



# PASSION FLOWER CONTAIN CHEMICAL CONSTITUENTS WHICH REDUCE ANXIETY, NEUROLOGICAL DISORDER AND RELATED DISEASE SYMPTOMS

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## ABSTRACT

1. This research gives current knowledge on the morphology, phytochemistry, and pharmacological aspect of *passiflora incarnata* has been isolated mainly (active ingredients include chrysin, vitexin, coumerine, umbellifrone) also include alkaloids, flavonoids, phenol *Passiflora incarnata* has been described as passion flower and used extensively for treatment of several disease like anxiety, insomnia, convulsion, asthma, concussion, epilepsy, Parkinson, pheochromocytoma, panic attack, cough, syncope, cancer. Hence present review include the detail exploration of morphology, phytochemistry, and pharmacological aspects of *p. incarnata* is an attempt to provide a direction for further research

2. **KEY WORD:** *passiflora incarnata*, antianxiety, neurological disorders.

## 3. INTRODUCTION

4. **PASSION FLOWER** The genus consist of 500 species which are mostly found in warm and tropical region *passiflora* comes from latin word *passio* that was first time discovered by Spanish discoverers in 1920- This plant was used widely in traditional medicines in west india, mexico, netherland, south America, Italia and argentina. One of the species of this genus named as *p. incarnata* (*passifloraceae*) is more popular than its other species. as Ayurveda, siddha, unani, *passiflora* contains several compound like alkaloids, phenol, glycosyl flavonoids. Also *Passiflora incarnata* is a source of alkaloids, phenolic compounds, flavonoid, and cyanogenic glycosides. The primary phytochemicals found in the passionflower are flavonoids (apigenin, luteolin, quercetin, and kaempferol) and flavonoid glycosides (vitexin, isovitexin, orientin, and isoorientin) [1,2]. The species has the highest overall isovitexin content [3]. On 25 March 2014, the European Medicines Agency published a herbal monograph on *Passiflora incarnata*, thus recognizing its status as a medicinal product.

5. **OBSERVATION AND INFERENCE**

6. PHARMACOLOGICAL ASPECTS 1.ANXIETY The anxiety disorders are the most common mental disorders. It is manifest by disturbances of mood as well as of thinking behavior, and physiological activity, the anxiety disorder include panic disorder generalized anxiety disorders, specific phobia, social phobia, obsessive, compulsive disorders, acute stress disorders and post traumatic stress disorders. In addition there are adjustment disorders due to general medical condition and substance induced anxiety disorders. These disorders can significantly impair a person's ability to function in every day life, and treatment may be necessary to manage symptoms and improve quality of life. Anxiety disorders are among the most prevalent psychiatric condition in the US and in most other population studied. And recent studies also suggest that chronic anxiety disorders may increase the rate of cardiovascular related mortality, hence clinicians and psychiatry and other specialists must make the proper disorders diagnosis rapidly and initiate treatment.

## 7. ANXIETY FOUR CATEGORIES

1. Mild anxiety
2. Moderate anxiety
3. Severe anxiety
4. Panic anxiety

## TYPES OF ANXIETY DISORDERS

**Generalized anxiety disorder: (GAD)** GAD is characterized by excessive and persistent worry about everyday activities and events. People with GAD often have a difficult time controlling their worries and may experience physical symptoms such as muscle tension, restlessness, and difficulty sleeping. *Passion Flower: A Review on morphology, phytochemistry and pharmacological aspect*

**Panic disorder:** Panic disorder is characterized by sudden and unexpected panic attack, which are intense period of fear and discomfort that can last several minutes, panic attack can cause symptoms such as sweating, chest pain and rapid heartbeat, people with panic disorder often worry about having another panic attack which can lead to avoidance of certain situation.

**Social Anxiety Disorder: (SAD)** SAD is characterized by intense fear or anxiety in social situation such as speaking in public or meeting new people with SAD may experience physical symptom such as sweating, blushing and trembling they often avoid social situation or extreme distress.

