



# Formulation And Evaluation Of A Polyherbal Digestive Churna: A Traditional Approach With Modern Insights

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**Abstract:** The present study focuses on the formulation and evaluation of a herbal digestive churna using commonly known carminative and digestive ingredients—ginger, fennel, ajwain, cumin, and cinnamon. A 5 gm of churna was prepared by accurately weighing, drying, and pulverizing each ingredient to a fine powder, followed by uniform mixing. The formulation was estimated for its organoleptic and physicochemical properties. The churna produced a pleasing aroma, brownish color, fine texture, and slightly pungent taste, confirming its acceptability. Physicochemical parameters such as pH, moisture content, ash values, and flow properties were found within acceptable limits, indicating good stability and quality. The combined therapeutic effects of the ingredients suggest that the formulation is a promising natural remedy for enhancing digestion and relieving gastrointestinal discomfort.

**Keywords-** Digestive churna, Fennel, Cumin, Ajwain, Cinnamon, Ginger.

## I. INTRODUCTION

In the evolving landscape of healthcare and wellness, digestive health remains a key pillar of overall well-being. Proper digestion ensures efficient nutrient absorption, toxin elimination, and gut microbiome balance—processes that are foundational for maintaining energy levels, immunity, and even mental clarity. Yet, in today's fast-moving world, digestive disorders have become increasingly common, obsessed by poor dietary habits, stress, sedentary lifestyles, and irregular eating patterns. Conditions such as bloating, acidity, indigestion, and constipation are not just discomforting—they often point toward a deeper imbalance in the body's digestive fire, or Agni, as described in Ayurveda.

Drug therapy like antacids, enzyme supplements, and laxatives may offer short-term relief, but their prolonged use is frequently associated with side effects including dependency, altered gut flora, and in some cases, systemic imbalances. This rising issue has led consumers and practitioners equally to revisit ancient traditions, turning once again to herbal and natural formulations for sustainable digestive support.

Our solution to this problem is a specially made Digestive Churna, a fine herbal powder composed of traditional ingredients: Fennel (*Foeniculum vulgare*), Cumin (*Cuminum cyminum*), Cinnamon (*Cinnamomum zeylanicum*), Ajwain (*Trachyspermum ammi*), and Ginger (*Zingiber officinale*).

## II. Materials and Method

### 1. Fennel

Fennel (*Foeniculum vulgare*), belonging to the family *Apiaceae*, is broadly used as a carminative and antispasmodic known for reducing bloating, abdominal pain and flatulence. Its major phytoconstituents include anethole, fenchone, and estragole, which are responsible for its calming effect on intestinal muscles and its mild antimicrobial activity.



**Fig 1 Fennel Powder**

### 2. Cumin

Cumin (*Cuminum cyminum*), belonging to the family *Apiaceae* plays a vital role in stimulating the secretion of pancreatic enzymes, thus improving digestion and nutrient absorption. It contains active compounds like cuminaldehyde, terpenes, and flavonoids, which show antioxidant, anti-inflammatory, and antimicrobial properties. It also commonly used for relieving gas, indigestion, and mild diarrhea.



**Fig 2 Cumin Powder**

### 3. Cinnamon

Cinnamon (*Cinnamomum zeylanicum*), belonging to the family *Lauraceae*. It is not only improving flavor but also exhibits strong digestive and anti-inflammatory properties. It contains high amount of cinnamaldehyde, eugenol, and cinnamic acid, which help in soothing gastrointestinal tract, regulating blood sugar levels, and enhancing metabolic function. Its use in relieving nausea and reducing gas has been recorded in both traditional and modern herbal medicine.



**Fig 3 Cinnamon Powder**

#### **4. Ajwain**

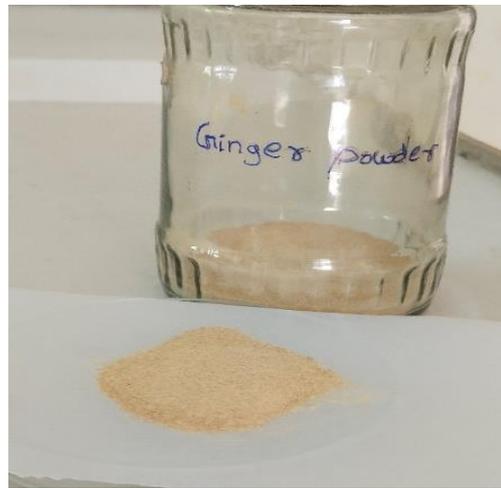
Ajwain (*Trachyspermum ammi*), belonging to the family *Apiaceae*, known for its strong, pungent flavor, is a powerful carminative and digestive stimulant. Its primary active constituent is thymol, which has strong antimicrobial, antifungal, and antispasmodic effects. Ajwain is traditionally used to treat indigestion, colic, and acidity, and is especially beneficial in stimulating gastric secretions and relieving flatulence.



