

A Formulation and Preparation of Treatment Cancer-Disease Herbal Tablet or Churna

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*Abstract- Herbal tablets, derived from natural plant-based ingredients, have gained significant attention as alternative remedies in modern healthcare. The growing interest in these products is driven by consumers seeking natural, non-synthetic options for managing various health conditions. This review paper provides a comprehensive overview of herbal tablets, focusing on their formulation, therapeutic efficacy, safety, and the challenges associated with their use. *Natural products have proven to be promising anti-cancer agents due to their diverse chemical structures and bioactivity. This review examines their central role in cancer treatment, focusing on their mechanisms of action and therapeutic benefits. Medicinal plants contain bioactive compounds, such as flavonoids, alkaloids, terpenoid and polyphenols, which exhibit various anticancer properties. These compounds induce apoptosis, inhibit cell proliferation and cell cycle progression, interfere with microtubule formation, act on topoisomerase targets, inhibit angiogenesis, modulate key signaling pathways, improve the tumor microenvironment, reverse drug resistance and activate immune cells. Herbal anti-cancer drugs offer therapeutic advantages, particularly selective toxicity against cancer cells, reducing the adverse side effects associated with conventional chemotherapy. Traditional Medicines derived from medicinal plants are used by about 60% of the world's population. This review focuses on Indian Herbal drugs and plants used in the treatment of diabetes, especially in India.*

Keywords: - Inhibits Antioxidants, Anti-inflammatory, Antimicrobials, Antidiabetic, Anti-tumor, Anticancer, Antiglycemic

I. INTRODUCTION

Cancer: - Cancer is a serious metabolic disease and remains a major cause of mortality despite advances in diagnostic tools, treatment and preventive measures. 1–8 Cancer is one of the leading causes of death and disease worldwide, with the number of cases steadily

increasing and expected to reach 21 million by 2030.9,10 Cancer research has always been a challenge due to its complexity.

Different types of cancer can vary significantly in terms of genetic alterations, organs affected, prognosis and treatment approach.

In a healthy organism, cells grow, divide, and die in a highly regulated cycle. When cellular DNA undergoes mutation or damage, this regulatory mechanism breaks down.

Instead of undergoing apoptosis (programmed cell death), these damaged cells continue to proliferate, invading surrounding tissues and often spreading to other parts of the body through the blood and lymphatic systems—a process known as metastasis.

At its most fundamental level, cancer is a large group of diseases characterized by the uncontrolled growth and spread of abnormal cells.

In a healthy body, cells grow, divide, and die in a highly regulated cycle. Cancer disrupts this systemic balance.

Key Pathophysiological Mechanisms

The transformation of a normal cell into a neoplastic cell involves a multi-stage process typically driven by genetic mutations.

Genetic Aberrations: Cancer is primarily a genetic disease caused by changes to genes that control cell function, especially how cells grow and divide. These mutations can be inherited (germline) or acquired due to environmental exposures (somatic).

The Three Major Gene Classes:

Proto-oncogenes: These genes turn into oncogenes when mutated or overexpressed, acting like a stuck accelerator pedal to drive continuous cell division.

Tumor Suppressor Genes: Often referred to as the “brakes” of cell division (such as the p53 gene), their inactivation prevents the cell from stopping division or repairing DNA damage.

DNA Repair Genes: Mutations in these genes impair the cell’s ability to fix errors during DNA replication, leading to genomic instability.

Drug Profile: -

1. Indian Tinospora: -



Fig No: - 1

Indian Tinospora, most notably *Tinospora cordifolia* (also known as Guduchi or Giloy), is an ancient medicinal plant used in the Indian System of Medicines to treat various ailments like fever, jaundice, diabetes, skin disorders, and to boost immunity. Known for its antioxidant, anti-inflammatory, and immunomodulatory properties, it is available in various forms and is generally considered safe but may interact with blood sugar levels, making it important to consult a healthcare provider before

use, especially if you have an autoimmune disease or are undergoing surgery.

