EVALUATION AND PREPARATION OF HERBAL WEIGHT LOSS SUPPLEMENT OR POWDER

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1).Abstract

The increasing prevalence of obesity has prompted the exploration of natural, plant-based weight management solutions. This study focuses on the development of a herbal weight loss supplement powder incorporating Caralluma fimbriata, a succulent plant traditionally used for appetite suppression and endurance enhancement. To enhance the efficacy and palatability of the formulation, the powder blend also includes Jira (cumin), Ajwain (carom seeds), Jigar (likely a regional herb; assumed to support liver function), Methi (fenugreek seeds), (interpreted as an energizing components) , and Black Salt (for flavor and digestive support) Fennel seeds . Each ingredient contributes specific properties: Caralluma fimbriata aids in appetite control, Ajwain and Methi improve digestion and metabolism, Cumin supports fat breakdown, while Black Salt enhances bioavailability and gastrointestinal balance. The formulation aims to provide a synergistic effect for weight management by promoting satiety, boosting metabolism, and enhancing digestion. The research involves the preparation method, phytochemical profiling, sensory evaluation, and preliminary analysis of weight loss potential through observational studies. This natural supplement presents a promising alternative for individuals seeking safe, herbal support for weight loss with minimal side effects. Further clinical trials are recommended to validate efficacy and standardize dosage.

Keywords: - Caralluma fimbriata, incorporating, traditional medicine , metabolism, bioavailibility , digestion.

2)Introduction

Obesity is a growing global health challenge that significantly increases the risk of chronic diseases such as diabetes, hypertension, cardiovascular disorders(1), and joint problems.With modern lifestyles becoming increasingly sedentary and dietary habits leaning toward processed and calorie-dense food a(2),

managing weight has become a major concern for people across all age groups. Although several synthetic drugs and supplements are available in the market for weight loss, many of them are associated with side effects or long-term health risks. As a result, there is a rising interest in natural, plant-based alternatives that offer effective weight management with minimal adverse effects(3).

Traditional medicine systems like Ayurveda have long relied on herbs and spices to regulate metabolism, aid digestion, and control appetite(4). In this context, Caralluma fimbriata, a succulent plant traditionally used in Indian folk medicine, has gained attention for its appetite-suppressing and stamina-boosting properties(5).

This study explores the formulation of a herbal weight loss powder using Caralluma fimbriata as the primary ingredient, supported by other beneficial components including cumin (Jira), carom seeds (Ajwain), Jigar (a regional herb believed to support liver health), fenugreek seeds (Methi), black salt, and a stimulant component referred to as Speed(7)

Ekach of these ingredients contributes to the supplement's potential effectiveness. While Caralluma fimbriata controls hunger(8),Ajwain and Methi aid digestion and metabolism, Jira helps with fat breakdown, black salt improves bioavailability,and Speed boosts energy

(9).Together, these ingredients are expected to work synergistically to promote satiety, support fat metabolism, and improve digestive health.

This research aims to develop a natural and palatable herbal weight loss supplement. It includes the preparation method, phytochemical profiling, sensory evaluation, and an initial observational assessment of its potential in weight management.(10)

The ultimate goal is to offer a safe, effective, and accessible alternative for individuals seeking herbal support for weight control

3)Plan of Work :-

(1) Literature Review & Concept Development:

- Study phytochemical composition of Caralluma fimbriata stem.
- Identify bioactive compounds relevant to obisity and diabetes management.
- Review traditional uses and modern research on Caralluma fimbriata.
- Investigate other compatible herbal ingredients for formulation synergy.

(2) Procurement & Pre-Formulation Studies:

- Source Caralluma fimbriata stem from reliable suppliers.
- Select other excipients or synergistic herbal ingredients if needed.
- Organoleptic Properties: Color, odor, taste, texture.
- Physicochemical Analysis: Moisture content, pH, solubility.
- Particle Size & Flow Properties: For uniform powder consistency.

(3) Formulation Development:

- Develop prototype formulations with varying concentrations of Caralluma fimbriata powder.
- Select suitable carriers, flavoring agents, and stabilizers (if needed).
- Use techniques like dry grinding, spray drying, or freeze-drying to optimize powder consistency.
- Establish a standard composition based on bioactive content.

(4) Evaluation of Formulation:

- Various tests are carried out to ensure quality and stability.
- Organoleptic Evaluation: Color, odour, taste and texture
- Physicochemical Evaluation: pH, moisture content and ash value
- Physical Evaluation: Bulk density, tapped density and angle of repose.

