FORMULATION AND EVALUATION OF POLYHERBAL GUTIKA FOR COUGH AND SORE THROAT

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ABSTRACT
An ancient and traditional ayurvedic dosage form, gutika is a product of kalkakalpana, one of the five fundamental principles of ayurvedic sciences. When compared to the vati, they are really little. Sharangdhargutika, according to Acharya, is a synonym for vatikalpana, also known as pills in modern dosage form. A key component of the ayurvedic pharmacy is gutika. This dosage form has numerous benefits, including being simple to use, portable, flavorful, practical for administering, and requiring little preparation time. Agnisadya and anagnisadya are the two varieties listed in the ancient text.[1] Elaichi (Chhoti elaichi/Lesser cardamom), Shuni, Jeshthmadh, piper, Tulsi, and Kali mirch are all calming remedies that are very effective for respiratory and digestive symptoms like dry cough, sore throat, nausea, excessive thirst, and pittaja problems. Cardamom, cinnamon, long pepper, dates, raisins, and sugar are all included in the tablet known as gutika. It treats respiratory illnesses such as bronchitis, the common cold, and cough.[2]

KEYWORDS: Gutika, Ayurvedic. Abbreviation.
Dry Fruit (Dr. Fr.) Dry Seed (Dr. Sd.) Extract (Ext.) Flower (Fl.)
Fruit (Fr.) Plant (Pl.) Rhizome (Rz.) Seed (Sd.)
Leaf (Lf.)

INTRODUCTION
Veda means "knowledge" in Sanskrit. The four Vedas, including such as Rig Veda, Sama Veda, Yajur Veda, and Atharva Veda, are the origins of the Indian skill of healing and maintaining a healthy lifestyle. One of the UpaVedas, or a part of the Atharva Veda, linked to
it, Ayurveda has gained a status of veneration. In addition to magic spells and esoteric disciplines, the Atharva Veda also contains the Ayurveda, which addresses illnesses, injuries, fertility, sanity, and wellness. All aspects of lifestyle are incorporated into therapies in ayurveda. In order to effectively treat patients, a variety of techniques like yoga, aromatherapy, meditation, gems, amulets, herbs, nutrition, astrology, colour, and surgery are employed. Ayurveda describes how to treat the body's Marmas, or essential and delicate areas. Exercise, yoga, and massages are recommended.

Most ayurvedic medications are built around the concept of using a single plant source or a mix of several plant sources (polyherbal). Comparatively speaking, the effectiveness of multi-herbal medicines is higher than those made from only one herb. Yet, it is possible to combine a number of active phytochemicals to produce a synergistic impact that is stronger than the effects of the individual compounds. The majority of these pharmaceuticals on the market are made up of a synergistic mix of herbs that have a desired therapeutic outcome. Ayurveda medicines are anticipated to carry out a variety of pharmacological functions, at least to the point of treating symptoms, unlike contemporary medicines that have a single-drug, single-target activity.

Moreover, polyherbal medications do away with the need for many formulations to be used simultaneously, which may aid in the improvement of therapeutic impact. Discussions about ayurvedic medicines have centred on how little harm they do compared to allopathic treatments in general. Allopathic medications have been linked to side effects such as nausea, drowsiness, diarrhoea, hair loss, and confusion, while polyherbal medications are said to only have minor side effects that don't affect a person's metabolism. People are interested in the effectiveness of these plant-based treatments, despite the fact that one cannot simply overlook the toxicity problem with herbal medicines.

The use of ingredients determines how the preparation method is categorised. In the present period, gutika is referred to as pills, while spheroids are defined as aggregates of fine powder or granules of mass pharmaceuticals as well as excipients. They are typically suggested for oral organisation and are made up of tiny, free-flowing, spherical or circular strong units that range in size from 0.5 to 1.5 mm. Gutika was traditionally manufactured by hand, though processes have altered through time. Several contemporary tools, such as ball mills and spheronizers, have replaced the need for human labour. This work develops pharmaceutical formulation techniques for gutika, pills, and spheroids.
Ayurvedic remedies: These remedies can be found in classic Ayurveda literature. Several kinds of ayurvedic remedies.

It is split into two sections
1. Classical: The manufacturing company prepares medicines using the same formula as Charaka Samhita and Sushruta Samhita.

Bhasma, Aswas, Arishtas, and Taila, for instance.
2. Exclusive Ayurveda drugs: Additionally known as patient medicine or contemporary Ayurvedic drugs. The manufacturing business determines their dosage form and composition, and the substances utilised in these preparations are not listed in classic Ayurveda texts. Every business has its own recipe and carries out clinical trials and studies on the medicine's efficacy.

