

5-12-2022

The Outcome of a Multidimensional Intervention Strategy for the Management of Generalized Anxiety Disorder in an Internal Medicine Setting

Nicholas Davidson

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**The Outcome of a Multidimensional Intervention Strategy for the Management of
Generalized Anxiety Disorder in an Internal Medicine Setting**

by

NICHOLAS DAVIDSON

EVIDENCE-BASED PRACTICE PROJECT REPORT

Submitted to the College of Nursing and Health Professions

of Valparaiso University,

Valparaiso, Indiana

in partial fulfillment of the requirements

For the degree of

DOCTOR OF NURSING PRACTICE

2022

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ACKNOWLEDGMENTS

I would like to thank Dr. Chris Paquin who was my advisor during the entirety of this EBP project. Her knowledge and background in caring for patients with mental health illnesses was a tremendous asset to the project. Her assistance was vital in guiding me through the different phases of the project. I would like to thank her for all the time and energy to help me make sure I was on the right track in performing the project the right way. I would like to thank the clinic where I performed the EBP project. Especially to the project site facilitator who helped me get the idea to start this project. I would like to also thank the other members of the clinic. They were gracious enough to take the time out of their busy schedules to assist me and make the project a priority. Without their help I would not have been able to do this project. I would also like to thank my family. My Mom and Dad have supported me and my educational dreams, and my wife, Morgan, her selflessness has allowed me to selfishly pursue this doctoral education. She has been a pillar for me. When I did not believe in myself, she still believed in me. Thank you, and I love you. Lastly, I would like to thank the God above. Who has blessed me beyond belief and has given me so many opportunities to make HIM known in this world. I know that becoming a nurse practitioner will only further my ability to bring HIS love into this world.

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ABSTRACT

Anxiety disorders are very prevalent in the United States. The most common type, Generalized Anxiety Disorder (GAD), affects 6.8 million adults every year. GAD can cause significant deficits in a person's ability to function, decrease their quality of life and increases a person's risk of attempting suicide. The purpose of this evidence-based practice (EBP) project was to improve the outcomes of adults diagnosed with GAD in an internal medicine setting by implementing a protocol composed of a combination of interventions. A thorough literature search was conducted to find the best available evidence to support the project. A total of 11 pieces of evidence were used and the Johns Hopkins Appraisal Tool was used to grade the evidence. After a thorough review of the literature, it was concluded that best practice for the treatment of GAD was a combination of interventions that included verbal and written education, cognitive behavioral therapy (CBT), using an online application, and medication therapy. This protocol was implemented in an internal medicine office in Indianapolis, IN. A total of 12 participants completed the project. Their anxiety was measured using the Generalized Anxiety Disorder-7 (GAD-7) questionnaire at baseline, then at two, four and eight weeks after implementation. To analyze the data, a one-way ANOVA will be used to measure the effectiveness of the protocol. Further recommendations should focus on the treatment of generalized anxiety disorder in non-psychiatric care settings.

Intervention Strategy for Generalized Anxiety Disorder

CHAPTER 1

INTRODUCTION

BACKGROUND

Anxiety disorders are the most common mental illness in the United States (U.S.) (Anxiety and Depression Association of America (ADAA), 2021) affecting approximately 6.8 million adults in the U.S. every year. Generalized Anxiety Disorder (GAD) can be defined as persistent and excessive worrying about different things (Anxiety and Depression Association of America, 2021). ADAA further states that GAD is diagnosed when a patient finds it challenging to control worry on more days than not for at least six months and/or has three or more symptoms associated, such as feeling nervous, irritable, or on edge, increase in heart rate, feeling tired or weak, difficulty concentrating or sleeping, hyperventilating, sweating, or trembling, or having GI problems like constipation, diarrhea, nausea, vomiting. The pathophysiology underlying GAD is thought to be a combination of risk factors that includes genetics, brain chemistry, personality, and life events. While the exact pathophysiology of GAD is not fully understood, noradrenergic, serotonergic, and other neurotransmitter symptoms are thought to play a role in anxiety (Munir & Takov, 2021). Having a low serotonin system and imbalance in the noradrenergic system are believed to have the biggest impact on one's anxiety (Munir & Takov, 2021). Other factors associated with anxiety include female gender, unmarried status, poor health, low education, and presence of multiple stressors (Munir & Takov, 2021). The median age of presentation is 30 years (Munir & Takov, 2021). There is also an increase in prevalence in the older population (Munir & Takov, 2021). Serious complications can occur if anxiety is not managed properly. Not managing GAD can cause serious worsening symptoms of anxiety that can debilitate people from performing activities of daily living. Poorly managed GAD can also lead to worsening symptoms of other health conditions such as depression, insomnia, drug or alcohol abuse, gastrointestinal (GI) complications, social isolation, and suicide risk (Munir & Takov, 2021).

Data Supporting Need for the Project: Global, National, Regional, and State

GAD is a common disorder abroad as well as in the U.S. The World Health Organization (WHO) reported that about 3.6% of the global population has generalized anxiety disorder. Data from WHO reported that there are 264 million people worldwide who have GAD. From 2005 to 2015 there was a 14.9% increase in reported GAD cases (World Health Organization, 2017). WHO reflected this as being associated with the growing population and aging of the population.

Nationally rates of GAD are increasing as well. In the U.S., GAD increased from 5.12% in 2008, to 6.68% in 2018, most notably among certain age groups (Munir & Takov, 2021). An article reported that adults aged 18-25 had a significant increase from 7.97% to 14.66% (Munir & Takov, 2021). GAD affects roughly 6.8 million people in the U.S. or 3.1% of the population (Anxiety and Depression Association of America, 2021). This number is thought to be higher due to the stigma of mental illness and other barriers such as accessibility and cost of treatment (Anxiety and Depression Association of America, 2021). Untreated anxiety leads to an average of 24.7 workdays that are missed per year per patient (Love & Love, 2019). It is estimated that both diagnosed and undiagnosed cases account for 48 billion dollars in healthcare costs. About 1.3 million healthcare visits every year are associated with anxiety related illness (Love & Love, 2019) Patients are often first diagnosed in the primary care setting (Andrews, 2018). It is important that clinicians in this area be able to treat these patients using evidence-based approaches. Indiana is rated one of the worst states in managing mental illness. In 2020, Mental Health America developed a ranking system related to mental health care. They investigated access and use of mental health care. They measured states prevalence of mental health, whether patients with mental health issues were insured, whether they did or did not receive treatment, and whether those who were on disability could afford mental health care. Out of the 50 states, Indiana ranked 39th in terms of having a higher prevalence and limited access to mental health care (Mental Health America, 2021).

Clinical Agency Data

This evidence-based practice (EBP) project was conducted in an internal medicine office on the northside of Indianapolis, IN. The clinic is part of one of the largest healthcare organizations in the country. With a population of around 876,384, it is the largest city in the state of Indiana (United States Census, 2019). Most people in the city are female (51.8%) (United States Census, 2019). Caucasians make up much of the city 60.9%, followed by Black 28.6%, Hispanic 10.5%, and Asian 3.4% (United States Census, 2019). About 80% of the population has a computer with broadband internet access (United States Census, 2019). Roughly 86% of the people aged 25 and older have graduated from high school, and 31% of those individuals have a bachelor's degree or higher (United States Census, 2019).

Within the clinic, there are a total of five physicians and one nurse practitioner. There is one medical assistant per provider, four secretaries, one office manager and two members of the staff that coordinate care with other providers and help arrange tests at various sites outside of the clinic. The clinic services adults from 18 years until death. The office manager and three of the clinicians approved the EBP project to be conducted at their clinic. The nurse practitioner served as the project site facilitator. The clinical agency data was provided by the office manager.

The start of the EBP project began with an inquiry. A discussion about different topics the clinic may need with the project site facilitator. Before beginning the EBP project, the Doctor of Nursing practice (DNP) student had discussions with other members of the clinic such as other clinicians, medical assistants, secretaries, and the clinic manager about areas in which the clinic needed to improve practice. During these conversations, one topic discussed was the prevalence of anxiety cases. There had been an increase in the number of patients presenting to the clinic with anxiety over the past year from when the DNP student had started clinical rotations in the winter. It was closer to the end of the semester, and the project site facilitator was seeing five to seven patients a week with complaints of anxiety, when she had been seeing maybe only

one or two. The project site facilitator stated there was no standardized treatment plan for anxiety and all of the providers treated patients with GAD differently. The clinic had roughly 1,785 anxiety-related visits between January 1, 2021, to June 1, 2021. To get more information, an audit of one hundred charts was done. The auditing specifically investigated the management and treatment of GAD. A sample of 50 charts were thoroughly audited. The patients did not receive any background information on anxiety or cognitive behavioral therapy (CBT) during the visits. The instruments used to screen for anxiety were all different. There was no documentation in the patients' health record that they received education on lifestyle changes the patients could make. There were 17 notes indicating the patient was referred to a psychiatrist. Some clinicians were more detailed in their notes than others about how they were managing this diagnosis than others. One of the other components in referring to a psychiatrist was patient preference. There were patients who did not want to go to a psychiatrist because they felt uncomfortable talking about things with someone they did not know and did not feel comfortable with. Many of them (92%) of the patients were on some form of medication for anxiety. About 60% of patients were on a selective serotonin reuptake inhibitor (SSRI), however some were taking serotonin norepinephrine reuptake inhibitors (SNRIs), benzodiazepines or buspirone. The management of treatment varied from one provider to the next. Some clinicians had a set schedule of how frequently they wanted their patients to come back to the office, while others wrote a prescription and did not make a follow-up but instructed to call if the medication was not helping the patient. The project site facilitator agreed that the management of GAD in the clinic needed improvement. The EBP project could help increase the quality of care provided to the patients with GAD and help clinicians to better coordinate care in the treatment of GAD.

Purpose of the Evidence-Based Practice Project: Purpose Statement and PICOT Question

The purpose of this EBP project is to improve outcomes of patients diagnosed with GAD by improving treatment in this clinic based on best practice recommendations. The project addresses the following question: in adult patients, aged 18 and over, diagnosed with

generalized anxiety disorder (GAD) in an internal medicine setting, does the implementation of a combination of a self-help CBT application, education on lifestyle modifications, and use of pharmacotherapy improve patient GAD symptoms measured by reported scores of the Generalized Anxiety Disorder 7-item (GAD-7) scale over an 8-week period?

