



FORMULATION AND EVALUATION OF POLYHERBAL ANTACID TABLET

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ABSTRACT

With ever increasing issue of hyperactivity both idiopathic and drug induced, the available allopathic antacids on chronic use are source of many side effects which can cause great discomfort to the patient. Hence, ayurveda approved herbs with antacid property used daily in one way or the other by the population can prove to be the best alternative to the issue of acidity. Hence, we developed a Polyherbal antacid tablet for the concerned issue along with expectation of great safety profile.

KEYWORD: - Polyherbal antacid, Hyperacidity, acid neutralizing capacity

INTRODUCTION

Stomach is an integral part of body for digestion of food and is essential part of digestion system. It produces acid which is use in digestion of salivated food in stomach. Sometimes the acid production goes up which makes hyperacidity. It refers to a set of symptoms caused by an imbalance between the acid secreting mechanism of the stomach and proximal intestine and the protective mechanisms that ensure their safety. Gastric juice is made up of water, electrolytes, hydrochloric acid (HCl), enzymes, mucus, and intrinsic factor. HCl is se-created by the parietal cells. On the average, an adult stomach produces 1.5–2.5 litres of gastric juice per day. Measuring a pH of 1.5 on a pH scale (0–14), the gastric juice is a strongly acidic solution expressing a high concentration of hydrogen ions (H⁺). The acidic stomach content is essential for food digestion and activation of digestive enzymes. The stomach however sheds the mucous lining every three days. Stimulation of H⁺secretion occurs during feeding. In the event of ex-cess acid content, H⁺ions retract to the blood, leading to muscular contraction, inflammation, bleeding, pain and ulceration due to the stomach lining break down with subsequent acid attack on the stomach wall.

It must however be mentioned that via a natural mechanism, the stomach protects itself from acid degradation by the production of bicarbonate-rich mucus and the provision of rich blood supply.

To overcome the hyperacidity problem Physician, prescribe an antacid. An antacid is an antidote for reducing the H⁺in the stomach through neutralization reaction with the excess HCl in gastric juice and inhibition of the proteolytic enzyme, pepsin.

MATERIAL AND METHOD

Reagents & apparatus required: Starch, distilled

water, Beaker, spatula, glass rod, tripod stand, water bath

Instrument required: Tablet punching machine, weighing balance, hot air oven

1.	Tulsi powder	47.7 mg
2.	Cinnamon powder	28.85 mg
3.	Harad powder	35.11 mg
4.	Piper powder	35.11 mg
5.	Amla powder	35.11 mg
6.	Liquorice powder	35.11 mg
7.	Ginger powder	31 mg
8.	Black pepper powder	18.85 mg
9.	Baheda powder	7.142 mg
10.	Cardamom powder	7.142 mg
11.	Clove powder	7.142 mg
12.	Saunf powder	7.142 mg
13.	Ajwain powder	7.142 mg

Table 1: Herbal Ingredients



PROCEDURE

- Weigh 5gm starch
- Add the weighed amount of starch powder into 100 ml water in a beaker
- Divide the mixture into 2 equal halves and heat one half until its 50% volume
- To the above 50% capacity add the other divided volume
- 5% starch paste for binding of powder to be punched is ready
- To the weight api for tablet add the starch paste solution slowly until a dough state is attained
- Pass the dough from sieve no. 10 to get granules of the powder
- The granules are dried either in sunlight or in hot air oven until complete dry granules are obtained
- Pass the dried granules from sieve no. 40 to obtain fine particles
- Tablet punching is done

EVALUATION Of Herbal Ingredient

Parameter	Observation
1. Organoleptic characteristics	
Colour	Light brown
Odour	Aromatic
Taste	Aromatic
2. Angle of repose	Passable
3. Bulk density	0.5 gm/ml
4. Tapped density	0.66 gm/ml
5. Compressibility	24.2
6. Hausner's ratio	0.75
7. Moisture content	0.33%
8. Ash content	17.1%
9. Ph	6.5
10. Acid insoluble ash	3.40%
11. Water insoluble ash	13.70%
12. Chemical test	
13. Test for carbohydrates: Molish test-	Red ring at junction
14. Test for protein: Millon's test-	Yellow colour develops
15. Test for alkaloid Mayer's test-	Red ppt.
16. Test for flavonoid: Shinoda test-	Pink colour develops
17. Test for tannin and phenolic compounds : fecl₃ test-	Green colour develops
18. Test for saponins Froth test-	Development of foam
19. Test for fats Filter paper test-	Oil stain observed
20. Powder Microscopy Analysis	

