

Formulation and Evaluation of herbal Chocolate from Calotropis Gigantean- Treatment of asthma disease condition

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Abstract- In the indigenous medical system, Calotropis gigantean is one of the most widely used and advantageous medical herbs for the treatment of asthma disorder. This thorough analysis offers the most recent information on the traditional uses, phytochemistry, pharmacological data, toxicological data, clinical efficacy, safety and efficacy of Calotropis gigantean. It also lays out plans for future studies and development of substantiate the plant's therapeutic potential through scientific means. A through web and library search of numerous indexed and non-indexed journals, some local literature and a variety of publications published on ethno pharmacology, phytochemistry and traditional usage were used to gather information about Calotropis gigantean .The pleiotropic advantages associated with Calotropis gigantean, comprising its toothache and Head – ache Sprain, Stiff joints and to cure pain anthelmintic intestinal worms , ascites, and laxative and is useful in bronchitis, cutaneous disease , arthragia , swellings and intermittent fevers, Calotropis gigantean R.br.used in unani medicine for treatment in toxic asthma. These effects can be used to treat a variety of asthma problems. There is sample evidence to support the plants good safety profile when combined with other traditional medications. The precise molecular mechanism of its action, the best way to administer the medication, whether to employ an alcoholic, watery or crude extract, toxicological research and how it interacts with other medications are all poorly understood.

This review concludes by emphasizing the significance of Calotropis gigantean, as well as its pleiotropic effects and functional characteristics particularly in relation to Asthma disorders. Even though a number of pharmacological research and clinical trials back up its traditional use in treating CVD, more rigorous, state-of-the-art clinical trials with larger samples sizes are necessary to evaluate Calotropis gigantean purposed efficacy.

Keywords- Calotropis Gigantea, Medicated Chocolate, Modified dosage form, Asthma disease, Herbal flower and species.

INTRODUCTION

Calotropis is a gemas first described in 1810 they are flowering plants in the dogbane family, Apocynaceae,It is to North Africa and Southern Asia. The plant that gives milkwends its name generates the latex. The plant Colotropis gigantean is know by several names, including “crown flower” in English, “Arka” in Hindi, “Madar,” “Ganarupa,” “Vataka,” “Svetapushp,” “and others in Sanskrit. Other names for it in India are “Rui” in Mrathi, “Ekka” in kannada, “Erukku” in Tamil and Malayalam, and “Filleedi Puvvu” in Telugu. It is also referred to by various vernacylar names throughout the world, such as Widuri, Alarka, Rooster tree, and prencn cotton. The tropical and subtropical regions of Asia and Africa are home to the genus Calotropis (The Wealth of India, 1959).

In tribal areas, Calotropis gigantean L.is a commonly grown plant that is prepared medicinally. Its expectorant, antitussive, and antiasthmatic properties have not yet been documented. It is popular folk remedy for eczema and other eruptive skin disease, and it also works well for asthma. When an insect or scorpion bites it, the burning pain is relieved. When treating hectic fever, lepra, or syphilis, root bark is recommended C. gigantean is useful in treating a variety of pain conditions, including arthragia, cutaneous diseases, earaches, toothaches, sprains, stiff joints and dyspepsia. It also acts as a pain reliever, anthelmintic and treats intestinal worms, ascites, and

bronchitis. In unani medicine, calotropis gigantean R. br. is used to treat toxic asthma.

Because of their longevity, that people use the flowers in floral arrangements. Preclinical studies have demonstrated a hypoglycemic effect of flower and leaf extract. The Hawaiian Queen Liliuokalani, who wore them strung into leis and saw them as a symbol of royalty, preferred them. They adorn the urn or sarcophagus as well as the interior of the home hosting the funeral in Cambodia. The fruit is a follicle, and the wind disperses the seeds when they are dry. These flowers are known as widuri in Indonesia.

