

# Formulation and Evaluation of Herbal Antacid in Teabags

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## **ABSTRACT:-**

In this research work formulation of Herbal Antacids in Teabags was fully done by using herbal products. It having great demand now a days for cure and treatment various diseases. Acidity is one of the major problem in india and various countries. Acidity causes much more discomfort in stomach , burning sensation in stomach and throat. So for the purpose of getting relief from acidity we use the antacid preparation. There are no.of Antacid preparation are available in market but having chemical combination in it and sometimes chemical causes side effect due to that reason herbal antacid are mostly preferred by consumers. This formulation consist of Bhoonimb, Amla, Myrobalan, Baheda, Guduchi, Vasaka, Neem, Kadupadwal, Maka all these ingredients having antacid property and peppermint oil is also used as flavouring agent All the ingredients are packed in teabags. This research formulation and evaluation parameter like Acid neutralizing capacity, Buffering capacity ash value, loss on drying, pH, water soluble extractive values and alcohol soluble extractive values, bulk density, Tapped density Carr's index etc was successfully performed & the values are within the permitted limit

## **INTRODUCTION:**

### **ANTACID**

Antacid are the drugs which are alkaline substances used for neutralizing excess gastric

acid associated with ulceration, gastritis & peptic ulcer etc. These drugs gives relief from pain caused due to hyper hydrochloride & hyperacidity

## **CRITERIA FOR IDEAL ANTACID**

- 1.It should not be laxative or cause constipation.
- 2.It should not interfere with absorption of food.
- 3.It should not be absorbable or cause systemic alkalosis.
4. It should buffer in pH range 4-6.

## **CLASSIFICATION OF ANTACID**

Antacid are classified as follows:

### **1.Systemic antacid**

Systemic antacid are water soluble. It acts instantaneously, but duration of action is short. It is potent neutralizer. It may rise the pH above- 7. This class of antacid easily absorbed in systemic circulation & capable of changing blood pH.

E.g.- Sodium bicarbonate

### **2.Non-systemic antacid**

This class of antacid are insoluble in water. They have poor absorption capacity. It has no direct effect on acid base equilibrium. They do not produce systemic alkalosis.

E.g.- 1. Aluminum compound antacid are

- a. Aluminum hydroxide gel

2. Calcium compound as antacid

a. Calcium carbonate

3. Magnesium compounds as antacid

a. Magnesium carbonate heavy & light

## AIM AND OBJECTIVES

Aim - Formulation and Evaluation of some antacid preparation in tea bags.

Objectives -

The main objective of present work was -

- To prepare effective dosage form of Antacid.
- To prepare fresh formulation during each dose.
- To avoid microbial contamination produced due to longer storage.

## PLAN OF WORK

Phase 1- Selection of plant / plant part/ extract

Phase 2 - Authentication of plant

Phase 3 - Preparation of drug evaluation

Phase 4 - Formulation of drug in tea bag

Phase 5 - Evaluation

## MATERIALS AND EQUIPMENTS

### 5.1 Materials

Sr.No.	Materials	Name of company
1.	Hydrochloric acid	Rajesh Chemicals, Mumbai.
2.	Sodium Hydroxide	Rajesh Chemicals, Mumbai.
3.	Potassium Bisulphate	Rajesh Chemicals, Mumbai.
4.	Potassium Tetra oxalate	Rajesh Chemicals, Mumbai.

### 5.2 Equipments

Sr.No.	Equipment's	Name of company
1.	Eletronic weighing balance	Citizen limited
2.	Hot air oven	Bio technique India
3.	pH meter	Equip tronics
4.	Magnetic stirrer	Dolphin

**EXPERIMENTAL WORK**

**Formula -**

Sr.no	Ingredients	Quantity given	Quantity taken
1.	Bhunimba	50gm	7gm
2.	Amla	50gm	7gm
3.	Myrobalalan	50gm	7gm
4.	Bahera	50gm	7gm
5.	Guduchi	50gm	7gm
6.	Vasaka	50gm	7gm
7.	Neem	50gm	7gm
8.	Kadupadwal	50gm	7gm
9.	Maka	50gm	7gm
10.	Peppermint oil	q.s.	q.s.

**Procedure**

Take all the ingredients.

↓  
Mix them well.

↓  
Then add 1:16 proportion of water in that i.e 1 liter water

↓  
(7×9=63gm all ingredients weight and 16 proportion water i.e 63×16=1,008).

↓  
Boil the content upto it becomes 1/4th i.e it becomes 250.

↓  
Then filter the content.

