

Formulation and Evaluation of Divya Panchkol Churna

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ABSTRACT:-

Background: Indigestion also called dyspepsia or an upset stomach is discomfort in your upper abdomen. Indigestion describes certain symptoms, such as belly pain and a feeling of fullness soon after you start eating, rather than a specific disease. Indigestion can also be a symptom of other digestive disorders. Acidity is also referred to as acid reflux. It is a common medical condition caused due to excessive production of acid by the stomach, which flows back into the food pipe and causes pain or burning sensation in the lower chest area. Herbal churna is a natural product that is composed of natural digestion and antacid plant parts. Symptoms of indigestion are early fullness during a meal, Uncomfortable fullness after a meal, discomfort in the upper abdomen, burning in the upper abdomen, bloating in the upper abdomen, and nausea. Cough grass, Ajwain, Fennel seeds, Basil seeds, and black salt. Hence it is safe in use.

Aim:- To reduce indigestion, stomach and abdominal pain through the polyherbal ingredient and produce a comfort effect in digestive system.

Objectives: - The increasing demand for commercial digestion and acidity products featuring plant-based ingredients indicates a growing consumer inclination towards perceived safety over traditional synthetic options.

Method:-The formulation of churna by using the traditional method such as sieving and mixing by using of mortar and pestle.

Result:- All preformulation parameters of powder form in this study for yield with specific parameters, also performed evaluation of all tests related to Churna of suitable yield.

Conclusion:- The present study was concluded that the formulated polyherbal churna is effective cheaper and non-poisonous than the presently available chemical based marketed formulations and maintain acidity, indigestion free healthy environment for the society. Panchol churna gives

five polyherbal gives reduction of various problems related stomach.

Keywords:- Panchchol,Churna, Indigestion, Tunch gras, abdominal pain.

I. INTRODUCTION:-

Polyherbal churna is as a fine powder of drug or drugs in Ayurvedic system of medicine. Triphala churna, Trikatu churna, Drakeshadi churna and Sudarshana churna are some examples. Smaller the particle size greater is the absorption rate from GIT and hence the greater is bioavailability.[1] Herbal medicines are safe, easily available, with less or no side effects.[2] Gastric ulcer affects about 60% of the adults and about 80% of the child population in the tropical countries.[3] Acidity oftenly occurring gastrointestinal disorder that can occur due to diverse reasons which is related to heartburn and gas formation in stomach. In acidity, gastro esophageal reflux disease (GERD) there is a movement of gastric acid from the stomach into the lower esophagus. Gastric acid is a digestive fluid that is formed in the stomach and has a pH of 1 to 2. It's a mix of hydrochloric acid, NaCl, and KCL in significant amounts.[4] Constipation is very common gastrointestinal disorder; it refers to the difficulty in passing of stool.

Types of Churnas:

These are solid dosage forms of medicament meant for internal use.

These are classified into two different types, as following

- 1] Simple Churnas - It contains only one medicine.
- 2] Compound Churnas - It contains two or more than two medicines.

A polyherbal churna (coarse powder) consists of herbs such as Cough grass, Ajwain, Fennel seeds, Basil seeds, and black salt which are useful to treat hyperacidity, heartburn, indigestion and constipation.

Advantages of antacid:-

1. This medication is used to treat the symptoms of too much stomach acid such as stomach upset, heartburn and acid indigestion.
2. It is also used to relieve symptoms of extra gas such as belching, bloating and feelings of pressure/discomfort in the stomach/gut. Simethicone helps break up gas bubbles in the gut. Aluminum and magnesium antacids work quickly to lower the acid in the stomach.
3. Liquid antacids usually work faster/better than tablets or capsules. This medication works only on existing acid in the stomach. It does not prevent acid production.

Objectives of Research work:-

1. To reduce side effect of existing formulation of antacid and laxative.
2. To formulate effective dosage form to avoid digestive disorders.
3. To evaluate the prepared churna. 4. To promote herbal churna which have less side effects.

Need for study:-

There are some advantages of using herbal products like having lesser side effects, they have low in cost, easily availability and easy to administration. We understand these factors and feel there is need to prepare herbal product which helps to improve health as well as reduce the side effects.