**Obsessive Compulsive Disorder: (OCD)** OCD is characterized by unwanted and intrusive thoughts, images, or urges (obsessions) that lead to repetitive behaviors people with OCD often feel compelled to perform these behaviors or mental acts to reduce their anxiety or prevent harm.

**Post Traumatic stress disorders: (PTSD)** Post traumatic stress disorders (PTSD) is a real disorder that develops when a person has experienced a scary, shocking, terrifying, or dangerous event. These stressful or traumatic events usually involve a situation where someone's life has been threatened or severe injury has occurred. Children and adults with (PTSD) may feel anxious or stressed even when they are not in present danger.

Symptoms : Nervousness , restlessness , disiness , tense , panic , sleep problem , not able to stay clam and still , shortness of breathing , fast breathing rate , palpitation , decrease the salivation , nosea , overthinking , unable to concentration , avoid people , object and places .

## TREATMENT

THERE ARE TWO TYPES OF TREATMENT

- PSYCHOTHEARPY
- MEDICATION

### PSYCHOTHEARPY :

Also known as talk therapy or psychological counseling, psychotherapy involves working with a therapist to reduce your anxiety symptoms. It can be an effective treatment for anxiety. Cognitive behavioral therapy (CBT) is the most effective form of psychotherapy for anxiety disorders. Generally a short-term treatment, CBT focuses on teaching you specific skills to improve your symptoms and gradually return to the activities you've avoided because of anxiety. CBT includes exposure therapy, in which you gradually encounter the object or situation that triggers your anxiety so you build confidence that you can manage the situation and anxiety symptoms.

### MEDICATION :

Several types of medications are used to help relieve symptoms, depending on the type of anxiety disorder you have and whether you also have other mental or physical health issues. For example: • Certain antidepressants are also used to treat anxiety disorders. • An anti-anxiety medication called buspirone may be prescribed. • In limited circumstances, your doctor may prescribe other types of medications, such as sedatives, also called benzodiazepines, or beta blockers. These medications are for shortterm relief of anxiety symptoms and are not intended to be used long

2. **ANTICONVULSAT**: The current therapeutic treatment of epilepsy with modern antiepileptic drugs (AEDs) is associated with side-effects, dose-related and chronic toxicity, and teratogenic effects, and approximately 30% of the patients continue to have seizures with current AEDs therapy. Natural products from folk remedies have contributed significantly in the discovery of modern drugs and can be an alternative source for the discovery of AEDs with novel structures and better safety and efficacy profiles. Evidence for anticonvulsant activity of *P. incarnata* in the clonic seizure of pentylenetetrazole model has been tested in mice. As the protective effects of *P. incarnata* in clonic seizure, it suggests that it could be useful for treatment of absence seizure. Furthermore, the important role of benzodiazepine receptor in the effects of *P. incarnata* should be considered.

3. **PHEOCHROMOCYTOMA** :Defination "A sudden, violent, irregular movement of the body caused by massive electrical discharge in a group of nerve cells in the brain leads to changes in mental activities and behaviour." Symptoms Whole body: flushing, high blood pressure, sweating, dizziness, or fatigue Heart: fast

heart rate or palpitations Also common: headache, anxiety, nausea, shortness of breath, tremor, or weight loss  
Medication Betablocker and antihypertensive drug.

4. **DEPRESSION:** Depression (also known as major depression, major depressive disorder, or clinical depression) is a common but serious mood disorder. It causes severe symptoms that affect how a person feels, thinks, and handles daily activities, such as sleeping, eating, or working There are different types of depression, some of which develop due to specific circumstances. Major depression: Includes symptoms of depressed mood or loss of interest, most of the time for at least 2 weeks, that interfere with daily activities.