The Shiva Purana states that Lord Shiva is fond of the madar flower, also known as the crown flower. As a result, Lord Shiva is offered the crown flower and its garland in exchange for social stability, prosperity, and peace. One of the main components of the nine astrological trees, or Navagraha tree, is also the Crown flower.

Because of the potent bioactivity of its calotropin, calotropis gigantea has long been used as a folk remedy in India. Indian Ayurvedic practitioners have used the root and leaf of *C. procera* in cases of asthma, bacterial infection, swelling with redness, boils, dyspnea, and liver and spleen diseases. In addition to being used to treat fevers, elephantiasis, nausea, vomiting, and diarrhea, the plant is said to be beneficial in treating skin, digestive, respiratory, circulatory, and neurological disorders. Calotropis procera's milky juice has been used as an antidote for snake bites, arthritis, and cancer.

Since these findings are based on traditional applications, more research is required to validate the clinical value of the leaves, bark, and latex. Recent research has shown that calotropis has been utilized as a contraceptive and as a possible cancer treatment. In one study on the anticancer activities of calotropis gigantea, DCM extracts were found to be highly cytotoxic against non-small cell lung carcinoma (A549), colon carcinoma (HCT116), and hepatocellular carcinoma in hamsters (HEPG2). Further clinical research is required, as these extracts may be employed as cancer treatments.

Many plant and animal substances have been used as arrow poisons throughout history. To aid with game hunting, poison was frequently put onto the spear or arrow. Alkaloids, which are the strongest plant poisons, and extracts from the Strychnos genus are commonly used. Although another prevalent form of

arrow poison, cardiac glycosides, is found in digitalis, the bulk of arrow poisons originate from plants in the Apocynaceae family.

This family included the more potent Calotropis procera and the smaller Calotropis gigantea. In Africa, the latex from these plants has been used as an arrow poison.

Apocynaceae plants commonly include cardiac glycosides such as calcactin, uscharin, calotoxin, and calotropin. The mechanism by which these toxins work is by blocking the sodium-potassium pump, which is especially potent in cardiac tissues. Because of its cardiac action, digitalis has been utilized as a medicine for the heart. However, large amounts may cause arrhythmia.

The deadly crown flower plant, Calotropis gigantea, is primarily found in Asian nations and few Gulf states. Different solvents have been used to extract active metabolites from Calotropis gigantea components, including buds, flower, and leaves. This plant contains a variety of bioactive substances, such as steroids, flavonoids, phenols, tannins, alkaloids, and saponins. Calotropis gigantea leaf extract has been used to treat a number of viral and bacterial illnesses, such as asthma, dyspepsia, fever, and colds. As antifungal medications, the active metabolite has shown beneficial.

Classification

Kingdom - Plantae
 Division - Magnoliophyta
 Class - Magnoliopsida
 Order - Gentianales
 Family - Apocynaceae
 Sub Family - Asclepiadoideae
 Genus - Calotropis
 Species - Calotropis gigantea

MATERIAL AND METHOD

Calotropis Gigantea flower (powder), Cocoa powder, Sugar, Cocoa butter, Honey, Vanilla. In addition to equipment is taken as of analytical grade.

Method

Extraction Of Flower Used In Formulation

A method of preparing biologically active derivatives from Calotropis gigantea flowers includes obtaining

fresh *Calotropis gigantea* flowers, drying the flesh flowers, soaking the dried flowers in a natural oil.

The extraction was done by cold maceration process. First the powdered plant material of *Calotropis Gigantea* powdered were macerated with mixture of Alcohol and water (70:30) in RBF (round bottom flask) for 24 hours with occasional shaking after 24 hours.

The solvents were subjected to filtration and then extracts of *Calotropis Gigantea* powder were collected.

