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Passion flowers to use in the treatment of anxiety

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ABSTRACT :-

Anxiety is a state where you feel fear and worry at regular basis. It can cause you to overthink where you are constantly analysing and this can also affect your sleep. Anxiety is usually caused by high levels of cortisol the stress hormone in your body (cortisol) .Luckly there are natural ways to calm down the brain to allow you to think clearly and calm down. Passion flowers is a vine like plant which has been used to calm anxiety for hundreds of years. It contains Natural compounds and alkaloids that activate GABA in your brain in order to relax your body reduce anxiety and help you sleep better at night . You can get passion flowers as a supplement or you can infuse it to make a calming herbal tea

Objective: Because of functional impairment caused by generalized anxiety disorder and due to cognitive side effects of many anti-anxiety agents, in this study we aimed to evaluate the influence of Passion flower standardized extract on reaction time in patients with generalized anxiety disorder.

INTRODUCTHION : - The Generalized Anxiety Disorder (GAD) is defined as the basic anxiety disorder, which may reflect the fundamental process of all emotional disorders and significant degree of functional impairment (1). GAD is hyper-reactivity and a fear of negative emotional shifts and unmanageable worry about preventing these perceptive contrasts (2). The symptoms are difficult to control and last for more than six months. GAD is associated with three or more of diagnostic items from DSM-IV (Diagnostic and Statistical manual of Mental illnesses-4th edition) including: Feeling keyed up or on edge, easily getting fatigue, mind going blank, agitation, somatic tension and sleep disturbances. Treatment choices include psychological therapies such as cognitive behavioral therapy (CBT) as the main nonpharmacological therapy (3), acceptance and commitment therapy (4), intolerance of uncertainty therapy and motivational interviewing (5) as well as pharmacotherapy including Selective Serotonin Reuptake Inhibitors (SSRIs) (6), Benzodiazepines (7), Pregabalin (8) and Gabapentin (9), Tricyclic Antidepressants (TCAs), Buspirone and Hydroxyzine (6). Reaction Time (RT) is defined as the time elapsed between offering stimuli and the indication of comprehension by the subject (10). RT is claimed to be the main dependent variable for analyzing perceptive models (11). Response procedure is directly based on circumstances (12). Many factors may be responsible for reaction time fluctuations, specially a great number of drugs and substances e.g., Caffeine (13), alcohol (14), psychostimulants (15), sedative- hypnotic and antiepileptic

ANXITY :-

According to the Anxiety and Depression Association of America (ADAA), around 40 million people in the United States have an anxiety disorder. It is the most common group of mental illnesses in the country. However, only 36.9% of people with an anxiety disorder receive treatment.

The American Psychological Association (APA) defines anxiety as "an emotion characterized by feelings of tension, worried thoughts, and physical changes like increased blood pressure."

Knowing the difference between typical feelings of anxiety and an anxiety disorder requiring medical attention can help a person identify and treat the condition.

Type of anxiety :

Anxiety is a significant feature of mental health conditions besides generalized anxiety disorder, marked by a state of persistent worry and apprehension. Perhaps most prominently, anxiety is a component of PTSD and obsessive-compulsive disorder. But exactly what should be considered the distinguishing feature or underlying malfunction in those disorders is a matter of intense scientific debate, and for that reason, and until more is known about the neurobiology of mental states, neither of those conditions is now formally classified as an anxiety disorder, although they are often referred to as such.

Experts generally recognize six major types of anxiety: generalized anxiety disorder, social anxiety disorder, separation anxiety, panic, and phobias, further distinguishing agoraphobia as an anxiety disorder in its own right. Because of the array of symptoms, the multiplicity of triggers, and the involvement of fear responses and the stress response system, there are many lenses through which clinicians and researchers look at and treat runaway anxiety.

Causes Anxiety:-

The real cause of anxiety is being human with the capacity to imagine a future. It finds fertile ground in uncertainty, and there is much uncertainty in the world these days.

Anxiety is unique in that it can be triggered by events in the real world—an upcoming doctor's visit, relationship conflict, a rent increase—or it can be generated wholly internally, through thoughts of real or imagined threats (not knowing what to say when the boss calls on you in a meeting).

