Generalized Anxiety Disorder in Adolescents: Which Treatments are More Effective?

Priscah Odongo and Solange Rutagengwa

ABSTRACT

This paper reviewed 10 published articles that explored the importance of combining Cognitive Behavioral Therapy (CBT) and pharmacotherapy in the treatment of generalized anxiety disorder (GAD) in adolescents. The research results were obtained through a meta-analysis of the extant literature on the treatment of adolescent GAD. The evidence reviewed suggests that the recommended treatment of choice for GAD is the combination of medications Selective Serotonin Reuptake Inhibitors (SSRIs) and Cognitive Behavioral Therapy (CBT). The combination of CBT and pharmacotherapy was superior to monotherapy in treating GAD (Caporino et al., 2017; Melvin et al., 2016; Peris et al., 2017; Öst et al., 2016; Wang et al., 2017). This leads us to conclude that practitioners ought to add CBT to pharmacotherapy when treating adolescents with GAD. The research found a significantly large effect (96% CI) and clinical significance that favored the use of combined treatment compared to the exclusive use of a monotherapy, in treating this population. Adolescents who received the combined treatment for GAD, remained in remission two years after their treatment (Öst et al., 2016; Peris et al., 2017). Generally, the efficacy of SSRIs is observed after two to six weeks. The individual must be on the medication for six to twelve months for it to be effective. This initial delay further emphasizes why it is imperative to combine this therapy with CBT (Caporino et al., 2017; Melvin et al., 2016; Öst et al., 2016; Peris et al., 2017). This leads us to conclude that practitioners ought to take time to educate the adolescents about the
pharmacodynamics of the medications and encourage them through their healing process (Piacentini, 2014; Wang et al., 2017; Walkup et al., 2008).

Keywords: adolescent, cognitive-behavioral therapy, pharmacological agents, generalized anxiety disorder.

Which treatments are more effective?

Generalized anxiety disorders (GAD) are the most commonly diagnosed psychiatric disorders affecting teenagers (James et al., 2015; Wang et al., 2017). GAD usually results in considerable impairment in the adolescent’s psychosocial functioning. The adolescent’s worries typically switch from one concern to another, resulting in significant academic, social, and familial impairment (James et al., 2015; Ost, et al., 2016; Walkup et al., 2009). Sadly, GAD is diagnosed in 5% to 19% of this population, making it the most prevalent mental illnesses affecting teenagers (James et al., 2015). In the U. S. alone, one out of 20 children aged six to 17 years, or 2.6 million, had an active anxiety or depression disorder which had previously been diagnosed by a healthcare provider (Bitsko et al., 2018; Ost et al., 2016; Wang et al., 2017). Studies found that one in five children who were newly diagnosed with anxiety and depression did not receive the necessary psychiatric help (Bitsko et al., 2018; Piacentini, 2014; Ost et al., 2016; Walkup et al., 2008; Wang et al., 2017).

Anxiety disorders create a major economic burden because of the decreased work productivity and strain on our health care services (Caporino et al., 2017; Ginsburg et al., 2011; Hilton et al., 2013; Melvin et al., 2016; Peris et al., 2017; Ost et al., 2016; Piacentini, 2014; Wang et al., 2017; Walkup et al., 2008). Adolescents experience a wide variety of physical and emotional changes as they grow. As a result, many of these changes can be presumed to be the usual teenage struggles and hormonal changes, when in reality, the adolescent is undergoing a major crisis. Adolescents who suffer from anxiety disorders experience fear, shyness, and nervousness, which can isolate them and prevent them from pursuing their goals. If left untreated, GAD can become chronic, developing into adulthood anxiety and/or depression and may eventually lead to suicide. These adolescents often have troubled relationships with parents and peers and poor school performance; this can lead to severe depression. Sadly, individuals who have this mental illness live their lives not knowing that they have a mental illness. The few who have been diagnosed are unable to obtain essential therapies because of the lack of resources or limited access to psychiatric health care providers (Caporino et al., 2017; Ginsburg et al., 2011; Melvin et al., 2016; Peris et al., 2017). As a result of the lack of treatment, most of these adolescents struggle through life carrying this great psychological burden.