Example: Syrups, capsules, etc.

AIM: To formulate and evaluate gutika

2.1 OBJECTIVE
➢ To formulate the gutika.
➢ to evaluate all evaluation parameters.
➢ to understand extent to which the general public is aware of the gutika.
➢ Providing and establishing the general public's brief knowledge of the gutika.

2.2 METHODOLOGY OF DEVELOPMENT
➢ Making a powder from dried fruit and herbal leaves.
➢ Sieving the entire powder.
➢ Preparation of mixture by mixing it homogenously.
➢ Prepare the mixture into circular tablets by combining it with ghee and gud.

3. LITERATURE REVIEW

The ayurvedic formulation Dashanga agada from a variety of sources. Due to their tikta (bitter) and kashayarasa (astringent) pradhanyata, most Ayurvedic formulations are unpalatable; however, if the same formulation is made into a vati or gutika (tablet), it is easier
to administer, more palatable, restores efficacy, and can lengthen the shelf life of the medication. This essay attempts to review.


We have created a straightforward strategy for the standardisation and authentication of the several distinct commercial formulations of sitopaladi Churna as a result of our study and review effort. performed the several factors, such as the organoleptic, physicochemical, phytochemical, physical assessment, analytical, and microscopical tests, which were done to standardise all of the formulations.


Ayurvedic pharmacopoeia describes Marichadi Gutika as an Ayurvedic formulation. An effective Ayurvedic remedy called Marichadi Gutika (Vati) can keep the Vata and Kapha Doshas in the body in balance. Several measures were used to standardise gutika, including physicochemical parameters like Ash value, extractive value, LOD, Physical characteristics such as hardness, friability, and disintegration are examined together with other characteristics including weight fluctuation and disintegration time. All parameters were within its acceptable ranges.


The review demonstrates that herbal preparations were used for internal and external medical uses throughout the Samhita period as well, and that they steadily underwent development from the time of Charaka to the Vagbhata. With the extensive usage of herbal treatments during Sangraha Kala, Rasa Shastra later underwent complete development as an independent branch.

The current commentary emphasises Shiva Gutika's phytochemical profile and pharmacological efficacy on some of the unusual morbidities stated above in order to demonstrate the significance of this herb.

**HERBS USED IN FORMULATION OF POLYHERBAL GUTIKA1.TULSI**

![Fig no.1 Tulsi](image)

Common name: Holy basil (tulsi)

Name in Sanskrit: Tulasī

Ocimum sanctum Linn is its scientific name.

Used component: Leaves

India is thought to have an abundance of tulsi plants. Tulsi, also known as Ocimum sanctum Linn., is a member of the Lamiaceae family of aromatic plants.

Medical characteristics: stomachic, carminative, galactagogue, antispasmodic, and appetiser. Basil has stomachic, carminative, galactagogue, antispasmodic, and appetiser properties. It is used to treat nausea, vomiting, intestinal catarrh, constipation, and enteritis in addition to stomach pains. It had occasionally been used as an antispasmodic for whooping cough.

- Tulsi lowers blood sugar levels and has antioxidant qualities. This makes it beneficial for diabetics.
- Tulsi lowers blood cholesterol levels in general. Those with cardiac problems can so benefit from it. 3. Blood pressure is lowered by tulsi.
- Herbal tea can also be made with tulsi. It assists in a decoction of the leaves, cloves and common salt also gives immediate relief in case of influenza. They should be boiled in half a liter of water till only half the water is left and add then taken in increasing stamina.
- It has been used to treat headaches, malaria, cough, gastrointestinal issues, and common
colds.

- It is employed as a mouthwash to ease toothaches.
- Tulasi oil has larvicidal properties towards malarial larva.
- It possesses immuno-modulatory qualities.[5]

2. KALI MIRCH

![Fig no.2](image_url)

**Common name:** kali mirchj  
**Sanskrit name:** Maricha, Krishna  
**Scientific name:** *Piper nigrum* L.  
**Part used:** Fruit  

Black pepper is one of the most well-known and distinctive spices in the world. It also goes by the moniker "King of Spices." Due to the presence of the alkaloid piperine, volatile oils, and essential oils, it has a distinctly pungent flavour. On the vines of black and white pepper, the amount of piperine varies from 2% to 7.4%, depending on the Piperaceae plant (*piper nigrum*).