Effects of anxiety on the body :-

The amygdala, an area of the brain that manages emotional responses, plays a crucial role in developing feelings of fear and anxiety.

When a person feels anxious, stressed, or frightened, the brain signals other body parts. The signals communicate that the body should prepare to fight or flee.

The body responds, for example, by releasing adrenaline and cortisol, which many describe as stress hormones.

Anxiety can significantly affect the body, and long-term anxiety increases the risk of developing chronic physical conditions. Some of the ways that anxiety affects the body include:

Breathing and respiratory changes

During periods of anxiety, a person's breathing may become rapid and shallow, which is called hyperventilation.

Hyperventilation allows the lungs to take in more oxygen and quickly transport it around the body. Extra oxygen helps the body prepare to fight or flee.

Hyperventilation can make people feel like they are not getting enough oxygen, and they may gasp for breath. This can worsen hyperventilation and its symptoms, which include:

- dizziness

- feeling faint
- light headedness
- tingling
- weakness

Learn more about anxiety and its impact on breathing here.

Cardiovascular system response

Anxiety can cause changes to the heart rate and blood circulation. A faster heart rate makes it easier to flee or fight, while increased blood flow brings fresh oxygen and nutrients to the muscles.

When blood vessels narrow, this is called vasoconstriction, and it can affect body temperature. People often experience hot flashes as a result of vasoconstriction. In response, the body sweats to cool down. This can sometimes be too effective and make a person feel cold.

Long-term anxiety may not be good for the cardiovascular system and heart health. Some studies Trusted Source suggest that anxiety increases the risk of heart diseases in otherwise healthy people.

Learn more about anxiety and heart rate changes here.

Impaired immune function

In the short term, anxiety boosts the immune system's responses. However, prolonged anxiety and stress can have the opposite effect.

Cortisol prevents the release of substances that cause inflammation, and it turns off aspects of the immune system that fight infections, impairing the body's natural immune response.

People with chronic anxiety disorders may be more likely to get the common cold, the flu, and other types of infections.

Changes in digestive function

Cortisol blocks processes that the body considers nonessential in a fight or flight situation. One of these blocked processes is digestion. Also, adrenaline reduces blood flow and relaxes the stomach muscles.

As a result, a person with anxiety may experience nausea, diarrhea, and a feeling that the stomach is churning. They may also lose their appetite.

Research Trusted Source suggests that stress and depression are linked to several digestive diseases, including irritable bowel syndrome (IBS). StudiesTrusted Source show anxiety and depression are common in people with IBS.

Learn more about IBS here.

Urinary response

Anxiety and stress can increase the need to urinate or increase symptoms of urinary incontinence. A 2016 study Trusted Source found that people with an overactive bladder (OAB) diagnosis were more likely to experience anxiety than control groups. Researchers also found that people with OAB who have anxiety typically had more severe incontinence symptoms than those without anxiety.

Symptoms Anxiety :-

- Feeling nervous, restless or tense
- Having a sense of impending danger, panic or doom
- Having an increased heart rate
- Breathing rapidly (hyperventilation)
- Sweating

- Trembling
- Feeling weak or tired
- Trouble concentrating or thinking about anything other than the present worry
- Having trouble sleeping
- Experiencing gastrointestinal (GI) problems
- Having difficulty controlling worry
- Having the urge to avoid things that trigger anxiety

Anxiety Occurrence :-

Anxiety problems are the most usual type of psychiatric disorders. The one year occurrence rate of anxiety disorder was 13.3% in person aged 18 to 54 years and 10.6% in those persons which are over age 55 years. Lifetime occurrence is 28.8%.