↓  
Take the residue remaining in filter paper, dry it and powder it.

↓  
Powder passed through the seive and packed in tea bags.

**RESULTS**

**1.Ash value -**

Weight of empty crucible - 16.95

Weight of crucible + 2gm of sample =18.95

Ash value =Empty weight of crucible + 2 gm of sample -weight of crucible

$$=18.95 - 17.11$$

$$=1.84 \text{ gm}$$

**2.Water soluble extractive values -**

Weight of china - weight of empty China dish

Weight of empty China dish	Solutions taken	Total weight	Weight after heating
102.9	25	134.8	103.4

The water soluble extractive value = 103.4-102.9

$$= 0.5\text{gm}$$

For 100gm

$$X = 0.5/5 \times 100$$

$$X = 10\%$$

The water soluble extractive value found to be 10%.

**3. Alcohol soluble extractive values -**

Weight of empty China dish	Solutions taken	Total weight	Weight after heating
71.5	25	94.5	72.1

Alcohol soluble extractive values = weight of China dish - weight of empty China dish

$$= 72.1-71.5$$

$$= 0.6\text{gm}$$

For 100gm

$$X=0.6/5 \times 100$$

$$=12\%$$

**4.Loss on drying (LOD)**

Sr.no	Weight of petri dish	Weight of petri dish + sample weight	Weight after drying
1.	39.85	41.85	41.78
2.	39.85	41.78	41.65
3.	39.85	41.65	41.61
4.	39.85	41.61	41.60

41.60

Therefore LOD is found to be 41.60.

**5.pH -**

Take a few gm of sample + few ml of water .pH paper & evaluation with standard pH paper & evaluated with standard pH range, The pH is found to be 5.1

**6.Bulk density -**

Bulk density =Weight of sample /Bulk volume

$$=6/15$$

$$=0.42\text{gm}$$

**7.Tapped density -**

Tapped density =weight of sample /Tapped volume

$$=5/13$$

$$=0.33\text{gm}$$

**8.Housners ratio -**

Housners ratio = Tapped density/ Bulk density

$$=0.33/0.42$$

$$=1.33$$

**9.Carrs index -**

Carrs index =(Tapped density -Bulk density/Tapped density) $\times$ 100

$$=(0.3-0.4/0.3)\times 100$$

$$=0.3-1.33\times 100$$

$$=28.67\%$$

**10.Acid neutralizing capacity -**

Total mEq =(30  $\times$  NHCL)-(VNaOH $\times$  NNaOH)

$$=(30\times 1.0\text{NHCL})-(4.2\times 0.5\text{NNaOH})$$

$$=27.9$$

The 27.9 mEq of acid consumed.

## 11. Buffering capacity -

pH at time interval of minutes	pH
0.5	5.3
2.0	5.8
4.0	6.2
6.0	5=5
8.0	4.3
10-20	4.1
20-30	3.0
30-40	2.72
40-50	2.6

## SUMMARY AND CONCLUSION

A recent in Novel drug delivery system aim to enhance safety & efficiency of drug molecules by formulating a convenient dosage form administration & to achieve better patient compliance one such approach is formulation & evaluation of tea bags containing Herbal antacid. The present attempt was formulate & evaluate Tea bags containing antacid drugs. It was found that drug having Acid neutralizing capacity 27.9 mEq acid consumed. The excipients used are compatible with drug & flavouring agent mask the odour noxious odour of drug.

The powder formulation evaluated for Carr's index, Housner's ratio, Loss on drying, Water soluble extractive values & Alcohol soluble extractive values, Acid neutralizing capacity & Buffering capacity. The dosage form (Tea bags containing antacid drugs) was prepared and evaluated & found to be effective for desired activity. The

effectiveness & quality of prepared dosage form was checked. The formulation shows 10% water soluble extractive values. Other required parameter like alcohol soluble extractive values, ash values, pH, Housner's ratio were studied & values was found to be in prescribed range. The drug formulated in tea bags shown effective Acid neutralizing capacity (about 27.9mEq).

## DISCUSSION

The present work is based on formulation & evaluation of Tea bags containing Herbal antacid drugs which include herbal drugs such as Bhunimba, Amla, Myrobalan, Baheda, Guduchi, Vasaka, Neem, Padwal, Maka. These herbal preparation was prepared by mixing of powder of mentioned herbal drugs & packed in Tea bags.

The herbal formulation was evaluated for different parameter. It shown the Acid neutralizing capacity 27.9mEq Acid consumed and observed good antacid activity.

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