

## REVIEW ON MORINGA HERBAL TEA TABLET

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## ABSTRACT

Moringa herbal tea tablets offer a convenient and concentrated source of the nutritional benefits of *Moringa oleifera*, a plant renowned for its rich profile of vitamins, minerals, and antioxidants. This formulation harnesses the properties of Moringa leaves, traditionally used in various cultures for their potential health benefits, including anti-inflammatory, antioxidant, and nutrient-rich attributes. Each tablet delivers a standardized dosage, making it easy for consumers to incorporate Moringa into their daily wellness routines. This study explores the production process, bioactive components, and potential health benefits of Moringa herbal tea tablets, highlighting their role in promoting overall health and well-being. The findings suggest that these tablets may be a practical supplement for enhancing nutritional intake and supporting various bodily functions. Further research is

recommended to fully elucidate the health impacts and optimal usage in tablet form.

**KEYWORDS:** Herbal, Moringa, Tea, Tablet.

## INTRODUCTION

## Herbs

Herbs have been utilized for medicinal purposes since recorded history. While many view herbs as harmless plants, it's noteworthy that approximately one-third of our drugs—such as digitalis, morphine, and several chemotherapeutic agents—are derived from plants. Consequently, herbs can be powerful substances. Their ability to influence bodily functions raises the potential for interactions when consumed alongside pharmaceuticals.

Surveys in medically advanced nations like the United States and the U.K. reveal a shift in public perception; health and fitness are increasingly seen as influenced by diet rather than exercise or genetics. This notion gained traction in the 1980s when countries like Japan began defining “physiologically functional foods,” a concept later endorsed by authorities like the FDA. Herbal drugs have emerged as a prevalent therapeutic option, valued for their natural origins and perceived safety.

As the popularity of complementary medicine rises, awareness grows regarding the significant effects of various compounds, along with their potential interactions with pharmaceuticals and other alternative products. The concurrent use of herbs with drugs can result in mimicking, amplifying, or counteracting the effects of medications, leading to herb-drug interactions. Despite the increasing popularity of herbal remedies, there remains a lack of comprehensive information on herb-herb and herb-drug interactions. Many reports regarding these interactions are vague and often lack laboratory analysis. Health-care practitioners should advise caution when mixing herbs with pharmaceutical drugs.

The article aims to review recent literature on the adverse effects of herbal remedies, including widely used herbal products like licorice, garlic, ginger, green tea, and turmeric. Herbal medicine, also known as botanical medicine or phytomedicine, refers to utilizing various plant parts—seeds, berries, roots, leaves, bark, or flowers—for medicinal purposes. Herbalism has a long-standing tradition outside conventional medicine and is gaining mainstream acceptance due to advancements in analysis, quality control, and clinical research demonstrating its efficacy in treating and preventing diseases.

Globally, the demand for herbal remedies continues to grow, with the industry grossing around \$60 billion annually. Natural remedies often provide more affordable and accessible alternatives to conventional medicines, appealing to individuals who align their health ideologies with herbal approaches. However, questions about the effectiveness of herbal options persist.

Herbal medicine is employed to address numerous conditions, including allergies, asthma, eczema, premenstrual syndrome, rheumatoid arthritis, fibromyalgia, migraines, menopausal symptoms, chronic fatigue, irritable bowel syndrome, and cancer. It is advisable to take herbal supplements under the guidance of a trained healthcare provider. For instance, a study indicated that 90% of individuals with arthritis utilize alternative therapies, including herbal

medicine. Given the potential for herbal medicines to interact with prescription medications or exacerbate specific medical conditions, consulting with a healthcare professional before using herbal products is essential.

### **Common herbs and their applications include**

- Ginkgo (*Ginkgo biloba*): Traditionally used for circulatory disorders and memory enhancement, it shows promise for treating dementia and intermittent claudication. Caution is advised for those on blood thinners.
- Kava kava (*Piper methysticum*): Known for mood elevation and relaxation, it may treat anxiety but poses a risk of liver damage.
- Saw palmetto (*Serenoa repens*): Used by men for benign prostatic hyperplasia (BPH), its efficacy is debated.
- St. John's wort (*Hypericum perforatum*): Recognized for its antidepressant properties, it interacts with many medications.
- Valerian (*Valeriana officinalis*): Often used for sleep issues, it may have fewer side effects but interacts with some psychiatric medications.
- Echinacea (*Echinacea purpurea*): Commonly used to boost immunity, its effectiveness for colds remains mixed.

Choosing standardized herbal supplements ensures appropriate dosages and effects aligned with clinical research findings. Consulting with a healthcare provider is recommended for personalized herbal supplement advice.

