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Herbal Medicines & Anxiety Disorders

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ABSTRACT

Anxiety and insomnia are two of the most prevalent mental health conditions and a significant contributor to disability worldwide. We all experience feelings of anxiety, fear, and worry at many point in our lives. These feelings can have a negative impact on every individual's mental and physical health if they persist for an extended period of time. Clinical anxiety disorders result from this. Anxiety disorders can be treated with a variety of methods and can also be treated with herbal remedies, as this article outlines.

In most countries, the lifetime prevalence of panic attacks—a type of anxiety disorder—is between 7-9 percent, and it is only 1% in India. On the other hand, the lifetime prevalence of generalized anxiety disorder is extremely high—it is 8.5% in the general population— according to WHO (2001). 16.6% of people worldwide suffer from anxiety disorders (Somers et al., 2006), and numerous efforts have been made to comprehend the disease's pathophysiology and treatment options.

Psychiatric disorders like depression, anxiety, and insomnia are very common and often co-exist with one another. Numerous individuals from all over the world have been affected by these well-known mental health conditions.

For the treatment of mental illnesses, herbal formulas and individual herbs are frequently prescribed. The use of herbs to improve health is on the rise as a result of the numerous side effects of western medicine. The study of herbal psychopharmacology has received a lot of attention in recent decades. The literature demonstrated a variety of herbal mechanisms of action, including re-uptake of monoamines, alteration of neuroreceptor binding and channel transporter activity, modulation of neuronal communication, and activation of the hypothalamic-pituitary adrenal axis (HPA).

Global health discussions are focusing a lot on traditional herbal remedies. The use of medicinal plants has been the subject of some of the most research in Asia, and a number of Indian regions retain their rural traditions. The purpose of this overview is to highlight the use of wild and cultivated plants in India, specifically as sedatives and for treating insomnia, as well as to collect, analyze, and summarize the pharmacological activity of these plants, as well as clinical and pre-clinical studies on the most cited plants.

Keywords: Depression, herbal medicine, insomnia, mechanism, psychopharmacology.

INTRODUCTION

People today suffer from a variety of psychiatric conditions, particularly insomnia, anxiety, and depression. Depressive disorders, one of the most common mental illnesses, have a significant impact on people and society. Major depressive disorders (MDDs) will account for the second most common disease worldwide by 2020, according to the World Health Organization (WHO).

During the past ten years, the study of anxiety has grown into a crucial area of psychopharmacological research. It has been observed that people with anxiety frequently have sleep problems. The subjective complaint of an inability to initiate or maintain sleep or of poor quality or quantity of sleep is the most common form of sleep disorder. The general population suffers from insomnia, which has the potential to result in significant physical disorders. Around 95% of people worldwide are thought to suffer from insomnia, which has serious side effects during the day.

In light of the complexity of mental health disorders, depression, anxiety, and insomnia are common comorbid psychiatric conditions. The immune and cardiovascular systems are compromised as a result of the connection between major depression, insomnia, and anxiety disorders. In addition to affecting a person's work and daily life, these psychiatric disorders also lower a person's quality of life and perception of their own well-being. According to our knowledge, the number of people suffering from mental illness is rapidly rising worldwide. As a result, finding treatments that work better should be a major consideration.

There are few treatment options for psychiatric disorders based on evidence. Currently, the most common treatment for mood disorders is pharmacological therapy. Despite the fact that many medications appear to play a significant role in the treatment of the most severe forms of mental illness, many patients complain that the medications do not work for all of them and can cause tolerance (if used for an extended period of time). Antidepressants that are effective, well-tolerated, fast-acting, and have fewer side effects are therefore desirable.

COMMON ANXIETY DISORDERS

Generalized anxiety disorders (GAD)

According to the DSM-IV-TR, generalized anxiety disorder is a syndrome characterized by persistent anxiety and worry about numerous events or feelings that the patient typically identifies as extreme and inappropriate. Individuals experience significant distress or impairment as a result of both physical and psychological symptoms.

Panic disorder

Panic attacks are defined as discrete periods of sudden symptom onset that typically peak in ten minutes and are common in people with panic disorders.

Obsessive-compulsive disorder (OCD)

OCD is characterized by obsessive and intrusive thoughts that cause anxiety (obsession) and compulsive behavior (compulsion). Anxious thoughts, impulses, or images are all examples of obsessions. Compulsions are actions or thoughts that people who suffer from them feel compelled to do on a regular basis.