(5) Preparation of research report and submission:

- Document all results and findings and submit the report to a relevant academic journal or online platform for publications

Table 1: Ingredients Of Obisity Supplelement Powde

Sr.no	Ingredients Synonyms	Figures	Biological.Source	Category
1	C.fimbriata bark (Synonyms: Caralluma adscendens)		Apocynaceae (11)	Anti-obisity (12)
2	Cumin seed (Synonyms: Jira)		Apiaceae (13)	Anti Inflammatory(14)
3	Ginger (Synonyms: Zingiber)		Zingiberaceae(15)	Carminative (16)
4	Fennel seed (Synonyms: Saunf)		Apiaceae (17)	Anti Inflammatory(18)
5	Black salt (Synonyms: Rock salt)		Terpenoids (19)	Antibiotic (20)
6	Fenugreek seed (Synonyms: Methi)		Leguminaceae(21)	Hypoglycemia(22)
7	Carum seed (Synonyms: Ajwain)		Apiaceae (23)	Anti-flatulent(24)

Benefits of harbal Weight loss supplement

1. Suppresses appetite
2. Aids weight loss
3. Reduces belly fat
4. Boosts energy and stamina
5. Enhances fat burning
6. Helps regulate blood sugar
7. Controls cravings
8. 100% natural and plant-based
9. May improve mood during dieting
10. Easy to mix into foods or drinks

Caralluma frimbiata powder ,cumin seed powder ,Fennel seed powder ,Black salt ,Fenugreek seed powder , jinger powder , Ajwain powder

Function of harbal Weight loss supplement powder

1Reduces hunger cravings

2. Helps control calorie intake

3. Boosts endurance and stamina

4 Improves metabolism

5.Supports blood sugar balance

6.Enhances fat burning (indirectly)

7. Reduces waist circumference (in studies)

8. Provides antioxidant benefits

Describe properties of harbal Weight loss supplement powder

1. High purity

2. Standardized active ingredients

3. Fine particle size

4. Good solubility

5. Natural and organic

6. Mild taste

7. Long shelf life

8. Clinically tested for safety

Advantages of Caralluma fimbriata weight loss supplement powder

1.Anti-obisity :- Helps in weight management

2.Regulates blood sugar:-Helps to control glucose levels naturally.

3.Provides antioxidant :– Reduces oxidative stress and inflammation

Caralluma fimbriata weight loss supplement powder

TABLE 2 .INGREDIENTS

Materials required	Quantity to be Weighed
Caralluma fimbriata powder	**25g**
Cumin seed powder	**15g**
Jinger powder	**10g**
Fennel seed powder	**15g**
Black salt	**5g**
Fenugreek seed powder	**10g**
Ajwain powder	**15g**

4.)USE OF INGREDIENTS:-

1).Caralluma fimbriata powder

- Suppresses appetite
- Aids weight loss
- Reduces belly fat
- Boosts energy and stamina
- Enhances fat burning

2).Cumin seed powder

- Aids weight loss by boosting metabolism and digestion
- Improves digestion and reduces bloating
- Adds flavor to food (curries, soups, salads)
- Boosts immunity with antioxidants
- Supports skin and respiratory health
- Helps control blood sugar levels.

3).Jinger powder

- Improves digestion.
- Relieves nausea
- Controls blood sugar
- Boosts immunity
- Reduces inflammation

4).Fennel seed powder

- Balances hormones and eases menstrual symptoms
- Freshens breath and supports oral health
- Provides fiber, vitamins, and minerals
- Helps regulate blood pressure
- May aid in weight loss
- Supports skin health and boosts metabolism

5) Black salt

- Aids digestion and relieves bloating
- Acts as a mild laxative
- Helps reduce heartburn and gas
- Used in Ayurveda for detox and throat relief
- May improve appetite and metabolism

6) Fenugreek seed powder

- Lowering blood sugar (in diabetes)
- Reducing cholesterol
- Aiding digestion and relieving constipation
- Anti-inflammatory effects for arthritis
- Increasing testosterone and libido in men

7) Carum seed powder

- Carum seeds help boost metabolism, aiding fat burn.
- They improve digestion and reduce bloating.
- Ajwain water can suppress appetite naturally.
- It helps in detoxifying the body.
- Reduces water retention, supporting weight loss efforts.