An ornamental and self-sustaining vine, black pepper is grown and collected in Sri Lanka's and India's tropical interiors. One of the most popular spices, black pepper is pungent because of the presence of the alkaloid piperine, volatile chemical compounds, and essential oils. There is piperine in in the Piperaceae family of peppers, which includes black pepper (*Piper nigrum*), white pepper (*Piper alba*), and long pepper (*Piper longum*). Piperine exhibits a wide range of biological properties, including anti-inflammatory, anti-cancer, antiviral, anti-larvicidal, pesticide, anti-Alzheimer's, and antidepressant. However, piperine's most important biological property is that it increases bioavailability.[6]

3. GILOY
Fig no.3

Common name: Guduchi
Sanskrit name: Guduchi
Scientific name: *Tinospora cordifolia*

Part used: Leaves, fruit, stem

One of the three Amrit plants in Ayurvedic medicine is guduchi (Giloy). Due to the characteristics of this climber plant, "Amritavalli" in Sanskrit, the word "Amrit" is used to refer to the divine nectar. Guduchi is well-researched in Ayurvedic literature. Scientific research supports the Ayurvedic view of guduchi as a Rasayana rejuvenator (rejuvenator) and an immunity booster. These studies also evaluate and support the medicinal herb's insight beneficial properties, such as immune modulatory, hepato-protective, cardio-protective, anti-inflammatory, antioxidant, and analgesic effect.

Guduchi is known to impart youth, promote health, increase longevity, and sharpen memory. This plant stimulates the body's immune system, enhancing defence and fostering vitality in a person. respiratory infections-fighting.

Traditional medicine has favoured guduchi to cure conditions like bronchitis and chronic cough. As a result of calming the respiratory system's mucous membrane, it is particularly efficient against asthma.[7]

4. AMLA

Fig no.4.

Common name: Amla
Sanskrit name: Amlaki

Scientific name: *Emblica Officinalis* Gaertn or *Phyllanthus Emblica* Linn.

Part Used
Phyllanthus Emblica Linn., also known as Indian gooseberry or Amla, is a member of the Euphorbeaceae family. Each part of this plant has beneficial anti-inflammatory, nootropic, antioxidant, anticancer, adaptogenic, anti-diabetic, antimicrobial, antiviral, as well as immunomodulatory effects in addition to preserving the vitality of the human cells, which had a significant decrease in the intervention arm compared to the control arm, including fever, the severity of cough, shortness of breath, and myalgia.

Amla serves as a potent immunomodulator and offers defence against a variety of diseases. Many health advantages include enhanced liver and blood circulation when one amla is consumed daily.[8]

5. HARDA

Fig no.5.

Common name: Harda Sanskrit name: Haridra

Scientific name: *Terminalia chebula*

Part used: Fruit

A decoction of Terminalia chebula fruit powder in water is used as a herbal cure for persistent coughs and dyspnea in the Indian ayurvedic medical system.

In Tibet, Taiwan, China, and India, the medicinal plant Terminalia chebula is grown. It is a member of the genus Terminalia and family Combretaceae.

The dried, ripe fruit of T. chebula, also known as haritaki in the region, has long been used to cure a variety of ailments, including piles, diarrhoea, gout, heart and bladder conditions, fever, sore throat, cough, vomiting, hiccough, bleeding, and piles.
According to reports, haritaki fruits have anti-free radical properties. Several gram-positive and gram-negative bacteria can be affected by it. The phytochemical study of T. chebula reveals the presence of ascorbic acid (vitamin C), corilagin, gallic acid, chebulagic acid, mannitol, and other substances. The amount of tannins, gallic acid, total carbohydrates, and uronic acid in the T. chebula extract was 24-64%, 4.4%, and 5.3%, respectively. A wide variety of pharmacological actions are displayed by many polysaccharides from medicinal plants.\[9\]

6. BAHERA

![Fig no.6.]

**Common name:** Bahera, Baheda.

**Sanskrit name:** Bibhitaki.

**Scientific name:** *Terminalis Bellirica.*

**Part used:** Fruit.

Usage of some The scientific name of the tree was adapted into the word bellirica, which distinguishes this myrobalan from the other (Chebulic myrobalan). It serves as the second host for the Tasar silkworm. The scientific name for T. bellirica is Vibhitaka, also known as Vibhitaki in Sanskrit, Belliric myrobalan in English, Tanni, Tanrikkai in Tamil, and Bahera, Birha in Punjabi. Several chemical components are found in T. bellirica in various portions, including the stem bark, which contains arjungenin and its glycosides, belleric acid, and bellericosides. Fruits contain hexahydroxydiphenic acid, methyl ester, -sitosterol, gallic acid, ellagic acid, ethyl gallate, galloyl glucose, chebulagic acid, mannitol, glucose, galactose, and rhamnose.

