



A COMPARATIVE PHARMACEUTICO-ANALYTICAL STUDY OF BHUNIMBADI KWATH WITH FERMENTED KWATH AND KWATH GRANULES WITH SPECIAL REFERENCE TO BHUNIMBADI KWATH.

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ABSTRACT:

Ayurvedic medicine was originally and oral tradition, taught and passed directly from teacher to apprentice, who would learn and work side by side. The oldest written codification of ayurvedic principles is found in the Rigveda. These efforts designed a new branch Bhaishajya Kalpana, An Ayurvedic pharmaceutical science. Bhaishajya Kalpana comprises two words Bhaishaja and Kalpana. Bhaishaja means drug and Kalpana means formulation according to Chakrapani.

The present study deals with “To prepared kwatha, Arista and grannules of Bhunimbadi Kwath and compare all these forms with pharmaceutical and analytical parameters.” In this process for BhunimbadiKwathis described as per Sharangadhar Samhita and Yogaratanakar. It is applicable in Amlapitta and Jwara Vyadhi.

Reason behind this development was some shortcomings of basic formulations like less availability, less shelf life, no palatability, slow actions and difficulty in dispensing. To overcome all these problems invention of some new formulations came in existence. Sandhana Kalpana, Granulation process are popular because of their properties like proper availability, palatability, quicker action, two solvent media and long shelf life.

KEYWORDS: Bhunimbadi Kwath, Bhunimbarista, Bhunimbadi granules.

INTRODUCTION:

Ayurvedic medicine was originally and oral tradition, taught and passed directly from teacher to apprentice, who would learn and work side by side. The oldest written codification of ayurvedic principles is found in the Rigveda. The fundamentals are then laid out in several major treatises, including the texts from Charaka, Sushruta, and Vagbhat. There are also numerous other smaller works, written over time to explain the various branches of Ayurveda, which include disciplines such as general medicine, pediatrics, surgery, toxicology, fertility and rejuvenation. The beauty in the way these have been explained is that they rely on basic principles.

These efforts designed a new branch BhaishajyaKalpana, An Ayurvedic pharmaceutical

science. BhaishajyaKalpana comprises two words Bhaishaja and Kalpana. Bhaishaja means drug and Kalpana means formulation according to Chakrapani.

In this era of nano technology we should study the minute changes in the drug due to the changes in its method of preparation or the changes due to these preservation techniques to make the drug consumption easy.

This study is to evaluate the changes if any in the kwatha due to processing it for easy administration. So that we can make the changes in the dosage and administration accordingly to get the maximum benefits of the kwatha in less efforts.

Bhunimbadi kwatha is described in SharangadharSamhita, Yogratnakara etc. for the treatment of Amlapitta,Jwara.

Aim:

To prepare kwatha, arishta and granules of Bhunimbadi Kwatha & compare all these forms with pharmaceutical and analytical parameters.

Objectives:-

1. To study in detail literary aspects of kwathakalpana & its upakalpanas indifferent samhitas and text books of Bhaishajyakalpana.

2. To study literary aspects of sandhana kalpana in detail.
3. To study the methods of processing kwatha granules with Modern perspective.
4. To prepare Bhunimbadi kwatha, arishta & kwatha granules by standard SOP & analyse them with pharmaceutical study.

MATERIALS AND METHODS:**MATERIALS:**

भूनिम्बनिम्बत्रिफलापटोलवासामृतापर्पटमार्कवाणाम् ।
क्वाथोहरेत्क्षौद्रयुतोऽम्लपित्तचिन्त्यथावारवधूकटाक्षः॥२५॥ (यो.र.)

INGREDIENTS -

Dravyas	Praman for Bhunimbadi kwatha	Praman for Bhunimbarishta	Praman for Granules
Churna of Nimba	Each 32 gm	Each 125 gm	Each 256 gm
Churna of Triphala			
Churna of Patol			
Churna of Vasa			
Churna of Amruta			
Churna of Parpatak	4 Litres	16 Litres	32 Litres
Churna of Markav			
Water			
Guda			
Dhatakipushpa			
	--	800 gm	--
	--	250 gm	--

METHODS :

1. Bhunimbadi Kwatha –

Drug content	Quantity
• Bhunimba	Each 32 gms.
• Nimba	
• Triphala	
• Patola	
• Vasa	
• Amruta	
• Parpataka	
• Markava	

Each YavaChurna 32 gms given with 4 liter water added in a pot & heat was given till ¼ part (1000 ml) remains. Then filter it by cloth.

