unexpected result led researchers to conclude that a future study to better understand prescriptive decision making within this sub-group and perhaps other studies was needed at this time.

The strength of this study by Bernard et al. (2018) was the large sample size in which data were collected. This study is one of the largest of its kind in a primary care setting. Primary care providers are usually the first contact that patients have with management of anxiety disorders. A strength of this study was the data showed that benzodiazepines are being prescribed outside clinical guidelines, and many times may be at the expense of the patient's well-being, especially those > 60 years old. The correlation established between long-term benzodiazepine use and the prescribing of benzodiazepines for anxiety disorders provided valuable data in finding a possible solution to the problem of long-term benzodiazepine use. The study did have limitations, such as the initial survey used to define potential participants was a self-

reported questionnaire that led to possible informational bias. Another limitation identified was the distinction of those who were prescribed or not prescribed benzodiazepines for causes related to comorbid conditions. A third limitation was identified in that the participants were initially screened by a lay interviewer who had no previous medical and/or mental health caregiver status when given the initial screening tools. By using non-professional healthcare interviewers, the possibility of error could not be removed.

Bernard et al. (2018) was useful in the current research study entitled Generalized Anxiety Disorder: Management practices among Primary Care Providers in northern Mississippi. Data collected in this study represented the number of patients who are being prescribed benzodiazepines as well as other pharmacological options in the treatment of anxiety disorders. Data from this study was used as a comparison to the current research project that will evaluate benzodiazepines prescribing among primary care providers in northern Mississippi.

Vicens et al. (2016) assessed the efficacy of two interventions on discontinuing benzodiazepines in patients who had been taking the medication long-term. The purpose of this study was to assess the efficacy over a 3-year period. A previous study with the same interventions had been assessed at the one-year cessation period. General practitioners (GPs) mainly treat anxiety, insomnia, and sometimes as a substance that enhances the treatment of depression with BZDs. Long-term use of benzodiazepines (BZDs) is not recommended and can increase the risk of falls, impairment of cognition, and as well as mortality. Even though these risks are well-known, many GPs continue to prescribe BZDs as long-term therapy. Most GPs find discontinuing BZDs as

challenging and time-consuming so most do not develop any kind of withdrawal intervention. There is supporting evidence that proves the interventions of structured intervention with follow-up visits (SIF) or structured intervention with written instructions (SIW) showed a reduction in the long-term use of BZDs at 12 months by up to 30%. There was no theoretical framework identified for this study.

The research question Vicens et al. (2016) attempted to answer was the efficacy of SIF or SIW after 3 years. There is limited information about the long-term efficacy of the discontinuation of BZDs. Vicens et al. found that patients' effectiveness of discontinuation of BZDs using SIF and SIW is just as strong at the 3-year mark as it was at the one-year mark. Even after 3 years, there were no changes in anxiety, depression, and/or sleep noted after the discontinuation of BZDs using the two primary care interventions.

This study by Vicens et al. (2016) was a multicenter, three-arm, cluster randomized, controlled trial. The trial was carried out in three regions of Spain. Each region enrolled 25-30 GPs for a total of 75 GPs who were divided randomly to one of the three regions. A total of 532 patients were recruited by the GPs from November 2010 to February 2011. The randomization of the recruitment process was conducted by computerized prescription databases located in primary care offices. The guidelines that were adhered to were the patients had to be between the ages of 18 and 80 years, had to read and speak Spanish, and had to be taking BZDs every day for at least 6 months. Excluded from the study were patients with the diagnosis of psychotic disorder, severe personality disorder, alcohol or illicit drug abuse, anxiety or depressive disorder currently being treated by a psychiatrist, severe medical or terminal illness or

currently hospitalized. Patients were also excluded if the GP believed that cessation of BZD use may be harmful and if they were unable to read and speak Spanish" (Vincens et al., 2016). The patients were randomly divided into the three groups of study. The groups were SIF, SIW, and usual care.

After the GPs were randomly allocated, those that were to be involved in the SIF and SIW arms attended a 2-hour workshop on the discontinuation of BZDs. The SIF and SIW were both given educational interviews with information regarding stepdown therapy of their BZDs. The educational interview had four key points:

> . . . information on BZDs, dependence, abstinence, and withdrawal symptoms; the risks of long-term use, and effects on memory, cognitive impairment, accidents and falls; reassurance about reducing medication; and a self-help leaflet to improve sleep quality if patients were taking BZDs for insomnia. (Vincens et al., 2016, p. e86)

The SIF group followed up with their GPs every 2-3 weeks to have their dose tapered until their stepdown therapy was completed. The SIW received written instructions on how to gradually taper their dose until their stepdown therapy was completed without follow-ups with their GPs. The gradually reduced dose of BZDs consisted of a 10-25% reduction of daily dosages every 2 to 3 weeks. Patients in the usual care group were given routine care, and the GPs were not given any guidelines on managing their patients' long-term BZD therapy.

The primary goal for all groups was BZD cessation. BZD cessation was defined as no prescription for 6 months or < 30 doses in the whole 6-month period. There were also secondary outcomes measured which included the measurement of the presence of

anxiety, depression, and sleep satisfaction. The primary goal was assessed by clinical researchers who evaluated clinical records for prescription claims. The secondary outcome was measured by the Hospital Anxiety Depression Scale (HADS) which measured anxiety and depression symptoms from no symptoms to severe symptoms. Sleep satisfaction was measured on a different scale, the Oviedo Sleep Quality Questionnaire, which measured sleep satisfaction on a scale from *not satisfied* to *very satisfied*. The statistical approach used for this study consisted of evaluating the sample size at the beginning, at the end of one year, and at the end of the 3-year period. BZD discontinuation was based on an intention-to-treat analysis and was analyzed at the end of the 36 months. Following statistical analysis, it was found that the average age of patients was 64 years old and 72% female. There were 35 patients who did not follow up at 12 months and a total of 86 by 36 months. However, the prescriptions were still able to be measured for 506 patients with 26 lost to follow-up related to the fact that prescription claims were in clinical records.

> At 36 months, 66/168 patients (39.2%) in the SIW group, 79/191 patients (41.3%) in the SIF group, and 45/173 patients (26.0%) in the control group had discontinued BZD use. A total of 131/188 patients (69.7%) who successfully discontinued BZD use at 12 months remained abstinent at 36 months. The groups showed no significant differences in anxiety, depression, or sleep dissatisfaction at 36 months. (Vicens et al., 2016, p. e89)

Vicens et al. (2016) identified several strengths of the study. First, the study evaluated efficacy over a long period of time and used a large randomized study group. The study also had a high internal validity with few patients being lost to follow up.

treatment. Landreville et al. (2016) proposed a solution to the problem of under-treatment by developing a guided self-help therapy using CBT for elderly patients to use remotely. Landreville et al. did not credit a theoretical framework with guiding their research.

The main objective of the study was to determine if a cognitive behavior therapy with guided self-help (CBT-GSH) would be effective in reducing GAD symptoms among older adults. Justification for the study was given from another research study which concluded that cognitive behavioral principles could be advantageous over medication for treatment of GAD. A convenience sample was used based on advertisements in sociocultural and health centers in an undisclosed location. Participants were selected based on eligibility criteria of the following key variables: age > 65 years, diagnosis of GAD, literacy, ability to use a telephone, agreement to attend face-to-face meetings, and agreement not to change any pharmacologic treatment for GAD during the study. Excluding criteria for the sample included substance abuse disorders, uncontrolled physical disorders, psychosis, cognitive impairment, and other concurrent psychotherapy treatment for GAD.