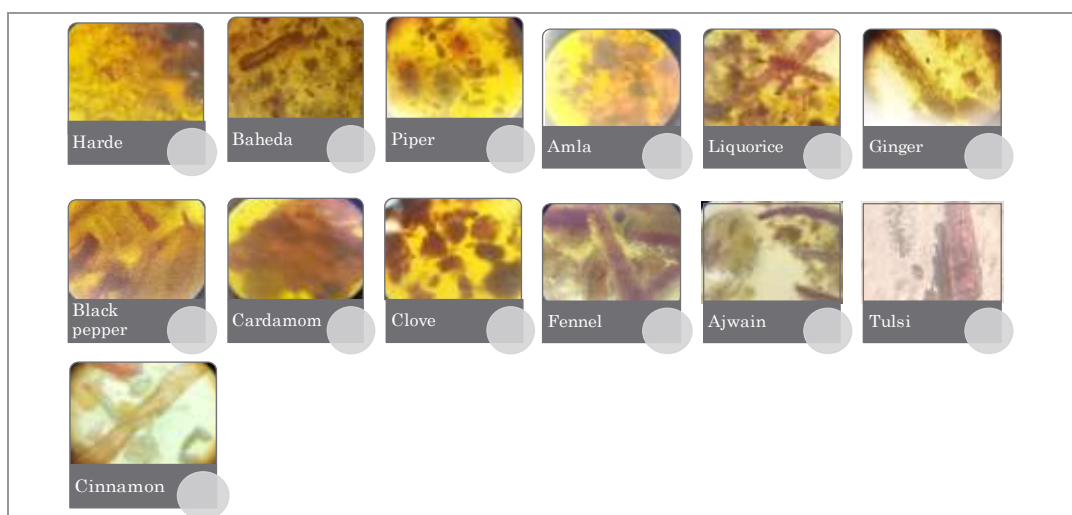


TABLE 2: Evaluation Of Herbal Ingredients

EVALUATION OF POLYHERBAL TABLET

Parameter	Observation
Morphological evaluation	Deep brown colour Aromatic odour Aromatic taste
Hardness	4 kg/cm ²
Friability	passes
Weight variation	Less than 5%
Disintegration	7 minutes 55 seconds
Acid neutralizing capacity	28 Meq

Table 3: Evaluation of Tablet

RESULT AND DISCUSSION

The difficulty in the acceptance of the Ayurveda and its formulation or polyherbal formulation is the lack of standard quality control profiles. The quality of herbal medicine i.e., the profile of constituents in the final product has implication in efficacy and safety. Hence, Quality evaluation of herbs and herbal preparation is a prime discussion of manufacturing industry and other organization dealing with ayurvedic and herbal products. Now a day’s most of the ayurvedic formulations are questioned for in-defined QC parameters. FDA has made the quality control and GMP mandatory for ayurvedic formulation, which has been implemented from 1st January 2003. Self- medication with herbal medicinal products is widespread. Self-medication with herbal medicinal products provides a sense of control or psychological comfort for the patient. Patients with chronic conditions such as eczema, arthritis, acidity, etc prefer herbal options because of its relatively no side effect advantage. There are a number of drawbacks associated with ayurvedic medicinal products like limited evidence of efficacy and activity in the form of well-designed clinical trials. FDA has introduced in-vitro test to determine acid neutralization capacity of antacid products. In-vitro test can be alternative to in-vivo conditions with respect to acid neutralizing capacity, onset of action and maximum buffering capacity of the antacid.

In the present investigation both the parameters: Acid neutralizing capacity (ANC) and buffering capacity (BC) have been employed to determine antacid activity.

These polyherbal formulation is expected to have many more application then once discussed in the report. ¹⁵

Acid neutralizing capacity of the formulation was found to be 28 Meq

CONCLUSION

Herbal antacids are one of the major classes of over-the-counter drugs used by patient considering its efficacy and safety. However, there are many herbal formulations in ayurvedic practice used for treatment of acidity which needs to be standardized.

The side effects related to the use of antacids on a regular basis and their chances of overuse leads one to think of alternative approaches to find solution for the problem of acidity. As more and more common people approach internet search engines asking for home remedies, they are led to believe many hoaxes which are far from scientifically proven facts. The formulae prepared from



the combination of effective traditional remedies can act as quick relief of mild acid reflux at home without any fear of adverse effect.

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