2. Bhunimbarishta –

Drug content	Quantity
(1) BhunimbadiKwath	4 Liters
(2) Guda	800 gm
(3) Dhatakipushpa	250 gm

4 liters kwatha was taken & 800 gms Guda was added to it & then 200 mg yeast was added and then 100 ml dhayatiphant was added and mixed well and put it into jar. For fermentation temperature of jar was maintained. It was kept upto completion of fermentation i.e. for 15 days.

3. BhunimbadiKwath granules

Drug content	Quantity
(1) BhunimbadiKwath	2 Liters
(2) Lactose	100 gms.

First two liters BhunimbadiKwath was taken in a vessel and well mixed, at the same time continuously heating till the particles were formed. Then 100 gm lactose was added to it & with the help of mesh granules were prepared.

OBSERVATIONS:

1. BhunimbadiKwath

No	Test Name	Result obtained %
1.	pH	4.35
2.	Specific Gravity at 25 degree C	1.002 gm/ml
3.	Ash content	6.47%
4.	Acid insoluble matter	4.58%
5.	Water soluble extractives	5.06%
6.	Loss on drying at 110°C	40.60%

2. Bhunimbarista

No	Test Name	Result obtained %
1.	pH	3.5
2.	Specific Gravity at 25 degree C	1.15 gm/ml
3.	Total solids	24.95% w/v
4.	Alcohol content	6.80%
5.	Reducing Sugar	5.4% w/v
6.	Non Reducing Sugar	0.9% w/v

3. BhunimbadiKwath Granules

No	Test Name	Result obtained %
1.	pH	3.5
2.	Specific Gravity at 25 degree C	1.002 gm/ml
3.	Ash content	5.73%
4.	Acid insoluble matter	3.28%
5.	Disintegration Time	8 min 13 sec
6.	Water soluble Extractives	10.6%
7.	Alcohol soluble Extractive	11.18%

