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Research Article

Formulation And Evaluation Of Herbal Syrup Of Ignatia Amara For Anxiety And Deprecation

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ABSTRACT

Ignatia Amara a made from the strychnos Ignatia seeds, is used for anxiety related Symptoms it is used in traditional medicine, primarily used for emotional disturbances, depression, effects of grief, and mental shock. This study highlights the prevalence of anxiety and depression among cancer patients, underscoring their significant negative impact. While depression has been a focal point of research in mental health, many patients lean towards herbal remedies over conventional medications due to their perceived limited effectiveness. Analysis of various studies reveals that 45% reported positive outcomes with fewer side effects compared to traditional medications. Despite the introduction of synthetic antidepressants, which aim to address different hypotheses surrounding depression, their efficacy remains limited, achieving complete remission in only a subset of patients. Consequently, herbal medicines are gaining traction as alternative treatments due to their favourable side effect profile and cost-effectiveness.

INTRODUCTION

Ignatia amera to treat grief and depression. They have also used it to treat situational anxiety. People usually don't use ignatia for generalized anxiety disorders, such as panic disorder or post-traumatic stress disorder. it is need of time to find an alternate of presently available medicines. Recently, herbal medicines have received much attention as alternative treatments for depression because of their fewer side effects and lower costs. Anxiety

disorders are treatable, but treatment can be difficult. Prescription medications can sometimes lead to physical and emotional dependence. Other medications can cause unwanted side effects, such as weight gain or sexual dysfunction. Alcohol and drugs can worsen your anxiety. Many people consider herbal remedies as alternative treatments for their anxiety symptoms. (1)

Anxiety:

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The most common psychiatric disorders are anxiety disorders. Treatment for anxiety disorders becomes increasingly complicated due to the significant comorbidity between anxiety disorders (particularly panic or generalized anxiety disorders) and depressive illnesses. Intense, excessive and persistent worry and fear about everyday situations. Fast heart rate, rapid breathing, sweating and feeling tired may occur.

Anxiety disorders are a cluster of mental disorders characterized by significant and uncontrollable feelings of anxiety and fear. such that a person's social, occupational, and personal functions are significantly impaired. Anxiety may cause physical and cognitive symptoms, such as restlessness, irritability, easy fatigue, difficulty concentrating, increased heart rate, chest pain, abdominal pain, and a variety of other symptoms that may vary based on the individual. Anxiety can be normal in stressful situations such as public speaking or taking a test. Anxiety is only an indicator of underlying disease when feelings become excessive, all-consuming and interfere with daily living.(2)

Depression:

Depression, also referred to as depressive disorder, is a prevalent mental illness. It is characterized by a protracted period of depression, loss of pleasure, or lack of interest in activities. Depression differs from regular mood fluctuations or typical daily emotions, affecting various aspects of life, such as relationships with friends, family, and community involvement. It can also influence performance at work or in academic settings. Depression can affect anyone but is more prevalent in individuals who have encountered trauma, major life changes, or persistent stressors. Women are statistically more susceptible to depression compared to men." An estimated 3.8% of individuals worldwide are afflicted by depression, with rates notably higher among certain demographics such as those over 60 (5.7%) and adult women (6%). Depression

impacts over 280 million people globally, with women being about 50% more susceptible than men. Moreover, approximately 10% of expectant or recent mothers grapple with depression. Tragically, an estimated 700,000 individuals succumb to suicide annually, making it the fourth leading cause of death among those aged 15 to 29.