Altogether, 29 individuals agreed to be contacted regarding participation in the study. Of these, 5 declined to participate following initial contact, and 9 were excluded due to criteria. Following a diagnostic interview, 11 individuals were further excluded. Of the remaining 4, one withdrew due to lack of time. The study was then conducted among 3 adults, ages 66 to 70 years. Data were compiled through self-report inventory. For pre-evaluation, each participant was given several questionnaires to evaluate the severity of their GAD symptoms as well as surveys related to depression and insomnia,

considered relevant to a GAD diagnosis. In total, 13 self-administered questionnaires were used to evaluate participants' symptoms, all of which are established assessment tools related to anxiety, depression, and aging. The treatment was then conducted over 15 weeks. Each subject was given a manual with CBT-GSH material covered in eight modules. For each module, the participant was asked to read the corresponding material in their manual, complete the exercises, and then return the booklet via mail at the end of the week. The material was then reinforced with a weekly 30-minute telephone session with a therapist. Additionally, the therapist and each subject met face-to-face once at the beginning and at the conclusion of the treatment. The sessions with the therapist were considered supplementary to the primary material from the manual. The pre-treatment questionnaires were repeated during treatment and at 6- and 12-months post-treatment.

Data analysis came from the results of the questionnaires. Participants' responses from each questionnaire were evaluated to see if they improved from clinical (responses indicating GAD) to non-clinical (indicating the absence of GAD). The researchers classified the results into three categories: time spent worrying, GAD severity, and the participants' evaluation of the treatment. In the first category, all subjects experienced marked and stable reduction of time spent worrying following initiation of treatment, although one subject briefly showed an increase in time spent worrying at onset. In the second category, GAD severity, a clinically significant change was seen among each participant from questionnaire scores at the end of treatment. The post-treatment scores of GAD severity were maintained at 12 months post-treatment for two participants, but the third had a return to pretreatment scores. The third category of

results, participant evaluation of treatment, showed generally positive regard for the CBT-GSH tool. Feedback suggested that the telephone therapy sessions be longer, the treatment extend beyond 15 weeks, and that the manual be reorganized. Notably, although the authors summarized the participants' scores in a table and line graph, no statistical analysis was performed beyond a Reliable Change Index.

The researchers concluded that the CBT-GSH tool is feasible and effective for treatment of GAD among older adults. Specifically, the CBT-GSH tool was found to diminish worries and the overall severity of GAD among the participants. The researchers acknowledged the limited generalizability of the sample to the overall targeted population, particularly given the younger ages of the participants and relatively good physical health compared to the geriatric population at large. Landreville et al. (2016) recommended future randomized controlled trials with the tool among a larger and more diverse sample to definitively evaluate if the GSH-CBT tool could be a first-line treatment for older adults with GAD.

Landreville et al. (2016) compellingly presented the need for improved modalities of treatment for geriatric GAD patients. Landreville et al. outlined well the need for increased recognition and active treatment of GAD, as well as acknowledging the harsh realities of obstacles for treating this age group, such as lack of resources, limited mobility of patients, etc. In response to this need, remote CBT-GSH seemed an appropriate form of treatment. Landreville et al.'s research was extensive and limited to primary sources. The nature of the data collection through self-report reduced the risk of bias and contributed to the trustworthiness of the study.

However, there were weaknesses in Landreville et al. (2016) which reduced the credibility of the researchers' conclusions. The most significant weakness of this study was the small sample size. Although the subjects were thoroughly vetted for eligibility criteria, the small number inherently diminished generalizability of the study. Moreover, the data analysis was tedious to review due to the lack of conciseness. Meta-analysis of questionnaire results would provide more succinct and categorical results, although meta-analysis is likely impossible without a larger sample size. The authors did not well define some of their operational terms, including GAD nor did they define what ages comprised the population of older adults.

Landreville et al.'s (2016) study is relevant to the current research. First, this study reinforces the notion that CBT is effective as a treatment for GAD. Second, this study provided a solution to the problem of accessibility to CBT. Often patients cannot afford the cost or time to partake in CBT, or CBT-trained clinicians are prohibitively far away or do not have openings for new patients for weeks to months. For the geriatric population, mobility and resources for transportation to a CBT clinic are of special concern. For these reasons, the implementation of a self-help manual with telephone sessions could increase accessibility to CBT for the broader population.

Maust, Kales, Wiechers, Blow, and Olfson (2016) conducted a study to address the issue of benzodiazepines being prescribed to older adults. Despite recommendations for guarded prescriptions, many primary care providers continue to prescribe Benzodiazepines for older adults, and the risk associated are often detrimental to the patient. Many times the side effects with benzodiazepines are often brushed off to elderly age behavior, such as increased risk for falls, increased risk for motor vehicle

accidents, impaired cognition, and increased dementia. The researchers noted the American Geriatrics Society (AGS) "recommended to avoid any use of benzodiazepines for the treatment of insomnia and agitation" (p. 2546). Despite this recommendation, one third of benzodiazepines are prescribed to older individuals. Maust et al. used prior studies to help identify the problem at hand and used data from the National Ambulatory Medical Care Survey (NAMCS). The information obtained from this survey revealed clinical characteristics of patients and looked into how continuation of benzodiazepines occurs. No obvious theoretical framework was identified.

The objective stated for the study was to determine how often benzodiazepines are prescribed to the elderly population and to identify how often the length of treatment is converted into long-term therapy. This study focuses on non-psychiatrist physicians. The purpose for this study was to provide information on the increased risk of benzodiazepines in older adults and to identify recommendations for management.

Methodology used analyses from NAMCS from 2007-2010 for the sample population. The survey included office-based physicians designed to include "objective and reliable information for the use of ambulatory medical care services in the United States" (Maust et al. (2016, p. 2547). The survey gives a physician a reporting period of one week where he or she is to report the cases that come into the office. Diagnosis, treatment, and medication are reported in the survey. Researchers looked specifically at any medication in the category of benzodiazepines. Characteristics of the visit were gathered for analysis including the following: (a) how many times the patient had been seen in the office in 12 months, (b) whether or not the visit addressed a new or chronic problem, (c) what patient complaints triggered benzodiazepine usage, (d) if any other

psychotherapy had been used in lieu of or in combination with benzodiazepines, and (e) whether or not a follow up visit was scheduled or not. Analysis limited the results to patients over 65 years old and used "logistic regression to test the association between individual characteristics and benzodiazepine therapy" (Maust et al., 2016, p. 2548). The denominator used for comparison of the proportion of benzodiazepine visits was pulled from each age group from the U.S. Census. Benzodiazepine prescribing was further compared by looking at type of prescribing—either new or a continuation of an already active medication. Analyses were obtained through Stata version 13.1.