1) Occurrence rate of generalised disorder for one year is 28%. It is more frequent in women (2%) than men (1%)

2) Panic disorder with or without fear has life time occurrence rate of 2 to 4%. It is about double as common among women as men

3) The occurrence rate of PSTD is 3.6% in 1 year. It is more frequent in women than men (8.2)

4) The occurrence rate for obsessive compulsive disorder is 2.4% in 1 year in person aged 1 to 54 years and 1.5% in those people which are over age 55 years. Life time occurrence is 2.3%

Manifestation :-

Anxiety is associated with physical effects such as fatigue, heart palpitation, trouble and chest pain, shortness of breath, muscle tension, trembling, stomach aches, or headache, blood pressure, nervousness, sweating etc. External signs of anxiety may incorporate pale skin, trembling, sweating and papillary dilation. Anxiety does not only compose of physical symptoms. These are many emotional symptoms. There are many emotional symptoms concerned as well. Some of them include “Feeling of fear or dread, feeling tense, supposing the worst, restlessness, irritability and feeling like your mind’s gone blank

Treatment of Anxiety

Anxiety can be treated with the psychological counselling , medically or independently. The treatment depends on the cause of the anxiety and the patient's preferences. Often treatments will consist of a combination of psychotherapy, behavioural therapy and medications. Sometimes alcoholism, depression, or other coexisting conditions have such a strong effect on the individual that treating the anxiety disorder must wait until the coexisting conditions are brought under control.

Herbal treatment of anxiety :-

Many people rely on herbs to help with mild to moderate mental health conditions, such as anxiety, to avoid the unwanted and negative side effects of medications.

Herbal medicine is a type of complementary and alternative medicine that uses medicinal plants to support optimal health or alleviate specific symptoms.

Herbs have been used to relieve mental health symptoms for centuries in some parts of the world and have gained popularity in the United States over the past few decades (5Trusted Source).

One review of more than 100 studies spanning over a 20-year period found that 45% of the studies demonstrated positive outcomes of herbal supplements on anxiety and depression symptoms with fewer negative effects than traditional medication (6Trusted Source).

Before using herbs to support your mental health and manage your anxiety symptoms, talk with a healthcare professional to avoid potential interactions with medications or health conditions.

Also keep in mind that the Federal Drug Administration (FDA) does not approve herbal supplements, so choosing herbs from a reputable company is essential for safety and effectiveness.

List of Herbal Drug :-

Valerian

Passionflower

Asian Ginseng

Ginger

Peppermint

Coneflower

Feverfew

Goldenseal

Galphimia glauca

PASSION FLOWER INTRODUCTHION :-

(*Passiflora incarnata*)

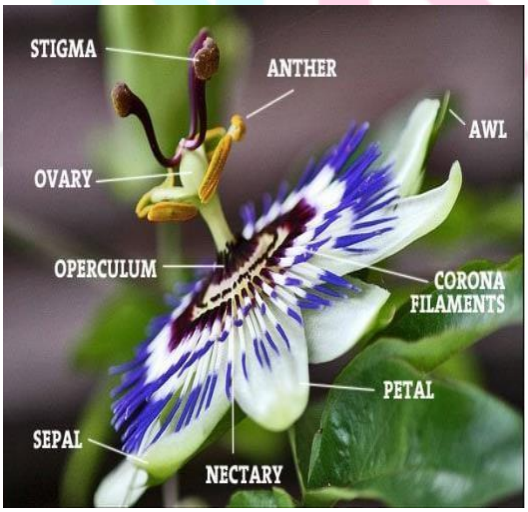
Passionflower is a woody, hairy, climbing vine. The medicinal parts are the whole or cut dried herb and the fresh aerial parts. The axillary pedicle grows up to 8 cm and bears 1 flower. The flowers are androgynous and rayed with a diameter of 5 to 9 cm and have an involucre. The 5 sepals are green on the outside, white on the inside and tough. The 5 petals are white to pale red. The passionflower is a perennial vine on a strong stem reaching up to about 10 m in length. The vine is initially angular, later, gray and rounded with longitudinally striated bark.

The plant contains flavonoids (up to 2.5%), cyanogenic glycosides and volatile oil (trace) Passion flower is used internally for depressive states such as hysteria, general nervous agitation, insomnia and nervous gastrointestinal complaints. The herb is used externally for hemorrhoids and as a bath additive for nervous agitation

Synonyms

- Passiflora maliformis.
- wild water lemon.
- love-in-a-mist.
- vine.
- yellow granadilla.
- Passiflora.
- Passiflora ligularis.
- maypop.