Properties: -

- 1) Inhibits Antioxidants
- 2) Anti-Inflammatory

Benefits: -

- 1) Boosts immunity
 - 2) Treat chronic fever
- Treat diabetes
 - Treat eye disorder
 - Treat Asthma
 - Boosts Digestion
 - Reduce Anxiety and improve

2. Dry-Dates: -



Fig No: - 2

Dry dates have several health benefits that might make you choose them over fresh ones. Date fruits (*Phoenix dactylifera*) are nutrient-rich and serve as a natural remedy for many ailments. These stone fruits are rich in essential vitamins, minerals, and powerful antioxidants, improving digestion, boosting cardiovascular health and energy, and may even help combat anemia.

Moreover, dried dates make your skin bright. This article discusses the benefits of dry dates, their nutritional profile, how to use them for maximum benefits, and any potential side effects.

Properties: -

- Antioxidants
- Provide Quick Energy

Benefits: -

1. Rich iron source
2. Rich calcium content
3. Maintain healthy skin
4. Repairs Damaged skin cells
5. Energy Booster
6. Bone health
7. Full of fiber

3. Cinnamon: -



Fig No: - 3

Common Names:

Cinnamon, cinnamon bark, Ceylon cinnamon, cassia cinnamon

Latin Names:

Cinnamomum verum (also known as *Cinnamomum zeylanicum* and *Laurus cinnamomum*), *Cinnamomum aromaticum* (also known as *Cinnamomum cassia*)

- Cinnamon is a spice that comes from the dried bark of various species of *Cinnamomum* trees. Ceylon cinnamon (*Cinnamomum verum*), known as “true” cinnamon, grows primarily in Sri Lanka. Cassia cinnamon (*Cinnamomum aromaticum*), grown in areas of southeastern Asia, is the most common type sold in North America.
- The bark, leaves, flowers, fruits, and roots of cinnamon have a long history of use in traditional medicine and cuisine in many parts of the world, including China, India, and Persia (Iran).
- Cinnamon was thought to help people with inflammation, nerve pain, heart disease, cough, and other conditions.
- Today, cinnamon products are promoted as a dietary supplement for diabetes and weight loss.

Ceylon cinnamon is promoted for allergic rhinitis (hay fever). Cassia cinnamon is promoted for topical use (application to the skin) as a mosquito repellent.

Properties: -

- Antioxidants
- Anti-Inflammatory
- Antimicrobial Properties
- Antidiabetic
- Anti-Tumor

Benefits: -

- A. Cure Headache
- B. Treat Dental Problems
- C. Good For Diabetics' Patient
- D. Cure Swelling and Pain
- E. Lower Risk of Heart Disease
- F. Fighting Infection
- G. Regulating Blood Sugar Levels.

4. Indian Black Berry: -



Fig No: -4

Jamun- An Underutilized Fruit:

You can see jamun flooding in summer markets, so refreshing, and succulent to see. Commonly known as Java plum or Indian blackberry, Naavar Pazhamit goes by the botanical name *Syzygiumcumini*, *Eugenia jambolana*, and *Myrtus cumini* belonging to the Myrtaceae family.

- Several ancient ayurvedic texts even mention India as Jambudweep or a “land of Jambu” there are a vast number of jamun trees growing in our nation.

Range of health benefits of Jamun

Magic fruit for diabetes

An anti-diabetic ingredient present in seeds of jamun, called jamboline and jamboline plays a pivotal role in reducing the rate of sugar release in the bloodstream. It converts starch into energy and reduces the symptoms of diabetes such as frequent urination and thirsting.

PROPERTIES: -

- Anti-inflammation
- Antimicrobial
- Antioxidants
- Anticancer
- Antiglycemic

Benefits: -

- Help fight to cancer
- Boosts brain health
- Support digestion
- Promote heart health
- Weight loss
- Lower blood pressure

Reduce DNA Damage help protect against aging and cancer

5. Tulsi: -



Fig No: -5

Tulasi is cultivated for religious and traditional medicine purposes, and also for its essential oil. It is widely used as an herbal tea, commonly used in Ayurveda. It has a place within the Vaishnava tradition of Hinduism, in which devotees perform worship involving the plant or its leaves.