Outcomes of the study revealed that benzodiazepines usage increased with age, and continuation increases with age as well. A higher proportion of older adults using benzodiazepines had increased chronic conditions, increased frequency of office visits, and increased prescription medications. Results mentioned were benzodiazepines prescriptions accounted for 5.6% of office visits or 20.4 million visits annually. Visits for new benzodiazepine therapy were often void of a mental health diagnosis. This finding led researchers to believe that oftentimes the prescribers were treating a troubling life event or acute stressful time period for the patient. Alternative therapies showed infrequent usage. Selective serotonin reuptake inhibitors qualify for first-line pharmacological therapy for anxiety, yet only 25% of all benzodiazepine users were taking an antidepressant. This finding suggested that the safest treatments for anxiety in older adults are not being used. Cognitive behavior therapy was almost absent in newly prescribed benzodiazepines with < 1% of all newly prescribed cases including referral to psychotherapy or education for stress management. Despite growing evidence of the risks and dangers of benzodiazepines use in older adults, therapy for anxiety with

benzodiazepines continue unabated. Maust et al. mentioned a previous study where chronic benzodiazepine users were asked about alternative methods for anxiety treatment, and the users reported doubt that it would help with symptoms and rejected the idea of psychological therapy. Reasons why benzodiazepine therapy is continued, despite recommendations stating the risk, were discussed with providers; and the majority reported that attempting taper and discontinuation would be time-consuming and likely unsuccessful. Maust et al. (2016) noted that, as stigmas decrease for mental illness, it is possible that older adults may consider psychotherapy in the future. However, accessibility would be a concern in certain regions.

Strengths of this study included the large sample size and large geographical location. The greater the sample and more diverse the area of data collection is the greater the pool of information for statistical analysis will be. Several weaknesses did present itself in the study. Clinical assessment of signs and symptoms of the presenting condition were not reported. Visit diagnoses were limited to 3 per patient, so additional information may have been present for clarification of benzodiazepine use or nonuse. NAMCS did not clarify if the benzodiazepines were prescribed on a PRN basis or a scheduled basis, and overestimation of usage could develop from this weakness. NAMCS focused on office-based clinics so the physicians in other settings were absent from the sample. Mentioned also was the focus of non-psychiatric physicians and whether or not the patient was being seen by a psychiatrist. It is possible that the psychiatrist initiated the continued benzodiazepines. Psychotherapy or other alternative therapies may have already been discussed or attempted.

Maust et al. (2016) provided a strong foundation to build the current research because the study helped address the current noncompliance of nonpsychiatric physicians' prescribing practices of benzodiazepines. Maust et al. (2016) mentioned that new protocols and strategies are needed to encourage physician discontinuation of inappropriate benzodiazepine usage. The usage of this way of thinking helped strengthen the current research hypothesis.

Stanley et al. (2014) assessed developing a broader workforce of those who can offer cognitive behavior therapy (CBT) to older adults that consisted of "lay providers working under the supervision of licensed providers" (p. 392). The current study consisted of evaluating bachelor-level lay providers (BLPs) working with licensed providers and with no healthcare experience compared to experienced PhD-level providers (PLPs) and usual care (UC) for CBT in late-life GAD. The growing need for healthcare professionals trained in geriatric mental health care is increasing exponentially. By 2030, "the growing number of older adults needing mental health care is expected to reach 10-14 million" (Stanley et al., 2014, p. 392). GAD is responsible for an increase in disabilities, comorbidities, memory loss, insomnia, and depression. The purpose of this study was to assess the effectiveness of BLPs in providing CBT to older adults with a diagnosis of GAD in hopes of broadening the workforce of professionals who can provide such options. There was no theoretical framework identified in the study.

The research question Stanley et al. (2014) attempted to answer was whether or not CBT for GAD can be provided by BLPs under the supervision of licensed providers and can be done effectively with positive results. Expected outcomes for the study

would be at the end of the 6-month trial the BLPs and PLPs group would have improved GAD symptoms when compared to the UC group. "Recent literature reviews and clinical trials suggest that psychosocial treatments of anxiety and depression delivered by experts and nonexperts produce comparable outcome, with potential economic and logistic advantages for nonexperts" (Stanley et al., 2014, p. 392).

The method of this study included 223 older adults with a mean age of 66.9 years with a diagnosis of GAD. Inclusion criteria for participation included a diagnosis of GAD or co-diagnosis of GAD guided by the Structured Clinical Interview for DSM-IV (SCID). Participants spoke English and psychosocial or pharmacological treatment was allowed. However, psychotropic medication had to be stable over the prior month. The patients were recruited through two different primary care clinics by self-referral and electronic medical records. They were randomly assigned to BLPs, PLPs, and UC groups and assessed at baseline of trial and at the end of the 6 months. CBT in the BLPs and PLPs groups included 3 months of skills training and 3 months of skills review via phone or in person. Skills training included "up to 10 skill-based sessions, including core (education, awareness training, and motivational interviewing; deep breathing; coping self-statements) and elective skills (behavioral activation, exposure, sleep management, problem-solving, progressive muscle relaxation, thought stopping and cognitive restructuring) skills" (Stanley et al., 2014, 393). Skills review consisted of patients being "called weekly for 4 weeks and then biweekly for 8 weeks to review skills and provide support for continued practice and skills use" (Stanley et al., 2014, p. 393). Patients expressing interest in the trial were asked screening questions in which responding affirmatively led to an in-person visit where further screening was pursued.

Those with suicidal ideations, psychosis, bipolar disorder, recent substance abuse, and cognitive impairment were excluded from participation.

Measures and data collection consisted of self-reported worry and anxiety along with clinician-rated measures. An 8-instrument questionnaire and a 6-item scale were used to measure the severity of worry phenomena in the GAD patients. Anxiety was also measured by a 20-item, self-reported questionnaire as well as a structured interview guide. Depression symptoms and insomnia were measured as a secondary outcome using an 8-item health questionnaire and a 7-item self-report measure, respectively. Physical and mental health was also measured as part of the clinical trial by using a 12-item short form of study. Self-report questions included information regarding if and what kind of medications were used prior to the 3 months of the study that included anti-anxiety meds and/or antidepressant meds.

The first group consisted of 5 BLPs who were all females with bachelor's degrees in a relevant field (e.g., psychology, sociology, etc.) who worked on the project one to 2 years. Their mean age was 25.6 years, and they had no previous training in mental health or late-life anxiety. Their training included reading, didactics, reviewed audiotapes of expert sessions, and role play. The second group consisted of 5 PLPs who were all women with a mean age of 30.8 years who worked on the project for one to 3 years. They were postdoctoral fellows who had previous training in CBT. Prior to the project, PLPs received training and gained experience in CBT through research and graduate schooling. CBT sessions for both groups occurred over 6 months and used skilled-based sessions and skilled review. The sessions were recorded and the results of the trial did not differ significantly between the BLP groups and the PLP groups.

A data analysis was gained from examining the differences between the groups at the end of 6 months. Randomized group individuals were found to be more educated, white men, with a higher income than the nonrandomized group. A total number of 43 patients dropped out with higher rates in the BLP and PLP groups than the UC group, but this did not interfere with the study results. The characteristics of the treatment between PLPs and BLPs showed no differences and showed improvement in patients receiving CBT when compared to those just receiving UC. It was found, at the end of the 6 months, that patients did not have to increase the dose of their antianxiety or antidepressant medications nor did they add any antidepressant medicine if they were not previously on these medications. By the end of the 6 months, the study actually showed a reduction or discontinuation of such medications. Results showed that GAD improved with CBT in both BLP and PLP groups, and GAD improvement was higher in these groups when compared to UC. The study supported "evidence-based mental health care supervised by licensed providers" (Stanley et al., 2014, p. 398) which can expand on the need for a bigger workforce for mental healthcare. This type of discovery may actually "bridge the gap between evidence and practice that plagues current care models" (Stanley et al., 2014, p. 398).

