

# Review Article on Formulation & Evaluation of Polyherbal Miracle Churn for Obesity

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**Abstract:** The present study, poly-herbal powder drink was developed by using some traditional herbs having proved nutritional potential. The key ingredients were selected as cumin seeds, funnel seed's, flax seeds, turmeric, Rock salt. There are use in daily with proven boosting of metabolism and energetic feeling since ages. After several trials made, the final composition of formulation was selected as most suitable combination based on the Phytochemical and physicochemical properties. The physicochemical analysis of the prepared drink found to contain optimum level of pH which was in accordance of the commercial recommendations. The developed herbal drink provides an economical and feasible option for the consumers with very good taste combined with potential health benefits. The present drink is potentially capable to replace the synthetic drink available in market. It is work as a fat..

**Keywords:** Polyherbal Formulation, Obesity, Anti-obesity Drug, Effectiveness, Antioxidants, Anti-Inflammatory, Antidiabetic, fat Melter.

## I. INTRODUCTION

Obesity is considered as the accumulation of abnormal or excessive fat into the body to the extent that may impair health conditions. According to World Health Organization (WHO), more than 1.9 billion adults were overweight and 650 million were suffering from obesity, which includes about 40% of the world's population and is still in an increasing pattern (WHO, 2021a; WHO, 2021b). Obesity considerably increases the risk of several metabolic diseases such as type 2 diabetes mellitus, hypertension, stroke, fatty liver disease, myocardial infarction, obstructive sleep apnea, and several cancers (Bluher, 2019). This miracle drink are play in important role in obesity. most anti-obesity drugs have serious adverse effects. Phentermine, diethylpropion, mazindol, rimonabant, fenfluramine, and dexfenfluramine have a current history of withdrawing due to having serious adverse effects (Glazer, 2001; Kang and Park, 2012). Thus, it is essential to develop safe and effective natural medication for the treatment of obesity. Evidences are arising to support the effectiveness of herbal medicine and polyherbal formulations in the treatment of obesity. The ingredient presents in this powder show different property like, antioxidants, anti-inflammatory, antidiabetic, Appetite suppressant etc. This is act as immunity booster. It reduced the stress & anxiety, improve digestion, treat diabetes, fight the respiratory problem, reduce weight without dieting.

### Importance:

1. Reduced the stress and anxiety
2. Improve the digestion
3. Use full in treatment of diabetes.
4. Fight the respiratory problem
5. Help to increase the metabolism.
6. Maintenance skin health
7. Boost the immune function
8. Suppress the Appetite
9. Immunity boosters
10. Reduce the fat without dieting

**Ingredients:**

**Cumin Seed:**

- Synonym-Roman Coriander, Kalonji
- Family – Ranunculaceae
- Chemical Constituents

**Benefits:**

1. Boost the metabolism
2. Antiallergic
3. Antioxidant
4. Antiplatelet Aggregation
5. Hypoglycemic Lower the cholesterol
6. It having fat burning property
7. Aid in digestion



**Flax Seed:**

- Synonym: Linseed
- Family: Linaceae
- Chemical constituents

**Benefits:**

1. Anti-inflammatory
2. Metabolism Booster
3. Treat hormonal imbalances
4. Increase satiety
5. Flush out toxins
6. Decrease blood pressure
7. Improving digestion



**Funnel Seed:**

- Synonym: *Foeniculum vulgare*
- Family: Umbellifera
- Chemical constituents:  
Benefits:
  1. Digestive aid
  2. Appetite suppressant
  3. Antioxidant
  4. Anti-inflammatory
  5. Analgesic
  6. Diuretics
  7. Detoxing the body
  8. Reduce the fat storage
  9. Prevent from craving and overeating.
  10. Improving vitamin and minerals absorption in body.