EBP Project Description

The intervention of the EBP project consists of a combination of therapies. The first intervention is a CBT application designed to help patients work through their anxiety. The next intervention is education provided to the patient on lifestyle modifications they can make to help improve their anxiety symptoms. Lastly, a medication will be prescribed by the project site facilitator to treat anxiety symptoms. The project will be performed by the DNP student, the project site facilitator, and the project site facilitators collaborating physician. All patients at the site were screened during their visits to see the clinical site coordinator. All patients who are diagnosed with GAD will be offered the EBP project interventions. The outcome will be measured using the Generalized Anxiety Disorder 7-item (GAD-7) scale. The goal of implementing these interventions will be improvement of generalized anxiety disorder symptoms.

CHAPTER 2

EBP MODEL AND REVIEW OF LITERATURE

Evidence-based Practice Model

Overview of EBP Model

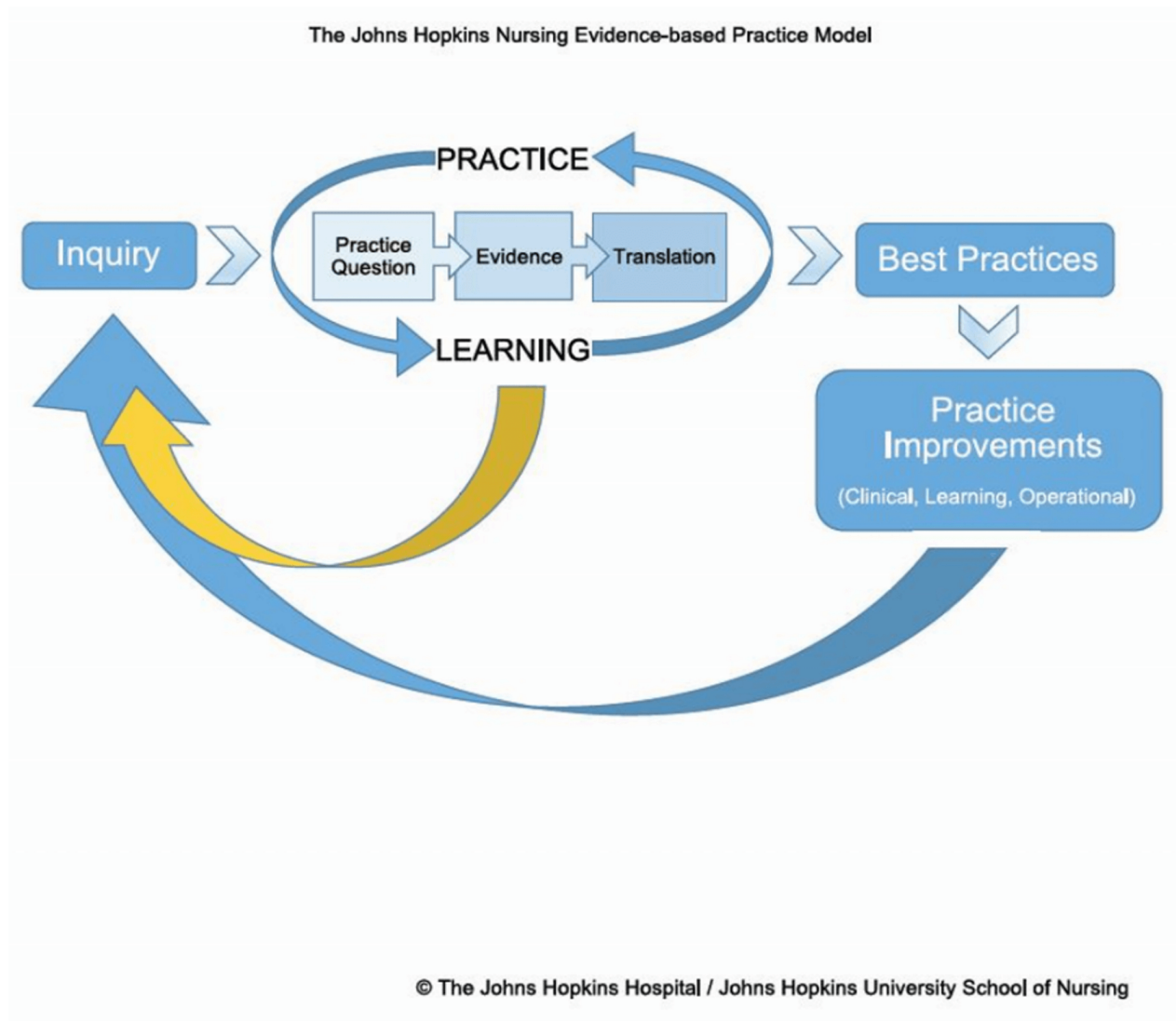
The Johns Hopkins Evidence-based Practice Model (JHNEBP) was used as a guide to implement the EBP project. This model helps guide nurses who are continuing to try to improve the quality, safety, and cost effectiveness of the care they give to their patients (Dang & Dearholt, 2017). The third edition of the model was used in this EBP project.

The beginning of the model starts with an individual who wants to learn and determine whether the current practice and best practice are the same for a specific problem or patient population (Dang & Dearholt, 2017). If there is a contrast between current practice and best practice, the next step in the model is the practice, question, evidence (PET) process. Within the PET process, there are 19 steps. The 19 steps occur in three different phases. In the first phase, practice phase, the interprofessional team is chosen, the problem is defined, the EBP question is developed and refined, the identification of stakeholders is made, and determining the responsibility for the project leadership is conducted (Dang & Dearholt, 2017). The next phase of the JHNEBP is the evidence phase. This step consists of the search for the evidence, appraisal of the evidence, summarizing the evidence, summarizing the overall quality of the evidence, and developing recommendations for change based on the evidence (Dang & Dearholt, 2017). The last phase in the model is the translation phase. During this phase, the EBP implementation occurs and is evaluated. This evaluation involves the determination, feasibility, and appropriateness of the project in the setting in which it has been implemented. The translation phase also secures support and resources for implementation of the project, implements the plan, evaluates the outcomes, reports the outcomes, and explains the findings (Dang & Dearholt, 2017). This model implements a process to utilize best practice which, in turn, leads to

improvements in clinical outcomes. One important note the model makes is that at any time during the three phases, learning can lead to an inquiry that may lead the person to another problem or population. The model can then be implemented towards addressing this new problem (Dang & Dearholt, 2017).

Figure 2.1

JHNEBP Model



Note. The JHNEBP Model was used with permission

The JHNEBP model was chosen for this project for its detailed guidance and alignment with the purposes of this DNP project. The purpose of the JHNEBP project is to serve as a motivator for nurses to implement research into practice change that will benefit patients (Dang & Dearholt, 2017). Similarly, the DNP student was motivated to find EBP regarding the clinical problem. The DNP student had been working in a particular clinical setting for months in which he became aware of an increased number of patients diagnosed with GAD. While completing clinical hours as a DNP student, he wondered if the treatment of GAD in this clinical setting was evidence-based. This spirit of inquiry, which the model highlights, was the beginning of the EBP project. This led the DNP student down the path of questioning the current practice, finding evidence to support best practice, and translating it to the clinical setting. The step the DNP student took for this EBP project followed a similar path that the JHNEBP model takes. The employees of the clinical setting in which the EBP project was performed were also motivated to implement EBP for this clinical problem. The EBP team included one nurse practitioner, who acted as the student's site facilitator, a physician in the clinic, the office manager, and the medical assistant for the nurse practitioner. Stakeholders included the other three physicians in the office, their medical aides, and secretaries within the office. These stakeholders were notified of the clinical problem and that a thorough literature search had begun. A summary of the evidence was provided to the project facilitator who provided the evidence to the other stakeholders in the clinic. The JHNEBP model provided the steps necessary to implement such a practice change for this clinical setting. The model's detailed explanation of the steps and outline of what to do next made the transition to the clinical setting straightforward.

Literature Search

Sources Examined for Relevant Evidence

A literature search was conducted to find the most current and relevant evidence for the treatment of GAD in the primary care setting. A total of 5 databases were searched, as well as citation chasing and hand searching through specific journals. The databases searched included

the Joanna Briggs Institute (JBI), The Cochrane Library, Turning Research Into Practice Database (TRIP), CINAHL, and Psych INFO. The JBI and The Cochrane Library were chosen because these databases provided the best opportunity to find the highest levels of evidence. This included synthesis of randomized controlled trials (RCT). The TRIP database was searched to find clinical practice guidelines (CPGs). CPGs are also high levels of evidence that provide practice recommendations developed by different organizations. CINAHL was chosen to find primary studies on the topic of GAD in the primary care setting. Psych INFO was used due to the psychological characteristics of the EBP project. Psych INFO has a variety of studies in their database including case reports, empirical studies, and literature reviews.

Inclusion and exclusion criteria were applied to the searches to obtain current and high levels of evidence. The inclusion criteria for the searches consisted of articles that were in the English language, had been scholarly/peer reviewed, and had been published within the last 5 years, 2016-2021. GAD treatment, the adult population, and the internal medicine/primary care setting were inclusion criteria as well. The exclusion criteria were articles that involved children, any intervention that was not relevant to the internal medicine/primary care setting. For example, psychologist clinics, or hospital settings.

JBI was the first literature search conducted. The search included the keywords “generalized anxiety disorder” OR “anxiety disorder” with the limiter of 2016 to current. The search generated 49 results, five of which were included in the synthesis of the evidence. All the included evidence from this database were JBI evidence summaries.

The next database used was The Cochrane Library. The words “generalized anxiety disorder” OR “anxiety disorder” were used. The limiters of the search were articles from January 1, 2016, to June 1, 2021, which yielded 10 articles. Of the results, no articles were chosen for inclusion in the evidence synthesis. The articles failed to meet the inclusion criteria, and some of them were excluded based on the exclusion criteria. Some did not focus on generalized anxiety

disorder. Other articles focused on children, and some articles were on interventions that could not be implemented in the internal medicine/primary care setting.

Following The Cochrane Library, the TRIP database was searched. The full search included “generalized anxiety disorder” OR “anxiety disorder”. The limiters used were clinical practice guidelines published since the year 2016. A total of three guidelines resulted. Of those guidelines only one was used in the evidence. The other two guidelines were not used because one of them was for the treatment of anxiety in children and the other guideline focused on the treatment of social anxiety disorder.

Psych INFO was the next database used in the search. The major heading “generalized anxiety disorder” was used in the search followed by “primary care” OR “primary health care” OR “family practice” OR “internal medicine” AND “best practice” OR “manag*” OR “treat*”. The limiters used in the search were articles published between 2016 and 2021, were scholarly/peer reviewed, in English language, and had adults as the patient population. A total of 12 pieces of evidence resulted. Of the 12 pieces of evidence, one article was chosen for synthesis of the evidence.