Stanley et al. (2014) reported that training procedures provided by providers produced competent lay providers who had no prior healthcare experience. A reported strength of this study was the trained lay providers were able to provide positive treatment outcomes for both BLP and PLP groups. A limitation of the study is the different backgrounds of socioeconomic status in the randomized groups versus the nonrandomized groups. Also, one of the instruments used for treatment was shortened

from its original version as well as there were no clear guidelines as to how GAD was actually diagnosed. The study was also limited by not clearly defining usual care.

This study was relevant to the current research on generalized anxiety care among primary care providers in Mississippi. "This study paves the way for future effectiveness and implementation trials of CBT for late-life GAD in other practice settings, including community-based service agencies in which a range of providers could learn to deliver CBT" (Stanley et al., 2014, p. 399). Other issues defined were requirements and costs of preparation of providers and adequate supervision and consultation of the anxiety treatment approach. This information is important to funding the expansion of nonexpert providers delivering CBT in all service settings as well as primary care offices. This study gives insight into the shortage of primary care providers with time or resources to conduct CBT as a treatment option for GAD and gives insight into other possible options that could be considered to deliver CBT. A possible limitation to the current researchers' project would be few referrals to CBT possibly because of limited resources available in the northern Mississippi area. This research by Stanley et al. (2004) expanded on the use of lay providers, including community providers, as a possible option for delivering CBT.

# CHAPTER III

## Design and Methodology

Benzodiazepines typically are not first-line treatment in the management of anxiety and are not recommended for long-term therapy. However, the prescription of benzodiazepines often does not comply with treatment recommendations. Psychological therapies are recommended as first-line therapy but are often underutilized (Maust et al., 2016). The researchers sought to identify the management practices of GAD F41.1 and Anxiety disorder, unspecified F41.9 among healthcare providers in northern Mississippi clinics. The researchers sought to determine therapy utilized by providers in five northern Mississippi primary healthcare clinics, including pharmacological and nonpharmacological therapy. If therapy included benzodiazepines, the length of time therapy was prescribed and reviewed.

### Design

The researchers utilized a qualitative, descriptive design using retrospective chart review to determine management practice of anxiety among healthcare providers in northern Mississippi. A data collection tool was designed to organize data (see Appendix A).

### Setting

Five clinics were chosen, all of which provide primary healthcare services to patients of all ages. The clinics chosen were located in northern Mississippi. Each participating clinic was staffed with at least one primary care provider (PCP) as well as support staff.

## Population and Sample

The target population for this study included male and female patients 18 years of age and older with a diagnosis of GAD and/or Anxiety disorder, unspecified. A convenience sample was used. A total of 498 charts were selected that met the above requirements. Data for this study were gathered through retrospective chart reviews, thus no human subjects were used.

## Methods of Data Collection

Prior to data collection, approval was obtained from the Mississippi University for Women (MUW) Institutional Review Board (IRB) to conduct the study (see Appendix B). After approval from the IRB, each researcher obtained informed consent from each family practice clinic's office manager (see Appendix C). The consent allowed each researcher to access medical records for the purpose of assessing the management practices of practitioners in relation to patients diagnosed with an anxiety diagnosis. Methods of access to medical records did not vary from clinic to clinic. Each researcher negotiated the use of temporary passwords to access electronic records. Empirical data were collected regarding the treatment of GAD F41.1 and Anxiety disorder, unspecified F41.9, the duration of treatment, and follow-up. To protect confidentiality, empirical data did not include any patient or clinic identifiers. Data included age, gender, race, payer type, marital status, provider type, diagnosis, any co-diagnoses, treatment prescribed to the patient, length of treatment, and whether or not education was provided regarding titration or cessation of benzodiazepines. Three treatment types were documented: pharmacologic, non-pharmacologic, or both.

Pharmacologic treatments were broken down into benzodiazepines, SSRIs, both, or other.

The data collection worksheet was utilized by each researcher to document the findings. Data were collected during normal business hours at the participating clinics and under staff supervision. Data were transferred to a spreadsheet for analysis, and the spreadsheet was housed on a password-protected computer and jump drive. At the conclusion of the study, all collected data were destroyed.

**Methods of Data Analysis**

The researchers designed the data collection worksheet for the chart review. Once all data were collected and entered onto a spreadsheet, descriptive statistical analysis was conducted. The data collection worksheet included the following information: age in years, gender, race, payer type, marital status, provider type, diagnosis, co-diagnosis, treatment, pharmacologic treatment, how long benzodiazepine treatment lasted, education or discussion regarding titration or cessation of benzodiazepine treatment, titration down or cessation of benzodiazepine treatment, and non-pharmacologic treatment type. Data were subjected to analysis using descriptive statistics including frequency distribution and percentages. Data were then analyzed for physician adherence to state medical board prescriptive regulations.

**Disclosure**

No incentives whatsoever were provided to the clinics to participate in this research. At the conclusion of the study, a letter thanking each participating clinic was delivered expressing the researchers' appreciation for their cooperation (see Appendix D). A copy of this research was also provided to each clinic.

# CHAPTER IV

## Results

Generalized Anxiety Disorder (GAD) is a very common psychiatric disorder in the United States, affecting upwards of 18% of the population at some point in the lifespan. The economic impact of anxiety disorders is approximated at $42 billion annually (Greenberg et al., 1999). Patients with GAD experience detrimental effects in multiple domains of life, including occupational, relational, and physical (Weisberg et al., 2014). There is a magnitude of research to support the use of psychotherapy, particularly cognitive-behavioral therapy (CBT) and selective serotonin reuptake inhibitors (SSRIs) as first-line treatment for GAD. However, in practice, the use of benzodiazepines as first-line and long-term treatment for GAD is widespread (Maust et al., 2016). Benzodiazepines, while effective for short-term management of anxiety, can be associated with many detrimental side effects (especially in the elderly) and cause dependence when given long-term (Maust et al., 2016). With mounting research indicating many detrimental side effects with long-term benzodiazepine use, the Mississippi State Board of Medical Licensure has limited the prescription of benzodiazepines to 90 days (Mississippi State Board of Medical Licensure, 2018).

The primary goal of this study was to evaluate primary care providers' common management practices of GAD in primary care settings in northern Mississippi. Specifically, the research focused on the frequency with which primary care providers (PCPs) referred GAD patients to psychotherapy, the medications PCPs prescribed for pharmacological management of GAD, and whether or not the prescription of benzodiazepines followed the guidelines set forth by the Mississippi State Board of

Medical Licensure. Secondary research questions included the common demographic characteristics of GAD patients, common demographic traits of patients on long-term benzodiazepine therapy, and the trends of management of GAD among different PCPs.

A nonexperimental, quantitative, descriptive, retrospective review of charts in five different primary care clinics in northern Mississippi was conducted to evaluate the research questions. A convenience sampling of 498 patient charts was used. The sample included patients 18 years of age or older with a confirmed diagnosis of GAD F41.1 or Anxiety disorder, unspecified F41.9 that was being addressed during the visit. Specifically, the provider either wrote a note about the diagnosis, made a referral related to the diagnosis, or wrote a prescription for the diagnosis. Data collection was limited to patient records from the year 2014 and forward to the date of data completion—March 2019. All five primary care clinics utilized electronic health records. The records were chosen by searching ICD-10 diagnosis codes for either GAD F41.1 or Anxiety disorder, unspecified F41.9. Patient demographic information obtained during the data collection included age, gender, race, payer type, and marital status. Additional information obtained included diagnosis, co-diagnosis, treatment and type of pharmacological or non-pharmacological, and if referral to psychiatry or psychotherapy (CBT) was made. If pharmacological treatment included benzodiazepines, the following was noted: whether or not the provider titrated the medication down and whether or not the provider educated the patient about the need for titration or cessation of benzodiazepine treatment. Finally, the provider type was retrieved from the chart. Although a goal of 500 charts was initially set, eligibility criteria limited the convenience sample to 498.