### **TABLET**

Tablets are defined as solid unit dosage forms of medication, typically composed of a mixture of active substances and excipients, usually in powder form, that are pressed or compacted into a solid dose. The formulation and design of tablets involve ensuring that the correct drug amount is delivered effectively and consistently. A validated tablet formulation guarantees that variations in component specifications do not yield out-of-specification products. This involves understanding raw material specifications, interaction effects, and the manufacturing process to ensure compliance with established quality standards.

### **WHY HERBAL TEA TABLET?**

Herbal tea tablets offer a convenient way to experience the benefits of herbal teas without the need for brewing. They typically come as dissolvable tablets or capsules containing

concentrated herbal extracts. Common herbs found in these tablets include moringa, cinnamon, ginger, and cardamom. Their applications vary, with some supporting relaxation, digestion, or immune function, depending on the herbal composition.

### **ADVANTAGES OF HERBAL TEA TABLET**

Herbal tea tablets can offer several advantages, especially for individuals managing diabetes, when used as part of a comprehensive health strategy:

1. **Blood Sugar Regulation:** Ingredients like moringa and cinnamon have shown potential in helping to regulate blood sugar levels.
2. **Antioxidant Properties:** Many herbs, including moringa and cinnamon, possess antioxidants that may help reduce oxidative stress and inflammation, which are crucial in diabetes management.
3. **Low Calorie:** Typically low in calories and sugar-free, herbal tea tablets are suitable for weight maintenance and blood sugar management.
4. **Convenience:** Their portability makes it easy to incorporate beneficial herbs into daily routines without brewing tea.
5. **Hydration:** While not a direct source of hydration, consuming herbal teas contributes to overall fluid intake, promoting better health.

### **DISADVANTAGES OF HERBAL TEA TABLET**

Despite their benefits, herbal tea tablets may present some disadvantages depending on individual circumstances:

1. **Regulation and Quality Control:** Variability in quality and consistency can be an issue. It's essential to select products from reputable sources to avoid contaminants or inconsistent dosages.
2. **Allergic Reactions:** Some individuals may be allergic to certain ingredients. Checking for known allergies before consumption is crucial.
3. **Interactions with Medications:** Herbal ingredients like moringa can interact with medications for blood pressure or diabetes, making it advisable to consult a healthcare provider beforehand.
4. **Digestive Issues:** Some users may experience mild digestive discomfort when taking herbal supplements, which can vary based on individual tolerance.
5. **Purity Concerns:** Contamination with heavy metals or impurities is a potential risk, emphasizing the importance of selecting products that undergo third-party testing.

## HERBAL INGREDIENT TO BE USED

- Moringa (*Moringa oleifera*): Recognized for its various medicinal benefits, it combats malnutrition and exhibits antimicrobial and anti-inflammatory properties, functioning as a natural antioxidant and anti-diabetic agent.
- Cardamom: Contains vitamins and antioxidants, cardamom is used in Ayurvedic medicine for urinary disorders and blood sugar regulation, though stronger health claims lack substantial evidence.
- Tulsi (*Ocimum sanctum*): Known as holy basil, it supports mental clarity, lung health, circulation, and weight management, among other benefits.
- Cinnamon (*Cinnamomum zeylacium*): Used for its anti-inflammatory properties, cinnamon can help lower blood sugar and cholesterol, though excessive consumption can lead to adverse effects.
- Peppermint (*Mentha  $\times$  piperita*): Valued for its flavor and potential health benefits, peppermint is often used in culinary applications and as a flavoring agent.
- Stevia (*Stevia rebaudiana*): A non-nutritive sweetener, stevia is derived from plant leaves and offers a concentrated sweet flavor without calories or carbohydrates.

## MATERIAL USED IN HERBAL TEA TABLET

### Binder

Binders are vital in herbal tea tablets to maintain structural integrity and ensure proper dissolution. Common binders include:

- Cellulose: Forms a stable matrix and aids in disintegration.
- Starch: Functions as both a binder and disintegrant.
- Pectin: A natural polymer that helps hold tablets together while promoting dissolution.
- Gum Arabic: Used as a stabilizer and emulsifier.
- Hydroxypropyl Methylcellulose (HPMC): Provides controlled release and stability.
- Polyvinylpyrrolidone (PVP): Aids in granulation and tablet integrity.
- Sorbitol: Acts as a binder and sweetener.

### Flavor

Flavoring agents enhance the taste of herbal tea tablets. Common flavor types include:

- Natural Flavors: Extracts from fruits, herbs, and spices, like mint or chamomile.
- Essential Oils: Concentrated plant extracts, such as peppermint or lemon oil.
- Flavor Enhancers: Compounds that modify flavor profiles, improving the overall sensory

experience.

This comprehensive overview highlights the importance, advantages, and considerations surrounding

## **EVALUATION OF MORINGA HERBAL TEA TABLET**

### **Flavoring Agents in Herbal Tea Tablets**

#### **Flavoring Components**

##### **1. Natural Extracts**

- Vanilla Extract: Provides a creamy, sweet note.
- Licorice Root Extract: Contributes a sweet, slightly spicy flavor.