**USES:** The bark of T. bellirica is mildly diuretic and beneficial for anaemia and leucoderma. Fruits have anti-inflammatory, anthelmintic, expectorant, antipyretic, and antiemetic properties that are beneficial for treating conditions like asthma and bronchitis, dropsy,
dyspepsia, heart disorders, skin illnesses, leprosy, and ulcers. The Southeast Asian T. bellirica deciduous tree is widely utilised in Indian traditional Ayurvedic medicine to treat diabetes, rheumatism, and hypertension. Its numerous medicinal effects are thought to be mostly due to its composition, which includes glucosides, tannins, galliacid, ellagic acid, ethyl gallate, gallylglucose, and chebulanic acid. It possesses antifungal, antimalarial, and anti-HIV properties. It serves as an antioxidant, hepatoprotective, antibiotic, antidiarrheal, cancer, diabetes, antidiabetic, and hypertension agent. Moreover, it has antibacterial activity, analgesic, antipyretic, and anti-ulcerogenic effects.\(^{[10]}\)

7. DALCHINI

![Fig no.7.](image)

**Common name:** Dalchini  
**Sanskrit name:** Tvak, Svadvi, Tanutvak, and Darusita  
**Scientific name:** *Cinnamomum zeylanicum*, and *Cinnamon cassia*  
**Part used:** Bark  
The distinctive flavour and perfume of cinnamon make it a vital component in any household's kitchen. Several studies have recently examined cinnamon's positive benefits on Parkinson's, diabetes, blood, and the brain. Its anticancer, antibacterial, antidiabetic, antilipemic, antioxidant, and anti-inflammatory properties.

- Cinnamon comes in four primary varieties:
- Vietnamese cinnamon (*Cinnamomum loureiroi)*,
- Vietnamese true cinnamon (*Cinnamomum zeylanicum)*,
- Mexican cinnamon (*Cinnamomum zeylanicum)*,
- Cassia cinnamon (also known as Chinese cinnamon) (*Cinnamomum aromaticum)*.

Cinnamon's tikshna guna, or penetrating quality, penetrates the body to liquefy the mucus or phlegm (kapha), act as an expectorant, and evacuate mucus from the body. The bark's powder or oil has strong antitubercular properties and is very effective against tuberculosis as well as cough, cold, asthma, headache, and other ailments.
To relieve congestion and a sore throat, drink a kadha made of warm water with a cinnamon stick infused in it, along with a few drops of honey, and a pinch of fresh ginger.[11]

8. ADULSA

Fig no.8.

Common name: Adulsa  
Sanskrit name: Vaidyamata singhee  
Scientific name: *Justicia adhatoda*  
Part used: Leaves

Adhatoda vasica Nees, often referred to as "vasaka, adosa, or Malabur nut tree," is a member of the Acanthaceae family. Instead, it is referred to as Justicia adhatoda. It is regarded as the most important medication in the Ayurvedic and Unani medical systems. No man suffering from phthisis has to despair as long as the Vasaka plant remains, according to an ancient Indian proverb that this plant has been used to heal respiratory issues for 2000 years. This plant's leaves have an energising effect on the respiratory system. It is regarded as a top herb in the Ayurvedic medical system for treating conditions like cough, cold symptoms, asthma, and bronchitis. The traditional Indian medical system views this plant as a mother, earning it the name Vaidyamata singhee in Sanskrit. Vasicine, an alkaloid of the quinazoline type that has significant medicinal value, is said to be the main component of the A. vasica plant. The plant is well known for being a good source of phenols, flavonoids, sterols, carotene, and essential oils. It is used to treat a number of ailments in the Ayurvedic medical system, including Shwasa (dyspnea), Ksaya (phthisis), Kasa (cough), Raktapitta (hemorrhagic illness), Kamala (jaundice), and Kushtha (skin disease). The origin of the medicinal substance "Vasaka" is regarded for its native medical practise. It has a number of medicinal qualities, including abortifacient, anti-tubercular, anti-ulcer, anti-asthmatic, hepatoprotective, antibacterial, antitussive, and anti-mutagenic.