Several treatments can be used to manage this debilitating disorder. Pharmacological and non-pharmacological interpersonal therapies like CBT have proven to be effective in managing GAD. This paper reviews the research evidence in light of which treatment is best. We used PICOT to formulate our clinical question. PICOT is an acronym which contains five key components which are essential in the construction of a clinical research question with an evidence-based practice framework. This mnemonic is also used to describe the four elements of a good clinical question. PICOT stands for: P-Patient/Problem, I-Intervention, C-Comparison and O-Outcome. A well-constructed PICOT question assists in finding the best evidence available to influence practice (Polit & Beck, 2012).

An intervention PICOT question was chosen to inquire in depth about the current evidence-based therapies used in the successful treatment of generalized anxiety disorders (GAD) in adolescents. It was formulated as follows: “In adolescents diagnosed with generalized anxiety disorders (GAD), how does pharmacological treatment compared to a combination of non-pharmacological treatment with pharmacological treatment, affect their levels of anxiety?”

Population of interest

The World Health Organization classifies an adolescent as any individual who is between the ages of ten and 19 years of age (Ost et al., 2016; Wang et al., 2017). Adolescents, from one age group to another, are usually obligated to make essential adjustments such as learning to cope with new experiences, creating a good relationship with peers, developing new skills, and performing well in school. One of the major life transitions in adolescence occurs during their school years. During this transition, adolescents start to learn new behaviors which are greatly influenced by their environment, social media, friends, and family (Rapee et al., 2009; Sophie et al., 2017). These newly learned behaviors can be healthy, such as exercising and eating healthy, but they can also be unhealthy such as drug abuse, cigarette smoking, and unsafe sexual activities. Adolescents who are eager to fit in with their peers, those living with undiagnosed mental illness, or those who are experiencing stress may turn to illicit drugs or promiscuity in the hope of escaping from their reality.

Consequently, they may begin to rebel against their parent or guardian’s rules and may prefer spending most of their time with their peers instead of their loved ones. They may also develop alternative interests and test set limits by experimenting more (Caporino et al., 2017; Ginsburg et al., 2011; Melvin et al., 2016; Walkup et al., 2008; Wang et al., 2017). The hallmark of healthy adult behaviors is typically established during adolescence because a considerable number of morals and personal values are developed during this period. Studies have shown that it is during this vital transitional phase that many adolescents who may already be living with undiagnosed or undertreated mental health disorders will develop generalized anxiety disorders (Ginsburg et al., 2011; Melvin et al., 2016; Walkup et al., 2008; Wang et al., 2017).
MELEIS TRANSITION THEORY

The middle-range nursing theory of transitions (Meleis, 2010) was used to examine the struggles that adolescents face as they transition from childhood to adulthood. Transitions are periods in life when humans typically encounter significant changes. Life transitions are inevitable, and as a result, they can occur even during periods of stability in the adolescent’s life (Meleis, 2010). The changes associated with these transitions can create mental instability as the adolescent struggles to make the necessary adjustments. For instance, an adolescent can experience immense anxiety when transferring from middle school to high school or when trying out for a sport’s team. Throughout this transitional phase, teenagers are usually required to make certain adjustments which enable them to adapt to different life experiences (Meleis, 2010).

A pivotal moment in the life of an adolescent typically begins after their final year of high school. This transition entails moving from one’s comfort zone into a new environment where one establishes new acquaintances. Meleis (2010) states that during stressful events, adolescents become tremendously shy and refuse to partake in new activities or activities they previously liked. Such behaviors may interfere with their relationships, making it difficult for them to maintain or create friendships. This is especially difficult for the adolescent who suffers from GAD. If left untreated, adolescents living with GAD may start using recreational drugs, engage in promiscuous sexual behaviors, and partake in risky behaviors in the hope of concealing their fears and excessive worries (Caporino et al., 2017; Rapee et al., 2009; Sophie et al., 2017; Wang et al., 2017; Walkup et al., 2008). This paper will examine the effectiveness of the combination of CBT and pharmacological agents in treating GAD in adolescents.