**Profile of Study Participants**

**Age.** The research sample consisted of individuals ranging from 18 to 88 years of age. Age of the sample population was grouped into three categories. Group 1 consisted of 92 patients aged 18-30 years, group 2 consisted of 313 patients aged 31-64 years, and group 3 consisted of 93 patients 65 years or greater in age.

**Gender**. The sample population was comprised of more females than males. Of the records reviewed, 353 (70.9%) were female patients, and 145 (29.1%) were male patients.

**Race.** The sample was comprised of 415 (83.3%) Caucasians, 56 (11.2%) African-Americans, 12 (2.4%) Hispanics, 13 (2.6%) unknown race, 1 (0.2%) Native American, and 1 (0.2%) other. There were no Asian American or Middle Eastern patients in the random sample population.

**Payer type**. The payer type of the sample consisted of 252 (50.6%) with commercial insurance, 125 (27.1%) with Medicare, 65 (13.1%) self-payer, and 46 (9.2%) with Medicaid.

**Marital status**. The marital status of the sample was comprised of 272 (54.6%) married, 115 (23.1%) single, 44 (8.8%) unknown status, 38 (7.6%) divorced, 27 (5.4%) widowed , and 2 (0.4%) separated.

**Provider type**. The provider type of the sample was comprised of 321 (64.5%) patients were treated by a nurse practitioner, 141 (28.3%) were treated by a medical doctor (MD), 34 (6.8%) were treated by a doctor of osteopathy (DO), and 2 (0.4%) patients were treated by a physician's assistant (PA).

**Diagnosis**. The sample population was identified by utilizing ICD-10 diagnosis codes of GAD F41.1 or Anxiety disorder, unspecified F41.9. Of the sample ($N$ = 498), 376 (75.5%) were diagnosed with Anxiety disorder, unspecified F41.9, and 122 (24.5%) were diagnosed with GAD F41.1.

**Co-diagnoses.** The current researchers identified six different co-diagnoses noted in the sample population in addition to anxiety diagnoses. Of the total sample ($N$ = 498), 294 (40.9%) had at least one co-diagnosis. Of those who had a co-diagnosis, 140 (47.6%) had a diagnosis of other as listed on tool, 94 (32.0%) had a diagnosis of depression, 30 (10.2%) had a diagnosis of chronic obstructive pulmonary disease (COPD), 19 (6.5%) had a diagnosis of congestive heart failure (CHF), 6 (2.0%) had a diagnosis of chronic kidney disease (CKD), and 5 (1.7%) had a diagnosis of cerebrovascular accident (CVA). Of those identified with a co-diagnosis ($n$ = 294), 28 (9.5%) were identified as having multiple co-diagnoses.

**Treatment type**. The type of treatment modality for the sample, including pharmacologic and nonpharmacologic, was determined. Of the sample population, 463 (93.0%) patients were treated with pharmacological therapy alone, 30 (6.0%) patients were treated with a combination of pharmacologic and nonpharmacologic therapy, and 5 (1.0%) patients were treated with nonpharmacologic treatment alone.

**Nonpharmacologic treatment type**. Of the patients treated with nonpharmacological therapy or a combination therapy of nonpharmacological and pharmacological therapy, 22 (62.9%) were referred to psychiatry and 9 (25.7%) were specifically referred for CBT. Within the sample, 4 (1.1%) of those sampled were already established patients with psychiatry.

**Pharmacologic treatment type**. Of the patients treated with pharmacological therapy, 223 (45.23%) patients were prescribed a SSRI alone, 105 (21.31%) were prescribed a benzodiazepine alone, 86 (17.44%) patients were prescribed a combination of SSRI and a benzodiazepine, and 79 (16.02%) were prescribed another pharmacological agent for anxiety. In total, 191 (38.4%) patients were treated with benzodiazepine therapy, whether alone or in combination with another medication.

**Length of benzodiazepine therapy**. For patients who were prescribed a benzodiazepine, either alone or in combination with a SSRI, the length of treatment was noted. Data were calculated from patients who were prescribed a benzodiazepine only and from patients who were prescribed a benzodiazepine in combination with another prescription. From the sample of all patients who were prescribed a benzodiazepine ($n$ = 191), 48 (25.1%) patients were prescribed benzodiazepines for one month or less, 14 (7.3%) were prescribed benzodiazepines for 2 months or less, 35 (18.3%) were prescribed benzodiazepines for 3 months or less, 94 (49.3%) were prescribed benzodiazepines for a time period > 3 months.

**Education or discussion of titration or cessation of benzodiazepine treatment**. For patients prescribed a benzodiazepine ($n$ = 191), it was noted whether or not the prescriber discussed titration or cessation of benzodiazepine treatment with the patient. Of the sample that were prescribed a benzodiazepine, 31 (16.2%) were provided education or discussion regarding titration or cessation of benzodiazepines treatment).

**Titration of benzodiazepine treatment.** It was noted how many patients were titrated down in their therapy. Of those found who were prescribed a benzodiazepine ($n$

= 191), only 32 (16.8%) of those sampled had documentation of any effort to titrate down the benzodiazepine.

**Statistical Results**

A random convenience sampling of 498 medical records was reviewed to complete this retrospective chart review. In total, 376 patients had a diagnosis of GAD F41.1 and 122 had a diagnosis of Anxiety disorder, unspecified F41.9. Patients aged 18 years or older with either of these diagnoses met the inclusion criteria. The researchers entered all statistical information from the data collection worksheets into a Microsoft Excel spreadsheet and formulated to determine $n$ = number for each category. Inferential statistics were tested using $\alpha = 0.05$. The researchers investigated the following research questions:

1. Are PCPs in northern Mississippi referring patients to psychotherapy for treatment of GAD F41.1 and/or Anxiety disorder, unspecified F41.9?
2. What medications are PCPs prescribing for the treatment of GAD F41.1 and/or Anxiety disorder, unspecified F41.9?
3. If PCPs are prescribing benzodiazepines to their GAD F41.1 and/or Anxiety disorder, unspecified F41.9 patients, are they limiting prescriptions to three months?

**Research question 1. Are PCPs in northern Mississippi referring patients to psychotherapy for treatment of GAD?** Psychotherapy, specifically CBT, is effective for long-term management of anxiety; therefore, it was relevant to inquire how often PCPs utilize this form of treatment. Research supports CBT as first-line treatment of anxiety to manage symptoms (Weisberg et al., 2014). Literature suggested that when

patients utilize CBT or psychotherapy, the patients reported higher levels of satisfaction than when pharmacological treatments were used alone (Maust et al., 2016). Of the patients identified in the sample population ($n$ = 35) who were referred for psychotherapy, 26 (74.3%) of these patients were referred to psychiatric services without a specific modality of treatment, and 9 (25.7%) were specifically referred for CBT.