Post-traumatic stress disorder (PTSD)

PTSD sufferers avoid stimuli that are associated with the trauma and experience extreme fear and anxiety when presented with stimuli. Psychological and physiological homeostasis are affected by stress. There is evidence that neuropsychiatric disorders like anxiety and depression are brought on by repeated chronic stress. One of the conditions that clinicians see the most frequently is anxiety and other psychiatric conditions, which frequently necessitate long-term medication treatment. An important class of medications used to treat generalized anxiety disorders are selective serotonin reuptake inhibitors and benzodiazepines as well as mental illness.

HERBAL REMEDIES FOR ANXIETY

The Indian traditional medical system of Ayurveda treats a variety of neuropsychiatric conditions with the help of herbs and their preparations. In folk and other traditional medicine, many herbs have been used for centuries to improve mood and calm the mind. Herbal remedies, which are widely used in developing nations, are regaining popularity in both developed and developing nations. In the last 10 to 15 years, clinical trials have only just begun to precisely test the efficacy and safety of using these natural medications to treat anxiety. Additionally, psychiatric disorders like anxiety, sleep disorders, convulsions, cognitive impairment, and depression have been prevented and treated with preparations containing valerian, hops, lemon balm, and passion flower extracts. The following is a list of herbal treatments for anxiety disorders that are frequently used.

Matricaria recutita (Chamomile)

One of the most common single ingredients in herbal teas, or tisanes, is chamomile. Traditional uses for chamomile tea, which is made from dried flower heads, include treating gastrointestinal issues. Other applications include treating allergic rhinitis, ADHD, restlessness, insomnia, dysmenorrhea, mastitis, and varicose ulcers. Flavonoids found in chamomile have benzodiazepine-like effects, and it also inhibits phosphodiesterase, which raises cAMP levels. A recent study (DSM-IV) compared the effectiveness of a standardized extract of Matricaria recutita (L) over eight weeks in patients with mild to moderate GAD to that of a placebo.

Bacopa monnieri (Brahmi)

Nerve tonics have been used with a variety of herbs in Indian traditional medicine. Brahmi, a well-known memory enhancer, is the most well-known of these herbs. Ayurvedic doctors have been using this herb for almost 3000 years. Animal and clinical research back up the traditional Ayurvedic use of brahmi as a treatment for anxiety. According to Singh and Dhawan (1997), Brahmi is used in Indian traditional medicine to treat a variety of brain disorders, including memory loss and anxiety. According to Kar Chowdhury et al., Brahmi protects the brain from the negative effects of stress by regulating the

activities of Hsp70, P450, and SOD. In another study, pretreatment with brahmi restored ulcer index, adrenal gland weight, creatine kinase, and aspartate aminotransferase changes induced by immobilization stress (Rai et al., 2003). Brahmi syrup administration to 35 patients with anxiety neurosis was shown in a previous clinical study to significantly reduce anxiety symptoms and levels (Asthana et al., 1996). A recent placebo-controlled, randomized, double-blind clinical trial evaluated the effects of standardized Bacopa monniera extract on anxiety, depression, and recall memory in healthy elderly patients. When compared to the placebo, Bacopa participants' Rey Auditory Verbal Learning Test (AVLT) delayed word recall memory scores were higher.

Withania somnifera (Ashwagandha)

Over three thousand years ago, this herb played a significant role in Ayurvedic and indigenous medical practices. Ashwagandha can be used to treat anxiety, inflammation, Parkinson's disease, cognitive and neurological disorders, and other conditions, according to preclinical and clinical studies. It is also used therapeutically as an adaptogen to treat stress-related weakness, insomnia, and nervous. Withania somnifera (WS) root extract demonstrated anxiolytic activity in the elevated plus-maze, as well as social interaction and feeding latency in an unfamiliar environment, in preclinical studies. Ashwagandha reduced chronic stress-induced hyperglycemia, cognitive impairment, immunosuppression, and depression. According to Bhattacharya and Muruganandam (2003), the findings demonstrate that ashwagandha exhibits significant antistress adaptogenic activity, confirming the clinical application of the plant in Ayurveda. In a recent study (Seely and Singh, 2007), a compound natural health product with Withania as the main herb in an open label human trial was found to have anxiolytic properties.