**Fig 4 Ajwain Powder**

#### **5. Ginger**

Ginger (*Zingiber officinale*), belonging to the family *Zingiberaceae*, is valued for its anti-nausea, anti-inflammatory, and digestive properties. Its principal bioactive components—gingerols, shogaols, and zingerone—stimulate saliva and bile production, enhance gastrointestinal motility, and provide relief from nausea and indigestion. It is also useful in reducing bloating and symptoms of dyspepsia.



**Fig 5 Ginger Powder**

### **6. Flavoring Agent (Chat Masala)**

To elevate its flavor profile and encourage regular consumption, the formulation has been uniquely enhanced with *Chat Masala*, a tangy, spicy blend commonly used in Indian cuisine. This addition serves dual purposes—it improves the organoleptic appeal (taste, aroma, and texture), and also contributes a mild digestive boost of its own.



**Fig 6 Flavoring Agent**

## **III.Procedure**

### **1. Preparation of Churna**

All the ingredients were thoroughly cleaned and dried individually, either in the shade or under sunlight, to ensure complete removal of moisture. Each ingredient must be finely powdered and sieved to eliminate any coarse particles. Each ingredient should be weighed separately before mixing them all together. Note that some herbs contain fibrous matter, which can affect their weight before and after drying or powdering. Therefore, drying and weighing should be done separately to ensure the accurate quantity of each herb is present in the final product.



**Fig 7 Basic requirements**



**Fig 8 Preparation of Churna**

## 2. Procedure

- i. Take all the ingredients in given proportion.
- ii. Mix the powder thoroughly.
- iii. Pass the mixture through sieve no. 60.
- iv. Pack it in well closed container and store it in a dry place

## IV. Formulation Composition

Sr. No.	Ingredient	Scientific Name	Quantity (gm)	Uses
1	Ginger	<i>Zingiber officinale</i>	1.49	Carminative
2	Fennel	<i>Foeniculum vulgare</i>	1.49	Antispasmodic
3	Cinnamon	<i>Cinnamomum zeylanicum</i>	0.77	Digestive stimulant
4	Ajwain	<i>Trachyspermum ammi</i>	0.77	Antiflatulent
5	Jeera	<i>Cuminum cyminum</i>	0.4	Appetite stimulant

**Table 1 Formulation Table**

## V. Evaluation Parameters

### 1. Organoleptic Evaluation

Parameter	Observation
Color	Light Brown
Odor	Characteristics
Taste	Slightly pungent and salty
Appearance	Fine powder

**Table 2 Organoleptic Evaluation**

### 2. Physiochemical Evaluation

Parameter	Observation
Loss on Drying	Not more than 10% w/w
Total Ash	Not more than 12% w/w
pH	6-6.5

**Table 3 Physiochemical Evaluation**

## VI. Result and Discussion

A 5 gm of herbal digestive churna was successfully prepared using ginger, fennel, ajwain, cumin, and cinnamon. The formulation yielded in a fine, brownish powder with a pleasant aromatic odour and slightly pungent taste, confirming its acceptability through organoleptic evaluation. Physicochemical tests indicated good stability with low moisture content, appropriate pH, and acceptable ash values. The powder also showed good flow properties, making it suitable for storage and handling. Each ingredient contributed synergistically to digestive benefits, supporting the churna's potential as an effective natural remedy for common gastrointestinal discomforts.



**Fig 9 Research Team Behind the Herbal Digestive Churna Project**

## VII. Conclusion

Herbal Churna represents a conventional and natural way to boosting health and wellness. Prepared from a blend of medicinal herbs, spices, and natural ingredients, it is widely used in Ayurvedic and traditional medicine systems for supporting digestion and detoxification. Its popularity is due to being chemical-free, cost-effective, and generally safe when used correctly. However, it is important to confirm the quality and purity of ingredients, and usage should be based on proper knowledge or professional advice, especially for individuals with specific health conditions. With increasing scientific validation and consumer interest in natural remedies, herbal Churan holds promising potential as a complementary health product in modern wellness practices.

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## VIII.References

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