Bronchodilator and anti-asthmatic Action The primary alkaloid components, vasicine and
vasicinone, have therapeutic benefits for treating respiratory disorders. The leaves and roots’ extracts shown calming effects on the throat, as well as the ability to treat bronchitis, bronchiole and lung disorders, as well as act as an expectorant.\textsuperscript{[12]}

9. SUNTHI

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{fig9.png}
\caption{Fig no.9}
\end{figure}

\textbf{Common name: sunthi}

\textbf{Sanskrit name: Ardraka, Vishvabheshaja, Nagara, Adrak, Sonth}

\textbf{Scientific name: Zingiber officinale Roscoe}

\textbf{Part used: Dried rhizome}

One of the most popular dietary condiments consumed worldwide is ginger (Zingiber officinale Roscoe, Zingiberaceae). Several bioactive substances, including [6]-gingerol (1-[4′-hydroxy-3′-methoxyphenyl]), are found in the oleoresin (i.e., oily resin) from the rhizomes (i.e., roots) of ginger. The main pungent component, 5-hydroxy-3-decanone, is thought to have a wide range of notable pharmacological and physiological effects.

\textbf{Morphology}

- A perennial plant with grass-like leaves, ginger grows 2 to 4 feet tall.
- Stout and tuberous rhizomes
- Stem: A leafy, upright stalk
- Leaves: 1-2 cm wide, lanceolate, narrow, and glabrous.
- Spike Flowers in the inflorescence are greenish with a tiny dark purple or purplish black stamen.
- Fruit: oblong, dehiscent capsule


48 ml of fresh ginger juice is regularly eaten with milk while treating disorders like persistent cough, chest injury, chronic bronchitis, and tuberculosis, among others. Every day, the dosage is increased by 6 ml. This keeps going for a month. The patient should only have milk during this time and refrain from ingesting solid foods. The best way to increase nutrition,
longevity, strength, skin health, and immunity is with this recipe.

Shloka reference:

पिबन्नागाबलमुलसयार्धहकर्षभविभविद्विवर्धितम् || ११८ ||
पालम्क्षरयुतम्मासमक्षरवृत्तिरनान्नभुक् ||
एरे ले गे: पेश्यायबलवरेरकरे:
पेरमें || ११९ || मदकर्णणे:
कल्किे ५य मह्यो चिवाप्रेषेस च ||

Ancient India gave birth to the healing technique known as Ayurveda. Ayu is Life, Veda is Wisdom.

Ayurveda has thus been described as the "Science of Longevity" or the "Knowledge of Living."

Ayurvedic remedies: Water, oils, milk, ghee, and cow's urine are just a few of the several solvents (or menstrum) utilised in the creation of Ayurveda formulations. In ayurvedic preparations, the use of sweeteners, binders, colourants, flavourings, and other adjuvants is also fairly typical. Ayurveda prescribes various pharmaceutical processes with the aim of achieving the formulation's palatability and optimum therapeutic efficacy.

Ayurvedic medicine is defined by the drugs and cosmetics act of 1940 as any medication intended for internal or external use in the diagnosis, treatment, or prevention of disease or disturbance in humans or animals.

**Types & Forms of Ayurvedic Formulations**

1. Solid Dosage Form- Gutika, Churna
2. Semi Solid forms- Avaleha & ghrita
3. Liquid dosage forms- Asava, Arista & Taila

10. PIPALI
Fig no.10.

**Common name:** Pippli, long pepper  
**Sanskrit name:** pipali  
**Scientific name:** *Piper longum*  
**Part used:** fruit

Piper longum, also referred to as "long-pepper" or "Pippali," is a perennial shrub or herbaceous vine that grows in the Piperaceae family. It is extensively dispersed throughout the tropical and subtropical world, including the Indian subcontinent, Sri Lanka, the Middle East, and America. It is indigenous to the Indo-Malaya region. The fruits are primarily used in food as spices and preservatives, but they are also an effective treatment for bronchitis, cough, colds, snakebite, and scorpion stings as well as a contraceptive in a number of traditional medical systems. The essential oils from the roots and fruits were reported to have antimicrobial, antiparasitic, anthelminthic, mosquito-larvicidal, antiinflammatory, analgesic, antioxidant, anticancer, neuro-pharmacological, antihyperglycaemic, hepatoprotective, antihyperlipidaemic, antiangiogenic, immunomodulatory, antiarthritic, antiulcer, antiasthmatic, and cardiophagic properties agents. Its antioxidative and anti-inflammatory actions, as well as its capacity to affect a number of signalling pathways and enzymes, were thought to be responsible for many of its pharmacological qualities.\(^{[14]}\)

11. **MULETHI**

Fig no.11  

**Common name:** Mulethi, Jethimadhu.  
**Sanskrit name:** Yashtimadhu, Madhuka, Kulikitaka, Madhuyashti, Yashtyahva  
**Scientific name:** *Glycyrrhiza glabra* Linn.  
**Part used:** stem
The Fabaceae family (also known as Leguminosae), which includes Glycyrrhiza glabra, is one of the most well-known groups of medicinal plants. Members of this family are now frequently used as food and feed. The Greek words glykos (sweet) and rhiza are the origin of the genus Glycyrrhiza (root). There are several other names for it, including licorice, liquorice, glycyrrhiza, sweet wood, and Liquiritiae.radix (in English); süßholz and lakritzenwurzel (in German); reglisse and bios doux (in French); shirin bayan and mak (in Persian); and liquirizia and regaliz (in Spanish) (in Italian and Spanish, respectively).

