



RESEARCH ARTICLE

Effective Treatment Interventions for Patients with a Diagnosed Anxiety Disorder

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Abstract

The aim of this study is to review evidence of treatment interventions for patients diagnosed with anxiety disorders. The author searched PubMed, StillOne Search, and EBSCOhost for treatment interventions, specifically exercise and pharmaceuticals. Eligible articles were all relevant peer-reviewed articles that evaluated treatment effectiveness of either exercise or pharmaceutical interventions for anxiety disorders. Conclusions found that exercise programs are a viable treatment option for anxiety with ease of access and without added negative side effects.

Keywords

Anxiety disorders, Treatment, Exercise, Pharmaceutical interventions

Introduction

Anxiety is a condition in which the person has anxiety that does not go away and gets worse over time [1]. Symptoms of anxiety interfere with daily activities including job performance, schoolwork, and relationships [1]. Several types of anxiety disorders exist; however, the cause is unknown. Factors included in causes are thought to be genetics, stress, environment, and brain chemistry [1].

The most prevalent mental health disorders are anxiety disorders with a lifetime prevalence of approximately 33% and with about 264 million people globally suffering from the disorder [2-4]. Furthermore, the global burden of anxiety disorders represents approximately 10.4% of years lived with adjusted disability (DALY) reaching 26,800,000 DALYs [5]. In addition, anxiety disorders are also the leading cause

of disability of all psychiatric disorders, causing a larger cost burden than other psychological disorders [3].

Background of treatments for anxiety

The most prescribed current treatment for anxiety disorders are pharmaceuticals such as antidepressants, GABAs or benzodiazepines, and antihistamines [3,6]. However, only approximately one in five patients who are diagnosed with anxiety disorder have access to pharmaceutical treatment [7]. Therefore, one treatment that needs to be discussed more is exercise. Understanding exercise as a treatment for mental health disorders, such as anxiety, has become a topic of growing interest [4].

The current literature shows that approximately only 60% of patients with anxiety disorders respond to pharmaceutical treatment, and new pharmaceutical treatments being developed are only modifications of existing treatments [3]. Therefore, new treatment options, such as exercise need to be sought out. Furthermore, many patients do not want to turn to pharmaceutical treatments due to the side effects and would rather make lifestyle changes to reduce and manage symptoms [8].

Exercise as a treatment for anxiety

Exercise as a treatment for anxiety disorders is not new. This treatment option has been researched for many years showing that exercise has been associated with reductions in anxiety scores [9]. According to Aylett, et al. [8], exercise has been extremely effective for the treatment of anxiety disorders due to the change in both physical and psychological pathways.



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Theories include that exercise leads to increased self-efficacy which leads to increased abilities to cope with anxiety symptoms, and provides an escape from daily activities [10,11].

Pharmaceuticals as a treatment for anxiety

The most common treatment for anxiety disorders regardless of severity is pharmaceutical management [12]. In addition to being effective, pharmaceutical management also tends to be more accessible than other treatment options [12]. Numerous groups of pharmacological treatments exist for the anxiety disorder. Due to the nature of the different groups, pharmaceutical treatments have been found to be more tolerable leading to greater effectiveness [13]. The main reasoning behind this is that if a patient does not respond to treatment, practitioners are able to review and make changes to their treatment, thereby increasing the effectiveness [14].

Literature Search Strategies

This literature review used three specific search strategies: databases utilized, keywords and search terms, and filters. The databases utilized in this literature review include the StillOne Search through the A.T. Still University library, Pub Med, and EBSCOhost. Keywords that were used in the search included mental health disorders, anxiety, treatment, symptoms, exercise, effective treatment, reduction of symptoms, and diagnosis. Additionally, there were many combinations of the keywords that were used to find additional articles. Filters that were included in the search strategy included looking for peer-reviewed journals with full research articles. The years searched started with 2017 to present with inclusion of articles beyond these year parameters for relevant articles needed to fill in gaps in the research.