**Turmeric:**

- Synonym: Curcumin, *curcuma longa*
- Family: Zingiberaceae
- Chemical constituents:  
Benefits:
  1. Suppress the fat tissue growth
  2. Insulin resistance
  3. Anti-inflammatory
  4. Help in wound healing
  5. Improve the digestion
  6. Anti-bacterial
  7. Anti – fungal



**Rock Salt (Himalayan Pink Rock Salt):**

- Synonym: Halite (naturally occurring crystalline sodium chloride)
- Benefits:
1. Stimulate the insulin
  2. Prevent the sugar craving
  3. Maintain the PH
  4. Aid Digestion
  5. Loss of appetite



**II. METHOD OF PREPARATION**

- Step 1 -select the ingredients (cumin seed, flax seed, Funnel seed, Turmeric, Rock Salt) for formulation of polyherbal miracle churn
- Step 2- collect this select ingredients
- Step 3 \_ weighing accurate amount of quantity of collected ingredients.
- Step 4- Dry Roosting the main three Ingredients (Cumin seed, flax seed and funnel seed) one by one.
- Step 5- leave for 10 minutes for cooling
- Step 6- After cooling put all ingredients in to grinder or mortar pestle and make a powder.
- Step 7 – Store in air tight container.

**Ingredients for polyherbal churn**

| Sr. No | Ingredients | Quantity |
|--------|-------------|----------|
| 1      | Cumin seed  | 50 g     |
| 2      | Flax seed   | 25 g     |
| 3      | Funnel seed | 25 g     |
| 4      | Turmeric    | ½ tsp    |
| 5      | Rock salt   | ¼ tsp    |

**Table 1:** Ingredients for polyherbal churn

**III. METHOD OF EVALUATION**

**A) MORPHOLOGICAL EVALUATION:**

It refers to the evaluation of the churn by its color, odor, appearance, etc.

| Sr.No | Parameter | Observation     |
|-------|-----------|-----------------|
| 1     | Color     | Brownish yellow |
| 2     | Odor      | Pleasant        |

|   |            |                |
|---|------------|----------------|
| 3 | Appearance | Fine powder    |
| 4 | Texture    | Gritty,crunchy |
| 5 | Smoothness | Smooth         |

**Table 2:** Morphological Evaluation

**B) PHYSICOCHEMICAL EVALUATION:**

Physicochemical parameters were determined, to the determination of moisture content,pH and ash values.

- **Determination of LOD(loss of drying):**

Moisture content was determined by loss on drying (LOD). Weigh accurately 3gms of the powder drug and take in a weighed petri dish and placed in hot air oven at 100-108°C. It was weighed until constant weight was obtained.

- **Determination of pH:**

It is the measurement of acidity or alkalinity of the product measured on a scale of 0-14.

- **Determination of Ash value:**

Weigh accurately about 3 gm of the powdered drug in silica crucible. Incinerate the powdered drug by increasing the heat gradually until the sample was free from carbon and cool it keep it in a desiccator. Weigh the ash and calculate the percentage of total ash in contrast to the air-dried sample.

| Sr.No | Parameter | Observation |
|-------|-----------|-------------|
| 1     | LOD       | 12%         |
| 2     | PH        | 6.27        |
| 3     | Ash Value | 45%         |

**Table 3:** Physicochemical evaluation

**C) RHEOLOGICAL EVALUATION:**

In that determine the Bulk Density, Tap Density, Angle of Repose, Hausner's Ratio, Carr's Index.

- **Bulk Density:**

Bulk Density is the ratio between the given mass of a powder and its bulk volume. Required amount of the powder is dried and filled in a 50 ml measuring cylinder up to 50 ml mark. Then the cylinder is dropped onto a hard wood surface from a height of 1 inch at 2 second intervals. The volume of the powder is measured. Then the powder is weighed. This is repeated to get average values.

$$\text{Bulk Density} = \text{Mass} / \text{Bulk Volume}$$

- **Tapped Density:**

Tapped density is an increased bulk density attained after mechanically tapping a container containing the powder sample. After observing the initial powder volume or mass, the measuring cylinder or vessel is mechanically tapped for 1 min and volume or mass readings are taken until little further volume or mass change was observed.