Formulation Mixture of Chocolate

PREPARATION OF CHOCOLATE FORMULATION

All the ingredients weight accurately in one beaker, Cocoa powder and sugar was taken and mixed properly. In another beaker, Cocoa butter has melted and this melted butter added in a powder mature and mixed properly to get fine consistency. After that honey as a emulsifier was added and mixed. Finally, the herbal drug extract was measured accurately and added in above prepared chocolate then vanilla as a flavouring agent was added before going to set in moulds. Then the prepared chocolate containing herbal drug extract was poured moulds and kept in freeze to set overnight

Herbal Chocolate

Evaluation And Characterization:

1.General Appearance

$$\% \text{ Moisture} = \frac{\text{Initial Weight} - \text{Final Weight}}{\text{Final Weight}}$$

5. Weight Variation:

Six chocolate recipes were weighed separately and collectively. The weight of all the chocolate was used to calculate the average weight .The average weight was contrasted with the individual weights. The weight variation's percentage difference must stay within the allowed bounds. The following was used to determine the percent deviation.

$$\% \text{Deviation} = \frac{\text{Individual Weight} - \text{Average Weight}}{\text{Average Weight}}$$

A. Dimensions

It was measured by Vernier's calipers

Avg. width of 5 chocolate formulations :

$$\frac{1.85 + 1.90 + 1.84 + 1.85 + 1.86}{5}$$

The average width of 5 chocolate is observed to be = 9.12

B. Moisture Content Determination

Weight of formulated chocolate = 4.00 gm

Colour - Dark brown

Odour - Chocolate with no brunt, no smoky smell

Texture - Smooth and even

2.Dimensions

The dimensions of the Chocolate was evaluated while using Vernier's Callipers.

3.Acid Insoluble Ash

After five minutes of boiling with 25 milliliters of diluted hydrolic acid, the entire amount of ash was obtained. The insoluble was material was then gathered in a Gooch crucible, cleaned with hot water and burned to a constant weight. In relation to the drug had been air dried, the percentage of acid-insoluble ash was computed.

Three grams of the medication were weighed, burned in a china dish at a temperature not to exceed 450 degrees Celsius until carbon was removed, cooled and then weighed 304 again until the weight remained constant for three readings

4. Moisture content determination:

A desiccators was used to determine the moisture content. This test was performed to determine the level of moisture in the chocolate when it was dry. The resulting chocolate mixture was precisely weighed and stored in a desiccators with anhydrous silica gel. After 24 hours, the formulation were removed, weighd and the percentage of moisture absorption was determined using the

Weight of empty crucible = 45.32 gm

Weight of formulated chocolate = 49.25

Weight after moisture loss = 49.18

Therefore the final weight obtained = 0.08 gm

$$\begin{aligned} \text{Weight of one formulated chocolate} &= \frac{\text{Final weight obtained}}{\text{Weight of empty crucible}} \\ &= \frac{0.08 \text{ gm}}{45.32 \text{ gm}} \\ &= \frac{0.08}{45.32} \times 100 \\ &= 0.1765\% \end{aligned}$$

So, the percentage of moisture content = 2

Evaluation Test

1. Solubility – The solubility test was performed by Adding 2g of the Calotropis Gigantean into 20 ml of water.

2. Taste - The taste is the High – quality chocolate feels smooth and velvety in your mouth. Chocolate is the sweet taste Appropriate: rounded aromatic Foreign taste, sour, bitter.

3. Chewing and other textural properties – Appropriate chewiness, melting in the mouth, spreadiness, stikiness

4. APPEARANCE color, brightness, surface – Smooth, bright surface; irreachable color.

CONCLUSION

For a crude medication to be accurately identified, standardization is necessary. Before any crude medication is included to a herbal pharmacopoeia, pharmacognostic metrics and standards need to be established. Pharmacognostic investigations continue to be a more dependable, accurate, and economical way to identify and assess plant medications despite the benefits of modern technologies. According to the World Health Organization (WHO), The first stage in establishing the identity and purity of a medicinal plant is to describe it both macroscopically and microscopically. This should be done prior to testing. Organoleptic or macroscopic research showed important traits like the unique tongue- sensitizing fragrant taste and unusual bark odor. These characteristics make good diagnostic indicators.

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