**Research question 2. What medications are PCPs prescribing for the treatment of GAD?** Research regarding treatment of anxiety indicated that when pharmacological treatment is necessary, the first-line choice should be SSRIs. These medications are considered to be effective, non-addictive, and a mild side effect profile. Benzodiazepines are discouraged in treatment for anxiety due to dependence and common adverse effects, although they may be prescribed short-term in cases of debilitating anxiety (Maust et al., 2016). Statistical analysis found that of the patients receiving pharmacological treatment ($n$ = 493), 223 (45.2%) were prescribed a SSRI, 105 (21.3%) were prescribed a benzodiazepine alone, 86 (17.4%) were prescribed a combination of a benzodiazepine and a SSRI, and 79 (16.1%) of patients were prescribed another class of medication for GAD.

**Research question 3. If PCPs are prescribing benzodiazepines to their GAD patients, are they limiting prescriptions to three months?** Research supports limiting benzodiazepines to short-term periods only as needed for debilitating anxiety while awaiting for SSRIs to achieve therapeutic effect (Weisberg et al., 2014). Literature review revealed that 6 to 8 weeks' duration of therapy is recommended (Maust et al., 2016). The Mississippi State Board of Medical Licensure (2008) allows

up to 90 days of prescription of benzodiazepines. Statistical analysis revealed that 94 (49.2%) patients who received benzodiazepine therapy for GAD were still being prescribed benzodiazepines after 3 months.

**Trends among provider type**. Of interest to the researchers were the trends of treatment among the different provider types. Nurse practitioners were the providers for 321 (64.5%) of patient charts. The most common treatment modality among nurse practitioners was to prescribe an SSRI, 146 (45.6%) patient charts. Nurse practitioners prescribed an alternative pharmacological agent in 60 (18.7%) patient charts. Both an SSRI and a benzodiazepine were prescribed for 59 (18.4%) patients. Benzodiazepines alone were prescribed by nurse practitioners in 54 (17.1%) patient charts. Referrals to psychotherapy were made in 14 (4.4%) patient charts. Combinations of treatment modalities were used in multiple patients.

MDs were the providers for 141 (28.3%) patient charts. MDs prescribed SSRIs alone in 69 (48.9%) patients and benzodiazepines alone in 33 (23.4%) patients. MDs prescribed a combination of a benzodiazepine and a SSRI in 24 (17%) patient charts and prescribed alternative medication for 15 (10.6%) patients. MDs referred patients to psychotherapy in 7 (5%) patient charts.

DOs provided care for 6.8% of patient charts reviewed ($n$ = 34). DOs prescribed benzodiazepines alone in 16 (47.1%) charts. DOs prescribed SSRIs alone in 9 (26.5%) patient charts. DOs prescribed alternative pharmacological treatment in 5 (14.7%) charts ($n$ = 5). DOs prescribed both a SSRI and a benzodiazepine in 4 (11.8%) patient records. DOs referred 1 (2.9%) patient to psychiatry.

PAs provided care for 2 (0.4%) patients. PAs prescribed benzodiazepines alone in 2 (100%) patient charts. However, the validity for this group was low due to the small sample size.

**Trends among patient demographics**. The demographic trends among patients with anxiety were noted. Research suggested that anxiety disorders are more prevalent in elderly females, in higher socioeconomic class, and with significant health comorbidities (Ruscio et al., 2017). From data collected, women in the sample outnumbered men ($n$ = 353, 71%). The most common age category ($n$ = 313) was the 31-64-years-old. The most common race was Caucasian ($n$ = 415, 83.3). The most prevalent payer type, indicating socioeconomic status, was commercial at 252 (50.6%). The most common marital status was married seen in 272 (54.6%) charts. Co-diagnoses among the sample ($N$ = 498) were as follows: 235 (47.2%) did not have any co-diagnoses, 140 (28.1%) had documentation of a co-diagnoses other than what was listed on the tool, 94 (18.9%) had depression, 30 (6.0%) had COPD, 19 (3.8%) had CHF, 6 (1.2%) had CKD , and 4 (0.8%) had CVA. Data also revealed that, of those sampled with a co-diagnosis listed in the tool, 35 (13.3%) had more than one of the listed co-diagnoses.

**Trends among patients on benzodiazepine therapy**. Statistical analysis from the current research found the following trends among patients receiving benzodiazepine therapy. The most common age range for patients on benzodiazepine therapy was in the 31- to 63-year-old range ($n$ = 121). Women were far more likely to be on benzodiazepine therapy, comprising 144 (75.4%) patients on the drug. Of the sample, 158 (82.7%) of the patients prescribed a benzodiazepine were Caucasian.

Commercial insurance was the most common payer type among patients on the drug (n = 82, 42.9%). The majority of patients on benzodiazepine therapy were married ($n$ = 110, 57.6%). Of the 191 patients prescribed benzodiazepines, 494 (9.2%) remained on a benzodiazepine for > 3 months.

**Summary of Findings**

Chapter IV presented the researchers' findings from the retrospective review of 498 patient charts from five clinics in northern Mississippi. Findings from the demographics and research questions were presented. Although benzodiazepines are typically not first-line treatment in the management of anxiety and are not recommended for long-term therapy, the researchers found compliance with the recommendations for treating patients with anxiety were not being followed. Only 36 (7.2%) patients were referred for psychotherapy. PCPs only prescribed SSRIs in less than half of patients ($n$ = 223, 44.8%) with anxiety. Yet, according to research, these meds should be used first-line. Benzodiazepines were prescribed for 191 (38.4%) patients with anxiety. Of the patients prescribed benzodiazepines, 191 (49.2%) were not limited to the state board prescriptive guidelines of a 90-day timeframe. Among different types of PCPs, nurse practitioners and MDs were found to have similar treatment practices. DOs and PAs were found to be the most noncompliant with evidence-based practice recommendations. Demographic trends among patients with anxiety diagnoses were consistent with research. Demographic trends among patients treated with benzodiazepines were also consistent with the literature. These conclusions supported the need for further provider education regarding appropriate treatment of

anxiety in the primary care setting as well as the opportunity for development of primary care guidelines to streamline therapy modalities for patients with anxiety.

# CHAPTER V

## Summary, Conclusions, and Recommendations

The purpose of this study was to evaluate the management practices of anxiety among primary care providers in northern Mississippi and to evaluate those practices against the current research. Although there are evidence-based studies supporting the use of certain pharmacological and nonpharmacological treatments for the disorder, the American Psychiatric Association has not published clinical guidelines for PCPs to follow as of 2018 ("Clinical practice guidelines," 2018). The researchers evaluated how patients with an anxiety diagnosis by their PCPs were treated and if any guidelines were followed. It was noted in current literature that although CBT and SSRIs have been established in research as first-line treatment options for anxiety, many providers prescribe benzodiazepines long-term for patients.

The design and methodology of the study conducted by the nurse researchers consisted of a retrospective convenient sampling of approximately 100 charts in five separate clinics across north Mississippi. Inclusion criteria were patients between the ages of 18 and older with a diagnosis of GAD and/or Anxiety disorder, unspecified. The data were collected using a data collection worksheet constructed by the researchers. Management practices were evaluated by the following research questions.

1. Are PCPs in northern Mississippi referring patients to psychotherapy for treatment of GAD F41.1 and/or Anxiety disorder, unspecified F41.9?
2. What medications are PCPs prescribing for the treatment of GAD F41.1 and/or Anxiety disorder, unspecified F41.9?

3. If PCPs are prescribing benzodiazepines to their GAD F41.1and/or Anxiety disorder, unspecified F41.9 patients, are they limiting prescriptions to three months?