In low- and middle-income countries, over 75% of individuals do not access therapy for mental illnesses, mainly due to various barriers such as underinvestment in mental health care, shortage of trained healthcare professionals, and societal stigma surrounding mental illnesses. Depression is diagnosed using guidelines from the DSM-IV, a book by the American Psychiatric Association. To be diagnosed, someone needs to have at least five out of nine symptoms, like feeling sad, losing interest in things, changes in weight or sleep, feeling restless or tired, negative thoughts about themselves, or even thoughts of suicide In many poor countries, most people don't get treatment for mental illnesses, even though there care good treatments available. This happens because there's not enough money put into mental health care, not enough trained doctors and nurses, and people feel ashamed to talk about mental illnesses.(3,4,5,6,7)

Literature Review:

The literature review on Ignatia Amara highlights its potential therapeutic benefits for a range of physical and emotional ailments. It discusses the plant's origins, description, and active ingredients, emphasizing its historical medicinal use. Additionally, it delves into the symbolic transformation of Ignatia from a toxic substance to a healing elixir in a mystical context.

1. The plant was first described by a Jesuit monk named Georg Kamel, who named the fruit in honor of the founder of his order. This bean (seed within the fruit) contains the toxic compounds of strychnine and brucine. In the early effects of exposure, we find nervous system hypersensitivity (particularly of vision



and hearing) and excitability. Toxic effects from the ingestion of this raw material include restlessness, anxiety, dizziness, hyperreflexia, twitching, spasms, convulsions, difficult breathing, and death. Even at low doses, chronic exposure can be fatal.

2. Dr. John Martin Honigberger (1795 – 1869) became intrigued by medicine after curing himself of cholera with the use of Ipecachuana while in Vienna. Later, when he was practicing in Constantinople, he was intrigued by the local custom of Armenians tying a bean from the Ignatius plant to a pole in an effort to ward off the plague, which was active at that time.
3. Honigberger deployed the substance in successfully treated a number of cases with the medicine. Later, while working in Northern India, Dr. Honigberger contracted the plague himself and used Ignatia Amara to cure himself of the disease. Of historical interest, Dr. Honigberger was the first to introduce drug and the teachings of Hahnemann to India.(8)

Ignatia Amara

Ignatia amara belongs to the Loganiaceae family. Here are some details about its morphology and organoleptic characteristics:

Synonym:

St. Ignatius Bean

Botanical Name:

Strychnos ignatia Berg

Family:

loganiaceae

Biological source:

Ignatia Amara is derived from the seeds of the ignatia Amara plant.

Class:

Magnoliopsida

Genus:

strychno

Species:

s.ignatia

Parts utilized:

Bark, seeds.



Fig1.Ignatia Amara

Morphology:

Plant:

Ignatia amara is a large woody shrub or small tree that can grow up to 15 meters tall. It has a straight trunk with smooth, grayish bark.

Leaves:

The leaves are opposite, glossy, and dark green, with a leathery texture. They are lanceolate to ovate in shape, with prominent veins.

Flowers:

The flowers are large, showy, and white, with a tubular shape. They are fragrant and appear in clusters at the ends of branches.

Fruits:

The fruits are oval-shaped capsules that contain numerous seeds. When ripe, the capsules split open to release the seeds.

Organoleptic Characteristics:

Taste:

Ignatia Amara has a bitter taste.

Odour:

The plant has a slight, pleasant fragrance. These characteristics help in identifying Ignatia amara in its natural habitat and are also useful in the preparation of homeopathic remedies from this plant.

Chemical constituents:

Ignatia amara contains several chemical constituents, including:

Indole alkaloids:

Such as strychnine, brucine, and ignatine, which contribute to its pharmacological effects.

GABA receptor agonists:

Compounds that act on the gamma-aminobutyric acid (GABA) receptors, potentially contributing to its calming and sedative effects.

Tetrahydroharman: A compound with potential psychoactive effects.

Volatile oils:

This may contribute to its aromatic properties.

Flavonoids:

Which are compounds with antioxidant properties. These constituents are believed to be responsible for the plant's medicinal properties. (9)

Medicinal Uses:

Ignatia Amara, commonly known as St. Ignatius bean, is used in traditional medicine, Some of its traditional medicinal uses include:

Emotional Support:

Ignatia is often used for its calming and soothing effects on emotions. It is believed to help with emotional distress, grief, anxiety, and mood swings.

Respiratory Issues:

It may be used for respiratory conditions such as coughs, asthma, and bronchitis.