Inclusion and exclusion criteria

Inclusion criteria in this literature review included full journal articles that were peer-reviewed and written in English with exclusion criteria including all non peer-reviewed articles, any articles not written in English, and all articles that were published before 2007 unless extremely relevant to the topic or used to back-up other sources.

Exercise as the Most Effective Treatment for Anxiety

The standard treatment for anxiety is pharmacological treatment; however, poor medication adherence along with increased side effects has led clinicians to find alternative treatments for anxiety disorders [15]. Furthermore, while there are many established pharmaceutical treatments available for patients with anxiety disorders, it is found that a substantial proportion of patients do not respond well

to pharmaceutical treatments, while others discontinue use due to medication side effects and overall disapproval of psychotropic medications [16]. General findings have shown that anxiety is significantly reduced following bouts of exercise [17]. This is true for patients with both elevated and normal levels of anxiety [17]. Furthermore, exercise or physical activity can be used alone or in combination with other treatments and do not have increased side effects [15]. Additionally, there is a wide range of exercise protocols that can be used including walking and resistance training and a wide range of intensity, duration, and number of sessions for treating anxiety disorders effectively [16].

Reduction of anxiety symptoms through exercise

Aylett, et al. found that exercise is an important treatment option for treating anxiety [8]. Aylett, et al. investigated previously published articles in a systematic review to assess exercise as a treatment in anxiety [8]. Additionally, the authors investigated the intensity of exercise in terms of beneficial treatments. The aim of this study is important as exercise is rarely looked at in terms of an effective treatment for anxiety. Aylett, et al. investigated 15 studies that had a total of 675 patients and found that exercise was effective as a treatment for anxiety with high intensity exercise having greater effects than low intensity exercise [8]. Furthermore, results showed that there was not a significant difference between groups that had a diagnosed anxiety disorder versus those who just experienced anxiety symptoms.

Response to existing treatments

Ramos-Sanchez, et al. showed similar results to Aylett through a meta-analysis that investigated the effects of exercise in the treatment of anxiety and related disorders [4,8]. Thirteen randomized controlled trials were chosen that included 731 adult participants split into two groups of exercise and control. Ramos-Sanchez, et al. continued to search electronic databases until February of 2021 increasing the relevance of the study which included many recent studies [4]. Ramos-Sanchez, et al. found that exercise had a small effect; however, statistically significant in decreasing anxiety compared to those in the control group [4]. Conclusions showed that the existing evidence does support exercise as a treatment. These conclusions were similar as Henriksson, et al. found that a 12-week guided exercise intervention was associated with reduced symptoms of anxiety [15]. A significant trend was found in the reduction of anxiety symptoms versus the control group which strengthens the view that exercise is an effective treatment and should be made available to patients [15].

Changes in physical and psychological pathways

Exercise has been found to be effective in the treatment of anxiety on both the physiological and

psychological pathways [8]. Some psychological effects of exercise include an increased feeling of anxiety leading those suffering from anxiety to be reluctant to undertake an exercise program as treatment; however, it has been found that increasing tolerance to exercise leads to decreased anxiety levels [8]. These effects include increased physiological arousal, increased heart rate, sweating, and increased muscle tension which all occur through exercise [16]. The decreases in anxiety levels that are shown through exercise produces similar alterations to the serotonergic and noradrenergic systems which are the same systems that pharmaceutical treatments target [18].

Treadmill running has been found to increase tryptophan which enters the brain at an increased rate increasing serotonin levels thus decreasing anxiety [18]. Furthermore, exercise may also affect the noradrenergic system which has been implicated in panic disorder [18]. Studies have shown that by increasing physical activity, there is an increase in the nor adrenaline turnover [18,19]. Furthermore, changes in GABA functioning due to exercise have been found which shows that there is a reduction in anxious behavior through exercise by increasing GABA concentrations [18].

Pharmaceuticals as the Most Effective Treatment for Anxiety

Many studies have shown the efficacy of pharmaceutical medications on anxiety disorders [6]. While they are a very effective treatment, there are issues due to the extreme number of available pharmaceuticals as well as potential doses. This is due to the individual factors of each patient's treatment plan as well as previous treatment attempts, illness severity, comorbidities, and availability of treatment [6].