Characteristics of passion flower :-



Passiflora incarnata is a rapid-growing, tendril-climbing vine which is woody in warm winter climates and herbaceous (dies to the ground) in cold winter climates. A native of the Southeastern U.S., including

southern Missouri where it typically occurs in sandy soils, low moist woods and open areas. Features three-lobed, dark green leaves and showy, 2.5" diameter, fringed flowers having white petals and sepals and a central crown of pinkish-purple filaments. Flowers bloom in summer and are fragrant. Fleshy, egg-shaped, edible fruits called maypops appear in July and mature to a yellowish color in fall. Ripened maypops can be eaten fresh off the vine or made into jelly. Maypop is also a common name for this vine. Maypop name refers to the loud popping sound made when fruits are stepped on.

Genus name comes from the Latin words passio meaning passion and flos meaning a flower for the flower's symbolism of the crucifixion of Christ.

Specific epithet means flesh-colored

Morphology of passion flower :-

The typical passion flower has five **petals** and five alternating **sepals**. While both are similar in size and color, the sepals are distinguished by a green hook, or **awn**, at the tip.

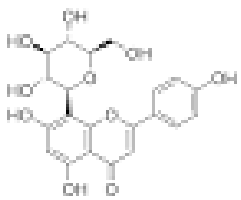
The **corona** is composed of thin, colored **filaments** that radiate around the central stalk. There are two layers, called the radii and the pali. The corona's concentric rings of varying hues are thought to guide pollinators (insects and hummingbirds) to the nectaries at the center of the flower. Three **stigmas** (female organs that receive pollen and direct it towards the ovary) extend above the **ovary**, where the fruit will be produced. Beneath the stigmas are five **anthers** (male organs that produce pollen). This arrangement, in which the stigmas are above the anthers, is a mechanism to avoid self-fertilization—there is less chance that the pollen will travel upwards to the stigma, than that it would float downwards and thus self- pollinate (most Passiflora cross-pollinate, though some self-pollinate). When the flower first opens, all anthers are initially facing upwards. Within an hour, the five anthers rotate downwards to face the flower's operculum and corona—and thus the pollinators, who will be below, mining the nectar.

For bees to reach the nectar, they have to get through the **operculum,** a ring of dark fibers at the base of the central column. Arranged directly over the **nectaries**, the operculum filaments barrier to access the nectar, and thus brush against the pollen-laden anthers. In the bee- pollinated *P. caerulea*, the operculum may serve to diffuse a fragrance emitted by the corona.

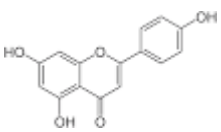
Fruits develop in the **ovary**. Most species develop elongated pods that are two to eight inches in length , and an inch or two in diameters. Not all are edible, and some are more popular than others. *P. edulis* (Purple Passion Flower) is arguably the most famous species. It produces the purple—or yellow—fruits that we commonly call "passionfruit." It is cultivated in warm, frost- free climates throughout the world.

Chemical constituents of passion flower :-

1)

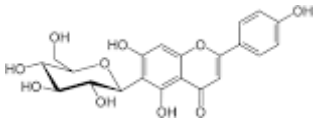


Vitexin (C21H20O10) 2)



Apigenin (C15H10O5) 3)

Isovitexin (C21H20O10)



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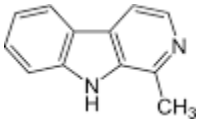
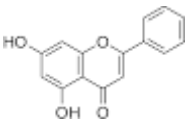


Harmane (C12H10N2) 5)



Chrysin

Use of passion flowers :-

It's been traditionally used to help with sleep.

People use passion flower for anxiety, including anxiety before surgery. Some people also take passion flower for insomnia, stress, ADHD, pain, and many other conditions. But there is no good scientific evidence to support these uses.

The Side Effects Of Taking Passion Flower:-

Clinical research on the effect of Passion Flower is fairly limited, though mostly positive. Many of the aforementioned studies did not result in harmful side effects. The ingredient is included in many national Pharmacopoeias, for example in Brazil, France - indicating proven safety and efficacy.