The last database searched was CINAHL. The search included a major subject “anxiety disorders” AND “primary care” OR “primary health care” OR “family practice” OR “internal medicine” AND “best practice” OR “mang*” OR “treat*”. Limiters in this search were the English language, the years 2016 to 2021, scholarly/peer reviewed articles, and the adult patient population. A total of 28 results populated, but no articles were included in the synthesis of the evidence. Articles were not included for a variety of reasons. Some of the studies were not focused on interventions. Other articles included children as the primary population. Articles also focused on interventions that were not applicable to the primary care setting. For example, there were articles that focused on face-to-face CBT as an intervention for the treatment of GAD. This could not be utilized because no one in the clinic has the proper training on how to perform CBT. Other studies settings took place in oncology offices and specifically cancer patients should be

managed with anxiety. These articles were excluded because it was specifically focused on major illnesses and not applicable to the general population.

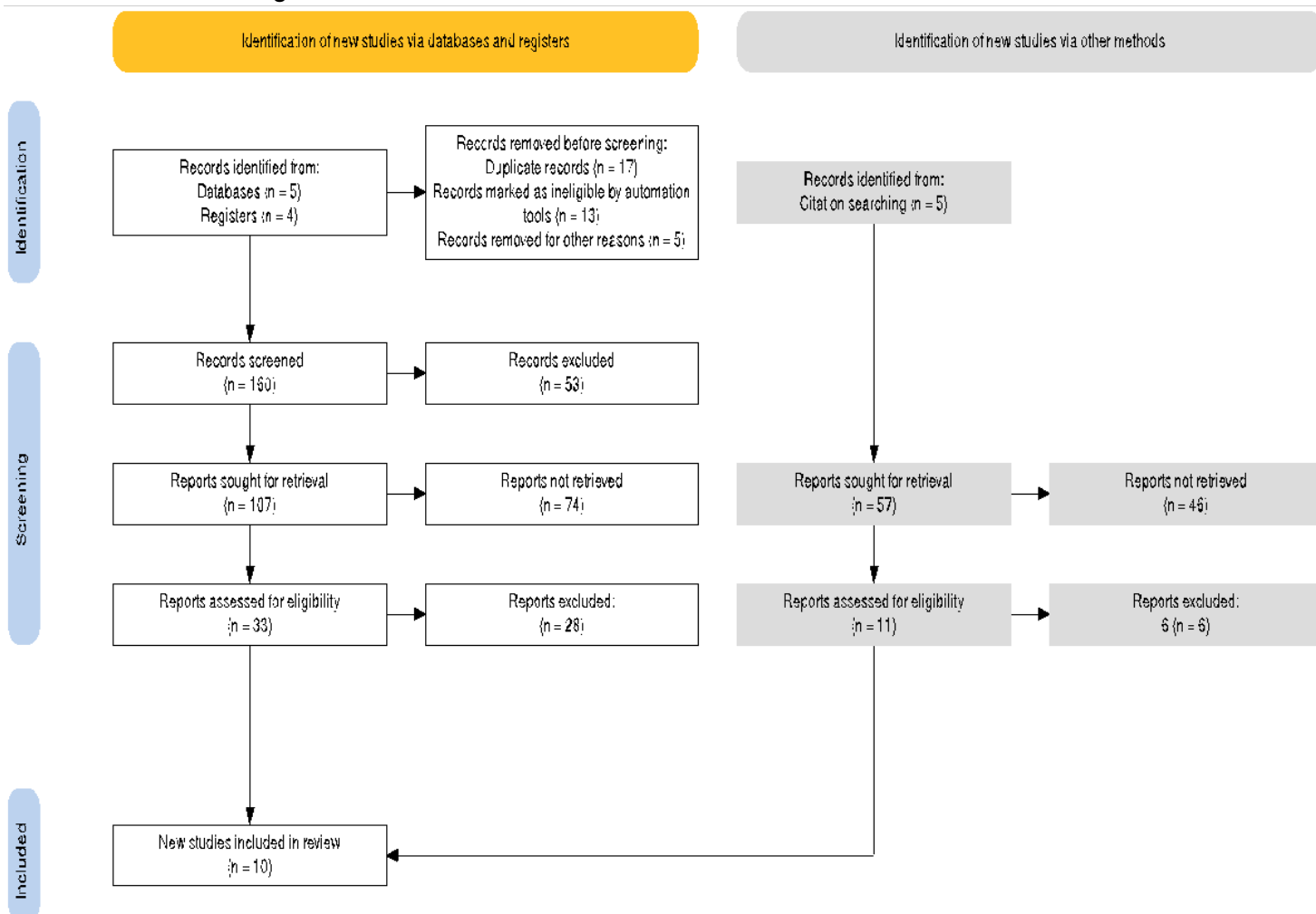
Citation chasing was also done to find more evidence from one particular high-level source. Four of the JBI evidence summaries (Lizarondo, 2021; Mathew, 2021; Ramano, 2021; Slade, 2021) and one CPG (Andrews, 2018) were used to citation chase articles within those sources. A total of five articles were found in total through citation chasing those five sources. Of those five sources only two articles (Firth, 2017; Slee, 2019) were included in the evidence synthesis. The articles that were obtained through citation chasing came from the CPG (Andrews, 2018) and the evidence summaries. A search of several journals was also performed. The Journal of Anxiety Disorders, The Lancet, The Journal of Affective Disorders, and JAMA Psychiatry were searched. The limiters used in this search were the years 2016-2021, the phrase “generalized anxiety order” OR “anxiety disorders,” and the adult population. One article was found through these hand searches, but it ultimately was not used because it was low-level evidence, and the other pieces of evidence found were higher.

A final literature search was conducted to extend the limiter search to December 2021. There was no significant evidence that resulted when conducting this literature search.

See figure 2.2 for a Prisma Flow Diagram of the search that was conducted.

Figure 2.2

PRISMA Flow Diagram



Levels of Evidence

Melnik and Fineout-Overholt's (2015) Hierarchy of Evidence was used to evaluate the pieces of evidence. In their Hierarchy of Evidence, there are a total of seven levels, with the first level being the highest and the seventh level being the lowest level of evidence. These levels are categorized by the type of study that was conducted. The highest level of evidence, level I, includes systematic reviews or meta-analyses of relevant randomized controlled trials. Level II evidence includes studies from well-designed randomized controlled trials. Level III evidence consists of well-designed controlled trials without randomization. Level IV studies are well-

designed case-control or cohort studies. Level V studies include systematic reviews of descriptive or qualitative studies. Level VI studies are those from a single descriptive or qualitative study. Level VII is the opinion of authorities and/or expert committees.

The 10 pieces chosen from the literature search consisted of evidence summaries, CPGs, and systematic reviews. There were five evidence summaries that were chosen from JBI, four of which were considered level I, and one evidence summary was considered a level III. There was one CPG from the TRIP database that was considered a level I. The other four articles were citations chased from the evidence summaries and the CPG. All four of these articles were deemed to be level I because they were either a systematic review or meta-analysis of RCTs.

Analysis and Appraisal of Relevant Evidence

The Johns Hopkins Research and Non-Research Evidence Appraisal Tools were utilized to appraise the quality of the evidence from the literature search. The Johns Hopkins Non-Research Appraisal Tool was used for the evidence summaries found within the JBI database and the CPG found within the TRIP database. The Johns Hopkins Research Appraisal Tool was used for the systematic reviews and meta-analysis of RCTs. Permission was granted to use this appraisal tool. This appraisal tool categorizes evidence as being high quality, good quality, or low quality (Dang & Dearholt, 2017). There were eight pieces of evidence that were high quality, and two pieces of evidence that were good quality. Table 2.1 provides a summary of the evidence. As well as an Evidence Table in Appendix A.

Table 2.1

Summary of Evidence

Author/yr.	Database(s)	Level of Evidence/Type	Quality
Andrews (2018)	TRIP	I/CPG	High Quality
Andrews, Basu, Cuijpers, et, al. (2018)	Cite Chased from Andrews	I/Meta-Analysis of RCT	High Quality
Firth (2017)	Cite Chased from Lizarondo	I/Meta-Analysis	High Quality
Lizarondo (2020)	JBI	I/Evidence Summary	High Quality
Mathew (2021)	JBI	I/Evidence Summary	Good Quality
Mayo-Wilson (2013)	Citation Chased from Mathew	I/Evidence Synthesis	Good Quality
Pamaiahgari (2021)	JBI	I/Evidence Summary	High Quality
Proudfoot (2013)	Cite Chased from Firth	II/RCT	Good Quality
Romano (2021)	JBI	I/Evidence Summary	High Quality
Slade (2021)	JBI	I/Evidence Summary	High Quality
Slee (2019)	Citation Chased from Slade	I/Evidence Summary	High Quality

Construction of Evidence-based Practice

Synthesis of Critically Appraised Literature

The literature reviewed offered consistent interventions for the treatment of GAD and promoted practice changes that can be implemented in an internal medicine setting. The evidence from the literature search advocated that the treatment of GAD should include CBT done through a smartphone app, certain lifestyle modifications, and SSRI/SNRI pharmacotherapy.

CBT

CBT was one of the most utilized treatments for generalized anxiety disorder from the literature search. The evidence suggested that CBT is the most effective treatment for reducing anxiety symptoms (Andrews, 2018; Andrews, Basu, Cuijpers, et, al., 2018; Mayo-Wilson, 2013; Pamaiahgari, 2021; Romano, 2021). There are many different forms of CBT including face-to-face, virtual CBT and digital CBT. Though the literature supports face-to-face therapy as the best form of CBT (Andrews, 2018; Andrews, Basu, Cuijpers, et, al., 2018; Mayo-Wilson, 2013) there are barriers to implementing this in the internal medicine setting. First, CBT must be administered by someone trained to implement it. Internal medicine providers usually do not have the training necessary to do CBT with their patients (Andrews, 2018; Andrews, Basu, Cuijpers, et, al., 2018). Another barrier to face-to-face CBT is the time commitment associated with CBT therapy (Andrews, 2018; Andrews, Basu, Cuijpers, et, al., 2018; Mayo-Wilson, 2013). The typical internal medicine office visit does not allocate the amount of time necessary to do CBT sessions with patients. Face-to-face CBT is also very costly to patients (Andrews, 2018; Andrews, Basu, Cuijpers, et, al., 2018; Mayo-Wilson, 2013). CBT can be used in other formats such as through a smartphone application (app) or internet programs. This form of CBT, digital CBT, has evidence of its effectiveness in reducing anxiety symptoms and remission from anxiety (Andrews, 2018; Andrews, Basu, Cuijpers, et, al., 2018; Mayo-Wilson, 2013). In terms of efficacy, there was no statistically significant difference between phone apps or internet

programs (Andrews, 2018; Andrews, Basu, Cuijpers, et, al., 2018; Mayo-Wilson, 2013). Internet programs that offered virtual face-to face CBT were more effective but had a significantly higher cost (Andrews, Basu, Cuijpers, et, al., 2018; Mayo-Wilson, 2013). There are some advantages to using digital CBT in an internal medicine setting. Digital CBT allows for more people to access CBT (Andrews, 2018; Andrews, Basu, Cuijpers, et, al., 2018; Mayo-Wilson, 2013). There is also a decreased cost in using this form of therapy. Many of the available applications are limited in how much they have been studied; therefore, it is important to use an application that has been found to be effective through research. They are also just as safe as the other forms of CBT, having very few side effects (Andrews, 2018; Andrews, Basu, Cuijpers, et, al., 2018; Mayo-Wilson, 2013). There are several digital CBT apps available. While it is beneficial to have a lot of options, few apps have undergone extensive research. In a meta-analysis by Firth (2019), one of the RCTs in the analysis used a mental health app called “myCompass.” The RCT (N = 390) used the “myCompass” app which utilizes CBT strategies to decrease anxiety symptoms. Researchers compared those using the “myCompass” app to those who were waitlisted to see a psychologist. Those who used the “myCompass” application showed a moderate improvement compared to the comparison group Cohen’s (d= .46).