Digestive Health:

Ignatia is sometimes used to support digestive health and alleviate symptoms such as indigestion, bloating, and stomach cramps.

Headaches:

It is also used for headaches, especially those related to emotional stress or grief.

Muscle Spasms:

Ignatia may be used to help relieve muscle spasms and cramps.

Sleep Disorders:

It is believed to help with sleep disorders such as insomnia, especially when related to emotional issues.

Therapeutic benefits for various health conditions:

1. **Insomnia:** Effective in treating sleep disturbances linked to depression, grief, anxiety, caring, melancholy, and anxious thoughts.
2. **Headaches:** Particularly beneficial for individuals with highly sensitive and anxious temperaments, alleviating headaches stemming from mental strain, bereavement, or anxiety.
3. **Cough:** Relieves dry, spasmodic coughs accompanied by intense discomfort in the larynx and trachea.
4. **Globus Hystericus:** Eases the sensation of a "lump" in the throat, facilitating swallowing.
5. **Stomach Disorders:** Helpful in managing stomach ailments triggered by anxiety, sadness, and depression, especially irritable bowel syndrome associated with these mental states.(10)

Ignatia Amara Used For Anxiety and Depression

Advantages of Ignatia Amara's Health These examples demonstrate how Ignatia amara can be used therapeutically to treat a range of illnesses: Treating insomnia brought on by depression, grief, anxieties, caring, melancholy, and anxious thoughts is greatly benefited by it. This cure works well for headaches in those with highly sensitive and anxious temperaments, particularly those that result from mental strain, bereavement, or anxiety. When a person has a dry, hacking, spasmodic cough coupled with extreme laryngeal and tracheal discomfort, Ignatia amara is recommended. It can relieve globus hystericus, the feeling of a "lump" in the throat that prevents a person from swallowing. This treatment is very helpful in treating stomach disorders brought on by anxiety, sadness, and depression, particularly irritable bowel syndrome associated with these mental states. Ignatia Amara is useful in treating colic that is made worse by eating sweets or coffee, which causes distension in the abdomen and makes



breathing difficult. It is recommended for specific types of diarrhea with particular symptoms, like diarrhea brought on by bereavement or other emotional stressors. Additionally, piles can be treated with *Ignatia amara*, especially if the rectum prolapses as a result of mild straining during passing stool. The following guiding symptoms shed light on the traits of people who could profit from *Ignatia amara*: an extremely utopian outlook on life being extremely diligent and using great effort to achieve goals having a strong sense of moral obligation and a propensity for perfectionism feeling nervous, fearing not succeeding, and expecting something negative to occur illnesses that arise after a setback, disappointment, loss, or disappointment nervous system irritability, which causes one to become quickly agitated by anything stated. any area of the body experiencing irregular contractions, spasms, or cramping. experiencing low mood, guilt, and thoughts of failure. feeling sorry for myself and wanting to be alone myself. All of these indications point to *Ignatia amara*'s suitability for people dealing with a variety of emotional and stress. (11)

Extraction process:-

Decoction of *ignetia Amara*-

- 5-7 gm. of each herbal ingredients
- Herbs was mixed using 500ml of water
- Attach reflux condenser and material was boil under carefully by using water bath for 3 hrs.
- Boil until total volume become one fourth part of previous
- Then liquid was cooled and filtered.



Fig.2 Extraction of *ignetia Amara*

Following are the Ingredients used in Formulation

***Ignatia Amara*:**

The seeds of the plant are used to extract the herbal medicine. This plant is native to the East Indies. It is one of the best natural antidepressants and has no side effects. The medicine is prepared from the finely powdered dry seeds of *St. Ignatius Bean*. For preparing this medicine, the seeds of the *St. Ignatius* are powdered. This mixture is strained and diluted to make it non-toxic. It then undergoes a process called decoction method, a type of process that helps obtain the desired of the medicine. (10)

Alcohol:

It serves as a preservative when used sparingly. The main constituent in beverages like beer, wine, and distilled spirits (hard liquor) is alcohol, also known by its chemical name, ethanol. Alcohol is a depressant substance. It's one of the most traditional and widely used recreational drugs, giving users the typical characteristics of alcohol intoxication, or "drunkenness" Alcohol has several impacts on people, including euphoria and happiness, drowsiness, reduced anxiety, increased sociability, impaired motor, cognitive, and sensory function, and overall depression of central nervous system (CNS) function[19]. While there are other forms of alcohol, only ethanol is found in alcoholic beverages and is frequently consumed for

recreational purposes. Other forms of alcohol include methanol and isopropyl alcohol. (12)

Sugar

The general term for soluble, sweet-tasting carbohydrates, many of which are found in food, is sugar. Glucose, fructose, and galactose are examples of simple sugars, frequently referred to as monosaccharides. Common examples of compound sugars include lactose (glucose + galactose), sucrose (glucose + fructose), and maltose (two molecules of glucose). Compound sugars are also known as disaccharides or double sugars. Sucrose is processed into white sugar. Compound sugars in the body hydrolyze into simple The majority of plant tissues contain sugars. Simple sugars are widely available in nature from honey and fruits. Sugarcane and sugar beet are particularly concentrated sources of sucrose, which makes them perfect for effective commercial extraction to produce refined sugar.(13)

Strawberry:

Synopsis Prefers for its unusual flavour and vivid colour are peaches, which belong to the genus *Prunus* and family *Rosaceace*. The fruit lacks nutrition, though. Peaches are high in vitamin A and its precursors, which include carotenoids, B-carotene (mostly), α -carotene, and B-cryptoxanthin; nevertheless, they are low in fat and proteins. Nonetheless, it has a significant quantity of fiber, C, and E. Peaches are a storehouse of several biologically active substances, mainly carotenoids, polyphenolics, and antioxidants, which means that eating them might be beneficial to one's health. Consuming peaches has also been linked to a number of therapeutic benefits, including anti-diabetic, cardio-vascular, and chemo-preventive effects as well as maintenance of ocular health. Hybrid species of the genus *Fragaria* that is commonly grown for its fruit. Strawberries are produced all over the world. The fruit's distinctive scent, vivid red hue, juicy

texture, and sweetness are well-like. Many more are also frequently infused with artificial strawberry flavorings and fragrances. (14)

Table no. 1 Role of ingredient in herbal syrup

Sr.no	Ingredient	Role
1.	Ignetia Amara	Anti- depressant
2.	Strawberry	Preservative
3.	Sugar	Sweetening agent
4.	Alcohol	Preservative

MATERIAL AND METHOD:

Herbal syrup was prepared by decoction method. Steps are as follows. The extract subjected to prepare an ethanolic extract to obtain the ethanol specific active constituents by Soxhlet extraction method. Further the extract was filtered, and the aliquots of the quantities were used as given in the table to prepared formulations A to D. All extract are mixed with each other and 50ml of syrup was obtained. The coloring agent, flavoring agent are added into it. This obtained syrup was transferred to amber color bottle, close it tightly and place it into cool place. Preparation of herbal syrup: The preparation of herbal syrup was performed as per quantities given in Tables 2, 3, 4 and 5 evaluation parameters are shown.



Fig.3 Formulation D of herbal syrup

Table 2: Formulation No.(A) For 50ml

Sr. No.	Ingredient	Quantity
1.	Ignatia Amera	8.5ml
2.	Strawberry	5 ml
3.	Sugar	36.5 ml

Table 3: Formulation 2 (B) for 50 ml

Sr. No.	Ingredient	Quantity
1.	Ignatia Amara	7 ml
2.	Strawberry	2.5 ml
3.	Sugar	25.5 ml
4.	Alcohol	15 ml

In above formula (B), we used alcohol because in the formulation number 1(A), sugar was not able to inhibit the growth of fungi, so we use alcohol.