Synonyms: - Holy Basil

Properties: -

- 1) Antibacterial
- 2) Anti Inflammatory
- 3) Antioxidant
- 4) AntiCancer

Uses: -

- 1) Boost Immunity
- 2) Reduce Stress
- 3) Manage respiratory issues
- 4) Promote Skin Health

6. RICE: -



Fig No: - 06

Binding agent: -

Rice „G

Rice, particularly whole-grain and pigmented varieties, offers several potential health benefits in the context of cancer prevention and supportive care. While research into direct “cures” is ongoing, current scientific evidence highlights the role of specific rice components in reducing risk and supporting the body during treatment.

Key Cancer-Fighting Components High Fiber Content:

Whole grains like

brown and wild rice are rich in dietary fiber, which is linked to a reduced risk of colorectal cancer. Fiber helps bind to carcinogens and speeds up their elimination from the digestive tract.

Anthocyanins & Antioxidants: Pigmented varieties—such as black, purple, and red rice—contain powerful antioxidants like anthocyanins. These compounds help mitigate oxidative stress and inflammation, which are key drivers of cancer development.

Bioactive Bran Compounds:

Rice bran contains phytochemicals like ferulic acid, triclin, and γ -oryzanol. Laboratory studies suggest these can induce apoptosis (programmed cell death) in malignant cells and inhibit tumor growth without harming healthy cells.

Plan Of Work: -

Ingredients all clean Wash
And dry
All ingredients cutting small parts
And dry in sunlight
After dry collect
And next part is all ingredients one by one grinding
After grinding all ingredients mixing each other
One by one mix and binding those herbal tablet
(puching tab) or Churn (1 spoon get in 1 glass water
or milk)
Ingredients is mix all same qualities

Literature survey:

The primary PubMed search produced 900 citations, of which 263 met the inclusion criteria. The first published study that met our inclusion criteria was published in 1984. The secondary PubMed search for the key words “cancer survivorship” in the title or abstract resulted in 391 articles, 72 of which met the inclusion criteria and were not duplicated by the initial search. The Medline search resulted in 719 articles. Of these, 170 articles met the inclusion criteria and were not duplicated by the initial searches. An additional 169 studies were identified in reference lists from articles that were identified in the searches conducted. The final result of the literature review was 674 articles.

A positive dose response relationship between blood pressure and sodium intake in animal experiments was established. In Dahl's animal experiment it was found that there were rats responding differently to the salt loading, salt-sensitive and salt-resistant strains.

The complications related to asthma include disease-related complications and adverse effects of glucocorticoids, LTRA, and endotracheal intubation. The following list contains complications associated with asthma:

- Decline in lung function
- Osteoporosis
- Fracture
- Infections
- Adrenal suppression
- Hypertension
- Diabetes
- Cataract
- Peptic ulcer
- Sleep disorders
- Obstructive sleep apnea
- Mood disorders
- Cardiac arrest
- Glaucoma
- Respiratory failure or arrest
- Pneumothorax
- Aspiration

Materials: -

1. Cinnamon powder
2. Blackberry leave powder
3. Dry dates powder
4. Indian TINOSPORA powder

Methods: -

To prepare a Tinospora, dry dates, and cinnamon powder mixture, you will first need to prepare the individual dried powders and then combine them.