Patients using these apps should be guided on how to use them prior to starting them (Ramano, 2021). Patient outcomes were influenced by how engaged the patients were in the program. The more patients used the smartphone app, the better their chances were to have a reduction of symptoms in anxiety (Andrews, 2018; Andrews, Basu, Cuijpers, et, al., 2018; Mayo-Wilson, 2013). Patients spent from 7-14 hours per week using the application (Andrews, 2018). There was no difference between those who spent 7 hours a week and those that spent 14 hours a week on the application. Another important aspect of using an internet CBT app is the safety of them. There are very few side effects associated with using smartphone apps for anxiety (Firth, 2021; Lizarondo, 2021). One possible side effect is they can bring up triggers to one’s anxiety

(Firth, 2021; Lizarondo, 2021), which may cause distress. There are no other serious side effects from using this intervention.

Lifestyle Modifications

Certain lifestyle modifications can not only help reduce anxiety symptoms, but they can also promote the overall well-being of patients (Andrews, 2018; Romano, 2021). These lifestyle modifications can be taught to patients (Romano, 2021). Evidence suggests that exercise is a tool that can be utilized to improve anxiety symptoms (Andrews, 2018; Romano, 2021). In some studies, exercising for thirty minutes a day, three times a week has been shown to help decrease anxiety symptoms (Andrews, 2018; Romano, 2021). By introducing this into the regimen, the healthcare provider can reiterate the benefits of not only decreasing anxiety symptoms, but also improving their overall health. There are a variety of exercises that can be utilized to help improve anxiety symptoms including resistance training, aerobic and non-aerobic activity (Andrews, 2018). While these methods are not effective alone, they are beneficial when complimented with other forms of therapy (Andrews, 2018).

There are other important self-help strategies that can be beneficial in reducing anxiety symptoms. One example of this includes patient education (Andrews, 2018; Romano, 2021). In some cases of GAD, exercise and other changes such as eating a healthy diet and getting quality sleep may be all that is needed for the treatment (Andrews, 2018). Foods that are high in sugar content and caffeine can increase anxiety symptoms (Andrews, 2018). Instructions should include staying away from things such as soda, fruit juices, energy drinks, alcohol, and other foods that have high sugar content (Andrews, 2018). While these techniques may be beneficial to use for GAD, they are often used in combination with other forms of therapy such as CBT and pharmacotherapy.

Pharmacotherapy

The review of the literature supported the use of pharmacotherapy for the use of GAD (Andrews, 2018; Slade, 2021; Slee (2019). SSRIs were most effective at reducing anxiety

symptoms from the literature that was reviewed (Andrews, 2018; Slade, 2021; Slee (2019). Not only were they effective but they also had the least amount of serious side effects when compared to other medications (Slade, 2021; Slee, 2019). In terms of the SSRI that is most effective for the treatment of GAD, there is no evidence to support one medication over another (Andrews, 2018; Slee, 2019). Some evidence suggested that sertraline had the least amount of side effects, but fluoxetine was most effective in reducing GAD symptoms (Andrews, 2018; Slade, 2021; Slee, 2019). Some side effects of SSRIs include nausea, dry mouth, and drowsiness (Andrews, 2018; Slee, 2019). Other medications such as benzodiazepines are effective, but they are not recommended as first line treatment due to having more serious adverse effects, potential for dependence on them, and potential risk for abuse (Slee, 2019). Other types of medications such as SNRIs similarly had more adverse effects when compared to SSRIs and therefore were not recommended as first line therapy for treatment of GAD (Slee, 2019). In conclusion, SSRIs, particularly fluoxetine or sertraline, should be utilized.

Recommendation for Best Practice

The synthesis of the evidence found the best practice for treatment of generalized anxiety disorder in the internal medicine setting is a combination of interventions that includes CBT, lifestyle strategies, and pharmacotherapy. CBT will be implemented using an online application called myCompass. Through a randomized controlled trial (Proudfoot, 2013), myCompass showed a moderate improvement in patients' anxiety. Cohen's d was to measure effect size ($d = .47$) compared to the comparison group, which involved education on relaxing and exercise. It can be used on a phone, tablet or computer. The application helps patients by providing learning activities, and lifestyle recommendations that help patients decrease their levels of anxiety. The learning activities that are used through the application are like the same activities used in face-to-face CBT sessions with a psychologist. As patients go through the different activities within the application, they learn different psychological techniques that are used by psychologists through CBT. The application should be used for a total of seven weeks to get the full benefit of the

program. The time commitment ranges from 15 to 30 minutes per day (Proudfoot, 2013). The app is for people who speak English as it is not offered in other languages (Proudfoot, 2013). This app was chosen over other apps for a couple reasons. The first reason is that it showed a moderate effect on improving GAD symptoms compared to the control group which were interventions that also helped improve GAD symptoms. Other applications in their clinical trials used a comparison group that had no intervention.

The other portion of the combined therapy is lifestyle interventions. These will be provided to patients as education during their individual clinical visits in the form of handouts. Lifestyle strategies are useful in reducing anxiety symptoms. These interventions include exercising thirty minutes a day, three times a week and relaxation techniques such as breathing exercises.

Lastly, pharmacotherapy will be implemented as the third part of the combination therapy. SSRIs will be prescribed via the clinical site coordinator. Education about the medication, including how the medication works, side effects and contraindications will be provided to the patients.

In conclusion, a combination therapy of CBT via myCompass application, lifestyle modifications, and pharmacotherapy will be utilized. These interventions were a combination of best practice recommendations on the treatment of GAD in the internal medicine setting.

CHAPTER 3

IMPLEMENTATION OF PRACTICE CHANGE

Participants and Setting

This EBP project took place in an internal medicine office in Indianapolis, Indiana. The office cares for patients from ages 18 to the end of life. These patients have a wide range of health conditions that are managed through this office. The office manager was agreeable to this project being implemented in this setting. There are four physicians and one nurse practitioner. The nurse practitioner is the project site facilitator who has been a nurse practitioner for six years. She was agreeable to the implementation of the project in her patient population. The other physicians declined to take part in the EBP project at the beginning of the implementation phase. Their lack of interest in the topic and wanting to wait to see the results of the project were the main reasons for them not wanting to participate in the project. The project site facilitator's collaborating physician was agreeable to the project in his patient population later in the implementation phase.

Project participants were recruited during their visits to the office. Patients visited the office for several different reasons. Whether it was a follow-up addressing a specific need, an annual physical, or for anxiety will be screened as a potential participant, the patients were screened using the GAD-7 instrument. Those that score greater than 9 on the GAD-7 were identified as potential participants. The project site facilitator, the collaborating physician and the student discussed the project with patients that scored greater than 9 on the GAD-7 questionnaire. The initial conversation began about the patient's anxiety and that there are several interventions to help with anxiety. At that moment, the student talked to prospective patients about the EBP project. When the student was not at the clinical site, the clinical site coordinator and the collaborating physician discussed the interventions with prospective patients. Then the project facilitators went into detail about the interventions associated with the

project. There was further instruction that we would be following up with them two, four, and eight weeks from starting the project. This follow up included taking the GAD-7 questionnaire to assess their progress and to assess how often they were performing the interventions. The student spoke with the project site facilitator and the collaborating physician to discuss implementing the protocol when the student was unable to be present in the office. Both providers agreed to screen their patients using the GAD-7 questionnaire. If they met the inclusion criteria, the providers introduced the project to patients. Participants' baseline GAD-7 scores were documented. The next time the student came to the office, the providers notified the student of the participants who agreed to be in the project. The student obtained the patient information at the site, logged the data and continued to follow-up with the participants throughout the project.

Pre-Intervention Group Characteristics

For patients to be in the project they needed to be able to read, write, speak the English language. They also needed to have access to the internet or have a mobile device with internet capabilities. Patients who were pregnant or had alcohol abuse were excluded from the project. The National Institute of Alcohol Abuse and Alcoholism (NIAAA, 2021) defines alcohol abuse as men consuming more than 4 drinks on any day or more than 14 drinks per week, or women consuming more than 3 drinks on any day or more than 7 drinks per week. Patients who were not on SSRIs but were on other forms of pharmacotherapy including, benzodiazepines, serotonin norepinephrine reuptake inhibitors (SNRIs), were included in the EBP project. Allowing these other forms of medications allowed for a larger sample size, and it would have been unfair to those patients to be excluded from the opportunity to participate just because they were on a different form of medication. Ability to access the clinic's electronic medical record (EMR) was provided via the clinic manager. The student compared patients' anxiety before, two weeks, four weeks, and eight weeks after the intervention was implemented.

There were 12 participants who completed the project. Of the 12 participants, 10 are female and 2 are male. The group is made up of 6 Caucasians and 5 African Americans and 1 Hispanic. Prior to implementation, 9 of the participants were on medication for treatment of anxiety. There were 5 participants on an SSRI, 3 on an SNRI and 1 on a Norepinephrine-dopamine reuptake inhibitor (NDRI). None of the patients saw a therapist or psychiatrist. Their baseline GAD-7 scores ranged from 11-18.