History Of Using Passion Flower In Herbal Medicine:-

Whilst it was originally brought over to Europe to be grown as an ornamental plant for its exquisite, complex, white and purple flowers, it has long been used as a medicine by Natives of the Americas as a sedative to treat sleeplessness and hysteria.

Passion Flower only began to be used by Western society in the late 19th century as a remedy for epilepsy and insomnia.

Phytochemistry of passion flowers :-

A considerable body of literature has explored the chemical composition of the raw material and of various products derived from passion flower.

The results of this literature clearly show that various bioactive constituents can contribute to the reported clinical effects, probably in a synergistic manner. Currently, researchers believe that only a portion of the pharmacologically active compounds have been precisely identified (Abourashed et al., 2002, Grundmann et al., 2008, Zucolotto et al.)

Passion flowers work on our body :-

The components of plant based medicines that affect the body are collectively called "flavonoids." Passion flower contains many flavonoids. Some evidence suggests that the flavonoids "chrysin" and "benzoflavone" may be the primary flavonoids in passion flower that are responsible for decreasing anxiety.

Chrysin and benzoflavone are believed to have the effect of increasing the amount of gamma- aminobutyric acid (often abbreviated as GABA) in the brain, much in the same way that standard anti-anxiety meds known as "benzodiazepines" do. GABA limits the "excitability" or reactivity of the brain's neurons. This results in the calming effect that gives passion flower its reputation as a mild sedative but means that it can also disrupt mental and motor functions in higher quantities.

Passion Flower's Effectiveness on our body

In a study from the Universite de Metz in France, it was suggested that the flavonoids contained in passion flower were responsible for decreasing anxiety symptoms in mice that had been dosed with addictive substances and then subjected to a period of withdrawal. In another study using rats, prolonged sleeping time and lowered levels of activity were noted as significant behavioral changes.

In a trial comparing the effectiveness of passion flower to that of the scientifically accepted anti-anxiety medication oxazepam, a dosage of 45 drops per day of extract of passion flower was found to be as effective as 30 mg per day of oxazepam over a period of four weeks, with fewer short term side effects. Though long term studies were recommended as a follow up to ensure passion flower's safety, such studies have yet to be performed on humans.

Alkaloids belonging to a potentially toxic alkaloid subgroup known as "harmala" have been found in passion flower in trace amounts. This suggests that taking too much passion flower or taking it for too long could potentially be harmful, and underlines the importance of performing long term studies.

Additionally, though this article has focused on the specific species also known as *Passiflora incarnata* or the "maypop" flower, it is important not to confuse this species of passion flower with *Passiflora alata*. Taking the extract of this type of passion flower is known to have a genotoxic effect on the body's cells. Genotoxic substances damage the genetic information within the cells, which can lead to mutations and potentially cause cancer.

Other Uses of passion flowers on our body :-

- Passion flower is also sometimes used as a supplement treat:
- Attention-deficit hyperactivity disorder (ADHD)[5]
- Burns
- Heart rhythm problems
- Hemorrhoids
- Pain
- Sleep problems
- Symptoms associated with menopause
- Stress

However, it is important to note that while passion flower is sometimes utilized or promoted for these purposes, there is a lack of evidence to support these uses. The National Center for Complementary and Integrative Health, a division of the National Institutes for Health, states that there is not enough research to demonstrate that passion flower can help treat cardiac issues, stress, menopause, pain, burns, hemorrhoids , or ADHD.[1]

Dosage and Preparation passion flowers on treatment of anxiety disease :-

In addition, it is important to stress that these dosages are not prescriptions but merely suggested guidelines.

Infusions: 2.5 grams, three to four times daily

Teas: Tea made from 4 to 8 grams of dried herb, daily[7] **Liquid extract**:

10 to 30 drops, three times daily **Tincture**: 10 to 60 drops, three times

daily

There is not enough scientific evidence to support the use of passion flower in children.

Conclusion: This study noted that passion flower might be suitable as an add-on in the treatment of generalized anxiety disorder with low side effects. Further studies with longer duration are recommended to confirm the results of this study.

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