Pharmaceutical management for anxiety

Examples include selective serotonin reuptake inhibitors (SSRIs) as well as selective serotonin norepinephrine reuptake inhibitors (SNRIs) [6]. While these are considered the first line of defense, dependent upon the actual drug taken, doses can vary from 10-150 mg and adverse effects include jitteriness, nausea, restlessness, headache, fatigue, increased or decreased appetite, weight gain or loss, sweating, and other side effects [6].

Tricyclic antidepressants are also effective; however, the frequency of adverse events is higher than SSRIs or SNRIs [6]. Additionally, there is a potential fatal toxicity that can lead to overdose with tricyclic antidepressants [6]. Benzodiazepines have anxiolytic effects that begin soon after application and not done have increased jitteriness or insomnia; however, there is a risk of dependency that may occur in some patients [6].

Efficacy of pharmaceuticals

Farach, et al. investigated the current pharmacological

treatments for anxiety disorders including efficacy, duration, and drug combination [13]. The investigation was done to gain a greater understanding and knowledge of the pathophysiology of anxiety along with the treatment response. A literature review was performed on the current treatments to look at whether an efficacy gap exists and if so what the next step in treatment would be for those patients. Furthermore, evaluations were done to review evidence for safety, tolerability, and efficacy of drugs in anxiety disorders. Results showed that SSRIs and SNRIs are the first-line treatments for most anxiety disorders; however, many patients were nonresponsive, showing that there needs to be a change in the current medications or the addition of new medications [13].

This was in line with Lampe [14] who investigated different pharmaceuticals in the treatment of anxiety disorders. The author broke down pharmacological treatments into their respective categories of antidepressants, SSRIs, SNRIs, benzodiazepines, etc. The author does this based on the literature that discusses the different neurotransmitter systems that are affected and targeted through treatment. Furthermore, Lampe discussed the efficacy of these different categories, including specific drugs that fall under these categories, the amount of the usual dosage, and the specific anxiety disorder that it treats [14]. The author also discusses tolerability between the class of drugs and why clinicians may choose one class over another. Finally, failure to respond to treatment is investigated along with the steps that are taken to find an alternative and effective pharmaceutical treatment.

Finally, Garakani, et al. reviewed different treatment options while summarizing current pharmacological treatments for anxiety disorders [3]. Additionally, the review investigated newer pharmacotherapeutic agents that are under investigation for the treatment of anxiety disorders in adults. The results showed that there was a major lack in randomized double-blind placebo-controlled trials for anxiety disorders as well as a lack of studies comparing newer treatments to existing treatments [3]. Additionally, while previous studies found that existing pharmacotherapy for anxiety disorders does aid in the treatment of anxiety disorders, there are many other neurotransmitters involved that have not been investigated in terms of treatment [3]. Furthermore, Garakani, et al. found that there had been no new medications approved by the FDA since their last review of pharmacotherapy treatments in 2014 [3].

Recommendations

Little research has been completed on new treatments for anxiety disorders, which is leading to the same outcomes that have been seen for many years. The field is lacking data on treatment options other than the typical pharmaceuticals and therapy options. While pharmaceuticals are easy to use and cost-effective, they

are not as easy and as cost-effective as lifestyle changes such as engaging in exercise. Furthermore, exercise is a treatment option that has significant less negative side effects compared to pharmaceutical management. Additionally, patients with raised anxiety levels that have not been diagnosed benefit as much from exercise as those that have received a formal diagnosis and represents that exercise is an effective treatment that should be more available from medical clinicians.

Conclusions

Anxiety is a major health problem and the cost to both the individual as well as society is great. Furthermore, many individuals that suffer from anxiety receive either inadequate treatment, treatment that does not work, or treatment that needs to be continuously altered. With the addition of exercise as a treatment to anxiety, individuals are able to treat their mental health disorder without a prescription, side effects, or a continuous change in treatment. These findings strengthen the view that substantial gains in mental health may be achieved by understanding and adopting exercise as a treatment for anxiety.

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