Persistent depressive disorder : (also called dysthymia or dysthymic disorder) consists of less severe symptoms of depression that last much longer, usually for at least 2 years

Perinatal depression: depression that occurs during or after pregnancy. Depression that begins during pregnancy is prenatal depression and depression that begins after the baby is born is postpartum depression.

Seasonal affective: disorder is depression that comes and goes with the seasons, with symptoms typically starting in the late fall and early winter and going away during the spring and summer

Depression with symptoms of psychosis: a severe form of depression in which a person experiences psychosis symptoms, such as delusions (disturbing, false fixed beliefs) or hallucinations (hearing or seeing things others do not hear or see) TREATMENT: CBT, Behaviour therapy and psychotherapy MEDICATION: Anxiolytic and antidepressant

## 5. SYNCOPE

**DEFINITION** Sudden transient loss of consciousness and postural tone with subsequent spontaneous recovery . ( greek synkope , “ cessation , pause ”) Transient inadequate cerebral perfusion . Temporary loss of consciousness Blood supply to brain decreased

**SYMPTOMS** Shivering, sweating loss of consciousness, low BP, oxygen saturation reduce, blood sugar level is reduce .

10. **CONCUSSION:** A concussion is a "traumatically induced transient disturbance of brain function." Concussions are a subset of the neurologic injuries known as traumatic brain injuries. Traumatic brain injuries have varying severity, ranging from mild, transient symptoms to extended periods of altered consciousness Symptoms : may include headache, confusion, lack of coordination, memory loss, nausea, vomiting, dizziness, ringing in the ears, sleepiness, excessive fatigue and seizures.

## AIM AND OBJECTIVE

**AIM:** Passion flower contain chemical constituents which reduce anxiety, neurological disorder and related disease symptoms

**OBJECTIVES** The objective of this systematic review was to evaluate the efficacy of Passiflora incarnata preparations in the treatment of neuropsychiatric disorder of the nervous system

## DRUG PROFILE 1

### 1 PASSION FLOWER



*Passiflora incarnata* also called as passion flower is a genus about 500 species of flowering plants which are mostly found in warm and tropical regions *passiflora* comes from Latin word *passio* that was first discovered by Spanish discovers in 1929.

Synonym- *passiflora* Biological sources -mostly tendrils bearing vines belonging family *passifloraceae*.

Chemical constituents – vitexine , iso vitexine,oritinine,isovoritinine Roll of Passion flower – anxiolytic effect

Botanical name *Passiflora incarnata*

Kingdom *plantae*

Family *passifloraceae*

Genus *passiflora*

Species *p.incarnata*

Plant part flower

### 2 ASHWAGANDHA



Ashwagandha ( *withania somnifera*) is commonly known as Indian winter cherry or Indian ginseng .it is one of the most important herb of ayurveda.the traditional system of medicine in India used for in rasayana for its wide ranging health benefits.

Ashwagandha is commonly available in *churna* a fine sieved powder that can be mixed with water, honey enhance the function of brain and nervous system and improve memory.

Synonyms - *withania* root

Biological sources – dried root and stem bases of withania somnifera.

Family – solanaceae

Function promoted stress and anxiety sleep

Botanical name Withania somnifera

Kingdom Plantae

Family Solanaceae

Genus Withania

Species W.somnifera

Part plant Root

### 3.SAFFRON



Saffron crocus sativus c. Sativa has been widely used as a medicinal plant to promote human health especially in Asia. The main component of saffron are. Crocin,picrocin and safranal Saffron has been suggested to be effective in the treatment of a wide range of disorders including coronary artery diseases, hypertension, stomach disorder also the anticonvulsant and anti Alzheimer's and treatment of nervous system disorder. Synonyms – saffron ,kesar

Biological sources- dried stigma and upper part of style of crocus sativa

Family – Iridaceae

Function treat nervous system disorder and colouring agent

#### FORMULATION:

Material	Quantity	Use
Passion flower	20 gm	Anxiolytic effect
Ashwagandha	20 gm	Anxiolytic effect
Saffaron	02 gm	Anxiolytic effect
Jaggery	250 gm	Sweetner
Lemon	02 ml	Preservative
Water	Quantity sufficient	