Centella asiatica (Mandookaparni or Gotu Kola)

Centella asiatica is known for helping a variety of neurological disorders. Ayurvedic and traditional Chinese medicine have used Gotu Kola for centuries to treat depression and anxiety. Long-term pretreatment with Gotu Kola has been shown to reduce locomotor activity, improve elevated-plus maze performance, and reduce acoustic startle response in rats (Chen et al., 2006; Wijeweera and others, 2006). Gotu Kola significantly reduced peak acoustic startle response amplitude 30 and 60 minutes after treatment in a double-blind, placebo-controlled study of Centella asiatica's anxiolytic activity in healthy subjects (Bradwejn et al., 2000). Hamilton's Brief Psychiatric Rating Scale (BPRS) was used to screen the subjects in another clinical study. It remains to be seen whether Centella asiatica has therapeutic efficacy in the treatment of anxiety syndromes in a large population, but these preliminary findings suggest that Centella asiatica has anxiolytic activity in humans.

St. John’s wort (Hypericum perforatum)

St. John's wort is a well-liked supplement for the treatment of depression, but it is not as well-liked for the treatment of anxiety disorders. There are very few studies that specifically test the effects of St. John's wort on anxious patients. St. John's wort appears to have limited benefits for anxiety disorders. St. John's wort has not been shown to be effective in treating generalized anxiety disorder, post-traumatic stress disorder (PTSD), obsessive-compulsive disorder (OCD), or phobias in any placebo-controlled, randomized, double-blind trials. Volz and others 2002) demonstrated that hypericum extract significantly reduced anxiety scores on the HAMA scale in 149 patients with somatization disorder, undifferentiated somatoform disorder, or somatoform autonomic dysfunctions. However, prior to

considering St. John's wort as a treatment option for patients with diagnosable anxiety disorders, additional evidence is required.

Astragalus membranaceus

A useful Korean herb known as Astragalus membranaceus (AM) has been prescribed by doctors for illnesses caused by stress. Chronically stressed rats benefit greatly from AM's restoration of learning and memory deficits. When compared to the control group, AM treatment significantly increases the amount of time spent in the open arms in the elevated plus maze. In stressed rats, it also increased the expression of choline acetyltransferase (ChAT) (Park et al., 2009). There is no clinical evidence for its anxiety-reducing properties. In any case, one clinical review showed the defensive impact of astragalous on oxidative pressure status in support of hemodialysis patients (Qu et al., 2008).

Passion flower

Anxiety is traditionally treated with Passiflora incarnata. Passionflower's anxiolytic effects on rodents have been well documented (Dhawan et al., 2001; Dhawan and other, 2002). In a randomized, double-blind study, passion flower extract outperformed oxazepam with generalized anxiety disorder (GAD). Additionally, Oxazepam-treated workers had worse job performance than Passiflora extract-treated workers. Preoperative oral Passiflora incarnata reduces anxiety in ambulatory surgery patients in another double-blind, placebocontrolled study (Movafegh et al., 2008).

Valeriana officinalis

According to Donath et al., Valerian is one of the most widely used herbal remedies for insomnia. 2000) and is also used for anxiety treatment. In the brains of rats, valerian root hydroalcoholic and aqueous extracts have shown affinity for the GABA-A receptor (Benke et al., 2009). The psychic factor of the HAMA scale was only significantly reduced in the diazepam and valepotriates groups, and the preliminary findings of this study suggest that valepotriates may have a potential anxiolytic effect on the psychic symptoms of anxiety. The low dose of diazepam and the small sample size of this study necessitate improved methodological design for future replications.

Kava kava (Piper methysticum)

There is a lot of evidence to suggest that kava helps alleviate the symptoms of anxiety disorders. Kava's anti-anxiety properties have been demonstrated in animal studies (Garrett et al., 2003; 2009, Bruner and Anderson). Kava-kava was found to reduce anxiety in GAD patients in a number of randomized, double-blind clinical studies. In a number of controlled clinical studies, kava-kava was used to treat anxiety disorders. However, the subjects in these studies were a wide range of diagnoses, including agoraphobia, specific phobia, social phobia, and adjustment disorder with anxiety (Volz and Kieser, 1997; 2001, Malsch and Kieser; 2003, Gastpar and Klimm; Lehrl, 2004). In the Connor & Davidson study, GAD patients were given either kava extract or a placebo. The effectiveness of Piper methysticum in GAD patients was compared to that of two anxiolytic medications, opipramol and buspirone, in another 8-week randomized, double-blind multi-center clinical trial (Boerner et al., 2003).