Intervention

The intervention for the EBP project was founded on an intense literature review and synthesis. The synthesis led to the intervention of a combination of online CBT, lifestyle modifications, and pharmacotherapy. Through time spent in the clinic setting, it was identified that there were multiple interventions that were not being used as best practice for patients with GAD in the internal medicine setting including CBT. Unfortunately, there is no practitioner in the internal medicine clinic that was trained in implementing this intervention. The literature supports the use of digital CBT for the treatment of GAD (Andrews, 2018; Andrews, Basu, Cuijpers, et al., 2018; Mayo-Wilson, 2013). Therefore, the decision was made to find an online application that could self-guide patients in using CBT. Through the literature review, the application myCompass was chosen to be used as digital CBT therapy. Information about the application and registration for the application occurred upon the verbal consent to the intervention. Participants were shown how to utilize the application and how often they should be using it. An educational handout was given about different lifestyle changes that can help decrease anxiety symptoms (Appendix B.). This included techniques such as exercise, sleep, decreasing smoking and alcohol consumption and dietary changes. A prescription of a medication for anxiety was also implemented. The providers educated patients about the medications they were taking. The dose, side effects, and things to be aware of when taking these medications were part of what the providers do in their practice. The participants will be advised to take their medication as instructed by the providers and to notify the provider if they have any concerns or are thinking of stopping the medication. All

this information will be provided by the DNP student, project site facilitator and collaborating physician.

Comparison

An audit was conducted to provide a comparison of patients diagnosed with GAD who did not receive the intervention. A search of the EMR was conducted by the student and health informaticist between January 1, 2021, and June 1, 2021, to identify all patients in the clinic who had been diagnosed and treated for GAD. A total of 294 patients in the practice, between this time, had GAD in their medical history. Demographic data including gender, age, race, level of education and employment status were obtained. Most patients in this population are Caucasian (77%) and female (64%).

The student examined a sample of the patients diagnosed with GAD to evaluate how it was currently being managed and treated in the clinic. Patients diagnosed with GAD at this clinic are typically treated with some form of pharmacotherapy (SSRIs, SNRIs, NDRIs, benzodiazepines). Most of the patients (88%) of them are on medication to manage their anxiety. The most prescribed medications were sertraline (Zoloft) (36%), escitalopram (Lexapro) (22%), and duloxetine (Cymbalta) (15%). The providers also may or may not refer them to a therapist or psychiatrist depending on the provider's interpretation of the severity of their anxiety. There are no standard criteria for referring patients, it is simply based on the physician's own judgment whether they think a referral is warranted.

Outcomes

The primary outcome of the project was participant anxiety level using the GAD-7 scale. Evidence supports the use of the GAD-7 scale as a reliable and valid assessment tool (Spitzer, Kroenke, Williams & Lowe, 2006). The GAD-7 scale is a 7-item self-reporting scale used to measure anxiety symptoms severity. GAD-7 scores of 0-4 indicate minimal or no anxiety,

scores that range from 5-9 indicate mild anxiety, scores 10-13 indicate moderate anxiety and scores 15-21 indicate severe anxiety.

Before the intervention is implemented, the participant's GAD-7 score will be assessed. Their GAD-7 scores were collected at two, four and eight weeks. The information was used to compare data from baseline through the entire implementation phase. Data was collected in the office during follow up phone calls, and EMR messages made by the project site facilitator and student. The data was used to determine whether GAD symptoms have improved. Analysis of the data was completed through a one-way repeated measures analysis of variance (ANOVA). This test was selected because one group will be receiving the intervention and the level of data is interval scale. Using this statistical test will allow for the student to evaluate multiple points of time and where significant changes occurred.

Time

The project began in September of 2021 during the beginning of the fall academic semester. There were meetings between the project site facilitator, collaborating physician, and the student on how the implementation process will occur. At the beginning of the implementation phase only the project site facilitator was agreeable to actively participate in the project. As the semester continued in November of 2021, the project site facilitator's collaborating physician was agreeable to allowing his patient population to be a part of the project. Prior to the implementation phase beginning, the student provided education to the project site facilitator and collaborating physician on the project interventions. Education on the CBT application including how it works, and how to register people was provided. The patient education handout (Appendix B) was provided to the project site facilitator as well. The student explained the different interventions on the handout. The collaborating physician was given the same instructions upon agreement of joining the project. Information on the roles of the project site facilitator, the medical assistant and the manager of the clinic was established prior to the

start of the implementation phase. The medical assistant assisted the student obtain the demographic data from the participant through the participants' EMR. The student took this information and entered it into the codebook. The project site facilitator and the student were the first people to discuss the project with the patients. The student explained the project to the patients. This explanation included the medication, CBT application, exercise, sleep, decreasing smoking and alcohol consumption and dietary changes associated with the project. After the explanation of the interventions was completed the patient either agreed, disagreed, or thought about participating. If time was needed for the patient to decide, the student followed up with the patient 3-5 days after the baseline screen to see if they would like to participate in the project. When the student was unable to be in the clinical setting, the project site facilitator and collaborating physician discussed the project with the patients. If the project site facilitator or collaborating physician recruited a patient, they recorded the information and relayed it to the student the next time he was in the clinical setting.

Protection of Human Subjects

The protection of human subjects was maintained throughout the project. The DNP student completed education about the protection of human subjects by the Collaborative Institutional Training initiative prior to implementation. The DNP student received the verification from Valparaiso University's Institutional Review Board (IRB). The student has also received the IRB approval from the clinical site. Participation of this project was voluntary and participant confidentiality was upheld. Each participant was given a code number. This information was located on the student's computer, on a word document that was password protected. During each assessment at two, four and eight weeks the student called or messaged the participants and received feedback. A codebook was developed to collect data. The student collected data from the patient and input the information directly into his computer. There was no reward for participating in the project. The patients were able to stop their participation in the project at any point in time.

CHAPTER 4

FINDINGS

This project was performed due to an assessment of the needs of an internal medicine office. After conversations with the clinical site facilitator and electronic medical record auditing, it was determined that there needed to be better management of GAD. A literature search was conducted to find best practice evidence. The evidence concluded that a combination of interventions should be utilized. The purpose of this EBP project was to improve outcomes of patients diagnosed with GAD by improving treatment in this clinic based on best practice recommendations.

Participants

Most patients in the internal medicine office in this setting were Caucasian (77%). When comparing that to the 26 participants who agreed to participate, the demographics were different. There was a total of 12 (46%) Caucasians, 12 (46%) African Americans, and 3 (12%) Hispanic who participated in the project. Of the 12 that completed the project 6 (50%) were Caucasian, 5 (42%) were African American and 1 (8%) were Hispanic. Gender characteristics amongst the patients in the clinic and those that participated were comparable. The practice serves more female patients (64%) than male patients (46%). The project had similar characteristics; of the 26 participants that took the initial screening 69% were female and 31% were male. Of the 12 that completed the project, 8 (67%) were female and 4 (33%) were male. The average age of participants that took the baseline screening was 36 years old, while the average age of those participants that completed the project was 37 years old. While age seemed to line up very closely when comparing those that participated to the patients that did not participate, there were differences amongst education. Many of the patients had attended some college (78%). The baseline participants were more educated compared to the patients in the practice. Of the 26 baseline participants 42% had an undergraduate degree, 46% had some college, and 12% had a

high school diploma. Of the 12 participants that completed the project, 58% had some college and 42% had an undergraduate degree. Most patients in the clinic were employed 84%. Of the 26 participants, 73% were employed, and of the 12 that completed the project, 75% were employed. Below is a table outlining the demographics of the project. There were more women that completed the project than men. There were an even number of Caucasians and African Americans. Many participants had some level of college education, and the majority of patients were employed

Table 4.1*Demographic Characteristics*

Characteristic	Baseline n = 26	8 weeks n = 12
Race		
Caucasian	12 (46%)	6 (50%)
African American	12 (46%)	5 (42%)
Hispanic	3 (12%)	1 (8%)
Gender		
Male	8 (31%)	4 (33%)
Female	18 (69%)	8 (67%)
Age	36	37
Education		
High School	3 (26%)	0 (0%)
Some College	12 (46%)	7 (58%)
Undergraduate Deg.	11 (42%)	5 (42%)
Employed		
Yes	19 (73%)	9 (75%)
No	7 (27%)	3 (25%)

A Cronbach's alpha was performed to assess the internal consistency of the GAD-7 for the data set collected. A Cronbach's alpha was performed at the baseline, week two, week four and week eight scores. All the Cronbach's alpha values were negative. These values indicate

negative reliability amongst the data sample. One reason for the values being negative is the small sample size of the project. As the sample size got smaller, the more negative the scores became. Having a bigger sample size would increase the Cronbach's alpha scores and make the GAD-7 tool more reliable for the project.

Table 4.2

Cronbach's Alpha Scores

Week	Cronbach's Alpha
Baseline	-.078
Week 2	-.089
Week 4	-.699
Week 8	-.847

Changes in Outcomes

The implementation of a combination of a self-help CBT application, education on lifestyle modifications, and use of pharmacotherapy improved patient GAD symptoms measured by reported scores of the Generalized Anxiety Disorder 7-item (GAD-7) scale over an eight-week period. There is a statistically significant difference between the baseline GAD-7 questionnaire compared to the eight-week GAD-7 questionnaire scores. After performing a repeated measures ANOVA, the Wilks' Lambda p -value is statistically significant (p -value = 0.0005), which means that there is a significant difference between the GAD-7 scores from the baseline vs. two weeks vs. four weeks vs. eight weeks. This suggests that there is significant evidence to conclude that there is a statistical difference between the GAD-7 scores from baseline to 8 weeks. A repeated measures ANOVA test was used because the data collected within the GAD-7 questionnaire is

interval level of data. The test was used to compare the scores between baseline and 2 weeks, baseline and 4 weeks and 8 weeks.

Statistical Testing and Significance

Matched paired t-tests were also used to measure baseline GAD-7 scores at baseline to the scores at two weeks and four weeks and eight weeks. The purpose of performing this statistical test is to compare a set of samples. In this case, GAD-7 scores were compared from baseline to scores at two weeks, four weeks, and eight weeks. After performing the paired t-test from baseline to two weeks, the two-tailed p-value is smaller than .05 ($p\text{-value} = .003$). This suggests that there is significant evidence to conclude that there is a statistical difference between the GAD-7 scores from baseline to two weeks. After performing the matched paired t-test from baseline to four weeks, the two-tailed p-value is smaller than .05 ($p\text{-value} = .000005$). This suggests that there is significant evidence to conclude that there is a statistical difference between the GAD-7 scores from baseline to four weeks. After performing the matched paired t-test on scores at baseline and eight weeks, the two-tailed p-value is smaller than .05 ($p\text{-value} = 1.133E-9$). This suggests that there is significant evidence to conclude that there is a statistical difference between the GAD-7 scores from baseline to eight weeks. When performing a matched paired t-test there is no way to compare the values to determine the magnitude of impact between the scores. The average of the differences between the average GAD-7 scores at weeks two, four and eight was measured to determine what period showed the greatest difference between the weeks that were tested. The greatest difference happened between the baseline GAD-7 score and the 8-week GAD-7 scores. The 12 participants averaged a 3.6-point difference between their baseline scores and their 8-week scores.