This research was guided by previous studies related to benzodiazepine safety, effectiveness of psychotherapy, and the prescribing of SSRIs first line for the treatment of.anxiety. Betty Neuman's systems model was the theoretical framework used to guide the current research. Some of the major concepts from this model include the uniqueness of the individual, adaptation to stress, and wholistic wellness promotion. Due to these major concepts, the systems model is frequently used to guide nursing research related to psychological stress or dysfunction. Neuman wrote about four major assumptions pertinent to the application of the model: person, environment, health, and nursing.

**Summary of the Findings**

The sample project consisted of 498 patient records. The samples were gathered from five primary care clinics in North Mississippi during March 2019. All 498 patient records either had a diagnosis of GAD F41.1 or Anxiety disorder, unspecified F41.9. Of the total records reviewed, 353 (70.9%) were female patients and 145 (29.1%) were male patients. Ages were grouped into three different categories, 18-30, 31-64, and >65 years old. Of all the records reviewed, 92 (18.5) were in the 18-30 year old category, 313 (62.9%) were in the 31- to 64-year-old category, 93 (18.7%) were in the > 65-year-old category. Ethnicity of the sample consisted of 415 (83%) Caucasians, 56 (11.2%) African Americans, 12 (2.4%) Hispanics, 1 (0.2%) Native American, 1 (0.2%) Other, and 13 (2.6%) Not Specified. There were no Middle Eastern or Asian Americans in the

sample population. The sample showed a variety of payment methods including Commercial Insurance ($n$ = 252, 50.6%), Medicare ($n$ = 135, 27.1%), Self-Payer ($n$ = 65, 13.1%), and Medicaid ($n$ = 46, 9.2%). Patient records were pulled from a variety of providers including Nurse Practitioners ($n$ = 321, 64.5%), Medical Doctors ($n$ = 141, 28.3%), Doctors of Osteopathic Medicine ($n$ = 34, 6.8%), and Physician Assistants ($n$ = 2, 0.4%).

According to the review of literature, providers should utilize psychotherapy as first-line treatment for anxiety; if unsuccessful, a SSRI should be prescribed. Benzodiazepine prescription should only be used short-term and as an adjunct to other therapy. Of the patients diagnosed with either GAD F41.1 or Anxiety disorder, unspecified F41.9, 463 (93%) received a pharmacological treatment type, 30 (6%) received both pharmacological and nonpharmacological treatment type, and 5 (1%) received a nonpharmacological treatment type alone. SSRIs were prescribed in 223 (44.8%) charts, 86 (17.3%) were prescribed SSRI and benzodiazepines together, and another agent was used in 15.9% ($n$ = 79) of charts. In total, 191 (38.4%) were prescribed benzodiazepines, whether alone or in combination with another medication.

**Discussion of Findings**

According to the review of literature, benzodiazepines should not be used for the primary treatment of anxiety, yet data showed that 21.1% ($n$ = 105) of the time it was used as a first-line medication. When accounting for benzodiazepines prescribed in combination with other medications, 191 (38.4%) patients received a benzodiazepine prescription. The current researchers also found that the majority of the patients prescribed benzodiazepines were married ($n$ = 272, 54.6%), females ($n$ = 353, 70.9%),

and Caucasian ($n$ = 415, 83.3%). According to the review of literature, a benzodiazepine may only be used as an adjunct to therapy or in a short-term duration of therapy. From the sample of all patients who were prescribed a benzodiazepine ($n$ = 191), 48 (25.1%) were prescribed benzodiazepines for one month or less, 14 (7.3%), were prescribed benzodiazepines for 2 months or less, 35 (18.3% ) were prescribed benzodiazepines for 3 months or less, and 94 (49.3%) were prescribed benzodiazepines for a time period > 3 months.

Our research findings indicated that the only providers who prescribed nonpharmacological treatment alone were nurse practitioners, seen in only 5 (1%) of patients. The other providers (e.g., MDs, DOs, and PAs) did not prescribe nonpharmacological treatment alone. It should also be noted that 30 (6%) patients received psychotherapy in combination with pharmacological therapy. These results are in sharp contrast to literature suggesting that patients receive psychotherapy as first-line treatment for GAD (Landreville et al., 2016).

SSRIs were prescribed alone in 223 (44.8%) patient charts reviewed. Benzodiazepines were prescribed as a single treatment modality in 105 (21.1%) cases. Both a benzodiazepine and a SSRI were given in 86 (17.3%) cases. The gender distribution was 350 (70.9%) females and 145 (29.1%) males. It appears that women are more likely to seek treatment for anxiety. Our research findings revealed the age group that was most frequently seen for anxiety were aged from 31-64 years old ($n$ = 313, 62.9%). These findings were consistent with research that correlated an anxiety diagnosis with females and ages < 60-years (Ruscio et al., 2017).

**Limitations**

Limitations readily identifiable prior to performing data collection were identified as small sample size, geographically limited data collection, and the use of convenience sampling. As recognized in the methodology section of this study, data were obtained by performing a retrospective chart review from five primary care clinics in northern Mississippi. The population consisted of adults aged 18 years and older. Data were collected and analyzed from a sample of 498 charts. The study was designed to examine the management practices of primary care providers in the treatment of GAD F41.1 or Anxiety disorder, unspecified F41.9.

The researchers identified several limitations that had the potential to modify the outcomes of the study. Data were collected via convenience sample, thus randomization was limited. Convenience sampling does not provide a true representation of the entire population because the participants were chosen simply out of convenience by the researchers. Also, two significant limitations were the small sample size and the short duration of data collection. Of the 500 charts viewed, the sample size consisted of 498 charts that met requirements. This small size limited generalizability of the findings and reliability of study results. Additionally, data collection only occurred for one month (March of 2019), thus limiting time for data collection.

Regarding provider type, the small sample of 2 PAs and 34 DOs limited generalizability of data to a broader provider population. Another limitation was found with the marital status category on the tool. In practice. it appears that this demographic is updated infrequently and may be unreliable. The data worksheet concerning

comorbidities proved to be a limitation. Some researchers coded all eligible comorbid conditions for each patient, while some researchers elected to code only one comorbidity. This discrepancy among the researchers resulted in inconclusive data regarding comorbidities among patients with anxiety.

Another limitation was the wide variety of formats of patients' charts that were reviewed for data collection. While some charts had a specific location at which to find information regarding the research questions, some charts had a less clear format so there is a possibility that pertinent data could have been overlooked.

In regard to geographic diversity, all data were collected in clinics within a 29-mile perimeter. Therefore, findings only represented a small portion of one state and may not be appropriate for generalization beyond this geographic location.

**Conclusions**

The purpose of this study was to determine management practices of primary care providers in the treatment of anxiety in northern Mississippi. The study evaluated the charts of patients 18 years of age and older. The study design was a retrospective chart review of 498 charts that were selected based on a diagnosis of GAD F41.1 or Anxiety disorder, unspecified F41.9. Based on the current research data, nurse practitioners were the only provider type that prescribed nonpharmacological treatment for anxiety. MDs and nurse practitioners were less liberal in benzodiazepine prescription practices; however, the sample sizes for PAs and DOs were limited. There were only 34 DOs and 2 PAs in the sample. When comparing the providers in the current research, NPs were found to be the only providers that referred to psychotherapy. Based on research data, the majority of primary care providers in

Mississippi were prescribing pharmacological therapy as first-line treatment for anxiety. It is plausible that the primary care providers were not aware of research-based recommendations when prescribing benzodiazepines. The researchers concluded that primary care providers in Mississippi demonstrate a need for heightened awareness and education regarding research-based recommendations for prescribing benzodiazepines.