Cecropia glazioui: (Family-Cecropiaceae)

The majority of Latin American nations have traditionally utilized this plant as a folk remedy for treating asthma, hypertension, and heart disease. F.F. Rocha investigated its anxiety-reducing properties. C. glazioui's AE has an anxiolytic-like effect. The less polar fraction of the extract contains the active principles responsible for this action, primarily flavonoids and terpenes, among other compounds.

Citrus paradisi (Grapefruit): (Family-Rutaceae)

Traditionally, citrus paradisi has been used to alleviate anxiety and stress. The purpose of this study was to determine whether the leaves of Citrus paradisi var. contained extracts of petroleum ether, chloroform, methanol, and water that reduced anxiety. Star ruby in Swiss albino mice using the elevated plus maze (EPM) model. The behavior of the albino mice was recorded on the EPM after they were given the extracts orally at different doses (100, 200, and 400 mg/kg, respectively). As a positive control, diazepam (2 mg/kg, PO) was used. The results demonstrate that Citrus paradisi var. methanol extract at a dose of 100 mg/kg the average amount of time spent in the EPM's embrace significantly increased with star ruby. This effect was comparable to diazepam's effect.

Melissa parviflora (Family-Lamiaceae)

Around the world, Melissa parviflora Benth has traditionally been used as a tranquilizer, relaxant, nervine, and sleep aid. Diverse portions, including the method of successive soxhlet extraction produced petroleum ether, chloroform, methanol, and water. Using both sexes of Wistar rats, the elevated plus-maze apparatus and the light and dark test model of anxiety, the anxiolytic activity of various plant extracts was evaluated. The colorimetric estimation of the total phenolic and flavonoid content was used to standardize the bioactive extract.

Moringa oleifera (Family-Moringaceae)

The common name of Moringa oleifera is drumstick. It is commonly grown all over India and can be found abundantly in the sub-Himalayan range. It is a perennial deciduous tree that is short and slender; cultivated in Sri Lanka, India, Mexico, and Malaysia, as well as widely distributed in India and Arabia. In the elevated plus maze paradigm, M.oliefera increased the number of entries, time spent, and welcoming behavior. The test drug significantly increased the amount of time spent in the light arena, rears in both the light and dark arenas, and transitions between chambers in the light and dark paradigm.

CONCLUSION

Herbs have proven to be an excellent alternative to pharmaceutical medications for treating a variety of health conditions. When herbs are used in conjunction with a raw vegan diet and regular exercise, they may help improve overall health in ways that pharmaceutical drugs might not. Vitamin C, minerals, and amino acids can be found in the leaves, roots, and stems of various plants, which can be beneficial for CNS disorders. In reviewing the study, we discovered that, when administered to mice and rats at various doses, various plant extracts had significant anxiolytic activities as measured by EPM and other parameters, respectively. However, there is no evidence to support the use of particular medicinal plants to treat specific types of anxiety disorders.

There have been a lot of animal studies on herbal drugs' potential to reduce anxiety, but very few controlled clinical studies have been done. Methodological issues like a lack of placebo and control groups, heterogeneous subjects, and a short treatment duration make it difficult to draw consistent conclusions about these herbal preparations from these studies. When compared to benzodiazepines, buspirone, and antidepressants, some herbs, such as gingko and kava-kava, demonstrated promising results with significant clinical significance. The lack of standardization for these preparations, the lack of well-controlled studies, and the limited knowledge regarding the chemical composition of the products all impede the effective translation of these findings into the treatment of patients with neuropsychiatric disorders. There is a need for more research into the possibility that herbal remedies can be used to treat anxiety disorders. However, we would like to make it clear that the majority of the remedies are not approved for use in clinical settings, and that herbal remedies are not only alternatives to treatment regimens used in clinical settings. Additionally, some herbal remedies may cause drug-drug interactions, which can result in severe side effects and even fatalities in some instances. As a result, herbal medicines should be used under the strict supervision of experienced ayurvedic doctors, with regular checkups.

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