Table 4.3*GAD-7 Scores at Baseline Compared to Weeks 2, 4, and 8*

Participant	Baseline	Wk. 2	Wk. 4	Wk. 8
1	10	10	8	6
2	11	13	9	8
3	12	9	8	9
4	10	11	10	7
5	12	11	9	8
6	11	12	11	8
7	14	13	9	7
8	13	9	11	10
9	12	8	7	6
10	10	10	10	7
11	11	9	9	9
12	11	9	10	8

Findings***Primary Outcome***

GAD-7 Scores. After using the Statistical Package for Social Sciences (SPSS) for data analysis, a repeated measures ANOVA test was used to compare the means of GAD-7 scores from baseline to two weeks, baseline to four weeks, and baseline to eight weeks. Upon data analysis, there was a statistically significant difference from baseline to two weeks, baseline to four weeks and baseline to eight weeks. Another statistical test was used to measure the

magnitude of difference between the weeks. The average difference between baseline and two-weeks was -1 indicating GAD-7 scores dropped by an average of 1 point from baseline to two-weeks. The average difference between baseline and four-weeks was -2.2. The average difference between baseline and eight-weeks was -3.6 weeks. After running these statistical tests, the primary outcome was that GAD-7 scores significantly decreased over an eight-week period. The results support the implementation of a multidimensional intervention strategy to manage generalized anxiety disorder.

Secondary Outcome

Effect of Independent Variables. A Linear Regression Test was used to determine if any of the independent variables had a statistically significant impact on GAD-7 scores. The independent variables of medication, app use, exercise, sleep, cigarette use, alcohol use, and caffeine use were not significant. All these independent variables, individually, did not have a significant impact on GAD-7 scores.

While no results were statistically significant, correlational statistics were used to determine the relationship between independent variables and GAD-7 scores. After running a Spearman's correlation test, two variables had a weak negative correlation. The more the participants utilized the app and the more they exercised the lower their GAD-7 scores were. There was a positive correlation with the number of cigarettes used, alcoholic drinks, number of daily calories, and caffeine intake, meaning the more the participants performed these activities, the higher their GAD-7 scores were. There was no correlation between sleep time and GAD-7 scores. A Kruskal-Wallis test was used to determine if being on a certain medication made a statistical difference over another. The two tailed p value was greater than .05 ($p = .162$) so the null hypothesis was rejected. There was no significant evidence to conclude there was a significant statistical difference between the GAD-7 scores and the type of medication that was used.

Table 4.4*Correlation between Variables and GAD Scores*

Variable	Spearman's rho	Sig. (2-tailed)
Application	-.321	.308
Exercise	-.233	.485
Sleep	.000	1.00
Cigarette Packs	.154	.634
Alcoholic Drinks	.058	.858
Calories	.269	.397
Caffeine	.141	.636

CHAPTER 5 DISCUSSION

The purpose of this project was to evaluate the effectiveness of a multi-interventional process that consisted of pharmacotherapy, exercise, sleep, eating healthy, and a CBT application for patients diagnosed with GAD. These interventions were implemented with the hope that the patient's GAD-7 scores would decrease over an eight-week period. In this chapter, there will be an explanation of the findings, strengths, and limitations of the project, and what can be done in the future.

Explanation of Findings

There is statistically significant evidence that supports the use of the interventions for the management of GAD in an internal medicine setting. Using a CBT application, exercising, eating healthy, use of pharmacotherapy, and healthy sleep contributed to lower GAD-7 scores over time for the patients in this project. The findings in the literature and the project were consistent.

Participants

There was a total of 12 participants that completed this EBP project. Of the 12 participants, four of them were previously diagnosed with GAD when they were screened at the beginning of the project. The four that had been previously diagnosed before the project are consistent with Andrews (2018) that GAD is first diagnosed in a primary care setting. Females made up most participants in the project accounting for 69% of them. This was likely due to many patients in the setting being female (64%), but also more females are likely to be diagnosed with GAD than males (Andrews, 2018). One of the differences among the data was regarding race of participants. The literature reported that more Caucasians are diagnosed with GAD compared to other races (Munir & Takov, 2021). The project had a more even distribution between Caucasians and African Americans. This could be due to the setting of where the project took place in which there is a more even distribution of race among African Americans and Caucasians. Another difference between the literature and the project was education level.

The majority of participants had at least attended some college, whereas the literature suggested those diagnosed with GAD are more likely to have lower education levels (Munir & Takov, 2021). One explanation could be that the average age of the participants was slightly older than the average age of GAD patients in the literature. The slightly older population might have led to the education level among the participants to be higher. The average age amongst the participants of the project and the literature was similar. The literature stated the median age of patients with GAD was 30 (Munir & Takov, 2021). The average age of participants in the project was 35.

GAD Scores

There was a statistically significant difference between baseline GAD-7 scores and 2 weeks, baseline GAD-7 scores and 4 weeks, and baseline GAD-7 scores and 8 weeks. According to the GAD-7 scoring, patients scored between moderate to severe anxiety at baseline. Following their 8-week GAD-7 scores, participants ranged from mild to moderate anxiety. This statistically significant difference supports the use of these interventions for managing GAD-7 in an internal medicine setting. While statistically there was a difference, clinically those patients who still scored in the moderate range on their 8-week GAD-7 score still have a level of anxiety of moderate. GAD is diagnosed with a score of 10 or greater (Locke et al., 2015). These scores have a greater chance of having more functional impairment (Locke et al., 2015). The literature suggested that interventions in managing anxiety take time, sometimes up to 12 weeks (Andrews, 2018; Andrews, Basu, Cuijpers, et, al., 2018; Mayo-Wilson, 2013). Continued use of these interventions and follow up with patients was encouraged after the project ended, especially for participants who still scored in a moderate level of anxiety.

CBT Phone Application

While CBT applications are not as favored compared to in person CBT, they are more accessible, more cost effective, just as safe as in person CBT, and have very little side effects (Andrews, 2018; Andrews, Basu, Cuijpers, et, al., 2018; Mayo-Wilson, 2013). This project supported the use of a CBT application in a setting where face-to-face CBT could not be done.

There was a negative correlation between GAD-7 scores and participants who used the CBT application. The more time participants used the application, the lower GAD-7 scores were. The literature supported the use of CBT because it helps change patients' thoughts that are associated with anxiety (Andrews, 2018). Patients reported they liked the application's ease of use. During the first initial discussion about the project, the CBT application was set up. The participants created an account on their phone and instructions were given on how to use the application. This initial instruction on how to use the CBT application contributed to patients' ability to focus on performing the CBT rather than the initial process of understanding how it works. It also helped that many participants had some college level of education. This contributed to participants being able to understand how to use the application more quickly and focus on performing the CBT. Participants also reported they liked being able to have an intervention they could use in accordance with their schedule. The freedom of being able to use the application when it was most convenient to them was one of the positives of the application. One of the negatives of the application reported by patients was lack of access. When discussing the project to prospective participants, some reported that they could not participate in the project because they did not have access to the internet at home or did not have a smartphone. The offer to perform the other interventions and still be a participant was offered but they all declined.

Exercise

Exercising was another intervention that had a negative correlation to GAD-7 scores. In the weeks of getting feedback from patients, some participants reported that exercise was making them feel a greater sense of well-being. They stated that exercising was something they scheduled for themselves and genuinely made them feel better after they were done. This finding was even more impressive because this project occurred in the fall and winter months in Indiana. There were a lot of patients that reported they joined a gym, or when the weather was nice, walked or ran outdoors. The literature supported the use of exercising for managing GAD (Andrews, 2018; Romano, 2021). Education was given to the patients about the importance of

exercising to decrease anxiety. Patients reported they liked the idea of doing something other than taking a pill to manage their GAD. Many participants stated that they felt the fact they were physically doing something about their anxiety helped.

Pharmacotherapy

The literature supported the use of SSRI therapy for patients diagnosed with GAD (Andrews, 2018; Slade, 2021; Slee, 2019). In the beginning of the project, the literature supported the use of SSRI therapy to manage GAD. Due to the low volume of participants of the project, the project moved to accepting participants regardless of the type of medication they were on. The participants of the project finished the project on one of the three medication classifications: SSRI, SNRI, or NDRI. The overwhelming majority of participants were either on a SSRI or an SNRI while only one participant was taking an NDRI. There were eight participants in the project who were already taking either SSRI, SNRI or NDRI medication. For those individuals, they were continued on the same medication in the project. There were four participants who started the project not on any medication who were started on an SSRI. This medication is preferred over others due to their safety profile, low cost, and low abuse potential (Andrews et al., 2018). There was no statistically significant difference in GAD scores depending on type of medication participants were taking. The literature supported the use of SSRI therapy as best practice (Andrews, 2018; Slade, 2021; Slee, 2019). This finding could be due to the low number of participants in the project. A larger sample size could have contributed to one medication being more effective than the other.

Lifestyle Factors

There were four variables that had a positive correlation with GAD-7 scores, meaning the more participants used them the higher their GAD-7 scores were. The variables of cigarette use, alcohol use, calorie intake, and caffeine use all had a positive correlation. Drinks and foods that are high in sugar and caffeine should be avoided in people with anxiety (Andrews, 2018; Romano, 2021) and alcohol and cigarette use should be discouraged (Andrews, 2018; Romano,

2021). Many participants noted that when they stopped these behaviors and focused on the interventions that were encouraged, they felt their anxiety improved. Statistically there was not a difference amongst the variables however the correlations indicated that some of the variables might have been statistically significant if there was a larger sample size.

Strengths and Limitations of the DNP Project

Strengths

The most important strengths of this project were offering mental health interventions in a non-psychiatric care setting. As discussed, there is a shortage of mental health care providers and mental health facilities. As there continues to be a mental healthcare shortage, the rise of mental health illness continues to rise. Therefore, the ability of internal medicine offices and other primary care facilities to offer interventions that improve GAD symptoms is extremely important. This project demonstrated that there are a variety of options available to manage GAD that providers should consider when caring for this patient population. These options were affordable, easy to utilize with patients, and have a good safety profile. One aspect participants liked about the project was having a variety of things they could be doing to improve their GAD symptoms, while also improving on other aspects of their health. The lifestyle modifications offered several ways that included eating healthier, exercising, and getting more sleep. They also focused on decreasing nicotine, caffeine, and alcohol use. The lifestyle modifications not only help with GAD, but they also contributed to an overall healthier lifestyle that participants appreciated about the project. Another benefit from the project was increasing the frequency of screening for GAD. Patients who would not usually be screened for anxiety were screened due to the implementation of the project. The project has led to a better awareness of the prevalence of GAD within the clinic. The increased screening of GAD in the clinic continued even after the project was completed. Finally, being able to make a clinically significant difference in the lives of the participants was the biggest strength of the project. The goal of the project was to decrease GAD-7 scores after an 8-week period. The project was able to make a difference in the

lives of individuals managing GAD. As a future advanced practice nurse, there is nothing better than seeing the lives of people you are trying to help get better. It is the most rewarding aspect about being in healthcare.