The Fabaceae family plant Glycyrrhiza glabra Linn. has been valued for its ethnopharmacological properties for a very long time. Several phytocompounds found in this plant, including glycyrrhizin, 18-glycyrrhetinic acid, glabrin A and B, and isoflavones, have shown a range of pharmacological effects, including antibacterial, anti-inflammatory, antiviral, antioxidant, and antidiabetic properties. Studies on toxicology have raised some questions. All of those topics are included in this review, which concentrates on the G. glabra pharmacological activity. To investigate its therapeutic potential and upcoming difficulties to be used for the creation of novel products that will improve human wellbeing, a current, critical, and detailed summary of the information of G. glabra's composition and biological activities is presented here.[15]

**GUTIKA**

These medications come in the form of pills and tablets (Vati) (Gutika). These include individual or mixtures of botanical, mineral, or animal drugs.

**FORMULATION OF GUTIKA**

**PREPARATION OF GUTIKA**

- Take the medications and grind them into a fine powder;
- Mineral medications are turned into calcined products (Bhasmas);
- Combine the medications with other components;
- build a soft paste with the appropriate liquids;
- properly grind and produce vati (Tablets) or gutika (Pills)

**STANDARDIZATION OF MULETHI**

- It must be steady for at least two years after preparation.
- They exclusively use ingredients from minerals. They are everlasting in usage.
- Upon storage, they shouldn't lose their original colour, flavour, aroma, or form.
They should be kept dry if they include sugar or salt.

Examples include Lasunadi gutika, Khadiradi, and Pranda gutika.[16]

**CONTENT OF FORMULATION**

<table>
<thead>
<tr>
<th>Sr no.</th>
<th>Scientific name</th>
<th>Common name</th>
<th>grams</th>
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<td>Ocimum sanctum Linn</td>
<td>Tulsi</td>
<td>10gm</td>
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<tr>
<td>2.</td>
<td>Piper nigrum</td>
<td>Kali mirch</td>
<td>10gm</td>
</tr>
<tr>
<td>3.</td>
<td>Tinospora cordifolia</td>
<td>Giloy</td>
<td>20gm</td>
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<td>Tinospora cordifolia</td>
<td>Aamla</td>
<td>10gm</td>
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<td>5.</td>
<td>Terminalia Chebula</td>
<td>Harda</td>
<td>10gm</td>
</tr>
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<td>6.</td>
<td>Terminalia bellirica</td>
<td>Baheda</td>
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<td>7.</td>
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<td>Dalchini</td>
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</tr>
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<td>8.</td>
<td>Justicia adhatoda</td>
<td>Adulsa</td>
<td>10gm</td>
</tr>
<tr>
<td>9.</td>
<td>Zingiber officinale</td>
<td>Ginger</td>
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<td>10.</td>
<td>Piper longum</td>
<td>Piper</td>
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<td>11.</td>
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<td>Mulethi</td>
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<td>12.</td>
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<td>Ghee</td>
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<td>14.</td>
<td>Elettaria cardamomum</td>
<td>Elaichi</td>
<td>10gm</td>
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**PROCEDURE FOR EVALUATION OF PARAMETERS**

**Hardness**

The amount of force needed to break a tablet during a diametric compression test is known as tablet hardness. The strength needed to withstand mechanical shocks during handling for manufacturing, packaging, and transportation is indicated. Using a Monsanto hardness tester, each tablet's hardness was assessed separately. The mean hardness of the remaining 10 tablets was then estimated.

**Friability**

Tablet hardness is not a perfect predictor of strength since some formulations have a tendency to cap on attrition when crushed into very hard tablets, losing their crown portions. Thus, tablets are put through a friability test to gauge their resilience to such stress.

The ability of the compressed tablet to resist fracture and breaking during transport is referred to as friability. 10 pills' friability was calculated. In a plastic chamber that rotates at 25 rpm and drops the tablets from a height of 6 inches with each revolution, this apparatus treats the tablets to the combined effects of abrasion and shock. The friabilator was loaded with a preweighed sample of tablets, and it was rotated 100 times. The tablets were reweighed after being dedusted using a delicate muslin towel.