GENERALIZED ANXIETY DISORDER

According to the Diagnostic and Statistical Manual of Mental Disorder (DSM-5), GAD is defined as being extremely anxious for unknown reasons, with multiple episodes occurring several days for at least six months (Ost et al., 2016; Peris et al., 2017; Placenta, 2014). The anxiety can occur spontaneously; it can be during, before, or after a particular activity such as work or school. In other words, the teenager affected by GAD has a hard time controlling their worry. These anxieties are neither as a result of a stressor nor as a result of any specific place, person, or situation (Dunphy et al., 2015; Wang et al., 2017). The associated symptoms of anxiety include agitation, nervousness, fatigue, trouble concentrating, or short-term memory problems, cantankerousness, and insomnia (Caporino et al., 2017; Ginsburg et al., 2011). In children, a diagnosis of GAD is confirmed when only one of these symptoms is present (Hilton et al., 2013; Walkup et al., 2008; Ost et al., 2016; Peris et al., 2017; Placenta, 2014).

Cognitive Behavioral Therapy (CBT) is the first treatment of choice for GAD (Peris et al., 2017; Ost et al., 2016; Wang et al., 2017). CBT is a form of complementary and alternative medicine (CAM) which focuses on the cause and prevention of the condition while looking at the overall health of the adolescent. CBT treatment for GAD can last between ten to 20 sessions with most adolescents reporting significant anxiety reduction after ten sessions (Hilton et al., 2013; Melvin et al., 2016). CBT is a non-medication-based treatment that is also known as psychotherapy. The primary goal of this intervention is to modify an individual’s awareness and behavior (Caporino et al., 2017; Ginsburg et al., 2011). The treatment consists of a combination of relaxation training, cognitive restructuring, and exposure and response prevention therapy (Wang et al., 2017; Peris et al., 2017; Ginsburg et al., 2011).

PHARMACOLOGICAL TREATMENT

The pharmacological treatment of GAD is defined as the use of antidepressants and anti-anxiety drugs such as serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs). SSRIs are the first line of medications that are used in treating GAD (Dunphy et al., 2015; Hilton et al., 2013; Walkup et al., 2008; Ost et al., 2016; Peris et al., 2017; Placenta, 2014). The main function of these medications is to alleviate anxiety symptoms. The medications can be prescribed in conjunction with CBT (Caporino et al., 2017; Ginsburg et al., 2011; Hilton et al., 2013; Walkup et al., 2008; Melvin et al., 2016; Peris et al., 2017; Ost et al., 2016; Placenta, 2014; Wang et al., 2017).

THE REMISSION OF GAD

The remission of childhood anxiety disorder is defined as having non-existence or diminished levels of symptoms after a person has received treatment. Remission is achieved when an adolescent scores between 1 to 2 on the Clinical Global Impression Severity Scale (CGI-S) which reflects...
zero to minimal anxiety symptoms (Ginsburg et al., 2011). CGI-S is a global rating instrument which measures the severity of anxiety. Family dynamics play a significant role in determining the adolescent’s likelihood of having anxiety. Adolescents who experienced supportive and structured family interactions were more likely to attain remission after their treatments (Caporino et al., 2017; Ginsburg et al., 2011; Hilton et al., 2013; Walkup et al., 2008; Melvin et al., 2016; Peris et al., 2017; Öst et al., 2016; Piacentini, 2014; Wang et al., 2017).