Table 4: Formulation 3 (C) for 50 ml

Sr. No.	Ingredient	Quantity
1.	Ignatia Amara	7.5 ml
2.	Strawberry	2.5ml
3.	Sugar	29 ml
4.	Alcohol	11 ml

The Formulation number (B) was rejected because of more quantity of alcohol is use. In this formula we use alcohol as minimum quantity.

Table 5: Formulation 4 (D) for 50 ml

Sr. No.	Ingredient	Quantity
1.	Ignatia Amara	8.5 ml
2.	Strawberry	3.5 ml
3.	Sugar	25 ml
4.	Alcohol	13 ml

Following evaluation parameters were performed on formulation.4 (D)

Evaluation parameter:-

1. Specific gravity

Specific gravity was evaluated by the formula as given below.

$$\text{Specific gravity of liquid under test (syrup)} = \frac{\text{weight of liquid under test}}{\text{weight of water}}$$

$$\text{Liquid under test /weight of water} = w_5/w_4.$$

2. Colour examination:

2ml of prepared syrup was taken on a watch glass Watch glass placed against white background in white tube light.

Colour was observed by naked eyes in red.

3. Odour examination

2 ml of prepared syrup was taken and smelled by individually

The time interval between 2 smelling was 2 min. to nullify effect of previous smelling.

4. Taste examination

A pinch of final syrup was taken and examined on taste buds of the tongue.

The Taste of the Syrup Is Sweet

5. PH determination

10 ml of prepared syrup taken in 100 ml of volumetric flask

Make up volume to 100 ml with distilled water Sonicate for 10 min

PH was measured by using digital pH meter.

6. Viscosity determination

The viscosity of each formulation was determined by using Ostwald's U-tube viscometer

$$\text{Viscosity} = \frac{\text{Density of test liquid} \times \text{Time required to flow test liquid}}{\text{Density of water} \times \text{Time required to flow water}}$$

$$\text{Density of water} \times \text{Time required to flow water} = \text{Viscosity of water}$$

7. Determination of density

Density of the syrup is determined by using density bottle method by measuring the weight and volume. Density is calculated as a substance mass per the volume it occupies

The symbol "p" is used to denote density.

It was evaluated by formula as given below.

Formula for density:

$$\text{Density of liquid under test (syrup)} = \frac{\text{weight of liquid under test}}{\text{volume of liquid under test}} = W_3/v$$

RESULTS AND DISCUSSION: -

Table 1: - In this test colour, odour and taste of formulation was checked

Formulation	Colour	Oduor	Taste
A	Red	Alcoholic	Sweet
B	Red	Alcoholic	Sweet
C	Red	Alcoholic	Sweet
D	Red	Alcoholic	Sweet

Table 2:- pH observation

Sr.no	Formulation	pH
1	A	7.01
2	B	7.44
3	C	7.54
4	D	7.61



Table 3:- viscosity observation

Sr.no	Formulation	Viscosity
1	A	3.75 cp
2	B	3.67 cp
3	C	3.65 cp
4	D	3.66 cp

Table 4:- Density observation

Sr.no	Formulation	Density
1	A	1.50 mg
2	B	1.43 mg
3	C	1.29 mg
4	D	1.50 mg

CONCLUSION:

Ignatia Amara, a plant often used in alternative medicine for depression and anxiety, is that while some anecdotal evidence and small-scale studies suggest it may have some efficacy, more rigorous research is needed to definitively establish its effectiveness and safety for treating these conditions. Direct evidence from placebo-controlled studies of gelsemium and of ignatia Amara showed that used dilutions have anxiolytic-like properties without weakening locomotion and without adverse or sedative effects. While it's traditionally believed to have calming effects, rigorous studies specifically focusing on its efficacy in addressing sleep disorders are lacking. As with any alternative treatment, it's important to consult with a healthcare professional before use. The conclusion regarding the effectiveness and suitability of these formulations for addressing the intended health conditions, such as anxiety, depression, and related ailments, cannot be drawn without the outcomes of these tests. It is essential to await the results of the evaluation to determine the formulations' potential therapeutic benefits and their applicability in traditional medicine practices.

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