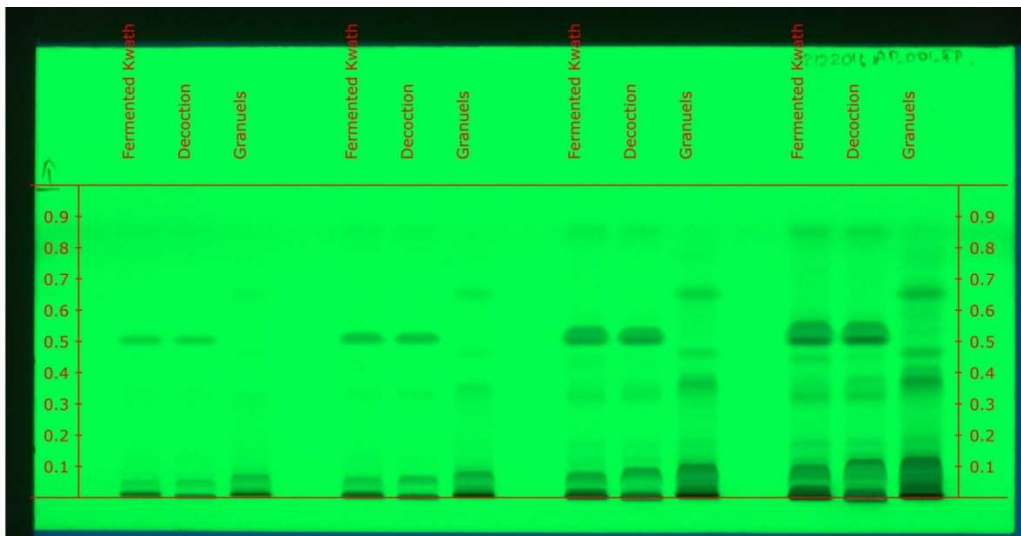


Figure 1

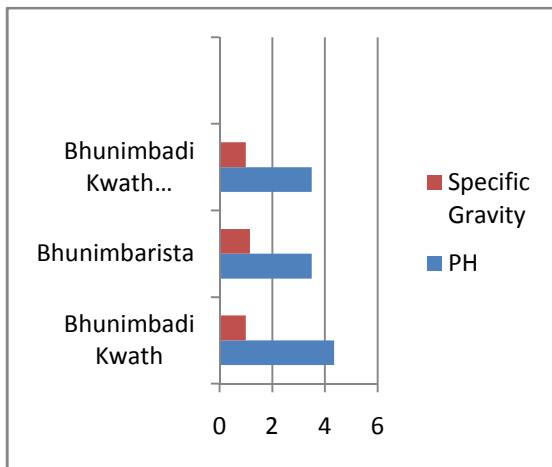


Figure 2

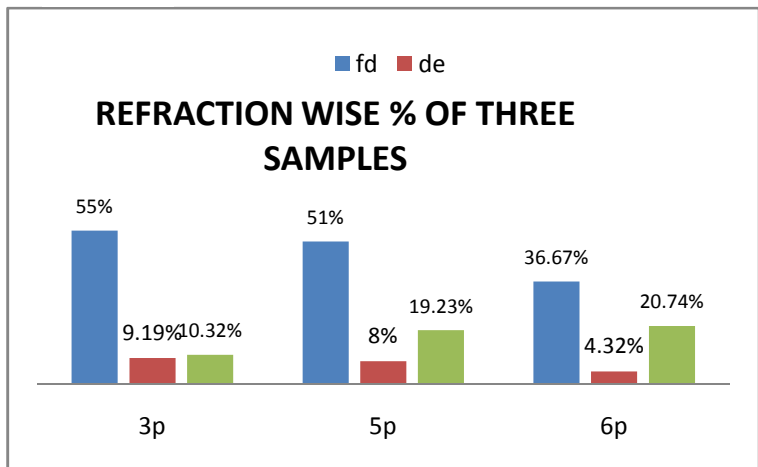


Figure 3

HPTLC method -

- 50 ml of liquid (decoction, fermented kwath) add 3 drop of HCL then boiled at 100 degrees for 20 minutes then add 50 ml of water and 50 ml of ethyl acetate to it and using a separating funnel shake it well discard the aqueous layer and filter the organic layer concentrate the solution upto 1 ml and use for chromatography.
- For granules take 500 mg of sample and add 3 drops of HCL and sonicate it with adding 5 ml of ethyl acetate for 15 min then concentrate the solution to 1 ml and use it for chromatography.

HTPCL analysis shows that picks taken of the samples from different concentration and different vial rod, it can be conclude that fermented kwath is having maximum concentration than kwath and granules.

Next to Fermented kwath granules seems to be concentrated.

Refraction of 3 samples by HPTLC finger printing shows that fermented kwath has more area of refraction than kwath & grannules. Grannules shows more area of refraction than kwath.(fig.1,fig.3)

B) Ayurvedic Observations :

Observations	BhunimbadiKwath	Bhunimbaristha	Bhunimbadi granules
1. Shabda	----	----	----
2. Sparsha	Ushna	Shita	Khara
3. Rupa	Drava	Drava	Ghana
4. Rasa	Tikta	Madhur,Amla	Tikta
5. Gandha	NimbaGandha	MadyaGandha	---

DISCUSSION

Very first formulations were mainly herbal which later on developed with many different angles like progressive development of instrument for different types of formulations etc.

Reason behind this development was some shortcomings of basic formulations like less availability, less shelf life, no palatability, slow actions and difficulty in dispensing. To overcome all these problems invention of some new formulations came in existence. SandhanaKalpana, Granulation process are popular because of their properties like proper availability, palatability, quicker action, two solvent media and long shelf life.

In the literary review (conceptual study) review of 3 Kalpanas are discussed i.e. Kwathakalpana, SandhanaKalpana and Granulation process.

CONCLUSION

1. Kwatha is third panchvidh kashayakalpana which is one of basic form of ayurvedic formulation. Ghana (grannules) and arishta are developed from kwathkalpana.
2. Arishta means fermented Kwath. There are many fermented preparations found mentioned in Ayurvedic pharmaceuticals in ancient times. Alcoholic fermentation (Madyasandhan) and Acidic fermentation (ShuktaSandhan) are two types of fermentation process.
3. Granulation is the process in which small powder particles combine to make a granule. Wet granulation and dry granulation are two types of granulation method. It is easy to carry and store. It is also easy to consume.
4. pH of BhunimbadiKwath (4.35) is greater than Bhunimbarishta (3.5) and grannules (3.5)
5. Specific gravity of Bhunimbarishta (1.15gm/ml) is greater than Bhunimbadi Kwath (1.002 gm/ml) and grannules (1.002 gm/ml)
6. So we conclude that no much difference found in values like pH, specific gravity etc.
7. But by comparing BhunimbadiKwath with Bhunimbarishta and grannules from HPTLC, we can conclude that Arishta is best.
8. According to Ayurveda the Saviryatavadi of kwath is less than grannules. The Saviryatavadi of grannules is less than Arishta and greater than kwath.

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