SEARCH FOR EVIDENCE

The search for evidence was conducted using several electronic databases: Scopus, CINAHL, Google Scholar, and Medline with full text. The databases were searched using the main subject heading of generalized anxiety disorders; 2,100 results were obtained. We continued searching through these databases and added the terms adolescents and cognitive behavioral therapy (CBT). This new search yielded 1,500 results. We limited the search to research published within the last five years, and this resulted in 1,200 results. We narrowed the search to 150 articles when we included the terms pharmacological treatment and a combination of non-pharmacological treatment in our search terms. The number of articles retrieved from our new search results was as follows: Ten results from CINAHL, 12 results from Scopus, 28 from Medline with full text, 212 results from Google Scholar.

We reviewed these articles and selected only those with the highest level of evidence for further review, which were the systematic reviews and the randomized controlled trials. Also, the articles were selected based on the publication date; psychotherapeutic interventions used, and evidence-based practice. We chose ten evidence-based articles which reinforced our PICOT. The chosen articles compared the use of pharmacotherapy or CBT alone to the use of the combination therapy for treating GAD.

CRITICAL ANALYSIS OF EVIDENCE

We selected nine randomized controlled trials (RCTs) and one systematic review for the synthesis of evidence. Through methodical review and critical appraisal of the evidence, we discovered that all studies provided evidence that could be considered reliable. Please refer to Table 1 for a compilation and analysis of the evidence based on our PICOT. Nine of ten articles were double-blinded RCT trials (Caporino et al., 2017; Ginsburg et al., 2011; Hilton et al., 2013; March et al., 2004; Melvin et al., 2016; Öst et al., 2016; Piacentini, 2014; Peris et al., 2017; Walkup et al., 2008); and one was a systematic review (Wang et al., 2017).

Research subjects in each study were assigned to either CBT only, CBT with medication, a combination of both (medication and CBT), or to a placebo group which also included the standard treatment. In all the randomized control trials the smallest sample consisted of 62 patients (Melvin et al., 2016) while the largest had 488 patients (Caporino et al., 2017; Ginsburg et al., 2011). The systematic review was a meta-analysis of 115 studies, which were identified from 127 publications and comprised a total of 7,719 patients (Wang et al., 2017).

INSTRUMENT USED TO MEASURE GAD

Generalized Anxiety Disorder Scale-7 (GAD-7) is a 7-item tool that was used by the researchers to measure GAD in adolescents. This self-rated scale was developed by Spitzer and colleagues (2006) as a screening tool and severity indicator for GAD. The GAD-7 Item Scale is a viable screening measure which is used to identify the likely presence of GAD in adolescents so that further evaluations and treatments can be recommended (Wang et al., 2017 & Öst et al., 2016). The tool is used in primary care as a symptom severity measure and a screening tool for the four most common anxiety disorders: Generalized Anxiety Disorder, Panic Disorder, Social Phobia and Posttraumatic Stress Disorder (Öst et al., 2016; Peris et al., 2017; Piacentini, 2014; Wang et al., 2017).

Furthermore, to determine if our evidence was reliable, we examined whether the length of treatment was adequate to predict the effects of the intervention and whether the control group was appropriate. In all the studies listed in Table 1, the treatment sessions ranged from 9 weeks (Öst et al., 2016) to 12 weeks (Peris et al., 2017) which, per clinical guidelines, is an adequate time to evaluate the effectiveness of psychosocial/psychopharmacological treatment of anxiety disorder or depression. In one of the studies, a follow-up of the subjects was completed at 24 and 36 weeks, which is an appropriate period to thoroughly study the effectiveness of the intervention (Piacentini et al., 2014).

In all the RCTs, the control group received a placebo pill or the standard treatment, while the experimental group received either a monotherapy of pharmacotherapy or CBT or a combination of both. All subjects received close monitoring of their clinical status which consisted of observations of side effects of the interventions and were provided with positive reinforcement and general support (Caporino et al., 2017; Ginsburg et al., 2011; Hilton et al., 2013; Melvin et al., 2016; Peris et al., 2017; Öst et al., 2016; Piacentini, 2014; Wang et al., 2017; Walkup et al., 2008).