The formula for friability (F) is $20 \times F + (1 - \frac{W_0}{W}) \times 100$. 

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[16]: Yadav et al. World Journal of Pharmacy and Pharmaceutical Sciences
Disintegration Time
Disintegration is defined as the condition in which any unit remnants, with the exception of pieces of insoluble coating or capsule shell, adhering to the lower surface of the discs, if used, are a soft mass without a discernibly firm core. Disintegration time is the length of time needed for tablets or capsules to completely dissolve. The time demonstrates how quickly a solid (a tablet) disintegrates into a solution, followed by the drug's absorption. Each compartment of the disintegration device held six pills, which were submerged in water that was heated to a temperature of 37°C. After six pills made it through the device’s mesh in 15 minutes, the tablets were deemed to have passed the test.

Determination of Total Ash
A precisely weighed 3 g of the material was placed in a silica dish or crucible that had already been lit and tared. In a muffle furnace, the material was evenly distributed and ignited by progressively raising the temperature to between 4500°C and 6000°C until no carbon-free ash was produced. The air-dried powdered medication material was used to calculate the Total Ash value.

Determination of Acid Insoluble Ash
The aforementioned ash was collected, heated for 5 minutes with 25ml of 1M hydrochloric acid, and then filtered through ash-free filter paper. Hot water was used to wash away any insoluble material that had been retained on the filter paper before it was burned in a muffle furnace to a consistent weight. In order to calculate the percentage of acid-insoluble ash, the air-dried powdered medication material was used.

Determination of Water Soluble Ash
The insoluble material from the entire ash experiment's 1g of ash was collected on an ashless filter paper, which was then rinsed with hot water and burned for 15 minutes at a temperature no higher than 4500°C in a muffle furnace. As the difference between the weights of ash and insoluble matter indicates the value, this difference in weight was calculated. In order to calculate the proportion of water-insoluble ash, the air-dried powdered medication material was used. Calculation formula.

Determination of Extractive Values
a. **Determination of Alcohol Soluble Extractives**

A conical glass flask with a glass stopper was filled with 5 grammes of freshly weighed churna. 100ml of ethanol was added, and it was then macerated. The first six hours saw regular shaking of the flask, which was then left alone for the following 18 hours. After filtering, around 25 ml of the filtrate was put onto a shallow dish with a flat bottom and dried on a water bath. After 6 hours of 105° C drying, it was cooled before being weighed. With reference to the powdered drug substance that had been air dried, the proportion of extractives that were alcohol soluble was computed. Calculation formula.

b. **Determination of Water Soluble Extractives**

Use chloroform water instead of ethanol for the determination of the alcohol-soluble extractive (2.5 ml chloroform in 1000 ml filtered water).

**Determination of pH Value**

A sample of powder, weighing approximately 5g, was dissolved in 100 ml of water in a beaker. The beaker was covered in aluminium foil and kept at room temperature for 24 hours. A calibrated digital pH metre was used to measure the formulation's pH after the supernatant solution had been decanted into another beaker.[16]

**Evaluation Parameters**[17]

<table>
<thead>
<tr>
<th>Sr no.</th>
<th>Description</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>colour</td>
<td>Dark brown</td>
</tr>
<tr>
<td>2.</td>
<td>odour</td>
<td>characteristic</td>
</tr>
<tr>
<td>3.</td>
<td>Weight variation</td>
<td>1gm</td>
</tr>
<tr>
<td>4.</td>
<td>Thickness</td>
<td>3.70</td>
</tr>
<tr>
<td>5.</td>
<td>Diameter</td>
<td>9.65</td>
</tr>
<tr>
<td>6.</td>
<td>Hardness</td>
<td>2.96kg</td>
</tr>
<tr>
<td>7.</td>
<td>friability</td>
<td>0.36%</td>
</tr>
<tr>
<td>8.</td>
<td>Disintegration time</td>
<td>53min</td>
</tr>
<tr>
<td>9.</td>
<td>Ph</td>
<td>4.5</td>
</tr>
<tr>
<td>10.</td>
<td>Water soluble extractive value</td>
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<tr>
<td>11.</td>
<td>Alcohol soluble extractive value</td>
<td>3.6%</td>
</tr>
<tr>
<td>12.</td>
<td>Total ash value</td>
<td>15.75%</td>
</tr>
<tr>
<td>13.</td>
<td>Acid insoluble ash</td>
<td>1.19%</td>
</tr>
<tr>
<td>14.</td>
<td>Water soluble ash</td>
<td>9.98%</td>
</tr>
</tbody>
</table>