II. MATERIALS AND METHODOLOGY:-

Sr.No.	Plant (Common name)	Botanical name	family	uses
1	Couch grass	Cynodon dactylon	Grasses	Digestion and constipation
2	Ajwain	Trachyspermum ammi	Apiaceae	Indigestion, bloating, and gas.
3	Fennel seeds	Foeniculum vulgare	Apiaceae	Heartburn, intestinal gas, loss of appetite
4	Basil seeds	Ocimum basilicum	Lamiaceae	Weight Loss. Treat Acidity and Heartburn
5	Black salt	Sodium Chloride	-	cures acidity weight loss,

Experimental work:-

Formulation table :-

Sr. no	Ingredients	F1 (gm)	F2 (gm)	F3 (gm)	F4 (gm)	F5 (gm)
1	Couch grass	5	5	5	5	5
2	Ajwain	1	1.5	1.5	1.5	1.5
3	Fennel seeds	1.5	1	1	1.5	2
4	Basil seeds	1	1	1.5	1.5	1.5
5	Black salt	1.5	1.5	1	0.5	0.5

Method of preparation:-

- i. Choose the herbs according to the desired medicinal properties. Each herb has its unique benefits and uses.
- ii. Clean all the ingredients and dry them in sunlight
- iii. Use a mortar and pestle, to grind the dried herbs into a fine powder. It's essential to grind the herbs evenly to ensure consistency of churna.
- iv. After grinding, sieve the powder through a fine mesh sieve(80) to remove any coarse particles and impurities.
- v. Then mix all the ingredients in a beaker.
- vi. Then lastly store in clean and dry container and labelled them.



Evaluation studies:-

1. Organoleptic properties:- visual inspection such as colour, odour, taste, texture, appearance

2. Determination of total ash value:- 2g of churna (coarse powder) was weighed accurately in a previously ignited silica crucible. A temperature of 500-600°C was used to ignite the substance. The muffle furnace device, which has a very high temperature, was used to determine the ash value present in the powdered sample. until it turns white, indicating that carbon is no longer present It was then cooled and total ash in mg per gram was calculated.

Total Ash value = $\frac{\text{Weight of total ash}}{\text{Weight of crude drug taken}} \times 100$

3. PH determination:- Take 2 gm of churna in 10 mL distilled water mix them in a beaker then deep PH paper and check the PH

4. Moisture content determination:- The churna (coarse powder) was placed in a weighing bottle. It was dried in a hot air oven at 105°C for 15 minutes before being weighed Once the weight of the formulation had stabilised, the percentage of water loss on drying was estimated.

% Loss on Drying = $\frac{\text{Loss in weight in sample} \times 100}{\text{Weight of sample}}$

5. Determination of swelling index:- 1 g of the formulation was placed in a stoppered measuring cylinder containing 9ml water and kept aside for 24

hours. The swelling in the formulation was noticed and swelling index was calculated.

6. Bulk density:- 10g of churna (coarse powder) was taken in a graduated measuring cylinder and tapped on a wooden surface. Bulk density is calculated using this formula after that, chill it for at least 24 hours. We utilize a tap density volumetric flask to estimate bulk density, into which we place a 10g powder sample and compute bulk density using the formula below.

Bulk Density = $\frac{\text{Weight of mass}}{\text{Bulk volume}}$

7. Tapped density:- Tap density of churna (coarse powder) was determined after 50 tapping with the help of tap density apparatus. We check the churna's tap volume and calculate the weight taken to the tap volume of the churna sample to determine tap density. The formula is used to compute bulk density.

The following formula can be used for the determination of tap density.

Tap Density = $\frac{\text{Weight of mass}}{\text{Tapped volume}}$

8. Carr's index:- This is calculated using the formula

$$\text{Carr's Index} = \frac{\text{Bulk density (Tapped)} - \text{Bulk density (Untapped)} \times 100}{\text{Bulk density (Tapped)}}$$

9. Hausner ratio:- The formula used to determine Hausner's ratio we use bulk density and tap density ratio. For the determination of Hausner's ratio following formula.

$$\text{Hausner's Ratio} = \frac{\text{Bulk density (Tapped)}}{\text{Bulk density (untapped)}}$$

10. Angle of repose:- Repose: The funnel method was used to determine the angle of repose. The churna (coarse powder) was allowed to flow through a funnel fixed on a stand to form a heap. The height and the radius give the angle of repose.

$$\text{Angle of Repose } (\theta) = h/r$$

$\theta = \text{Tan}^{-1} (h/r)$ Where, h = height of, r=radius of heap

III. RESULT & DISCUSSION:-

Sr.No.	Parameter	Observation/Reading
1	Organoleptic properties	Fine, brown color, aromatic and salty.
2	Determination of total ash value	6.2% (w/w)
3	PH determination	7.2
4	Moisture content determination	3.8% (w/w)
5	Determination of swelling index	9.5 mL/g
6	Bulk density	0.54 g/mL
7	Tapped density	0.67 g/mL
8	Carr's index]	18.5%
9	Hausner ratio	1.24
10	Angle of repose	28.6 degrees

IV. CONCLUSION:-

From this study concluded that, we can prepare and formulate a stable polyherbal churna as an antacid as well as abdominal pain with indigestion. Which have no any side effects or adverse effects as compared with allopathic drugs or existing formulations. We could prepare non habitual antacid dosage form by taking ayurvedic (herbal) ingredients. Finally concluded that Divya panchkol churna (F4) are passed all the better evaluation parameters with specific criteria as well as easily self administered.

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