LIMITATIONS

Four RCTs (Caporino et al., 2017; Ginsburg et al., 2011; Hilton et al., 2013; Peris et al., 2017) and one systematic review (Wang et al., 2017) had predominantly Caucasian subjects with a limited representation of African Americans and Hispanics. These samples will consequently limit generalization of these statistics due to the lack of diversity. To support the utilization of a combination of CBT and medication in health care, future studies with a larger more diverse sample population will be required to authenticate
these results (Caporino et al., 2017; Paris et al., 2017; Piacentini et al., 2014; Walkup et al., 2008; Wang et al., 2017). Although there was no evidence that symptoms of GAD presented differently from one ethnicity to another, we believe that factors such as culture, life stressors, economic inequalities, and epigenetics can considerably influence the adolescent's level of anxiety and their treatment outcome.

We noted additional limitations in the studies. For instance, a limited number of definitions of remissions of GAD were utilized. Loss of all targeted anxiety disorder or having a minimal of 1 to 2 on the scale Clinical Global Impression Severity Scale (CGI-S) (Ginsburg et al., 2011). Researchers indicated that in the future, alternative definitions of remission should be explored to determine which definition is superior. Consequently, this may produce different results. Another limitation consisted of the limited number of remission predictors. The remission predictor criteria consisted of when the first symptoms appeared and the chronicity of the current illness (Ginsburg et al., 2011; Hilton et al., 2013; Melvin et al., 2016; Wang et al., 2017.)

Consistently, findings from all reviewed research recommends that teenagers with GAD should initiate their treatment with CBT alone, followed by pharmacological intervention if CBT is ineffective. Our exploratory analysis indicates that CBT is an effective treatment of anxiety in adolescents and for those who do not respond to CBT alone; they may benefit from more CBT sessions in addition to medications (SSRIs).

**Synthesis of Findings.**

Table 1 lists various diagnoses, treatment modalities, and treatment outcomes which were obtained from the studies that were used in our research. Since the studies focused on treating various kinds of anxiety disorders, our table examined various anxiety diagnoses and their respective treatments. However, our PICOT focused on adolescents with GAD. Overall, all studies reviewed determined that a combination of CBT and SSRIs was superior in reducing the severity of GAD in adolescents with anxiety disorders. Nevertheless, researchers concur that the incorporation of these two interventions had a more significant treatment outcome compared to the monotherapy.

The combination therapy significantly decreased the anxiety symptoms, improving the individual's remission. It is important to note that all studies ascertained that all the reported adverse effects were correlated with the pharmacotherapy and not the CBT. In all studies, fewer adolescents dropped out of the cognitive behavioral therapies compared to those who fell out of the pill placebo, wait-listing, or medication therapies (Hilton et al., 2013; Walkup et al., 2008; Piacentini, 2014; Ost et al., 2016; Wang et al., 2017; Caporino et al., 2017; Ginsburg et al., 2011; Melvin et al., 2016; Peris et al., 2017). The nine RCTs and one systematic review in Table 1 used CBT for their non-pharmacological therapy.

All but two of the studies (Ginsburg et al., 2011; March et al., 2004) used SNRIs and fluoxetine instead of SSRIs as the pharmacotherapy for treating GAD. Since GAD can be cognitive and obsessive in nature, CBT empowers individuals with healthy coping skills which enable them to change their unhealthy cognitive distortions and behaviors (Ginsburg et al., 2011; Melvin et al., 2016). CBT also improves their emotional regulation by empowering them with skills which enable the development of healthy coping strategies which target their current challenges (Wang et al., 2017; Walkup et al., 2008; Caporino et al., 2017; Ginsburg et al., 2011; Melvin et al., 2016; Peris et al., 2017). CBT involves psychotherapy which emphasizes exploring associations between an individual's thoughts, feelings, and behaviors.