**Time duration** | **temperature** | **Physicochemical parameters**
 RESULT
Traditionally used as a treatment for kasa (cough), svasa (asthma), bhrama (vertigo), raktapitta (bleeding disease), and jvara (fever).
Successful formulation and evaluation of Gutika. Several plants were used into this mixture. Also, all other metrics for a tablet, including uniformity of weight, loss on drying, disintegration time, friability, hardness, total ash, water soluble ash, and acid insoluble ash, were well within the guidelines set forth by the Indian Ayurveda Pharmacopeia. Thus, it can be inferred that if the raw materials used are subjected to stringent quality control and if rigid process controls are in place during the creation of a formulation,

 DISCUSSION
A number of cells and cellular components are involved in the chronic inflammatory condition of the airways known as asthma. Persistent inflammation is linked to airway hyperresponsiveness, which causes repeated attacks of coughing, wheezing, shortness of breath, and chest tightness, especially at night or in the early morning. These episodes are typically accompanied by a broad, fluctuating airflow blockage in the lung, which is frequently reversible either naturally or with therapy. A key characteristic of asthma is hyperresponsiveness, which is an increased bronchoconstrictor reaction, typically to many stimuli. Several methods can cause airway hyperresponsiveness. Mast cell production of more histamine or a greater quantity of smooth muscle in the airways are two possible explanations. Moreover, elevated vagal tone and elevated intracellular free calcium further improve the contractility of airway smooth muscle cells.

Bronchial provocation tests are performed to evaluate the severity of airway hyperresponsiveness. This feature is clinically significant since it raises the chance of developing and exacerbating asthma from infancy into adulthood as well as being linked to a more pronounced loss in lung function. Consequently, asthma and hyperresponsiveness can be treated specifically and early. Together, these systems alter the lungs' compliance only a little bit, making breathing slightly more laborious. It might become more challenging for...
someone to breathe regularly when exudates, mucus, granular white blood cells, and inflammation are present in the bronchiolar trees. When myofibroblasts proliferate and produce more collagen, the epithelium thickens and the smooth muscle layer becomes more condensed. The reticular lamina. The basement membrane consequently thickens more than usual. A person may experience an irreversible obstruction of the airway, which is thought to be the result of airway remodelling.

SURVEY

This form should only be used for surveys and project work. Personal data will not be used for any other purpose. Based on a poll of Gutika, our project We have included many different marking schemes for some of the questions. Almost everyone is aware of gutika and its health benefits, according to the survey.

According to the percentage given in the survey question, 96.2% of respondents identified gutika as a type of traditional Indian medicine.

The survey question provided is asking about that which type of herb is commonly used in gutika. 38.5% of participants prefer Mulethi, 38.5% of participants prefer ginger, and 23.1% of participants prefer black pepper.
In this survey question is ask about to the participants that 69.2% of participants refer both and 19.2% of participants refer as producing inflammation in throat and 11.5% of participants chosen suppressing cough reflex.

In this survey question is ask about to the participants that in which form till the date they had taken gutika, in which 38.5% of participants recommended as in the form of tablet, 42.3% of participants refer as in the form of circular pill.

This survey ask respondent about dosage form of gutika no in which 50% of people referred as 2-3 tablet per day and 46.2% of participant recommended as 1 tablet per day.
Based on this survey participants responded as on side effect of gutika in which majority of participants choosen that its completely safe.

In this survey question asked participants about that in which condition gutika is not recommended, participants choose option A that is in pregnancy gutika is not safe.

In this question about how much amount of gutika is taken in which 53.8% of participants prefer until symptoms subside.
In this question is asked about that gutika is scientifically proven treatment. In which majority of participants voted Yes, it has a strong evidence to support its use.

According to this survey gutika is mainly used in India as it is an Indian tradition medicine.

**CONCLUSION**

Gutika have been used in Ayurveda medicinal techniques since the beginning of humanity. According to the most recent study, people with cough and sore throat can benefit from taking 1 gramme of gutika three times per day with equal amounts of water for seven days.

It can be said that the formulation of Gutika complied with the requirements established for vati. The outcomes discovered were deemed to be within the WHO-permitted limits.
REFERENCES


12. Pallavi Kawatra and Rathai Rajagopalan"Cinnamon: Mystic powers of a minute


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24. Harda https://images.app.goo.gl/52WD72wBvihFAbob8

25. Bahera https://images.app.goo.gl/WwmL2yxFUt1pcvNA9


27. Sunthi https://images.app.goo.gl/nGmoY842VkAWoYqf7
28. Pipali [Link]
29. Mulethi [Link]