**Implications**

Long-term benzodiazepine usage is present among patients with anxiety despite known harmful effects of the drug class and the availability of more effective treatments (Bernard et al., 2018). The problem has gained attention of multiple federal and state agencies. Research regarding the harmful effects of benzodiazepines and the availability of more effective treatment options for anxiety have led the Mississippi Board of Medicine to adopt restrictions on benzodiazepine prescription to 90 days (Mississippi State Board of Medical Licensure, 2018).

Previous research has suggested other interventions through using the electronic health record. Some of these interventions previously studied are as follows. One suggested alternative intervention provided a pop-up screen for each patient diagnosed with GAD F41.1 or Anxiety disorder, unspecified F41.9, stating that benzodiazepines are not generally indicated for a certain diagnosis. The medical record would then suggest alternative treatment options for the patient. This intervention would remind the primary care providers that alternative interventions besides prescribing benzodiazepines could be utilized. The accountable justification intervention prompted the providers while in the EHR by asking them to free text their treatment decision if a benzodiazepine was prescribed for a diagnosis of GAD and/or Anxiety disorder,

unspecified. The prompt would not be dismissed unless the provider acknowledged it, but the provider could dismiss the benzodiazepine order which would not create a justification note. The behavioral intervention would improve providers' decision-making about inappropriate benzodiazepine-prescribing. The peer comparison intervention would allow providers to be ranked from the most to least in appropriate benzodiazepine prescribing using the EHR data. The providers with the lowest rates of inappropriate benzodiazepine prescribing would receive an email each month stating they were the "Top Performers." The remaining providers of inappropriate benzodiazepine prescribing would receive an email each month stating that they were "Not a Top Performer." The emails included the amount of prescribed benzodiazepines that were inappropriate for GAD and/or Anxiety disorder, unspecified compared to those listed by top performers.

The research identified that the utilization of psychotherapy was very low among all providers. Research indicated that psychotherapy should be a first-line intervention as well as an adjuvant to all anxiety disorder treatments. It appears that all types of providers need more education regarding the utilization of psychotherapy in the treatment of anxiety disorders in order to comply with research-based recommendations.

These interventions may be helpful in improving adherence to the short-term use of benzodiazepine therapy. Decreasing the number of benzodiazepine prescriptions written will help to decrease the overuse that is leading to the benzodiazepine crisis. This research project yielded findings that PCPs in northern Mississippi employ practices of benzodiazepine prescription that are somewhat incongruent with research-

based recommendations. The implication is that nonadherence to the standards of care continue to place patients at risk for benzodiazepine addiction and abuse.

**Recommendations**

The student researchers revealed during the study that multiple areas of interest warrant further investigation through future research. Four recommendations were created from this study. First, replication of the study should indicate a larger sample size to ensure a more accurate representation of healthcare provider practices for the GAD and/or Anxiety disorder, unspecified population. Second, replication of the study should include a more populous sample ascertained by including a more extensive geographical area. Third, replication of the study should include less time constraints allowing for an extended period of time. Fourth, any future study should correct the limitations as described above.

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# APPENDIX A

## Retrospective Chart Review Data Collection Tool

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Age in years | 18-30 | 31-64 | 65+ | | | | |
| Gender | Male | Female | Other | | | | |
| Race | Caucasian | African-American | Hispanic | Asian American | Middle Eastern | Native American | Other |
| Payer type | Commercial | Medicaid | Medicare | Self-payer | Other | | |
| Marital status | Single | Married | Divorced | Widowed | Separated | Other | |
| Provider type | NP | MD | DO | PA | | | |
| Diagnosis | Generalized Anxiety Disorder F41.1 | Anxiety, unspecified F41.9 | | | | | |
| Co-diagnosis | CHF | COPD | CKD | Depression | CVA | Other | |
| Treatment | Pharmacologic | Non-pharmacologic | Both | | | | |
| If pharmacologic treatment, what medication | Benzodiazepine | SSRI | Both | Other | | | |
| How long benzoiazepine treatment lasted | 1 month or less | 2 months or less | 3 months or less | > 3 months | | | |
| Education or discussion regarding titration or cessation of benzodiazepine treatment | Yes | No | | | | | |
| Titration down or cessation of benzodiazepine treatment | Yes | No | | | | | |
| If nonpharmacologic treatment, what type | CBT | Referral to psychiatric services | | | | | |

# APPENDIX B

## IRB Approval of Mississippi University for Women

The W Mississippi University for Women
*...tion of Excellence for Women and Men*

Provost and Vice President for Academic Affairs
1100 College St. MUW-1603
Columbus, MS 39701-5800
(662) 329-7142
(662) 329-7141 Fax
www.muw.edu

February 28, 2019

Sueanne Dav... D
Mississippi U... r Women
College of ...g... Health Sciences
1100 Colleg... et, ...-910
Columbus, M... 70

Dear Dr. Davi...:

I am pleas... you that the members of the Institutional Review Board (IRB) have reviewed t... roposed research and have approved it as submitted:

| | |
|---|---|
| Nam... Stu... | Generalized Anxiety Disorder: Management Practices among Primary Care Providers in Northern Mississippi |
| Research Facu... y/Advisor: | Sueanne Davidson |
| Investi...gators: | Grace Henson |

I wish you ... ... in your research.

Sincerely,

Scott T... ...

Scott Tollis... ...
Interim Pro... ... President for Academic Affairs

ST/tc

pc: Irene Pi... ...tional Review Board Chairman

## APPENDIX C

### Consent to Conduct Study

To Whom It May Concern:

We are graduate students in the Family Nurse Practitioner program at Mississippi University for Women in Columbus, Mississippi. As a program requirement, we are conducting a study to evaluate Generalized Anxiety Disorder (GAD) management practices among primary care providers in northern Mississippi. We will be conducting a retrospective chart review of patients between the ages of 18 and 100 years old with a diagnosis of GAD or anxiety. We are requesting permission to review eligible charts of patients in your clinic. We are aware that we will need to maintain confidentiality of all information obtained.

We agree to undergo or consent to any HIPPA requirements set forth by your practice regarding patient privacy and confidentiality. The data collected from each review will be recorded on a data collection worksheet to be kept on a confidential electronic flash drive stored in a secure location with access only to the researchers. At termination of research project, this information will be destroyed by incineration of the drive per HIPPA guidelines. No clinic or patient identifiers will be used in the study.

Your participation in this study is strictly voluntary. You may withdraw your consent and participation in this study at any time. The result of the study will be made available to you upon completion of the research project.

If you have any questions concerning this study, please contact the following committee members: Dr. Sueanne Davidson, Committee Chair, 662-329-7323; Grace Henson, 662-316-2546; Benjamin Spencer, 662-586-8994; Al Rayburn, 662-488-5658; Sabrina McClain, 662-509-0303; or Jennifer Bolen, 662-401-0660.

Sincerely,

Grace Henson, Benjamin Spencer, Al Rayburn, Sabrina McClain, and Jennifer Bolen

I have read the above letter of consent and agree to the utilization of this clinic for the above mentioned research project. I understand that HIPPA regulations will be strictly followed, and the confidentiality of each chart chosen will be maintained. I also understand that the results of the study will be made available to me at the project's end.

| Name and Title | Signature | Date |
|---|---|---|