It was expressed in grams per milliliter.

$$\text{Tapped Density} = \text{Mass} / \text{Tapped Volume}$$

- **Angle of Repose:**

It is defined as the maximum angle possible in between the surface of pile of powder to the horizontal flow. Required quality of dried powder is taken in a funnel placed at a height of 2 cm from a horizontal base. The powder was



allowed to flow to form a heap over the paper on the horizontal plane. Height(h) and radius(r) of the heap is noted and recorded. For the above method, the angle of repose ( $\theta$ ) can be calculated by using the formula.  $\theta = \tan^{-1}(h/r)$

- **Hausner's Ratio:**

Hausner's Ratio = Tapped Density / Bulk Density

- **Carr's Index:**

Carr's Index = (Tapped Density – Bulk Density X 100) /Tapped Density

| Sr.No | Parameter       | Observation |
|-------|-----------------|-------------|
| 1     | Bulk Density    | 0.4         |
| 2     | Tapped Density  | 0.571       |
| 3     | Angle of Repose | 37.99       |
| 4     | Hausner's Ratio | 1.427       |
| 5     | Carr's Index    | 29.94       |

**Table 4:** Rheological Evaluation

**D) Phytochemical Evaluations:**

The aqueous extract of the herbal face pack was evaluated for the presence of different phytoconstituents as per the standard procedures.

| Sr.No | Phytoconstituents | Observation  |
|-------|-------------------|--------------|
| 1     | Carbohydrate      | Absence (-)  |
| 2     | Alkaloid          | Presence (+) |
| 3     | Glycoside         | Absence (-)  |
| 4     | Tannins           | Presence (+) |
| 5     | Volatile Oil      | Absence (-)  |

**Table 5:** Phytochemical Evaluation

**E) Stability Studies:**

Stability testing of prepared formulation was conducted by storing at different temperature conditions for the period of one month. The packed glass vials of formulation stored at different temperature conditions like, room temperature and 40°C and were evaluated for physical parameters like color, odour, pH, consistency and feel.

| Sr.No | Parameter  | At Room Temp    | At 40 °c        |
|-------|------------|-----------------|-----------------|
| 1     | Color      | Brownish yellow | Brownish yellow |
| 2     | Odor       | Pleasant        | Pleasant        |
| 3     | Texture    | Gritty, crunchy | Gritty, crunchy |
| 4     | Smoothness | Smooth          | Smooth          |
| 5     | PH         | 6.27            | 6.27            |

**Table 6:** Stability Evaluation

How to consume –

- Have a tsp of this prepared powder with lukewarm water before bed time or at least half an hour after dinner.

- Have a tsp of this prepared powder with lukewarm water early morning after wake up.

#### IV. RESULTS

Organoleptic evaluation showed that the pack is smooth and pleasant-smelling powder. Physicochemical parameters reflected that the moisture content was as minimal as 5%. pH was found neutral to suit the requirements of obesity. Ash value and extractive values were found within the limits. Rheological findings justified the flow properties of the churn as it was found to be free-flowing and non-sticky in nature. The results proved that the formulation was stable in all aspects. It is rich in the major phytoconstituents such as, alkaloids and Tannins which act as fat cutters. Stability tests performed at different temperatures over a period of one month revealed the inert nature of the churn in the terms of color, odor, appearance, texture, and pH.

#### V. CONCLUSION

In this work, we found excellent properties of the polyherbal churn and further studies are needed to be performed to ascertain more useful benefits of Churn. Natural remedies are accepted nowadays with open hands as they are safer with fewer side effects than the chemical-based products. Herbal formulations are required in large amounts to fulfill the needs of the growing world market. It is an effective attempt to formulate the churn containing different powders of different seeds with multiple therapeutic benefits.

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