##### **2. Flavor Masking Agents**

- Sweeteners: Ingredients like stevia, honey powder, and maltodextrin help mask undesirable flavors.
- Acids: Compounds such as citric acid balance and enhance flavors.

##### **3. Artificial Flavors**

- Synthetic compounds designed to mimic natural flavors, offering consistency and cost-effectiveness.

The selection of flavoring agents must align with the overall formulation of herbal tea tablets to ensure that they complement the herbal ingredients without interfering with their benefits.

#### **Aroma Enhancements**

##### **1. Essential Oils**

- Examples include peppermint oil for a refreshing aroma and lavender oil for a calming scent.

##### **2. Herb and Spice Extracts**

- Chamomile and cinnamon extracts offer soothing and warming aromas, respectively.

##### **3. Natural Aroma Compounds**

- Compounds like vanillin and limonene add sweet or citrus scents.

##### **4. Combination of Aromas**

- A blend of aromatic compounds can create a harmonious sensory experience.

## APPLICATION CONSIDERATION

- Stability: Aromatic compounds should remain stable throughout the tablet's shelf life.
- Compatibility: The aroma should complement the herbal ingredients without causing negative interactions.
- Intensity: The aroma should be noticeable but not overpowering.

## MANUFACTURE METHOD FOR HERBAL TEA TABLET

### Step-by-Step Process

#### 1. Ingredient Preparation

- Herbs are processed into extracts and flavoring agents are prepared separately.

#### 2. Mixing and Blending

- Dry Blending: Mixing of powders ensures uniform distribution.
- Wet Granulation: Enhances cohesion and flowability by moistened binding.

#### 3. Granulation Methods

- Wet Granulation: Combines powders with a liquid binder.
- Dry Granulation: Compresses powders into sheets before breaking them into granules.

#### 4. Tablet Formation

- Compression: Granulated mixtures are pressed into tablets.
- Direct Compression: Used for powders that flow well.

#### 5. Coating (if necessary)

- Film Coating: Provides taste masking and controlled release.
- Sugar Coating: Adds sweetness and improves appearance.

#### 6. Quality Control

- Ensures tablets meet standards for weight, hardness, dissolution, and disintegration.

#### 7. Packaging

- Tablets are packaged in blister packs or bottles with desiccants.

#### 8. Labeling

- Provides essential information about ingredients and usage instructions.

## EVALUATION PARAMETER FOR HERBAL TEA TABLET

### Key Evaluation Metrics

#### 1. Disintegration Time

- Measures how quickly a tablet breaks down in a dissolution medium.

#### 2. Dissolution Profile

- Indicates the release rate of active ingredients over time.

#### 3. Tablet Hardness

- Assesses the force required to break the tablet, impacting disintegration.

#### 4. Friability

- Evaluates the tablet's tendency to crumble under stress.

#### 5. Uniformity of Dosage Units

- Ensures consistent active ingredient content across tablets.

#### 6. Physical Appearance and Integrity

- Visual inspection for uniformity and quality.

#### 7. Moisture Content

- Assesses moisture levels to maintain stability and integrity.

### # Summary

Effective evaluation of herbal tea tablets focuses on parameters like disintegration time, dissolution profile, and dosage uniformity. Each metric informs on the tablet's performance and efficacy.

## RATIONAL FOR EVALUATING MORINGA HERBAL TEA TABLET

The rationale for reviewing Moringa herbal tea tablets encompasses several factors:

1. **Nutritional Profile:** Moringa is rich in vitamins, minerals, and antioxidants, which may contribute the health benefits such as enhanced immunity and anti-inflammatory properties.
2. **Convenience:** The tablet form offers portability and ease of use compared to traditional tea.
3. **Market Trends:** Understanding how Moringa tablets fit into the growing demand for herbal supplements is essential for consumer awareness.
4. **Quality Control:** Analyzing sourcing and processing ensures that sustainability and ethical

practices are upheld.

5. Dosage and Efficacy: Evaluating the potency of Moringa in tablet form is crucial for understanding its health benefits.

6. Safety Considerations: Identifying potential side effects and interactions helps consumers make informed choices.

7. Consumer Feedback: Gathering real-world insights can inform potential users about product effectiveness.

In summary, a comprehensive review of Moringa herbal tea tablets will provide essential information for consumers seeking to enhance their well-being.

## LITERATURE SURVEY

### 1. Jing Wang et al. (2022)

The study explores beta-carotene, a provitamin A, emphasizing its importance in regulating physiological functions in animals. Microalgae, known for synthesizing various carotenoids including beta-carotene, are highlighted as a rich natural source. Research indicates that extracts or whole microalgae can promote lifespan in lab animals and reduce oxidative stress in cultured cells. However, further studies are needed to explore the health benefits and functional mechanisms of beta-carotene derived from microalgae for both human and animal health.