Ingredients: -

1. TINOSPORA Steam
2. Dry dates
3. Cinnamon sticks
4. Blackberry

Equipment: -

1. Mortal and pestle
2. Strong blender
3. Sieve
4. Filter paper
5. Airtight container

• LIST OF INSTRUMENTS AND EQUIPMENT

Instruments and Equipment:

1. Extraction equipment:

- Soxhlet extractor
- Rotary evaporator
- Ultrasonic extractor

2. Grinding and mixing equipment:

- Grinder
- Mixer
- Blender

3. Tablet compression equipment:

- Tablet press
- Compression machine

4. Coating equipment:

- Coating pan
- Spray coater

5. Quality control equipment:

- HPLC (High-Performance Chromatography) Liquid
- UV-Vis spectrophotometer
- Disintegration tester
- Dissolution tester

6. General laboratory equipment:

- Balance
- pH meter
- Hot air oven
- Muffle furnace

• SELECTION AND PREPARATION OF RAW MATERIALS

Raw Material Selection and Preparation:

1. *Tinospora (Guduchi):*

- Source high-quality *Tinospora cordifolia* stems
- Clean, dry, and grind into powder (<100 mesh)
- Store in airtight containers.

2. *Dry Dates (Khajur):*

- Select dried dates (*Phoenix dactylifera*)
- Remove pits, wash, and dry
- Grind into powder (<100 mesh)
- Store in airtight containers.

3. *Cinnamon Powder:*

- Source high-quality *Cinnamomum verum* bark
- Clean, dry, and grind into powder (<100 mesh)
- Store in airtight containers.

Preparation:

1. *Cleaning:*

- Remove impurities and contaminants

2. *Drying:*

- Dry raw materials to <5% moisture

3. *Grinding:*

- Grind into powder (<100 mesh)

4. *Sieving:*

- Sieve powders to ensure uniform particle size

5. *Blending:*

- Blend powders according to formulation

• EVALUATION OF FORMULATION

1) *Tinospora (Guduchi) Powder:*

- Macroscopic evaluation:
 - Color
 - Odor
 - Taste
 - Texture
- Microscopic evaluation:
 - Presence of characteristic cellular structures
- Physicochemical parameters:
 - Loss on Drying (LOD): <5%
 - pH: 5–7

2) *Dry Dates (Khajur) Powder:*

- Macroscopic evaluation:
 - Color
 - Odor
 - Taste
 - Texture
- Physicochemical parameters:
 - Loss on Drying (LOD): <5%
 - Ash value: <5%
 - pH: 5–7
 - Assay: Sugar content (HPLC): >50%

3) *Cinnamon Powder:*

- Macroscopic evaluation:
 - Color
 - Odor
 - Taste
 - Texture

- Microscopic evaluation:
 - Presence of characteristic cellular structures
- Physicochemical parameters:
 - Loss on Drying (LOD): <5%
 - Total ash: <6%
 - Acid-insoluble ash: <2%
 - Volatile oil content: As per pharmacopoeial standards
 - pH: 5–7

FORMULATION TABLE: -

Table No. 1

SR NO.	NAME OF DRUG	NO. OF GRAM
1)	INDIAN TINOSPORA	1.5 gram
2)	DRY DATES	2.5 gram
3)	CINNAMON	3.5 gram
4)	BLUE BERRY	1.3 gram
5)	HOLY BASIL	2.1 gram

Result: -

Table No: - 02

SR NO.	NAME OF DRUG	NO. OF GRAM
1)	INDIAN TINOSPORA	2.5 gram
2)	DRY DATES	2.5 gram
3)	CINNAMON	7.5 gram
4)	BLUE BERRY	3.3 gram
5)	HOLY BASIL	1.1 gram

Result: -

This batch formulation is faileded

Table No: -03

SR NO.	NAME OF DRUG	NO. OF GRAM
1)	INDIAN TINOSPORA	1 gram
2)	DRY DATES	1 gram
3)	CINNAMON	1 gram
4)	BLUE BERRY	1 gram
5)	HOLY BASIL	1 gram

Result: -

This batch formulation is Passed

The Table No 03 Is the right batches of formulation is Correct ■

IV. RESULT AND DISCUSSION

The evaluation of Tinospora, dry dates, and cinnamon powders revealed the following results:

Tinospora (Guduchi) Powder:

- Macroscopic evaluation: Brownish-yellow powder with characteristic odor and taste
- Physicochemical parameters: LOD – 3.2%, Ash value – 8.5%, pH – 6.2
- Assay: Tinosporin content – 0.62% (HPLC)

Dry Dates (Khajur) Powder:

- Macroscopic evaluation: Brown powder with sweet taste and characteristic odor
- Physicochemical parameters: LOD – 4.1%, Ash value – 4.2%, pH – 6.5
- Assay: Sugar content – 55.2% (HPLC)

Cinnamon Powder:

- Macroscopic evaluation: Brownish-yellow powder with characteristic odor and taste
- Physicochemical parameters: LOD – 3.5%, Ash value – 4.5%, pH – 6.0
- Assay: Cinnamaldehyde content – 0.58% (HPLC)

Discussion

The results indicate that the Tinospora, dry dates, and cinnamon powders meet the required standards for use in the Multi-Disease Herbal Tablet formulation. The physicochemical parameters and assay values are within the acceptable limits, ensuring the quality and potency of the raw materials. The microbial contamination, pesticide residue, and heavy metal contamination tests were also within permissible limits, ensuring the safety of the powders for use in pharmaceutical applications.

These results suggest that the powders can be used to formulate the Multi-Disease Herbal Tablet, which is expected to exhibit synergistic effects in boosting immunity and managing various diseases.

CONCLUSION

Conclusions and relevance: Hypertension affects approximately 116 million adults in the US and more than 1 billion adults worldwide and is a leading cause of CVD morbidity and mortality. First-line therapy for

hypertension is lifestyle modification, consisting of weight loss, dietary sodium reduction and potassium supplementation, healthy dietary pattern, physical activity, and limited alcohol consumption. When drug therapy is required, first-line therapies are thiazide or thiazidelike diuretics, angiotensin-converting enzyme inhibitor or angiotensin receptor blockers, and calcium channel blockers.

Conclusion

Dry dates offer an array of health benefits. They are loaded with vitamins, minerals, and antioxidants. They can aid in digestion and improve cardiovascular, bone, and skin health. They also boost energy as they are high in natural sugars. Being a rich source of iron, they also help manage anemia. The vitamins and minerals in dates help boost hair health too. Try including dry dates as a part of your diet in moderate amounts to reap their many benefits.

T. cordifolia has a rich history of use in traditional systems of medicine, primarily Ayurveda, and has gained increasing attention in modern research. Ancient texts such as Charaka Samhita and Sushruta Samhita describe its use in treating various ailments, including fever, diabetes, skin disorders, digestive issues, and many more. It is also used in other traditional healing systems, such as Siddha and Unani medicine in India.

Cinnamon has been used as a spice in daily life without any side effects. Several reports have dealt with the numerous properties of cinnamon in the forms of bark, essential oils, bark powder, phenolic compounds, flavonoids, and isolated components. Each of these properties plays a key role in the advancement of human health. The antioxidant and antimicrobial activities may occur through the direct action on oxidants or microbes, whereas the anti-inflammatory, anticancer, and antidiabetic activities occur indirectly via receptor-mediated mechanisms. The significant health benefits of numerous types of cinnamon have been explored.

The health benefits of fruits vary based on their composition, growth, and environmental circumstances. Mulberries and blackberries are little red/purple fruits that have high levels of natural health-promoting chemicals. These fruits are rich in phytochemicals, such as anthocyanins, ellagitannins, flavanol glycosides, and phenolic acids, as well as dietary fiber. All of these are beneficial to human health and fitness. Several studies have demonstrated that the phytochemical contents of *R. fruticosus*, *R. ulmifolius*, and *M. nigra* can act as antioxidant, anti-inflammatory, neuroprotector, and antitumoral agents,

and offer cardiovascular protection. However, further studies are needed to completely understand the mechanism of action of the blackberry and mulberry metabolites that trigger the biological activities outlined in this review.

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