Psychotherapy helps the adolescent to deal with psychosocial issues which may be affecting their behaviors and emotions. The therapist assists the adolescent to recognize and change any distorted thought patterns which may prompt destructive behaviors, misery, and anxiety (Walkup et al., 2008; Wang et al., 2017; Caporino et al., 2017; Ginsburg et al., 2011; Melvin et al., 2016; Peris et al., 2017). Interestingly, all studies found that individual psychotherapy was more effective, especially during the initial therapy sessions. However, incorporating the adolescent's parents in the therapy sessions also seemed to improve their treatment outcome. (Caporino et al., 2017; Ginsburg et al., 2011; Hilton et al., 2013; March et al., 2004; Melvin et al., 2016; Ost et al., 2016; Piacentini, 2014; Peris et al., 2017; Walkup et al., 2008; Wang et al., 2017). Numerous types of psychotherapy are used to treat different types of mental illnesses. For instance, some adolescents responded better to one type of therapy compared to another (Caporino et al., 2017; Hilton et al., 2013; Ost et al., 2016; Piacentini, 2014; Walkup et al., 2008). Although not a focus of our PICOT, adolescents who were suffering from mental disorders such as OCD, SAD, phobias, and panic disorders were treated with particular cognitive behavioral therapies which were exclusively created for these specific mental disorders. (Hilton et al., 2013; March et al., 2004; Melvin et al., 2016; Ost et al., 2016; Peris et al., 2017; Wang et al., 2017). In cognitive restructuring (part of CBT), the therapist used a technique which enabled adolescents to become more conscious of provoking thought patterns which were disconcerting. They learned to replace these patterns with well-adjusted thought processes which were less anxious.

Our studies determined that once the adolescents were able to reduce the intensity of their previous reactions to fearful situations, the overall duration, and frequency of their previous anxiety levels dropped drastically. In turn, these new outcomes further reduced the frequency and intensity of their panic disorders (Caporino et al., 2017; Hilton et al., 2013; Ginsburg et al., 2011; Peris et al., 2017; Piacentini, 2014; Wang et al., 2017; Walkup et al., 2008). The relaxation training (part of CBT), involved using their abdominal muscles to breathe. This controlled breathing helped them to lower their blood pressure, heart rate, and respiration. It also enabled them to de-stress and promoted calmness. These relaxation breathing techniques decreased the levels of the adolescent's physiological anxiety (Caporino et al., 2017; Hilton et al., 2013; Ginsburg et al., 2011; Wang et al., 2017; Walkup et al., 2008).
Stress reduction was used as a part of CBT in all the studies. Parents and guardians were able to work together with their adolescents in this treatment. They were taught how to react differently in stressful situations. They were also taught how to prevent and avoid unnecessary stress in their lives. This technique was helpful in improving the health and wellness of the participants and in reducing the overall anxiety of the adolescents. Generally, the efficacy of SSRIs is observed after two to six weeks. The individual has to be on the medication for six to twelve months for it to be effective. This initial delay further emphasizes why it is imperative to combine this therapy with CBT (Caporino et al., 2017; Ginsburg et al., 2011; Hilton et al., 2013; Melvin et al., 2016; Öst et al., 2016; Peris et al., 2017; Piacentini, 2014; Wang et al., 2017; Walkup et al., 2008).

**Conclusion**

Generalized anxiety disorder (GAD) is correlated with ongoing, excessive, and impractical worry which is generally not related to any definite situation. Adolescents with GAD may anticipate disaster even when there is no apparent reason for concern. They typically worry disproportionately about their competency in school activities such as homework and athletic events. Also, they worry excessively about their physical appearance, acceptance, safety, and the safety of their family members. Adolescents with GAD find it difficult to control their worry (Wang, 2017). However, if primary health-care providers can identify and manage these conditions in a timely manner, the severity of symptoms can be alleviated (Hilton, 2013). This paper reviewed whether a treatment approach of pharmacological interventions in combination with non-pharmacological modalities are more effective in treating GAD in adolescents compared to pharmacological treatment alone.

In conclusion, which therapies are the most effective for treating GAD? All studies ascertainment that the treatment of choice for GAD is the combination of medications (SSRIs) and CBT. Current evidence-based practice guidelines indicate that psychotherapy (CBT) is the first line of treatment for GAD. However, depending on the severity of GAD the combination of CBT and pharmacotherapy is significantly more effective in treating GAD than the monotherapy.