### 2. Carrie Waterman et al. (2020)

This research evaluates the effectiveness of isothiocyanate-rich extracts from Moringa seeds in delaying the onset of type 2 diabetes mellitus (T2DM) in a rat model that mimics human T2DM. The study involves three groups: a control, a group receiving 0.4% moringa seed extract, and a weight-matched group, monitored over eight months. Results indicate that the moringa group experienced a significantly slower onset of diabetes and lower plasma glucose levels compared to the control group. This supports traditional uses of Moringa and suggests its potential efficacy for diabetes management.

### 3. Muhammadd Rifqi et al. (2023)

This review focuses on beta-carotene, widely found in fruits and vegetables, and its health benefits due to radical scavenging properties. The study discusses various extraction methods, particularly eco-friendly approaches like sonochemical techniques, which enhance yield and efficiency while minimizing solvent use. This research provides insights into the

quality of beta-carotene extracts and their applications as natural food colorants, aiding in the development of better food product formulations.

#### **4. G. Abdelbary et al. (2004)**

The increasing demand for rapidly disintegrating tablets (RDT) is addressed, particularly for individuals with swallowing difficulties. This study presents a novel approach using a hydrophilic waxy binder, Superpolystate, which enhances the mechanical integrity and disintegration of tablets. Two granulation methods—wet and melt granulation—were employed to assess the effectiveness of Superpolystate. The study utilized advanced techniques like laser light diffraction and scanning electron microscopy to evaluate granule characteristics.

#### **5. Paveanthan Mehganathan and Nur Ayshah Rosli et al. (2022)**

This research examines *Moringa oleifera*, a plant known for its medicinal and nutritional properties. The study highlights the high phenolic and flavonoid content in Moringa leaves, including compounds like kaempferol and quercetin. It emphasizes the importance of extraction techniques in determining the yield and quality of compounds obtained from Moringa, which plays a crucial role in maximizing its health benefits.

### **SUMMURY AND CONCLUTION**

Herbal Moringa Tea Tablets provide a convenient method to harness the extensive health benefits of Moringa leaves. Known as the "miracle tree," Moringa is rich in essential vitamins, minerals, and antioxidants, supporting overall wellness.

#### **Key Benefits**

- Nutrient-Rich: High in vitamins A, C, E, calcium, and iron.
- Antioxidant Properties: Helps mitigate oxidative stress and inflammation.
- Supports Metabolism: May assist in weight management and metabolic health.
- Immune Boost: Strengthens the immune system.
- Convenient Form: Easy to consume, ideal for active lifestyles.

In conclusion, Moringa herbal tea tablets represent a promising avenue for enhancing health and wellness, combining convenience with potent nutritional benefits. Further research and consumer feedback will be essential for optimizing formulations and maximizing health outcomes.

## FUTURE SCOP

The future of herbal tea tablets is promising, influenced by several emerging trends and market dynamics:

### 1. Growing Health Consciousness

As more consumers prioritize health and wellness, the demand for herbal supplements, including tea tablets, is expected to increase significantly. This trend is driven by a desire for natural solutions to health issues.

### 2. Convenience and Portability

With busy lifestyles becoming the norm, consumers favor products that are easy to use. Herbal tea tablets provide a quick, mess-free alternative to traditional brewing methods, appealing to those seeking convenience.

### 3. Increased Interest in Natural Remedies

A shift toward holistic health has led many people to seek herbal remedies for stress relief, digestive health, and overall well-being. This growing interest supports the market for herbal tea tablets.

### 4. Innovative Formulations

Companies are likely to explore unique blends and formulations that combine various herbs to target specific health benefits. This innovation can cater to diverse consumer preferences, enhancing product appeal.

5. Sustainability and Ethical Sourcing There is an increasing emphasis on sustainability in consumer choices. Brands focusing on ethically sourced ingredients and eco-friendly packaging will likely attract environmentally conscious buyers.

### 6. Personalization

The trend toward personalized health solutions may lead to customized herbal tea tablets tailored to individual health needs and preferences, fostering greater consumer engagement and satisfaction.

### 7. Expansion of E-commerce

The growth of online sales channels will facilitate wider accessibility for consumers who prefer the convenience of shopping from home, broadening the market reach for herbal tea tablets.

## 8. Research and Development

Ongoing research into the health benefits of various herbs will likely result in new products and formulations, expanding the offerings available in the herbal tea tablet market.

## 9. Targeted Marketing

Effective marketing strategies that emphasize the health benefits and convenience of herbal tea tablets will be crucial for driving growth and consumer interest.

Overall, the herbal tea tablet market is well-positioned for growth, driven by evolving consumer preferences, an increasing focus on health and wellness, and innovative approaches in product development.

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