Limitations

Getting other providers in the clinic to participate in the project was one of the limitations of this project. Prior to implementation, several meetings with the physicians in the clinic took place. These meetings addressed the need for the project, the research that had been conducted, what was going to be done in their setting, and how it was going to be implemented. Periodically several individual conversations took place with providers about their interest in the project. Once the implementation phase of the project began, discussions continued about allowing patients within the other providers' care to be accessed for the project. Unfortunately, after all the meetings and discussion only one other provider outside of the project site facilitator agreed to participate in the project. There were a variety of reasons for the providers not agreeing to be a part of the project. One reason given was that they wanted to wait until the project was implemented, and the results were produced to see if they would implement the interventions despite the research being provided before the implementation phase to support the use of the project. After implementation, the results of the project were provided to the providers. The project site facilitator was the only one that wanted to continue the intervention after implementation. Even after the results had been shown they still did not want to utilize the project interventions. Many of them stated that learning how to teach patients and talk to them about all the different interventions would take too much time that their office visits would allow for. Another limitation was the lack of participants. Many patients who screened as a potential candidate did not participate in the project. One of their reasons for not participating was they did not think they would be available to answer all the follow up questions after the project had started. They also stated that they did not want to record all the information needed for the project. Other participants stated they had extraneous circumstances that did not allow them to

adequately record the information needed for the project. These included situations such as change in employment, family issues, or other health related issues outside of their GAD.

Originally 26 participants agreed to participate in the project. As the weeks went by, several of the participants either did not get back to record their GAD-7 scores or they said they would no longer be able to participate in the project. For individuals who did not get back to record their scores, it is unknown the reason behind them not participating. To combat this issue during the implementation of the project, messaging patients through an interactive patient portal was used along with attempting to call the patient. There was no increase in the retention of participants through this strategy.

Sustainability

Following the implementation phase of the project, efforts were made to continue the practice changes that had been made following the project. Through the statistically significant difference the project made, the increase in screening for anxiety continues in the clinic following the project. After seeing the prevalence of patients who screened positive for GAD, the providers who participated in the project continue to use the GAD-7 questionnaire in their practice. The clinical site facilitator will continue to use the practice changes even after the project has been completed. After seeing the results from the project, the clinical site facilitator stated she continues to use the interventions associated with the project. They were already prescribing medication for patients diagnosed with GAD. Following the project, she will also begin to emphasize using the CBT application, as well as education on lifestyle modifications. As for the other providers, it is uncertain whether they will use the new practice changes associated with the project. All of the providers were shown the results of the EBP project and were happy to see the improvement the patients had made with the practice changes. There were discussions with each individual provider about the intervention and results of the project. They were hesitant to adopt these practice changes due to the small sample size of the project. Other providers said they would have liked to see a control group to see if there was a difference versus those that

participated in the project. Increasing provider participation is an area in which the project could have been improved. This would have increased participants in the project and helped more people. It also may have shown a difference among certain variables, or if being on a certain medication over another made a difference or not.

Relevance for EBP Model

The JHNEBP model was used as a guide for this project. The model helped create a concrete path for a successful implementation of the EBP project. The first part of the model is one of the most important steps, beginning with an inquiry with the goal of learning more about best practice in a certain area. The beginning of this project started with seeing how anxiety was managed in this setting and wondering about best practice for this situation. After discovering best practice, the next step in the model led to the PET of the JHNEBP model (planning, evidence, and translation). The providers within the clinic who were supportive early in the project facilitated this transition. They were able to learn about the project early on, as well as be an ambassador for the project within the clinic when the student was not there. They also helped the student plan and organize the data for the participants in the project. One of the more challenging parts of the model is that it does not center around organizational change, but rather individual nurses. One of the changes that could be made to the model would be for it to consider making organization level changes. Being able to impact individual nurses is important, but for nursing to affect a broader spectrum in the healthcare industry, the model should incorporate organizational change. This was one of the weaknesses of the model for this project.

Recommendations for the Future

This EBP project demonstrated the effects a multidisciplinary intervention strategy can have on patients diagnosed with GAD in an internal medicine setting. The combination of pharmacotherapy, lifestyle modifications, and a CBT application, improved GAD-7 scores over an 8-week period. Recommendations should focus on using a multi-strategy approach to managing GAD in non-psychiatric settings. The education portion of this approach can take time;

providers who adapt these strategies should look at increasing either the length of appointment times, or the number of times patients are seen. Providers should also investigate using the myCompass online CBT application. This project supported the use of this application in this setting. Providers should have a solid foundation of how the application works so they can educate their patients accordingly.

Research

Further research is needed in the management of GAD in internal medicine settings. One of the areas that should continue to be researched and developed are the self-help CBT applications. These applications are cost-effective (many of them are free) and offer few side effects. The research suggests that CBT is first line therapy for patients who have GAD. Many of the patients in the office were prescribed medication as their first line therapy to manage GAD. Project participants reported they liked doing something physical to help manage their GAD. One other aspect that should be researched further is the effect of exercise and GAD. As noted in the project, there was a negative correlation between how long patients exercised for and GAD-7 scores. Further research should look into how effective exercise is in helping patients manage GAD. As noted, not only does exercising help with GAD, but it can also help patients with other conditions they might have.

Education

Education was a fundamental part of this project. If the student and providers did not teach the interventions effectively at the beginning of the project, patients would not have a clear understanding of what to do or how certain interventions worked. Similarly, undergraduate and graduate students should take away from this project that if they want patients to change behavior, the students themselves need to have their own understanding of the material. Being able to effectively communicate to people what you want them to do, and then being able to follow up with why is extremely important. Students should also consider being able to translate medical information into a language that patients can understand. Students should understand

from this project that while pharmacotherapy can be very effective in managing conditions, there are non-pharmacological interventions that can be done in combination that offer a more well-rounded approach to patient care. Students should finally be aware of the growing prevalence of mental health disorders. This growth should give students an awareness to look into the primary, secondary and tertiary strategies of mental health. These strategies should be emphasized in the curriculum at all levels of nursing education.

Conclusion

GAD is a prevalent and growing problem. It can lead to significant debilitating effects for patients and their families. This project started with the student being aware of a need within an internal medicine setting, which led to an extensive literature review looking at the best practice strategies to implement in this setting. Ultimately a multidisciplinary strategy was developed and implemented for patients diagnosed with GAD. The strategy included pharmacotherapy, lifestyle modifications, and CBT through an online application. After implementing these strategies for eight weeks, there was a statistically significant difference in GAD-7 scores from the beginning of the project to the end. This project not only contributed to a statistically significant difference in GAD-7 scores, but more importantly, it made a clinical difference in the participants' lives. It was rewarding to see participants improve over that period. Hearing them report they were feeling better made this project rewarding. Seeing the improvements, the participants made in this project should give not only students but other nurses the sense of empowerment that they too can make a difference in people's lives.

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BIOGRAPHICAL MATERIAL

Mr. Davidson graduated from Valparaiso University in 2017 with a Bachelor of Science in Nursing (BSN). Following graduation, he moved to Indianapolis where he has worked at St. Vincent Hospital in a Cardiovascular Intensive Care Unit (CVICU). In 2019, Nicholas earned several certifications including Extracorporeal-Membrane-Oxygenation (ECMO) and Ventricular Assist Device (VAD). He currently serves as a member of the ECMO nursing group at his hospital which pursues Evidence-Based Practice (EBP) for patients requiring this type of care. The pursuit of his Doctor of Nursing Practice (DNP) began in the fall of 2019, and he will graduate in May of 2022. During his time in graduate school, he became a member of Sigma Theta Tau Honor Society of Nursing in 2020. He has also been invited to present his DNP project at the National Nurse Practitioner Symposium in Keystone, Colorado this summer. The DNP project originated when he noticed a rise in mental health complaints during his clinical rotations. Mr. Davidson has a true passion for nursing that stems from his faith. Being able to practice as a nurse has allowed him to serve and care for others. Following graduation, he will continue to abide by his love for helping people and strive toward serving their needs.

ACRONYM LIST

ANA: American Nurses Association

ADAA: Anxiety and Depression Association of America

ANOVA: Analysis of Variance

APA: American Psychological Association

CBT: Cognitive behavioral therapy

CDC: Centers for Disease Control

CPG: Clinical Practice Guidelines

DNP: Doctor of Nursing Practice

EBP: Evidence-Based Practice

GAD: Generalized Anxiety Disorder

GAD-7: Generalized Anxiety Disorder 7-item

GI: Gastrointestinal

JBI: Joanna Briggs Institute

JHNEBP: Johns Hopkins Evidence-based Practice Model

NDRI: Norepinephrine-dopamine reuptake inhibitors

PET: Practice, evidence, translation

RCT: Randomized-controlled trials

SNRI: Serotonin norepinephrine reuptake inhibitor

SSRI: Selective serotonin reuptake inhibitor

TRIP: Turning Research Into Practice

U.S: United States of America

WHO: World Health Organization

Appendix A
Evidence Table

Lead Author/Year/Quality	Purpose/Design/Sample	Interventions	Measurement/Outcomes	Results/Findings	Strengths/Limitations
Level I Evidence					
Andrews/2018/Level 1/High Quality	To advise health professionals in a variety of health settings (psychiatric settings, hospital settings, primary care settings, and other outpatient settings) on the treatment of adults with panic Generalized Anxiety Disorder... CPG consisted of multiple systematic reviews, randomized controlled trials (494 total pieces of evidence).	Interventions included Cognitive Behavioral therapy, lifestyle modification, and medications from the studies provided from the guideline.	Anxiety was measured with GAD-7 or PSWQ-3. These outcomes were measured at 4, 6, 8, and 12 weeks.	The clinical practice guideline recommends psychoeducation and advice on lifestyle factors, followed by treatment with cognitive behavioral therapy, pharmacotherapy, or a combination of cognitive behavioral therapy and pharmacotherapy. Improvement of symptoms of GAD occurs between 4-6 weeks after CBT, or medication treatment is initiated. Patients should be seen weekly to monitor adherence to adverse effects and monitor symptoms.	Multiple high levels of evidence were used in the synthesis of the guidelines. Further research needs to be done on the effectiveness of newer therapies (ex. Digital CBT)
Andrews, Basu, Cuijpers, et, al./2018/Level 1/High Quality	A meta-analysis of internet based cognitive behavioral therapy for the treatment	Internet based cognitive behavioral therapy applications	Effect of treatment was analyzed examining if internet based cognitive behavioral therapy improved patient anxiety.	Internet based cognitive therapy is more cost-effective and can be beneficial for patients with anxiety. This meta-analysis supports using internet based cognitive behavioral therapy	The pieces of evidence used in the meta-analysis were high levels of evidence.