5) Formulation and Method of Preparation:

1. Raw Material Check:

- Make sure all ingredients (seeds and powders) are clean, dry, and free from contamination.
- Use food-grade quality herbs and Caralluma fimbriata powder (standardized extract if available).

2. Dry Roasting (for seeds):

- To enhance flavor, reduce moisture, and increase shelf life:
- Cumin seeds (Jeera) - dry roast on low flame for 2-3 minutes until aromatic.
- Ajwain seeds - roast similarly, 1-2 minutes.
- Fennel seeds – roast similarly ,1-2 minues.
- Fenugreek seeds – roast lightly to reduce bitterness.
- Let all roasted seeds cool completely.

3.Powdering:

- Grind each roasted seed individually using a grinder or pulverizer.
- Sieve to get a fine powder. Re-grind coarse particles if necessary.

4. Mixing:

- In a clean, dry stainless steel or glass container:
- Combine the following:
- Roasted seed powders
- Dry ginger powder
- Black salt
- Caralluma fimbriata powder (directly, no need to roast)

- Mix thoroughly for uniform distribution of all components.

5. Final Sieving (Optional but recommended):

- Pass the final blend through a mesh sieve (e.g., #40 or #60)

6. Packaging:

- Store in air-tight, light-resistant containers (preferably glass or food-safe PET jars).
- Label with name, ingredients, dosage, expiry, and storage instructions.

7. Storage Conditions:

- Keep in a cool, dry place, away from sunlight and moisture.
- Shelf life: 3 to 6 months if stored properly

7) Evaluation of harbal Weight loss supplement or powder

Table 4

a) Organoleptic Evaluation

Parameter	Test Method	Criteria
Color	Visual inspection	Uniform, natural, no discoloration
Odor	Smell test	Characteristic, aromatic
Taste	Sensory evaluation (optional)	Pungent, slightly salty, acceptable

TABLE 3

b). Physicochemical Evaluation

Parameter	Method	Acceptance Criteria
Moisture content (LOD)	Using a hot air oven at 105°C or moisture analyzer	Not more than 5-8%
Bulk density	Weight of powder in a measuring cylinder /Volume occupied	Record in g/mL
Tapped density	Tap cylinder 100 times, note volume change	Record in g/mL
Carr's Index	% = [(Tapped - Bulk) /Tapped] x 100	5-15% = excellent flow
Hausner's ratio	Tapped density / Bulk density	Should be

		<1.25
Particle size	Sieve analysis using standard sieves (#20-#80)	Uniform particle distribution
pH (1% solution)	Should be in range 5-7	Should be in range 5-7

TABLE.4

C).Ash Values (for herbal raw material standardization)

Parameter	Method Acceptable	Limit
Total ash	Incineration in muffle furnace	Not more than 10%
Acid- insoluble ash	Treatment with HCI	Not more than 2-3%

8)Conclusion:

The present study was carried out with the aim of formulating a herbal weight loss supplement powder that is safer than synthetic alternatives and supports natural weight management. The herbal supplement was prepared using powdered forms of traditionally known medicinal ingredients, including cumin seeds, ajwain, fenugreek seeds, fennel seeds, jingar, and black salt. These components have been widely recognized in traditional practices for their digestive and metabolism-boosting properties.

The main purpose of this investigation was to develop a stable and functionally effective supplement by excluding all types of synthetic additives commonly found in commercial weight loss products. Various evaluation tests were performed to assess the efficacy, safety, and stability of the prepared powder. The results demonstrated promising potential in terms of quality and functional performance.

9)Result:

The herbal supplement powder was formulated by admixing equal amounts of cumin seed powder, Ajwain powder, fennel seed powder, fenugreek seed powder, jinger (dried ginger) powder, and black salt. These natural ingredients are rich in phytoconstituents such as essential oils, flavonoids, alkaloids, and digestive enzymes which contribute to enhanced metabolism, improved digestion, and fat breakdown.

Cumin seed powder and ajwain powder act as carminatives and metabolic enhancers. Fennel and fenugreek seed powders aid in appetite suppression and improving digestive health. Ginger powder serves as a thermogenic agent, promoting fat burning, while black salt not only enhances taste but also supports digestion and reduces bloating.

The powdered blend is uniform, aromatic, and palatable, and can be consumed with warm water or mixed into food. The formulation is designed to be natural, safe, and supportive of weight management when combined with a healthy diet and lifestyle.

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