Pot	02	
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Equipment: Beaker , Sterror, Measuring cylinder, Test tube , Test tube stand, Conical flask

### CONFORMETARY TEST

Sr no	Chemical test	test	interferance	result
1	Alkaloide	Mayer's test	Yellow cream pp	positive
		Wagners test	Redish brown pp	positive
2	Glycoside	Legal test	Red to pink colours	positive
		Baljet test	Yellow to orrenge colour	positive
3	Flavonoides	Shinoda test	Red to pink colour	positive
		Lead acetate test	Formation of yellow ppt	positive

Arista preparation



Arista Decoction of powder



(Passion flower, ashwagandha, saffron)

Transfer to formulation vessel



Add jaggery Add flavouring agent



Closed vessels with muslin cloth upto 7 days



Fluid deconted and filter Filter



in transfer bottleArista





## Arista formulation

Ayurveda is traditional Indian medicinal system being practiced for thousands of years. more than 1,200 species of plants, nearly 100 mineral and animal product comprise the ayurvedic pharmacopeia. Arista are unique dosage form discovered by ayurveda having indefinite shelf life. Arishtas are prepared by the process of fermentation for a specific time period after boiling the main decoction substance and adding other ingredients. Aristas are self-generated alcohol containing, oral liquid formulation of ayurvedic system.



## EVALUATION PARAMETERS.

Organoleptic characters

Colour – brown

Odour – aromatic Taste- sweet

pH

pH test is performed by 10 ml Arista separated by breaker and adjust pH detector machine in beaker and calculate the pH is +4.15

Alcohol contain

Arista alcohol contain determine by specific gravity method. Alcohol contain is 4to6v/

Total solid contain

Total solid content includes both the suspended solid and dissolve salt the solid content also used to determine a dry weight. Drying the sample of 103to105degree celcius Arista formulation total solid contain present not less than 11% w/

Density

Evaluation of density is useful for meeting quality control standard and examining the final state of a solid or suspended formulation. Density of arista is 1.6 to 0.3

Surface tension

The tension of the surface film of a liquid caused by the attraction of the particles in the surface layer by the bulk of liquid which tends to minimise the surface area. Surface tension is determined by 8.4 to 0.52 dyne cm

## Assay

## Thin layer chromatography

In this method firstly prepared mobile phase chloroform: ethanol: Glacial acetic acid: water , then sample solution drop add a silica gel slide and pour in mobile phase in beaker and seald with Petri plate then wet for 30 for run the sample. And calculate rf value Distance travelled by solute/ distance travelled by solvent

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**CONCLUSION**

Passionflower has the potential to alleviate some symptoms of neuropsychiatric origin. No adverse effects, including memory loss or collapse of psychometric functions, have been linked to passionflower administration. The anti-anxiety effect of *Passiflora incarnata* is comparable to drugs such as oxazepam or midazolam. Consequently, it seems to be an effective and safe pharmaceutical to reduce stress reactivity, insomnia, anxiety, and depression- like behaviors.

**RESULT AND DISCUSSION**

The priliminary phytochemical analysis of Passion flower, ashwagandha,and saffron. Showed the presence of alkaloids, glycoside, flavonoids. According to ayurveda passion flower helps to reduce d symptoms with anxiety management also ashwagandha and saffron works on anxiety reducing agent helps to reduced anxiety, nervous Ness, depression insomnia and other disease related symptoms.,

**FORMULATION TABLE**

colour	Clear dark brawn liquid
odour	Aromatic
taste	sweet
ph	3.94 to 4.15 v/v
Alcohol content	4 to 6 v/v
Density	1.6 to 0.3
Surface tension	8.4 to 0.52 dyne/cm
Specific gravity	1.0 to 1.1
Total solid content	Not less than 11%
Assay	Thin layer chromatography