GAD is a chronic condition which can develop into substantial comorbidities such as alcohol or drug abuse, depression, or other mental disorders if left untreated. GAD is usually underdiagnosed by most primary health care providers. Living in a state of constant worrying is exhausting and can take a significant toll on the adolescent's mental health and wellbeing. As a result, most undiagnosed adolescents that live with this disorder try to manage their fears on their own by searching for solutions on the internet, in books, and through sedatives such as the passion flower, lavender, or the valerian root. The parents' involvement in this practice is very important because it can help the teenager avoid using therapies which are not evidence based. Also, clinicians should respect parents who opt to use the natural or complementary therapies for treating GAD.

They often use herbal remedies because they believe that these will have fewer side effects compared to pharmacologic interventions. All studies reviewed suggested that more research needs to be done to establish the efficacy of these types of products. Family nurse practitioners need to create a good rapport with their patients for them to disclose the use of such therapies. Though they may be well tolerated and “safer” than pharmacological interventions, it is imperative to instruct our patients regarding the adverse effects that can occur when certain medications interact with these herbal products.

The clinical expertise of family nurse practitioners enables them to know their patients well. Patients' values and preferences regarding their treatment of choice must be prioritized whenever possible. This knowledge enables them to distinguish which patients will comply with the combination treatments and which ones will not. As a result, they are able to ensure that their patients who do not choose CBT are still treated with medications.

### Table 1

<table>
<thead>
<tr>
<th>Citation</th>
<th>Type of Anxiety Disorder</th>
<th>Treatment</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hilton, R. C., Kangasray, M., Marnier, H., Rej, J., Maris, T., Enns, G. J., Brent, D. A (2013)</td>
<td>GAD</td>
<td>Medication treatment (SSRI) or psychotherapy (CBT) in addition to CBT</td>
<td>Improvement in overall symptoms, reduced anxiety level, return to normal functioning, increased quality of life</td>
</tr>
<tr>
<td>Öst, L., Eira, E. N., Nyback, G., Li, Hansen, H., &amp; Ekelöf, C (2016)</td>
<td>GAD</td>
<td>CBT (CRP &amp; CRP) in combination of the two, Sertraline (SSRI)</td>
<td>Significant improvement in symptoms, reduced anxiety level, increased quality of life</td>
</tr>
<tr>
<td>March, J. S., Furr, E., Gurnett, P., Christman, A., Curr, J., Ferguson, H., Freimer, J (2016)</td>
<td>OCD</td>
<td>CBT alone, CBT + SSRIs (Sertraline), PSI fluoxetine</td>
<td>Significant improvement in symptoms, reduced anxiety level, increased quality of life</td>
</tr>
</tbody>
</table>

- CBT: Cognitive Behavior Therapy
- SSRIs: Selective Serotonin Reuptake Inhibitors
- OCD: Obsessive-Compulsive Disorder
- PSI: Phenelzine
- CRP: Cognitive Radial Programming

**Citation**

<table>
<thead>
<tr>
<th>Citation</th>
<th>Type of Anxiety Disorder</th>
<th>Treatment</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>CMB</td>
<td>COMB had advantage over the 2 medications.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>COMB vs Medications</td>
<td>COMB had advantage over the 2 medications.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>COMB vs CBT</td>
<td>Better treatment outcomes in terms of maintenance COMB VS CBT at 6 months.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>COMB-VS Sertraline</td>
<td>Reduction of primary anxiety symptoms with COMB.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CBT-VS Sertraline</td>
<td>Improved treatment response with COMB.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>COMB-VS Sertraline vs placebo drug.</td>
<td>Better CBT and SRT reduced anxiety severity.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Placebo drug</td>
<td>SSRI and CBT greatly reduced primary anxiety symptoms and treatment response compared with monotherapy.</td>
</tr>
</tbody>
</table>


REFERENCES