	of anxiety disorders 64 systematic reviews, and randomized controlled trials were analyzed.		Outcomes of anxiety, and depression measured with GAD-7, PSWQ, PHQ-9		There is still a lack of studies comparing internet based cognitive therapy to face-to-face therapy
Firth/2017/ Level 1/ Good Quality	To determine the role of smartphone psychological interventions in the treatment and management of generalized anxiety disorders. This is a synthesis of systematic reviews, meta-analysis and other randomized controlled trials This is an evidence summary.	Smartphone CBT applications	Nine Systematic reviews and meta-analysis reporting the effects of smartphone psychological interventions on symptoms of anxiety. Research was done in 2016. Random effects were used to calculate between smartphone interventions and control conditions. (Hedges g) (p value)	There were significantly greater reductions in total anxiety scores with smartphone interventions compared to control conditions. When compared to no treatment at all, smartphone psychological interventions can be useful to patients with anxiety disorders.	The evidence of this evidence synthesis came from high level meta-analysis, systematic reviews, and other randomized controlled trials. Researchers suggested there needs to be more research into comparing cognitive behavioral therapy formats of face-to-face therapy with internet-based therapies. There still needs to be research on how effective

					these applications are, and their role in managing anxiety.
Lizarando/2020/ Level 1/ High Quality	To report evidence regarding the effectiveness of exercise for generalized anxiety disorder. Evidence summary comprised of randomized controlled trials, meta-analysis, and systematic reviews. (4 pieces of evidence)	A variety of exercise methods including walking, jogging, running, yoga, biking, strength training.	The effect of exercise on improvement of symptoms of GAD and quality of life. These were measured with the GAD-7 and PSWQ questionnaire.	Exercise can be an additional treatment to care for patients with GAD to decrease symptoms and improve quality of life. This therapy is not as helpful as other interventions, it is not recommended as the only treatment for GAD.	There was high level evidence used in this evidence summary. There were only 4 pieces of evidence used, and the findings are not as strong as other interventions for the treatment of GAD.
Mathew/ 2021/Level 1/ Good Quality	To report the evidence regarding the effectiveness of smartphone supported psychological interventions for the management of generalized anxiety in a variety of settings used including primary care, psychiatric and internal medicine offices. Evidence summary	Using a variety of smartphone CBT interventions gathered from a variety of different studies	GAD-7 questionnaire at 2, 4, 6, and 8 weeks.	Patients with anxiety should be offered the option to use their smartphones to access the interventions for managing anxiety symptoms. There should be caution exercised when using anxiety apps considering the need for the development of guidelines. Some smartphone applications using cognitive behavioral therapy strategies may benefit patients with GAD (Grade B).	The levels of evidence used in the synthesis were high, but there are only three pieces of evidence. There is not as much research in this area, and some applications have not undergone any research

	comprised of two systematic review of randomized controlled trials, one randomized controlled trial, and one systematic review of anxiety relief apps				
Mayo-Wilson/2013/ Level 1/ High Quality	To assess the effects of media-delivered behavioural and cognitive behavioural therapies for anxiety disorders in adults. Systematic review comprised of 121 studies	Internet-based cognitive behavioral interventions and their effectiveness on GAD symptoms	These studies used a variety of tools to measure outcomes, related to anxiety and depression: GAD-7, BAI, PSWQ, and K-ANX scales.	Self-help may be useful for people who are not able or are not willing to use other services for people with anxiety disorders; for people who can't access, afford or utilize face-to-face CBT. Face-to-face CBT is still the most beneficial therapy for patients with anxiety disorders.	There were several pieces of evidence, that were high levels of evidence, in this review. There is still a lack of evidence supporting internet delivered cognitive behavioral therapy over face-to-face CBT
Pamaiahgari/2021/ Level 1/ Good Quality	To report the best evidence regarding the effectiveness of cognitive behavioral therapy for patients with generalized anxiety disorder. These studies were primarily done in the psychiatric	Implementing face-to-face cognitive behavioral therapy	An evidence summary synthesizing the effect of cognitive behavioral therapy at reducing symptoms of GAD and limiting side effects of the intervention. Anxiety was measured using the GAD-7 and PSWQ questionnaires.	Cognitive behavioral therapy should be used in the treatment of generalized anxiety disorder. Proper training is important for the effective use of CBT. Older adults are not as likely as other patients to benefit from CBT	This evidence synthesis was composed of high levels of evidence. These articles failed to mention the training that goes into learning

	clinical setting. Evidence summary comprised of six systematic reviews, one randomized controlled trial, and one meta-analysis.				face-to-face CBT.
Romano/2021/Level 1/ High Quality	Finding the best available evidence regarding self-help interventions for generalized anxiety disorder.	N/A	An evidence summary synthesized systematic reviews of randomized controlled trials, meta-analysis, Cochrane reviews, and randomized controlled trials.	Self- Help Interventions are indicated for treatment of patients with anxiety disorders. They are a Grade A recommendation. They are cost effective strategies to manage anxiety disorder. The interventions should be administered over a period of 6 weeks.	There are a variety of self-help interventions patients can use to manage their anxiety. Finding what self-help tools can be most beneficial to the patient may vary, and patients may not use the self-help interventions as often as they should
Slade/2021/ Level 1/ High Quality	Finding the best available evidence regarding pharmacotherapy for the treatment of generalized anxiety disorder. This is an evidence summary	Prescription of different medications to patients diagnosed with generalized anxiety disorder	The effect of pharmacotherapy at reducing symptoms and limiting side effects using the GAD-7, PSWQ, and BAI questionnaires	Antidepressants (imipramine, venlafaxine, paroxetine, fluoxetine, sertraline, duloxetine, escitalopram), second-generation antipsychotic (quetiapine) and anticonvulsant pregabalin may be used in adult patients with GAD, however	There are several medication options when managing generalized anxiety disorder. Some of the medications have

	consisting of systematic reviews of randomized control trials, clinical guidelines, systematic reviews with meta-analysis. (13 pieces of evidence).			clinical situation should be considered.	been researched more than others. There is no clear answer to what the best medication is. Evidence supports the use of SSRIs as the first medication to use.
Slee/ 2019/Level 1/ High Quality	To report the best available evidence regarding pharmacologic interventions for the treatment of anxiety. Systematic review and network meta-analysis was performed on randomized trials in adult outpatients with generalized anxiety disorder	The prescription of different medications for patients diagnosed with GAD.	A systematic review Primary outcomes were efficacy (mean difference [MD] in change in Hamilton Anxiety Scale Score) and acceptability (study discontinuations for any cause). Summary mean treatment differences and odds ratios were estimated using network meta-analyses with random effects	Duloxetine, pregabalin, venlafaxine, and escitalopram were the medications most widely studied. Mirtazapine, sertraline, fluoxetine, buspirone, and agomelatine were also found to be efficacious and well tolerated. Quetiapine had the largest effect on HAM-A, but it was poorly tolerated (odds ratio 1.44, 95% CI 1.16–1.80) when compared with placebo. Likewise, paroxetine and benzodiazepines were effective but also poorly tolerated when compared with placebo. Medications that have undergone the most testing and have found to be the most effective should be recommended first. Sertraline should be the first medication used when using	This study was a large review of a variety of medications and their effect on patients with GAD. The studies from the review were high levels of evidence. Studies on mirtazapine, sertraline, fluoxetine, buspirone, and agomelatine had small sample sizes compared to the other medications that were in the review.

				medication for the management of GAD. Not all patients respond to these medications the same way. Other medications still need to be reviewed more in depth.	
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Level II Evidence (use this format to add additional levels as your evidence warrants)

Proudfoot/2013/Level 2/Good Quality	Evaluate the efficacy of <i>myCompass</i> , a self-guided psychological treatment delivered via mobile phone and computer, designed to reduce mild-to-moderate depression, anxiety and stress, and improve work and social functioning. This was a randomized controlled trial. A total of 720 volunteers participated.	Volunteers were randomly assigned to the <i>myCompass</i> program, an attention control intervention, or to a waitlist condition for seven weeks. The interventions were fully automated, without any human input or guidance.	Participants' symptoms and functioning were assessed at baseline, post-intervention and 3-month follow-up, using the Depression, Anxiety and Stress Scale and the Work and Social Adjustment Scale	The <i>myCompass</i> group showed significantly greater improvement in symptoms of anxiety and stress and in work and social functioning relative to both control conditions at the end of the 7-week intervention phase (between-group effect sizes ranged from $d = .22$ to $d = .55$ based on the observed means). The attention control condition showed gradually symptom improvement from the post intervention evaluation. Wait list control had no symptom improvement.	Dropout attrition was high, especially for the <i>myCompass</i> group, and rates of engagement for <i>myCompass</i> participants with the program content were highly variable. Participants that were not in the <i>myCompass</i> intervention were offered the therapy after the trial concluded.
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Appendix B

Self-Help Strategies for Patients with Generalized Anxiety Disorder

1. **Diet** - Increasing the intake of fruits, vegetables and whole grains will help decrease anxiety. Limiting the use of caffeine can also decrease your anxiety. Caffeine can increase your heart rate, and make you feel anxious. Try to cut back or cut out your daily caffeine intake.
2. **Exercise** - Research supports exercising at least 30 minutes a day can decrease your anxiety. There are many different types of activities you can do. These include walking, running, biking, hiking, swimming, weightlifting or yoga. These activities can relieve tension and help calm you down.
3. **Smoking and Alcohol** - The use of alcohol and/or tobacco products can increase your symptoms of anxiety. Quitting smoking can help improve your symptoms. The product in tobacco products, Nicotine, is a stimulant that can make your anxiety worse. Alcohol similarly can make your symptoms worse.
4. **Sleep** - You should get 7-9 hours of sleep per night. Sleep habits that can help you fall asleep and get a better night's sleep include going to bed at the same time at night and waking up at the same time in the morning, decreasing the amount of screen time prior to going to sleep, and sleeping in a cool, dark and noise free environment.
5. **Cognitive Behavioral Therapy**- This is recommended as one of the best practices for reducing your anxiety. Learning about anxiety and practicing different coping techniques can help better manage your symptoms. This will be done using the myCompass application. This service can be found at <https://www.mycompass.org.au/>